



TECHNICAL ANALYSIS

Implementing Health Pathways: Resource Considerations

Key Activities, Resources, and Related Costs

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Learning from the Oakland Health Pathways Project

This brief presents information 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. As part of its larger study of health pathway implementation and outcomes, SRI contracted with Augenblick, Palaich and Associates, Inc. (APA) to examine the costs of implementing health career pathways in Oakland Unified School Districts. This brief provides an overview of the cost study.

This is the fourth in a series of products resulting from SRI's involvement in 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. The second, *Student Experiences in Health Pathways*, drew on interviews with pathway personnel, as well as focus groups and surveys of participating students in their senior year, to describe the experiences of students enrolled in health pathways and the perceived impact of participation on their college and career readiness. The most recent brief, *Student Outcomes in Health Pathways*, described the high school and early postsecondary outcomes of students who participated in Oakland Health Pathways.

Summary:

Resource Considerations for Implementing Health Pathways

This brief presents findings from a study examining the costs of implementing health pathways using the Linked Learning approach in Oakland Unified School District (OUSD). A separate analysis found that OUSD health pathway students outperformed traditional high school students on key indicators of success in high school and the transition to postsecondary, suggesting that Linked Learning pathways may be a promising approach for districts to explore. The findings presented here are intended to help districts considering health pathways understand the resources involved in implementation. Following is a snapshot of necessary school and district-level resources, including personnel (often cited in terms of full-time equivalent, or FTE, positions), materials, and facilities in health pathways, as well as related recommendations from OUSD staff.



School-Level Resources

- Partial FTE work-based learning coordinator (at least 0.2 FTE)
- Partial FTE pathway coach (at least 0.2 FTE)
- Additional pathway teacher staffing to offer courses in an eight-period or block schedule (about 1.0 FTE per 100 students)
- Release (non-teaching) period for pathway lead
- Additional teacher time for coordinating or supervising internships (often paid as a stipend to the teacher)
- Additional non-personnel funds for student opportunities (internships, field trips, mentoring programs), supplies, materials, equipment, and technology



District-Level Resources

- Linked Learning director (0.2 FTE)
- Work-based learning coordinator (0.2 FTE)
- Work-based learning liaison (1.0 FTE)
- Industry engagement coordinator (0.2 FTE)
- Data analyst (0.06 FTE)
- District-level health pathways coach (1.0 FTE)
- Four certificated internship supervisors (at a cost of \$44,000)
- Master scheduler



Recommendations

- District and school leadership need to fully support pathways
- Schools need to be structured to offer an eight-period day that includes student cohort course progression, credit recovery, internship opportunities, and teacher collaboration
- Staff members need to be deeply invested—and, when feasible, only serve students within a specific pathway
- Work-based learning opportunities need to be integrated into and aligned with each pathway
- Equipped facilities need to be provided for each pathway; ideally, classrooms, labs, and other learning spaces should be adjacent

About the Oakland Health Pathways Project

In 2014, The Atlantic Philanthropies, a limited-life foundation, 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 Alameda County Health Care Services Agency (ACHCSA) together received a grant of \$11 million, and Alameda Health System (AHS) received a grant of \$10 million. This initiative is known as the Oakland Health Pathways Project (OHPP).¹

Project Partners

Oakland Unified School District serves approximately 36,000 students in district-run schools.² Nearly one-third of them speak a language other than English at home, and over 70% receive free or reduced-price meals.³ Student enrollment across OUSD is approximately 24% African American, 13% Asian, 42% Hispanic or Latino, 12% white, and 7% other races or ethnicities.⁴ 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 Linked Learning, an approach that combines classroom learning with real-world work experiences. An evaluation by SRI Education in nine California school districts, including Oakland, found that students in certified Linked Learning pathways had decreased dropout rates, higher graduation rates, and earned more credits compared to peers in traditional high schools.⁵

Linked Learning 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. Cohorts of pathway students move through their course sequences together, allowing for integrated, cross-discipline projects and work-based learning experiences specific to the industry theme of their pathway.

The OHPP follows a multi-year investment in Linked Learning in OUSD that was funded by The James Irvine Foundation. OUSD has been implementing Linked Learning since 2010, including three health pathways that predated the Oakland Health Pathways Project.

Cost Study Purpose, Approach, and Findings

The primary purpose of this cost study was to determine the school- and district-level resources necessary to implement Linked Learning health career pathways in OUSD. The study focused on costs incurred by OUSD; it did not capture any costs incurred by industry partners or in-kind resources they provide to the district. The secondary goals of this cost study were to determine what funds are used to help implement these pathways, how these pathways are sustained, and how they will be sustained in the future.

APA interviewed district staff members who support health pathways and key staff members at four participating OUSD high schools. APA sought to understand the resources needed to offer pathway courses and work-based learning opportunities, provide student supports, and coordinate program activities. Throughout this brief, we refer to these four high schools as “case studies.”

Once the personnel resources required to complete implementation activities were identified, APA applied OUSD salaries and benefits to personnel figures. Personnel costs were then combined with non-personnel costs to produce total implementation costs for each school and the district. All costs presented reflect the additional costs associated with having pathways, as compared to a more traditional high school model.

District Context

Oakland Unified School District is a large urban school district that enrolled 36,286 students in district-run schools in 2018–19, the academic year for this cost study. Approximately three quarters (73.5%) of these students were eligible for free or reduced-price lunch, and 33% of the students were English learners. There were 5,684 students in OUSD’s 32 pathways (about 80 percent of all 10th–12th grade students), and of these 1,168 students were in the district’s seven health pathways.⁶ Enrollment in these pathways ranged from 117 to 234 students, with an average of 168 students. At the time of this study, OUSD was transitioning to wall-to-wall pathways, meaning they were moving toward having all high school students enrolled in a career-themed pathway.

Student Need

Student need—defined on the basis of academic risk factors such as low income or language needs—often has an impact on education costs. Studying the impact of student need on resources for health pathways was beyond the scope of this study. However, it is likely that the additional resources required to offer health pathways in OUSD are higher than they would be in other communities with less student need.

Opportunities Due to Urban Location

OUSD benefits from its urban location given the availability of industry partners, postsecondary institutions, and public transportation. These outside-of-district benefits may not be as readily accessible in smaller or more rural communities.

Although the context of the district and its schools may be unique, the case studies in OUSD offered several lessons and key takeaways about the resources needed to implement health pathways. The final section of this brief presents these insights and how they might be used to inform implementation of a health pathway in another district.

AVAILABLE FUNDING SOURCES AND SUSTAINABILITY

Adequate, sustainable funding is essential to effective implementation of health pathways. OUSD has accessed a number of funding sources over time to expand, improve, and maintain all pathways in the district, including—but not limited to—its health pathways. These funding sources have been The Atlantic Philanthropies; Measure N, a local parcel tax; The James Irvine Foundation, via grant support for Linked Learning; the California Technical Education Incentive Grant Program; California Partnership Academy grants; the California Career Pathways Trust; the federal Perkins Career and Technical Education grant; and Supplemental and Concentration funds through California's Local Control Funding Formula. Even though some of these funding streams are no longer available, OUSD continues its commitment to Linked Learning pathways as an approach that advances equity and quality in education. The district believes it will be able to sustain and even expand pathways, including those focused on health, as part of its long-term strategic plan.

Resources Needed to Implement Health Pathways

Baseline School-Level Resources

Essential activities. Each of the four OUSD case study schools was unique in its approach to implementing its health pathway. However, all undertook the following activities to implement health pathways in their respective schools:

- Coordinating and managing pathway activities at the school
- Offering more class periods in a day to deliver pathway-specific courses with sequenced cohort progression, as well as expand teacher collaboration opportunities
- Facilitating work-based learning opportunities and providing internship supervision
- Providing release time (non-teaching period) for pathway leads
- Providing student supports

Resource requirements. Based on these activities, APA identified resources that could be considered to be a minimum, or baseline, for implementing a new health pathway in a manner similar to that of OUSD, where the intention is that all students in grades 10–12 in a school eventually are enrolled in a pathway. Accordingly, APA suggests the following baseline staffing resources:

- Partial full-time equivalent (FTE) work-based learning coordinator (at least 0.2 FTE)
- Partial FTE pathway coach (at least 0.2 FTE)⁷
- Additional pathway teacher staffing to offer courses in an eight-period or block schedule (about 1.0 FTE per 100 students)
- Release (non-teaching) period for pathway lead
- Additional teacher time for coordinating or supervising internships (often paid as a stipend to the teacher)

All sites also indicated the need for support from administration, counselors, or other student services personnel, as well as time for collaboration among pathway staff members. The level of support needed was not consistent across sites, however, and may represent either differing levels of existing available resources or differing implementation models. If these functions did not already exist in a school at the appropriate level, additional staffing would be required to support a new health pathway.

Additionally, all four schools incurred costs and allocated resources to provide student opportunities related to health pathways—such as internships, field trips, or mentoring programs—and for supplies, materials, equipment, and technology for health pathways. Across all four schools, average school-level expenditures for non-personnel resources were about \$60,000.

Adding the average expenditure for these non-personnel resources to the baseline staffing resources would result in a total of about \$315,000 for a pathway on an annual, ongoing basis. If that pathway served 200 students—similar in size to the average seen in OUSD—the school-level baseline cost would be about \$1,575 per student annually.

District-Level Resources

Essential activities. In addition to school-level resources, implementing a health pathway requires district-level support and oversight. Specific activities at this level include:

- Coordinating and managing pathway programs across all high school sites
- Recruiting and supporting the involvement of industry partners
- Providing professional development to school staff
- Assisting staff in obtaining industry certification
- Tracking student data and industry trends
- Coordinating work-based learning at the district level
- Facilitating communication internally with pathway leads, administrators, and other district staff, and externally with industry partners, families, and the community
- Facilitating student internships (including coordinating stipends, health clearances, and transportation passes as well as providing supervision)
- Purchasing, maintaining, and replacing supplies, materials, technology, and equipment
- Setting the schedule at each school to allow for student internships, collaboration between teachers, cohort progression in a pathway, and remediation opportunities, and to allow students enrolled in career technical education courses to take additional electives in other areas (referred to as master scheduling)

Resource requirements. OUSD employed the following district-level staff who spent all or part of their time implementing health pathways:

- Linked Learning director (0.2 FTE)
- Work-based learning coordinator (0.2 FTE)
- Work-based learning liaison (1.0 FTE)
- Industry engagement coordinator (0.2 FTE)
- Data analyst (0.06 FTE)
- District-level health pathways coach (1.0 FTE)
- Four certificated internship supervisors (at a cost of \$44,000)
- Master scheduler

In OUSD, this ongoing cost was \$416 per student, but the number of pathways in the district may enable it to realize economies of scale that may be more challenging for a small district, a district implementing only a few pathways, or one just starting to implement pathways. OUSD is also a relatively high-cost district, with a higher cost of living and salaries than many districts in the country, so costs may be lower elsewhere.

Total Ongoing District- and School-Level Costs

In summary, the baseline school-level cost of \$1,575 per student (assuming 200 students in a pathway) combined with the district per student figure of \$416 suggests a total baseline cost of about \$2,000 per student per year. This figure would vary based on the unique circumstances of another school or district, such as cost of living, ability to have economies of scale due to the size of the district or number and size of pathways, or underlying level of existing resources and staffing.

For example, one of the primary cost drivers was that additional pathway teachers were needed to staff the move to an eight-period day—a key implementation component of OUSD’s pathways program—so a school or district that was already structured in that way would require fewer additional resources to implement a health pathway.

The baseline school-level cost of \$1,575 per student combined with the district per student figure of \$416 suggests a total baseline cost of about \$2,000 per student per year.

Districts and schools implementing health pathways would also incur one-time start-up costs during the planning phase and to establish necessary facilities, as discussed in the next section.

One-Time Resources

In addition to the ongoing annual costs associated with health pathways in OUSD, there were one-time start-up costs at the district and school levels. However, APA was not able to collect information on most of the one-time start-up costs incurred by OUSD because of the amount of time that had passed since the health pathways were first implemented. Although most of these costs could not be captured, data from the case study schools indicate a cost for setting up facilities would total \$362 per health pathway student.



Additional Resource Lessons Shared by OUSD Pathway Staff

The personnel and non-personnel resources identified in this study could be organized and used in a number of ways to accomplish the activities associated with implementing health pathways. OUSD focuses on organizing its resources to provide “enabling conditions” for pathway success. Based on this approach, OUSD staff interviewed in this study offer several recommendations to districts that are considering implementing health pathways in their schools:

District and school leadership need to fully support pathways. Linked Learning was designed for system-wide application in districts, and success requires system-wide leadership. At the district level, staff provide the oversight and strategic vision needed for pathway implementation. Further, it is critical that districts provide opportunities for each school’s full leadership team to engage and buy in to the pathways approach, as school-level pathways champions are essential to the success of pathway programs. OUSD also cites the importance of ensuring that sufficient assistant principal staff is in place at a school implementing pathways. Finally, the OUSD study team believes that including pathway opportunities for all students as part of OUSD’s long-term strategic vision is a crucial factor in sustaining the district’s pathways.

Schools need to be structured to offer an eight-period day that includes student cohort course progression, credit recovery, internship opportunities, and teacher collaboration. First, schools need to be on an eight-period day (or a similarly staffed block schedule) for necessary pathway courses to be offered, which requires additional teacher staffing. Second, a master scheduler is recommended at the district level to handle scheduling for all schools. OUSD has found that handling scheduling at the district level is most successful for ensuring consistency across school sites. Master scheduling allows time for critical program components during the school day, including internships with industry partners, teacher collaboration and planning, opportunities for credit deficient students, and cohorting of students—an evidence-based practice that supports student success.

Staff members need to be deeply invested—and, when feasible, only serve students within a specific pathway. As much as possible, all staff members need to be fully focused on pathway students and the goals of the pathway. This means that personnel need to be well trained and knowledgeable about the pathway and related careers and, when possible, serve only students within a given pathway. This includes teachers, counselors, and administrators to ensure that instruction, advisement, discipline, student data and performance assessment, and parent engagement are all pathway specific. Ideally, special education teachers and English learner teachers should be assigned to a specific pathway. This also involves providing pathway-specific professional development and industry certification for staff. Coaching from both site-based and district-based staff was also seen as critical.

Work-based learning opportunities need to be integrated into and aligned with each pathway.

These opportunities must be embedded in the pathway to help students make sense of the academic content and apply it to the real world. Further, work-based learning also needs to be oriented to the pathway to ensure that all the learning opportunities are meaningful and applicable to achieving the goals of the pathway. This requires work-based learning coordination at the district and school levels to develop industry partnerships and identify student opportunities, as well as staff to provide supervision and stipends for students to support participation.

Equipped facilities need to be provided for each pathway; ideally, learning spaces should be adjacent.

Lab and facility space, including necessary materials and equipment, is essential for embedded industry instruction. Additionally, having schools set up in a manner that enables pathway classes to be near each other allows for greater pathway ownership, identity, and collegiality—supporting teacher collaboration and intentional culture building through creating a small learning community. This sometimes requires a reconfiguration of space, which can be costly, and also requires upgraded equipment and technology. On an ongoing basis, having the resources to maintain equipment and replenish supplies and materials is necessary.

Conclusion

Oakland Unified School District's adoption of Linked Learning pathways is grounded in evidence across multiple school districts that this approach to high school advances student readiness for college and career. OUSD has expanded the number of pathways offered in recent years as new funding has become available. Research presented by SRI Education in this Oakland Health Pathways Project series suggests that health pathways are a promising means to improving students' high school outcomes and increasing their likelihood of enrolling in postsecondary education.

This brief adds to the body of OHPP knowledge by addressing what it takes to implement health pathways. Although the context of OUSD and its schools may be unique given their demographics, setting, and access to certain funding sources, the case studies in OUSD offered insight into the minimum, or baseline resources, needed to provide health pathways. These cases also illuminated strategies recommended by OUSD pathway staff, and determined approximate costs that can be helpful to districts seeking to support student and community success through Linked Learning health pathways.



Endnotes

1. 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.
2. Enrollment and demographic data is for non-charter schools run by Oakland Unified School District.
3. 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?cds=0161259&agglevel=district&year=2018-19>
4. California Department of Education. (2019). 2018–19 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?cds=0161259&agglevel=district&year=2018-19>
5. Taking Stock of the California District Initiative, SRI International Seventh-Year Evaluation Report. (2016).
6. Note that most enrollment data is from OUSD’s data dashboard; however, for the education and community health pathway, the study team relied on self-reported data from district staff regarding how many of the students were in the health strand. https://dashboards.ousd.org/views/PathwayEnrollment_1/Comparison?:embed=y&display_count=no&render=false
7. For one school, the pathway coach was a district-level resource. For the other three schools, there was a partial school-level position.



Linked Learning is a proven, systemic approach to education based on this simple idea: students work harder and dream bigger if their learning connects with them, and connects them to the world. Young people are introduced to career possibilities in sectors that drive their region's economy, making education relevant to their passions and inspiring them to graduate from high school with the coursework and skills they need to thrive. By integrating rigorous academics with real-world learning and strong support services, Linked Learning prepares students for success in college, career, and life.

The Linked Learning Alliance serves the coalition of educators, employers, and community organizations dedicated to advancing equity and excellence through Linked Learning. The Alliance provides a collective voice for this field, advocates for policies that support the Linked Learning approach, sets the quality standard for Linked Learning in practice, and brings diverse stakeholders together to improve outcomes for students.

www.linkedlearning.org



Over 35 years, The Atlantic Philanthropies made grants totaling more than \$8 billion to advance opportunity, equity and human dignity. After establishing Atlantic in 1982, Chuck Feeney quietly devoted his wealth to the service of humanity. In keeping with Mr. Feeney's "Giving While Living" big bet philosophy, Atlantic has invested in systemic change to accelerate lasting improvements for people in Australia, Bermuda, Cuba, Northern Ireland, the Republic of Ireland, South Africa, the United States and Vietnam. Atlantic committed its final grants in 2016 and will conclude operations by 2020.

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Augenblick, Palaich and Associates (APA) is a Denver-based consulting firm that focuses on education policy at the national, state, and local levels. For the past 36 years, APA has worked with policymakers nationally to create effective systems that facilitate increased student learning. APA has previously examined the cost implications of the Linked Learning approach in California school districts for The James Irvine Foundation. Starting in 2012, this multi-year cost study of Linked Learning began by determining the cost components and structures associated with Linked Learning, from the perspective of both optimal implementation and actual implementation in existing Linked Learning districts.

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