



Student Experiences in Health Pathways

Findings from an Evaluation of Oakland Health Pathways

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Evaluation of the Oakland Health Pathways Project

This brief presents findings from the Oakland Health Pathways Project, a joint initiative of Oakland Unified School District, Alameda Health System, and Alameda County Health Care Services Agency. The initiative is designed to improve educational and long-term employment outcomes for youth of color in Oakland (Alameda County), California, while expanding and diversifying the local health care workforce. It applies Linked Learning, an approach to college and career preparation that combines classroom learning with real-world work experiences and student support services.

Funded by The Atlantic Philanthropies, a limited life foundation, the Oakland Health Pathways Project began in 2014. SRI Education was engaged from the outset to evaluate the initiative. This brief draws on interviews with key school and pathway personnel, as well as focus groups and surveys of participating students in their senior year, to describe the experiences of being enrolled in health pathways and the perceived impact of participation on college and career readiness.¹

This is the second in a series of products resulting from SRI's evaluation of the project. The first, [How Education and Industry Partner on Work-Based Learning](#), distilled lessons learned on effective cross-sector partnerships and delivery of authentic work-based learning. Subsequent releases will describe outcomes for participants (e.g., graduation rates, postsecondary enrollment) and provide a cost analysis of the project.

Evaluation Findings:

Student Experiences in Health Pathways

This brief seeks to uncover the extent to which health pathway students experience integration of real-world applications and content into the curriculum, have opportunities to participate in quality work-based learning experiences, and perceive positive implications for students' college and career readiness.

It begins with a further description of the Oakland Health Pathways Project (OHPP)—including the ways it was implemented in six high school contexts—and then more fully describes the key findings introduced below.



Classroom Connection to the Real World (page 6)

- Schools chose health pathway themes and course content to interest students and to engage specific student populations
- Most health pathways integrated technical and academic content through projects
- Dual enrollment courses built on health pathway themes to help students prepare for postsecondary education



Work-based Learning Experiences (page 11)

- Schools increased participation and access by offering a range of work-based learning opportunities and intentionally targeting harder to reach students
- Students faced barriers to participating in internships, but schools and partners offered supports to mitigate barriers
- Students felt prepared by their teachers for work-based learning but these experiences could be further integrated into their academic courses



College and Career Readiness (page 16)

- Students reported increased clarity around career choices and interests
- Students and staff saw increased postsecondary education planning and preparation
- Students said they developed practical career readiness skills
- Staff said students grew in confidence, self-efficacy, and sense of belonging

The brief concludes (page 24) with key takeaways for those creating curricula that integrate rigorous academics with career-themed coursework and student support services, as well as those designing work-based learning experiences.

About the Oakland Health Pathways Project

In 2014, The Atlantic Philanthropies awarded two grants totaling \$21 million to agencies charged with working together to support and expand health career pathways for high school students in Oakland. Oakland Unified School District (OUSD) and the Alameda County Health Care Services Agency (ACHCSA) received a grant of \$11 million, and the Alameda Health System (AHS) received a grant of \$10 million.²

Project Partners

Oakland Unified School District serves approximately 36,000 students in district-run schools.³ Nearly one-third of them speak a language other than English at home, and over 70% receive free or reduced-price meals.⁴ Student enrollment across OUSD is approximately 24% African American, 13% Asian, 42% Hispanic or Latino, 12% white, and 7% other races or ethnicities.⁵ OUSD district staff support health pathways with work-based learning coordination and provide coaching on how to integrate preparation for health careers into instruction. OUSD also worked with schools to manage their use of Atlantic grant funds.

Alameda Health System is an integrated public health care system that operates multiple regional hospitals including Highland Hospital, Alameda Hospital, and San Leandro Hospital. AHS supported the development of health pathways by opening its hospitals to local students to participate in internships and other career development programs. AHS runs HealthPATH, a workforce development initiative that prepares youth and young adults for healthcare careers.

Alameda County Health Care Services Agency is a public health agency administered by Alameda County that provides health care services through a network of public and private partnerships. ACHCSA administers the County Office of Public Health as well as school-based health centers at a number of Oakland high schools. These centers provide students access to basic health care services as well as onsite work-based learning opportunities.

LINKED LEARNING APPROACH

The seven OHPP health career pathways use the Linked Learning approach, which organizes education around industry-specific pathways and integrates four pillars—rigorous academics that meet college-ready standards; sequenced, high-quality career and technical education; work-based learning; and comprehensive support services—to help students graduate from high school ready to pursue meaningful postsecondary opportunities.⁶ OUSD has been implementing Linked Learning since 2010, including three health career pathways that pre-dated the Oakland Health Pathways Project (OHPP).⁷

VARIED CONTEXTS FOR PATHWAY IMPLEMENTATION

The SRI evaluation team conducted staff interviews, student focus groups, and a student survey to obtain information on the student experience at six OUSD high schools with health pathways. These schools implemented health pathways under different contexts that influenced student experiences. Five pathways were embedded in traditional high school settings, and one was integrated into an alternative (continuation) high school. The schools varied in stage of pathway implementation, needs of their student population, and the student selection processes for health pathways.

- **Pathway stage.** OHPP included three preexisting health pathways and three newly created pathways. In addition, some schools had more experience than others implementing the Linked Learning model—including staff members who had been early adopters. At schools where Linked Learning or the health pathway was new, staff were still building foundational structures, which in some cases involved tailoring pathway goals and creating a course progression. At schools where both the Linked Learning model and the health pathway were more mature, these structures were already well-established, so staff focused instead on enhancing the pathway, largely through refining curricula and increasing work-based learning opportunities. Across the schools, the student experience of health pathways could differ considerably for these reasons.
- **Student needs.** Differences in student need led pathway staff to establish distinct goals and approaches. Schools offered different courses, prioritized different skills and pathway experiences (e.g., project-based learning, work-based learning), and engaged different student populations. At one school where student experiences of poverty and violence were high and attendance and reading levels were low, staff engaged with families and the community to consider program options. As a result of this dialogue, staff chose to focus the health pathway on community health, which would have relevance to the broadest group of students possible. The pathway concentrated on increasing school attendance, teaching students the skills to be lifelong learners and critical thinkers, and empowering them as agents of positive change in their community. In contrast, a school that served a higher percentage of professional families responded to parental demand by placing a greater emphasis on experiences that would prepare and qualify students for college. At the alternative high school, staff members designed pathway components to align with the school's six-week hexmester schedule, to consider the needs of its nontraditional student population and their short average tenure at the school (six to 18 months per student), as well as to engage disengaged students and increase the school's connection to the real world.
- **Selection process.** The varied student selection processes for pathways across the six schools also had implications for students' pathway experience. At three schools offering multiple pathway options, participation in the health pathway was interest-based and involved a selection process. At the end of grade 9, students applied to the health pathway and faculty selected participants using a process that honored student interest while allowing the school to balance student demographics across pathways to the extent possible. In all three of these schools, the staff conducted outreach to males of color, a group historically underrepresented in OUSD health pathways. At a fourth school, the health pathway was one of only two pathway options. (Prior to announcement of a districtwide goal to go "wall-to-wall" with pathways, calling for all high school students to be enrolled in a pathway, participation at this school had been voluntary; pathways were used to reach disengaged students with an experience more connected to the real world and relevant to them than traditional high school curricula.) At two schools, health was the only pathway offered. One had a schoolwide health pathway, so students decided to study health at enrollment. The pathway was well established and had several strands, but staff members and students both noted that student engagement with the health content was not consistent across the board. The school served grades 6–12, so some students may have enrolled at a young age, before having developed clear interests. Also, some families enrolled their students for the school's overall reputation or for convenience rather than for health content. The other school that offered exclusively a health pathway was the alternative school. The school built on an existing health and fitness course and established a complete wellness-oriented pathway that matched the student population's predominant interests (e.g., fitness, nutrition, kinesiology).



Classroom Connection to the Real World

The Linked Learning approach seeks to connect classroom learning to the real world in order to help students “understand how their high school education leads to their next academic or career steps.” Accordingly, OUSD health pathways were designed to make academic content relevant through engaging career-themed technical courses integrated with academic coursework and accompanied by student support services.

Schools chose health pathway themes and course content to interest students and to engage specific student populations.

Within each pathway, career-themed courses grounded student learning and engagement in real-world fields of study. The specific thematic focus of OUSD health pathways varied from health and bioscience to community health. School staff considered student interest and need in selecting this focus and developing the curriculum of new pathways. A staff member at one new pathway noted that the pathway’s specific health focus grew out of student interest in an existing class: “We didn’t just stick with health and fitness because we already had it—the kids really validated... [the] work.” At another school, community engagement activities and student interest in health professions and community health drove the thematic focus. At yet another site, rather than follow traditional high school biology and chemistry sequences, pathway teachers focused on the underpinnings of social determinants of health, such as stress caused by adverse childhood experiences, lack of medical care, and exposure to drugs and environmental toxins. Their aim in doing so was to create a highly relevant, engaging curriculum to address school attendance issues.



Two pathways diversified their participants by using specific course choices to attract underrepresented students. One established pathway encouraged more male students to participate by offering college emergency medical technician (EMT) courses and partnering with a community organization that supported youth to train to be EMTs. Although many schools noted an overrepresentation of female students in their health pathways, an education pathway created a community health strand in part to attract more males who might be interested in coaching athletics or kinesiology. Staff at this pathway noted a better gender balance resulting from the addition of health.

Sixty-one percent of students reported that their pathway elective/CTE class was the reason they went to school, suggesting that pathway CTE courses can help improve student attendance.

Student data suggest that pathway-themed courses engaged students in school by providing interesting, relevant content. In established pathways, many students in the focus groups cited their health-themed science classes (e.g., anatomy and physiology, medical chemistry, biology) as their favorite classes. Students answering the survey found their pathway elective/career technical education (CTE) courses to be engaging and relevant as well. For example, 71 percent of students agreed or strongly agreed that the class would be useful preparation for jobs or their life plans (Exhibit 1). And 61 percent of students reported that their pathway elective/CTE class was the reason they went to school, suggesting that pathway CTE courses can help improve student attendance.

Exhibit 1. Student perceptions of health elective/CTE course relevance, n = 137



Most health pathways integrated technical and academic content through projects.

All OUSD health pathways attempted to provide students with educational experiences that integrated technical and academic content. At nearly all pathways, students participated in integrated projects that drew on multiple content areas. The projects typically occurred once a year in grades 10, 11, and 12, with the final project serving as a senior capstone.

One pathway used social determinants of health as a lens for its curriculum; by addressing adverse childhood experiences (ACEs) and toxic stress, faculty in this pathway were able to help students understand the impact of their personal and community histories on their current health and thereby encourage a sense of agency. They were also able to create a sense of community. Through projects such as community-based action research, the pathway attempted to tie classroom learning to students' everyday lives and to help them understand "the factors destroying their community and how to disrupt [those factors]," in the words of a pathway leader. One teacher described this successful cross-curricular project and the positive impact it had on the students:

“ They did a cross-curricular project. Each group had a central question that they had to answer. ... They were all student researchers. ... They talked to families at [Alameda County Public Health Department—Women, Infants, and Children (WIC)]; Head Start; the wellness center. [They] did a survey of stores in the area: Are books available? [At what] prices? Through math, they analyzed the data, made infographics, [and] did research in science classes. ... In history they did research on social services: Does WIC work? Does section 8 work? Then they presented findings to the public. ... The project was a huge success, not just because of the work they did, [but also because] they owned it.

Although projects were the primary means by which health pathways integrated academic and technical content across courses, cross-curricular connections occurred outside projects as well. The approach and degree of integration varied. For example, one pathway used a common framework—the Eight Dimensions of Wellness—across all classes. One teacher described the shift to a schoolwide approach:

“ As a teacher who is in his second year at the school, I've seen this completely expand to become schoolwide. I'm a science teacher, and the dimensions of wellness now are in my class. I've utilized those dimensions in my "Do Now" in class. Students journal their work. It's across the school, students are thinking about it all the time, they are thinking in that language—social, occupational, nutrition, physical wellness.

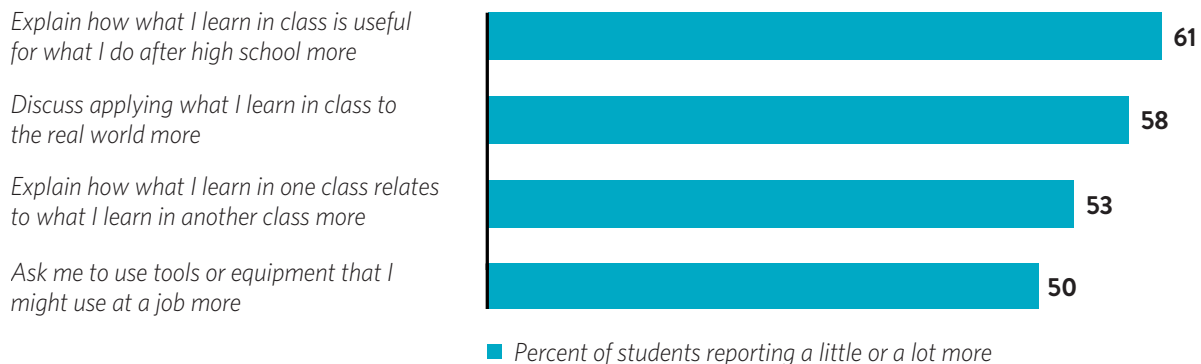
Personnel of another pathway described how they brought thematic issues into core academic classes, such as reading health-related nonfiction texts in English class, for example, *The Immortal Life of Henrietta Lacks*, a book about the impact of the unethical use of a woman’s cells in research.



However, despite attempts to integrate pathway themes into core academic courses, the grade 12 student survey suggested that students experienced connections to the real world more often in their CTE classes (Exhibit 2). For example, 58 percent of students reported that their health pathway elective teachers discussed applying what they learned in class to the real world more so than teachers in their core academic classes.

Exhibit 2. Student perceptions of CTE/elective teacher actions, n = 137

Compared to core class teachers, CTE teachers...



Dual enrollment courses built on health pathway themes to help students prepare for postsecondary education.

As part of their course offerings, many schools offered dual enrollment courses aligned with their pathway theme (e.g., medical assisting, EMT, psychology, kinesiology) in partnership with local community colleges. A little more than half the grade 12 survey respondents reported taking dual enrollment or community college courses (56 percent). Of those students, 63 percent reported that at least one of those classes was related to health.

Although not all students took health-specific college classes, students reported that dual enrollment broadly helped familiarize them with college. In one well-established pathway, students noted that dual enrollment in community college classes offered them an important chance to experience college-level courses, witness the increased expectations, and understand the skills they would need to succeed. Some students said that taking dual enrollment courses increased their confidence by giving them a “sense of what [college] might be like.” However, some students found themselves feeling underprepared. As one student shared, “I’m getting there, but it’s going to be challenging next year. Even though I take college courses, it’s still high school.” Another student noted, “Because of some of the grades I received, I think it will be more challenging in college.”

Students reported that dual enrollment broadly helped familiarize them with college.





Work-based Learning Experiences

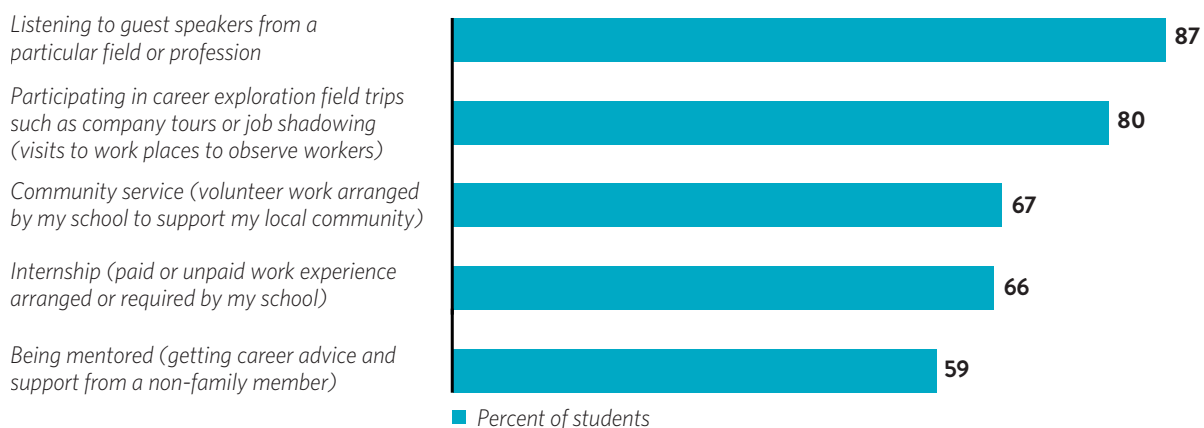
A primary goal of the OHPP was to increase the quantity and quality of work-based learning experiences to improve career exposure and preparation for OUSD students, particularly youth from underrepresented groups.

Schools increased participation and access by offering a range of work-based learning opportunities and intentionally targeting harder to reach students.

OUSD health pathways offered students the opportunity to participate in a range of work-based learning experiences, from lighter touch encounters, such as guest speakers, to more intensive summer internships. In the three established health pathways included in the student survey, almost all students took advantage of these opportunities: 97 percent of grade 12 health pathway students reported they had participated in at least one form of work-based learning that their school arranged or required. The most commonly reported work-based learning experience was listening to guest speakers from a health field or profession (87 percent), followed by participating in career exploration field trips (80 percent). Two-thirds (66 percent) of students reported participating in internships, and over half (59 percent) reported receiving some sort of professional mentorship or career advice from a non-family member (Exhibit 3).

For context, these levels of work-based learning participation are substantially higher than those reported on a similar survey of 12th graders conducted in 2014 in the nine California school districts participating in the Linked Learning District Initiative.⁸ That survey, which included both students participating in Linked Learning pathways and a comparison sample of students in traditional high school programs, found the following work-based learning participation rates: guest speakers (74 percent of Linked Learning students, 64 percent of comparison students); career exploration field trips (44 percent Linked Learning; 27 percent comparison); internships (34 percent Linked Learning, 18 percent comparison); being mentored (44 percent Linked Learning, 34 percent comparison).

Exhibit 3. Participation in work-based learning experiences, n = 137



OHPP partners used Atlantic grant funding to increase the number of health-related internships available to a diverse group of OUSD students, especially those who may not have historically participated in internships. For instance, one partner organization that offered a clinical internship program used Atlantic funding to make additional internships available to OUSD students specifically, with particular attention given to accommodating special education students. Describing efforts to identify work-based learning opportunities for students with special needs, a work-based learning liaison at one school said, “I work closely with our educational specialist, who works with students with IEPs [Individualized Education Programs] and knows those students very well. She advocates for them to pursue different opportunities.”



Pathway staff also sought to offer programming that was relevant and interesting to young men of color (specifically, Black and Latino), a traditionally underrepresented group in the health field. For example, the director of an established health pathway requested that internship providers send more Black male employees to speak to their pathway students so that young male Black students could see themselves represented in the industry. Students also expressed a desire to hear from individuals without highly advanced degrees so they could see what careers were available to them across the range of educational attainment.

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By collaborating on work-based learning, OUSD and its OHPP industry partners helped improve health pathway students' access to health-related internships. Among the surveyed students who reported participating in internships (66 percent, or two-thirds of the entire sample), 70 percent had internships in the health field. Students also participated in internships through organizations that were not part of the Atlantic-funded partnership.

Students faced barriers to participating in internships, but schools and partners offered supports to mitigate barriers.

Despite the work of the OHPP to increase the availability of health career internships for OUSD students, several barriers prevented students from participating. Students and staff members reported that the selective nature of some internships, which includes competitive application processes for a limited number of slots, was a barrier. Indeed, the survey respondents who indicated they did not participate in an internship (approximately one-third of the entire sample) cited reasons of limited space (36 percent), GPA and coursework requirements (19 and 13 percent, respectively), and difficulty completing all of the required paperwork and permissions (13 percent). A work-based learning liaison described his frustration with application processes that he believed were prohibitive to students with lower literacy:

“ *The application process is a barrier, [because at our school] we have a third-grade literacy level. So, it's not accessible. We have [migrant students] who are in the process of learning English. And that application essay might be inaccessible or impossible for them, particularly given that they're competing across the district. So, when programs are competitive and districtwide and you're denying people without even interviewing them, you're not really seeing what they could contribute. ... I want [those programs] to meet with students who are struggling and still developing their passions.*

In response to these challenges, some pathway staff helped students with internship applications by requiring that they write their resumes and mock cover letters during CTE classes. Other school staff, such as work-based learning liaisons, spent considerable time helping individual students complete the paperwork and other components of internship applications.

Although pathway teachers and work-based learning liaisons helped students complete their internship applications, survey responses suggested that some students would benefit from additional support to learn about and pursue work-based learning opportunities. Of the grade 12 pathway students who indicated they did not participate in internships, 34 percent reported it was because they did not know how to get involved.

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Many health career internships, particularly in clinical settings, also require students to complete health clearances, such as submitting a recent tuberculosis test record and having up-to-date vaccinations. Many pathways relied on School-Based Health Centers to support students in obtaining health clearances.⁹ Pathway staff members indicated that this requirement was a major logistical challenge for many students. On the survey, however, only 9 percent of students who did not participate in internships indicated it was because of difficulty in completing the health clearance form, suggesting that students did not view health clearances as a primary obstacle, despite the logistical challenges they may have posed for pathway staff.

Students also faced personal barriers to participating in work-based learning, such as family responsibilities, socioeconomic barriers, lack of reliable transportation to the internship site, or not having appropriate professional attire. Of surveyed students who had not participated in an internship, 32 percent reported that they had to watch younger family members at home, 19 percent indicated the location was hard to get to, and 17 percent indicated the internship required professional dress and they could not or did not want to buy new clothes.

The work-based learning liaison at one school with an impoverished student population believed internship providers were not fully aware of the challenges students faced just to arrive on time:

“ I want to tell community partners—you’re asking for students to get there at 9 a.m. for a summer internship? For our students ... they have to leave home at 7:30 a.m. I mean, walk around the community at 7:30. The harsh reality is that people are still stumbling around doped up. So, when the program penalizes students for being 30 minutes late, they don’t know what the student went through [to get there].

Some students could not afford to participate in internships that were unpaid or paid less than they would earn working elsewhere. On the survey, nearly half (42 percent) of those students who did not participate in internships indicated it was because they had a paying job that conflicted with the internship. Pathway staff at all schools acknowledged that high school students have other priorities competing with work-based learning, not the least of which is making money. A pathway teacher at the district’s alternative high school said, “My students need to make money, and [most internships] only offer a certain amount of money, which is less than minimum wage. So most of my students that are eligible for an internship, they can’t afford to do it.”

At another school, a work-based learning coordinator described the significance of using Atlantic funds to create paid internships for low-income students:

“ The students got stipends. They got paid from that. And I think that’s really important for our students. Because we do have students that are willing to do internship opportunities just for the experience. But there’s very few because some of our students have to help support their families. And a lot of times, students want internships, but they want a job because a job gives them more money to be able to help.

In focus groups and survey responses, students who did not apply for internships sometimes explained that, in the words of one focus group participant, “There wasn’t anything interesting.” Among the 34 percent of survey respondents who reported not participating in an internship, two-thirds indicated that it was because they were not interested. These responses may indicate a mismatch between the types of experiences available and some students’ career interests.

Students felt prepared by their teachers for work-based learning but these experiences could be further integrated into their academic courses.

Research suggests that work-based learning experiences are most successful when educators and employers work together to help students make connections between the experiences and their academic coursework. For example, they may do this in part by developing explicit goals and measurable learning outcomes. Student survey responses suggested that pathway teachers did prepare students for their work-based learning experiences. Of students who indicated they had participated in a career exploration field trip, 73 percent agreed or strongly agreed that people at their school helped them prepare for the experience, and 85 percent responded that their teacher(s) made it clear what they expected students to learn from the field trip. Similarly, of students who participated in an internship, 73 percent reported that the school staff helped them prepare for it, and 72 percent reported that their teachers set clear learning expectations for their internship. One way that pathway staff at several schools helped students prepare for these experiences was by using lessons and instructional resources from the Exploring College, Career and Community Options (ECCCO) curriculum.¹⁰

Overall, students enjoyed their work-based learning experiences. Of students who reported participating in career exploration field trips or internships, more than three-quarters indicated they were satisfied with their experiences (76 percent and 81 percent, respectively). Students indicated that their internship providers also set clear roles and responsibilities, with 87 percent of internship participants reporting that their employers made it clear what was expected of them on the job. About half of internship participants indicated that they “often” were assigned meaningful tasks to do during their internship (47 percent) or received feedback on their job performance from the adults at their internship (50 percent), while 38 percent of internship participants said these things happened “sometimes.”

Survey data suggested that pathways may have room to improve in helping students reflect on and learn from their internships by integrating the experiences into their academic lessons and coursework.

Although survey respondents reported that pathways prepared them for work-based learning opportunities, survey data also suggested that pathways may have room to improve in helping students reflect on and learn from their internships by integrating the experiences into their academic lessons and coursework. Less than a quarter of internship participants indicated that they “often” tied their internship experience back to their schoolwork (22 percent) or discussed in class what they learned from their internship (23 percent). These responses suggest that students had relatively limited opportunities to connect their work-based learning with their academic classes.



College and Career Readiness

In addition to examining the extent to which health pathways connected classroom learning to the real world and provided high-quality work-based learning opportunities to students, SRI also explored the extent to which staff and students reported that health pathway participation contributed to students' preparedness to successfully transition to college and careers.

Students reported increased clarity around career choices and interests.

Among student survey respondents, three-quarters (74 percent) said that they knew what job or career they wanted to have in the future, and of these students almost all (92 percent) knew the level of education this future job or career required. A staff member at a well-established health pathway described ways this awareness is reinforced:

“ A good amount of [our] students leave wanting to go to the medical field. [Staff] push that there are a lot of ways to do this, not just being a doctor or nurse. [Students] leave either knowing they want to continue or that it is not for them.

In particular, health pathway students reported that work-based learning experiences improved their awareness of different careers and helped them gain clarity about what jobs they might be interested in after high school. Seventy-nine percent of students who participated in career exploration field trips indicated that these experiences helped them better understand a field or profession. In a focus group, a grade 12 student described learning during her clinical rotations that health careers are “not just doctors and nurses,” but also include radiology technicians and morgue staff. Another student added that he learned about health-adjacent careers such as medical lawyers and health technology programmers.

In focus groups, many students explained how their work-based learning experiences helped them develop their own career interests. As a grade 12 student said of her pathway experience, “If you came in not knowing what you want to be, by the time you’re done you will have a sense of what you like versus what you don’t.” One student remarked that she always “enjoyed science” and was “interested in health in general,” but that participating in a clinical internship and networking experiences helped her learn that she was interested in becoming a nurse for critically injured patients. Another student described how his internship at a local hospital “solidified [his] love for physical therapy,” and through his pathway he received support to apply to an esteemed physical therapy college.

Students reported that work-based learning helped them gain clarity about what jobs they might be interested in after high school.

Work-based learning helped other students clarify their career goals by confirming they are not interested in working in health. For example, a student said that her pathway experience “opened [her] eyes to what doctors go through” and helped her realize she would rather pursue cosmetology. Still, she added, “You can have a good experience [in a health pathway] even if you don’t want a health career.”

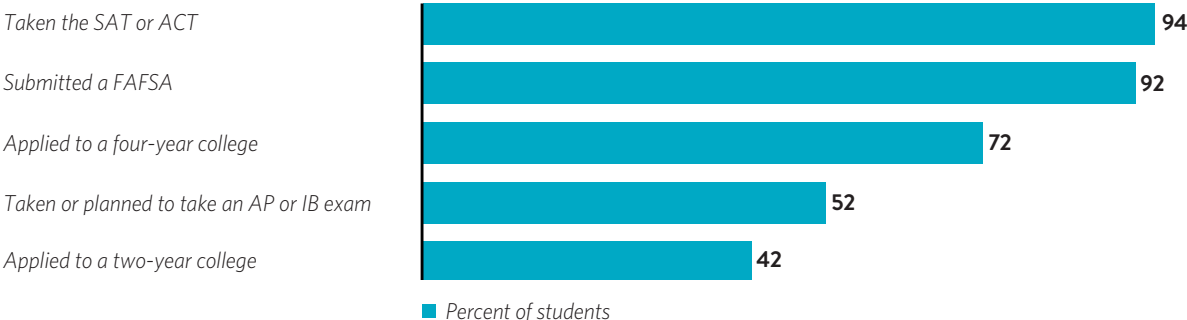
Students reported that work-based learning helped them gain knowledge and skills that made them feel more career ready. In the student survey, nearly three-quarters of internship participants (71 percent) indicated that their internships helped them prepare for the careers in which they are interested. In a focus group, grade 12 students described learning “how to talk to adults” in their internships, which helped them “develop confidence and assertiveness and become more relaxed” about entering the workforce.



Students and staff saw increased postsecondary education planning and preparation.

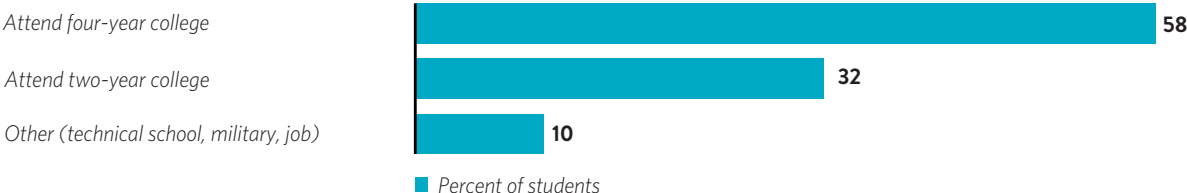
Many students in the health pathways aspired to attend college. The grade 12 students in well-established pathways who responded to the survey reported they had taken numerous steps to prepare for college. By May of their senior year, 92 percent had submitted a Free Application for Federal Student Aid (FAFSA), compared to 73 percent of OUSD 12th grade students and 58 percent of California 12th grade students in 2018.¹¹ Moreover, almost all had taken the SAT or ACT exam (94 percent), and half (52 percent) had already taken or planned to take an Advanced Placement (AP) or International Baccalaureate (IB) exam. Nearly three-quarters (72 percent) had applied to a four-year college, and two-fifths (42 percent) had applied to a two-year college (Exhibit 4).

Exhibit 4. Steps taken to prepare for college, n = 137



Three-fifths (58 percent) of the survey respondents reported they planned to attend a four-year college in the fall after graduating from high school, whereas one-third (32 percent) planned to attend a two-year college. The remaining 10 percent of students had other plans, including attending a technical or trade school, enlisting in the military, or getting a job (Exhibit 5).

Exhibit 5. Plans after high school, n = 137



Example postgraduation plans of student focus group participants from across the three well-established pathways included attending the University of California at Davis cosmetology school, the nursing program at Cal State East Bay, and the physical therapy program at the University of the Pacific. Staff interviewees who emphasized college most were part of a well-established pathway that served a number of professional families. One teacher noted, “It would be accurate to say many [of our graduates] go to a two- or four-year college.” A colleague at the same school explained, “We convince our students that there are no health careers or other careers they really want to do without going to at least a two-year college program.”

Moreover, many student focus group participants felt that their high school health pathway experiences contributed to their preparation for college. Teachers in one health pathway explained that their students were well prepared to meet “a-g” requirements for enrollment in California’s public universities because they take numerous science classes as part of their pathway sequence.



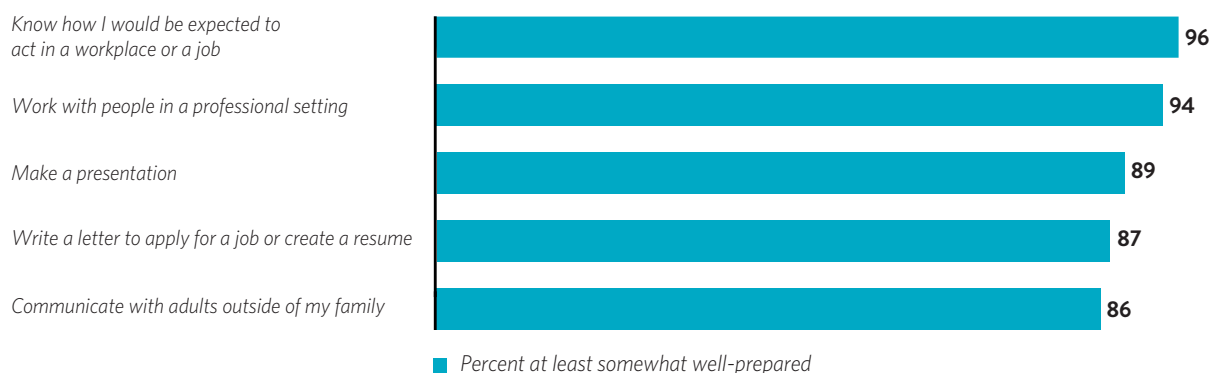
Students said they developed practical career readiness skills.

Students described that, in addition to preparing for health careers, they were learning practical skills such as public speaking and resume writing, which they recognized would be useful as they enter (or continue in) the workforce. Staff and students both reported that students were exposed to these skills largely via the Exploring Colleges Career and Community Options (ECCCO) curriculum as well as through drop-in support at onsite college and career centers. Schools offering district-supported ECCCO internships must teach the associated curriculum, which trains students in workplace skills and prepares them to apply for and participate successfully in internships. The curriculum was most often taught in CTE courses, although in one health pathway, phone skills, professional email skills, and writing resumes and cover letters were part of the grade 11 English curriculum. A student focus group participant from a well-established health pathway described how resume training, interview training, and preparation for talking to adults were all helpful in developing his confidence, assertiveness, and “feeling more relaxed” in interviews and work environments. The director of one of the established pathways remarked that the pathway’s “metric of success is less about setting up students for health care careers, but more for general life skills.”

One student described how resume and interview training were helpful in developing his confidence and “feeling more relaxed” in interviews and work environments.

Student survey respondents were very positive about their preparedness to use a variety of practical skills in a work or school environment. Almost all the students felt they were at least somewhat well prepared to act appropriately in a workplace or job (96 percent) and work with people in a professional setting (94 percent). A slightly lower percentage felt at least somewhat well prepared to communicate with adults outside of their families (86 percent), write a letter to apply for a job or create a resume (87 percent), or make a presentation (89 percent), but the perceived level of preparedness was still high (Exhibit 6).

Exhibit 6. Student perceptions of preparedness to use practical skills at work or school, n = 137



Test-taking was the only skill that students from one well-established pathway consistently stated was underemphasized in their pathway experiences. Focus group participants agreed that although they were well prepared to speak in public and write essays, they lacked test-taking skills that many suspected they would need in college—and in the current economy, where two-thirds of entry-level jobs and 80 percent of family-sustaining jobs currently require at least some education or training beyond high school.¹² Several staff members in the pathway mentioned this weakness in interviews as well.

Staff said students grew in confidence, self-efficacy, and sense of belonging.

According to pathway staff, the impact of health pathways exceeded specific career or academic lessons students learned—to also influence students' beliefs in their own abilities and knowledge. For example, a staff member from the alternative school described hearing more students proudly discussing what they had learned and accomplished in school with other students after pathway implementation. Similarly, a teacher at a different school believed that pathway participation increased student confidence:

“ But basically what I do, my main thing is, I build confidence. That’s the biggest thing I’ve seen the pathway produce is confidence throughout students’ school days who have never had confidence at school.

The specific experiences built into pathways—such as group projects and academic content relevant to work and life—were highlighted as key to building students' self-belief. According to a staff member at a comprehensive school, pathway opportunities for “building foundational skills like leadership, communication, critical thinking, collaborative projects, and presentations to the community” helped students feel “ownership, agency, and [that] they are the agents of change within their community.” Another staff member at this school described two students who gave a health-related presentation to community leaders despite deep reservations about their abilities. Successfully presenting their ideas to adults outside their school boosted the students' self-efficacy and confidence as learners and community members.



Moreover, in schools with multiple pathways, the pathways functioned as small cohorts of similar interest within the larger school setting. Taking a series of courses with the same peers taught by a core group of teachers who collaborated and communicated regularly resulted in the formation of deep relationships among students and staff. Staff members in both new and established health pathways stated that students trusted that they would be part of a community and be presented with valuable learning opportunities: They “come in knowing the teachers will support them” and that they will be able to “build on what was done the previous year.” Students and staff in an established health pathway cited the feeling of community as one of the pathway’s major strengths. A student noted feeling a sense of “pride” about being part of and graduating from the pathway.

Other students in the same pathway reported feeling supported by teachers and enjoying having something important in common with their classmates. One student said she felt there were people “looking out for [her]” because she was a pathway member. In the alternative school, although health was the only pathway option, the pathway’s presence represented an opportunity for students to build positive identities as learners by engaging academically in a relevant topic of shared interest. A staff member from the alternative school noted that since the pathway was introduced, the “kids are definitely more engaged” and the pathway was a “bonding experience for everyone ... even just walking together to class across the school, they’re like a crew.” Within these tightly knit small cohort pathways, some students who realized through pathway participation that they were not interested in a health career still described feeling satisfied with their experience because of their connectedness to peers and staff members.

Taking a series of courses with the same peers taught by a core group of teachers who collaborated and communicated regularly resulted in the formation of deep relationships among students and staff.

In contrast, students and staff members in the school with the schoolwide health pathway noted that universal membership precluded the intimacy of a small cohort for both students and staff. Further, they suggested that because the decision to attend the school was made at a younger age (and perhaps influenced by parents), there was disinterest and disengagement among some students and an altogether more diffuse pathway experience.

Conclusion

The aims of engaging students in learning and increasing the relevance of school for a diverse student body were common across the OUSD health pathways. Schools sought to provide health pathway experiences that met the educational and developmental needs of their particular student population, largely through real-world-connected classroom learning and high-quality work-based learning opportunities. They also aimed to attract a diverse group of participants, increase equitable access to learning opportunities, and, in the long-term, help diversify the area's health care workforce. To do this, schools chose specific health pathway themes (e.g., public health, community health, health and fitness) and offered certain courses (e.g., EMT, kinesiology, nutrition) to interest students and engage particular student populations. In cases where there was a selection process for health pathway participation, the staff also tried to create cohorts that were representative of overall school demographics. In accordance with the OUSD and Atlantic grant goals, the district and its industry partners also offered a range of work-based learning opportunities and intentionally targeted harder to reach students (such as males of color and special education students) in order to increase access and enable more equitable participation.

Greater access to internships and other work-based learning opportunities was important because participation enabled students to discover new career options and academic pathways, explore their interests, and gain knowledge and skills to succeed in the workforce after high school. Health pathway students reported gaining a greater understanding of careers, clarification of their own career goals, and increased preparedness for college and career. Staff also described students having more confidence and taking more ownership over their learning. Beyond individual student outcomes, the health pathways led to a greater sense of community and belonging among participants.

Students reported gaining a greater understanding of careers, clarification of their own career goals, and increased preparedness for college and career.



Despite increased work-based learning opportunities, students faced challenges in taking advantage of internships in particular. To mitigate barriers to internship participation, schools offered application assistance, and partners increased internships slots and made other accommodations for students. These efforts were successful in many respects. Staff members and students identified other areas for improvement and growth for health pathways. For example, they expressed the need for students to see themselves represented demographically in the career options presented to them and suggested that guest speakers include racial minorities and individuals with less-advanced degrees representing a range of health careers. They also emphasized the importance of personalized supports for students—specifically, site-level staff who help with recruitment and applications for internships—because these one-on-one supports have a strong impact on participation. Further, students described a lack of connections between their work-based learning experiences and their academic coursework.

To produce more equitable outcomes—students of all backgrounds and abilities prepared for success after high school—students must have equitable access to learning opportunities. The OHPP made progress toward achieving its goals of equity by taking intentional actions to remove structural barriers (e.g., adding slots and making accommodations for students) and create additional supports for the students with the greatest needs. This type of success is not achieved accidentally and is the result of goal-driven planning, trial and error, and deliberate improvements. As OUSD continues to move forward in health pathway implementation and other districts across the country look to its example, we hope these findings about the OHPP student experience will remain at the forefront.

TOWARD EQUITABLE OUTCOMES:

Key takeaways from the OHPP student experience

Connecting Classrooms to the Real World

- Consider student interest when selecting pathways themes and course content
- Integrate technical and academic content through projects
- Embed dual enrollment courses connected to pathway themes

Providing Work-based Learning Experiences

- Offer a range of work-based learning opportunities and intentionally target harder-to-reach students
- Take time to understand the barriers students face to participating in internships and target supports to mitigate those barriers
- Prepare students for work-based learning experiences and integrate them into the curriculum

Endnotes

1. SRI researchers interviewed 55 key school and pathways personnel at all six OUSD high schools over three years (2015-18). The researchers conducted focus groups with graduating seniors at two of the schools with established health pathways in spring 2017 and at all three of these established-pathway schools in spring 2018, for a total of five student focus groups. In May 2018, SRI staff also administered a voluntary, anonymous online survey of health pathway seniors in these three schools. In total, 137 high school seniors completed the survey. The three new health pathways did not have graduating seniors at the time of the survey.
2. The original series of grants also included #YesWeCode, a national initiative to increase the representation of minorities in the technology industry by offering training and job opportunities to primarily Black and Latino young adults, age 18-27.
3. Enrollment and demographic data is for non-charter schools run by OUSD.
4. California Department of Education. (2019). 2018-19 Enrollment by Subgroup for Charter and Non-charter Schools: Oakland Unified Report (01-61259). Retrieved from <https://data1.cde.ca.gov/dataquest/dqcensus/EnrCharterSub.aspx?cde=0161259&aggllevel=district&year=2018-19>
5. California Department of Education. (2019). 2019-20 Enrollment by Ethnicity for Charter and Non-Charter Schools: Oakland Unified Report (01-61259). Retrieved from <https://data1.cde.ca.gov/dataquest/dqcensus/EnrCharterEth.aspx?cde=0161259&aggllevel=district&year=2018-19>
6. Linked Learning Guiding Principles. (n.d.) <http://www.linkedlearning.org/en/about/>
7. Valentine, P., Wynn, J., & McLean, D. (2016). Improving diversity in the health professions. *North Carolina Medical Journal*, 77(2), 137-140. Retrieved from <http://www.ncmedicaljournal.com/content/77/2/137.full>
8. Guha, R., Caspary, K., Stites, R., Padilla, C., Arshan, N., Park, C., Tse, V., Astudillo, S., Black, A., & Adelman, N. (2014). Taking stock of the California Linked Learning District Initiative. Fifth-year evaluation report. Menlo Park, CA: SRI International.
9. School-Based Health Centers (SBHCs) are onsite programs available at a number of health pathway schools in Oakland. SBHCs are operated by licensed Federally Qualified Health Centers in partnership with the school, district, county, and other providers to improve students' overall health. They offer access to health care services and, at some schools, onsite work-based learning opportunities.
10. The ConnectEd ECCCO curriculum provides sequenced lessons and activities to prepare high school students for college and career. The curriculum emphasizes college readiness, career development and exploration, and internships. Retrieved from <https://www.connectedstudios.org/ecco>
11. California Student Aid Commission dashboard: <https://webutil.csac.ca.gov/dashboard/>
12. Carnevale, A., Strohl, J., Ridley, N., & Gulish, A. (2018). Three educational pathways to good jobs: High school, middle skills, and bachelor's degree. Washington, DC: Georgetown University Center on Education and the Workforce. Retrieved from <https://1gyhoq479ufd3yna29x7ubjn-wpengine.netdna-ssl.com/wp-content/uploads/3ways-FR.pdf>



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