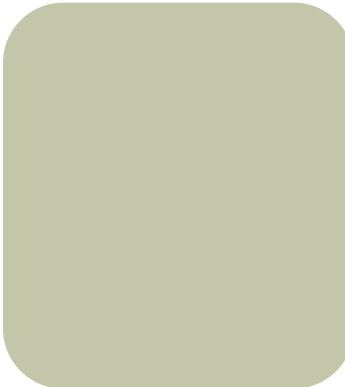


Pima Community College Pathways to Healthcare Program: Implementation and Early Impact Report

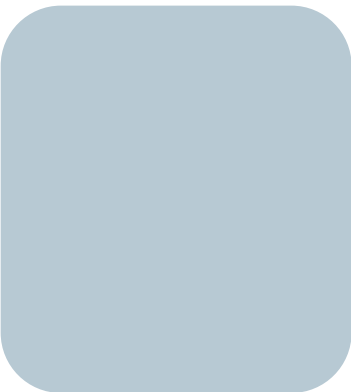


Executive Summary



OPRE Report No. 2017-10

April 2017



PACE
Pathways for Advancing
Careers and Education

Pima Community College Pathways to Healthcare Program: Implementation and Early Impact Report

Pathways for Advancing Careers and Education (PACE)

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April 2017

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Executive Summary

Over the next ten years, the demand for workers in healthcare jobs is expected to grow quickly as the population grows and ages.¹ Successfully meeting the need for more healthcare workers is important to both the national economy and providing quality healthcare to people. This also creates opportunities for low-income adults to find entry-level employment and advance to higher-skilled jobs. Almost all jobs in healthcare require some training after high school. Policymakers, workforce development organizations, educators, and other key stakeholders are very interested in how to enable the match between the nation's need for a skilled workforce and low-income adults' need for employment.

Pathways to Healthcare Program

This report offers early evidence on the implementation and impacts of one promising effort to meet both needs. The **Pathways to Healthcare** program, operated through a partnership between **Pima Community College** (PCC) in Tucson, Arizona, and **Pima County One Stop** (PCOS), the local workforce agency, aimed to help low-income adults in Pima County access occupational training in the growing healthcare field. Over its first 18 months, Pathways to Healthcare program participants were more likely than a randomly assigned control group who could not access the program to:

- attend more hours of college occupational training—the primary outcome measured in this report;
- enroll in occupational training; and
- earn college credentials (degrees, certificates)

The Administration for Children and Families (ACF), within the U.S. Department of Health and Human Services, awarded a five-year grant in 2010 to fund the program under the **Health Profession Opportunity Grants (HPOG)** demonstration. The two program partners in Pathways to Healthcare improved existing PCC training programs and PCOS services, seeking to engage low-income adults in occupational training and aid their academic and career progress.

Pathways to Healthcare combined several key components:

- *Mapping 16 existing occupational training programs into five “pathways”* helped students who might otherwise find the course catalog confusing understand how completing one credential can lead to a higher credential and higher paying job.
- *Intensive and proactive staff guidance and advising* helped students and program staff identify and address barriers to participating in the program, select a training program, persist in and complete the chosen program, and subsequently enter employment.
- *Scholarships* for tuition, books, and other supplies to reduce the cost of training.

¹ <http://www.bls.gov/news.release/ecopro.nr0.htm>.

- *Two compressed and contextualized basic skills (“bridge”) programs* helped students with low levels of basic skills enroll directly in one of the 16 occupational programs.
- *Employment supports* helped program completers locate employment through coaching for job interviews and help with resume writing.

Pathways for Advancing Careers and Education (PACE) Evaluation

Abt Associates and its partners are evaluating Pathways to Healthcare as part of the **Pathways for Advancing Careers and Education (PACE)** evaluation. Funded by ACF, PACE is an evaluation of nine programs that include key features of a “career pathways framework.”

The **career pathways framework** guides the development and operation of programs aiming to improve the occupational skills of low-income adults by increasing their entry into, persistence in, and completion of postsecondary training. These students are primarily older and nontraditional students. The framework describes strategies for overcoming barriers to education and training that these students can face. Key features of programs within this framework include:

- a series of well-defined training steps;
- promising instructional approaches targeted to adult learners;
- services to address academic and non-academic barriers to program enrollment and completion; and
- connections to employment.

The Pathways to Healthcare evaluation includes an **implementation study** that examines the design and operation of the program and enrolled students’ participation patterns, and an **impact study** that used an experimental design to measure differences in educational and employment outcomes between individuals randomly assigned to a group that could receive Pathways to Healthcare (treatment group) and a group that could not (control group).² Using data from baseline surveys, a follow-up survey, program records, and site visits, this report provides the results from the implementation study and it describes the early impacts of the program (18 months after random assignment) on education, training and employment, including hours of college occupational training received since random assignment, the primary outcome to assess the early effects of Pathways to Healthcare.³

² Random assignment ensures that the treatment and control groups will be alike in their observed and unobserved characteristics, and that any systematic differences in their outcomes can be attributed to the treatment group having access to program services.

³ See the PACE analysis plan. Abt Associates, Inc. (2014). The Pathways to Healthcare analysis plan was also registered on the What Works Clearinghouse online registry of randomized control trials (RCT) on May 20, 2016 and the Open Science Framework site. In September of 2016, under the terms of a grant from the Institute of Educational Sciences, the RCT registry information was removed from the WWC website and transferred to the Society for Research on Educational Effectiveness (SREE). SREE plans to re-launch the registry in late 2017, at which time the analysis plan will be available in a searchable online database.

Key Findings

From the Implementation Study

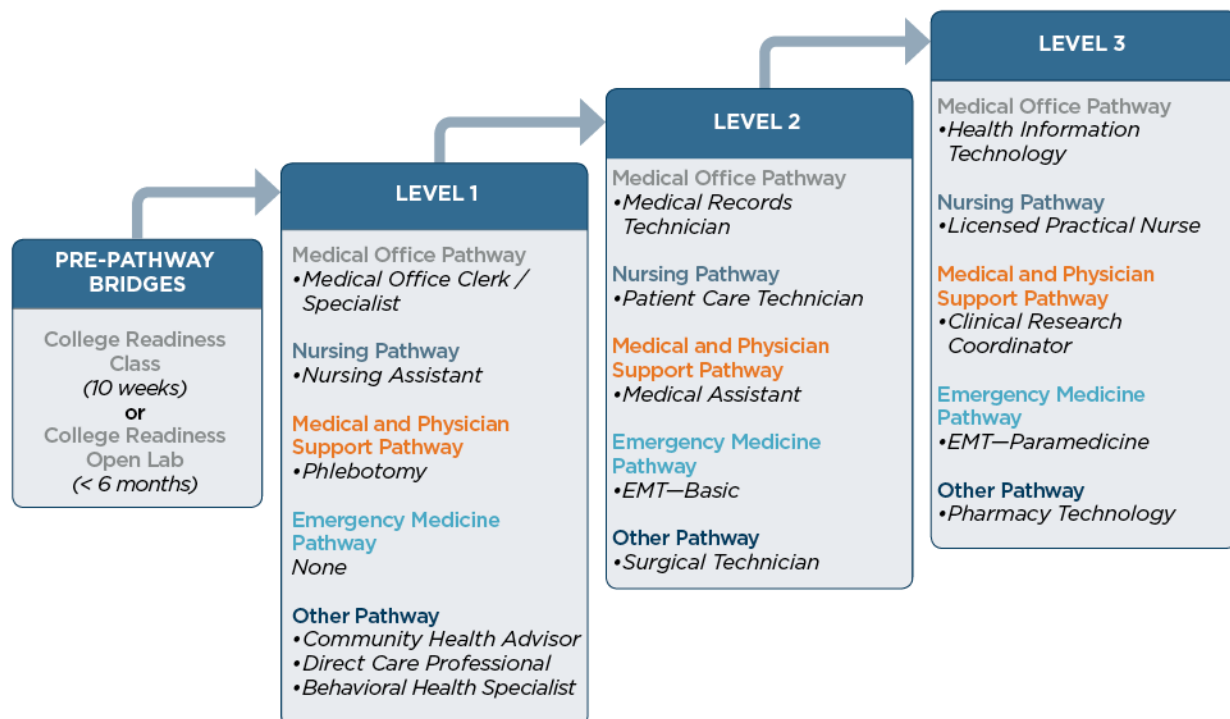
- *Pathways to Healthcare mapped 16 of PCC's existing occupational training programs into five distinct pathways.*

By mapping individual training programs into defined career pathways, PCC leadership hoped to simplify enrollment and placement in the right program and focus students on longer-term training goals. As Exhibit ES-1 shows, Pathways to Healthcare designated each of the 16 training programs into one of five pathways: Medical Office, Nursing, Medical and Physician Support, Emergency Medicine, or Other. Within each pathway, they designated programs by “level” (1 for entry level, 2 for mid-level, and 3 for advanced level).

- *The program successfully implemented two bridges to help participating students improve basic skills prior to enrollment in occupational training. Twenty-six percent of treatment group members participated in at least one bridge.*

As Exhibit ES-1 shows, Pathways to Healthcare implemented two versions of a bridge program for those students whose basic academic skills (i.e., math, reading, writing) were too low to enter an occupational program directly. The 10-week College Readiness class and the open lab were designed to help students quickly increase basic skills and score high enough on the required ACT Compass® assessment to begin their training of choice.

Exhibit ES-1. Pathways Overview



- *Pathways to Healthcare developed and implemented instructional supports to help students persist in and complete their training programs.*

Instructors and PCC staff members noticed that some students had difficulty persisting in their programs and proposed a number of course-specific supports to help participants master content and learn college success skills. Two training programs, Pharmacy Technology and Nursing Assistant/Patient Care Technician, implemented weekly instructor-led study groups to help students bolster basic skills and learn occupational content. PCC also implemented the Pre-LPN Reading Group for students trying to achieve the Compass reading score (90 or above) necessary to qualify for the Licensed Practical Nurse program. The Nursing Assistant Readiness Class was implemented after staff determined that many Nursing Assistant students did not have the college success skills, such as time management, needed for the course.

- *Pathways to Healthcare implemented three advising positions designed to identify and address barriers to enrollment, persistence, and completion.*

The three advisors—PCOS's Workforce Development Specialist (WDS) and PCC's Student Services Advanced Specialist (SSAS) and Student Services Specialist (SSS)—were expected to collaborate to address the range of potential academic and non-academic barriers that could affect a student's ability to enroll in and complete a training program.

In order to engage students quickly, the first advising meeting, with the WDS, was supposed to occur within two weeks of random assignment and focus on identifying barriers and necessary supports to overcome them. Within a week of this meeting, the student met with a SSAS to begin discussing pre-training activities at the college. According to a PCC staff member, these initial meetings were intended to help students not lose their way early in the Pathways to Healthcare program. The SSAS helped students navigate the steps to enrollment; once a student enrolled in a training program, the SSS provided guidance to help ensure completion.

- *All Pathways to Healthcare students approved for occupational training received scholarships.*

Pathways to Healthcare provided scholarships to all participants with an approved Training Plan. During the study period, the per-student scholarship (for tuition and books) was roughly \$3,500. Recipients who subsequently pursued a second course of study could receive additional funds, based on availability.⁴

- *Pathways to Healthcare staff designed and implemented services to assist in the transition to employment.*

Program staff members observed that many students completing the program had difficulty transitioning from training to employment. Based on the recommendations of a workgroup, staff created new PCOS workshops to help students customize their job searches to the healthcare industry and provide guidance ranging from resume development to practice interviewing; implemented the

⁴ In Year 2 of the program, there was a waitlist for scholarships due to PCC awaiting approval of Year 1 carryover funds and more Year 1 participants than expected, who were still in training in Year 2. As a result, some Year 2 treatment group members relied entirely on Pell grants and WIA funds.

New Employee Transition program to encourage employers to hire program graduates by funding training on the job to help them acclimate to the specific workplace⁵; and launched the Student and Alumni Network to help students and graduates develop a professional network, build a sense of community, and foster college success skills.

- ***Most treatment group members participated in Pathways to Healthcare's College Readiness program or its occupational training. Fewer transitioned from College Readiness to occupational training or from an initial training program to a higher-level one.***

As shown in Exhibit ES-2, 62 percent of all treatment group members participated in College Readiness or occupational training, with 35 percent enrolling directly in occupational training and 26 percent enrolling in the College Readiness class or open lab. Half of the latter (13 percent) enrolled in training after completing College Readiness.⁶ Of the 48 (35 + 13) percent who enrolled in training, 29 percent (60 percent of trainees) received a credential and another nine percent (19 percent of trainees) were still in their first training at the end of the follow-up period. The remainder dropped out.

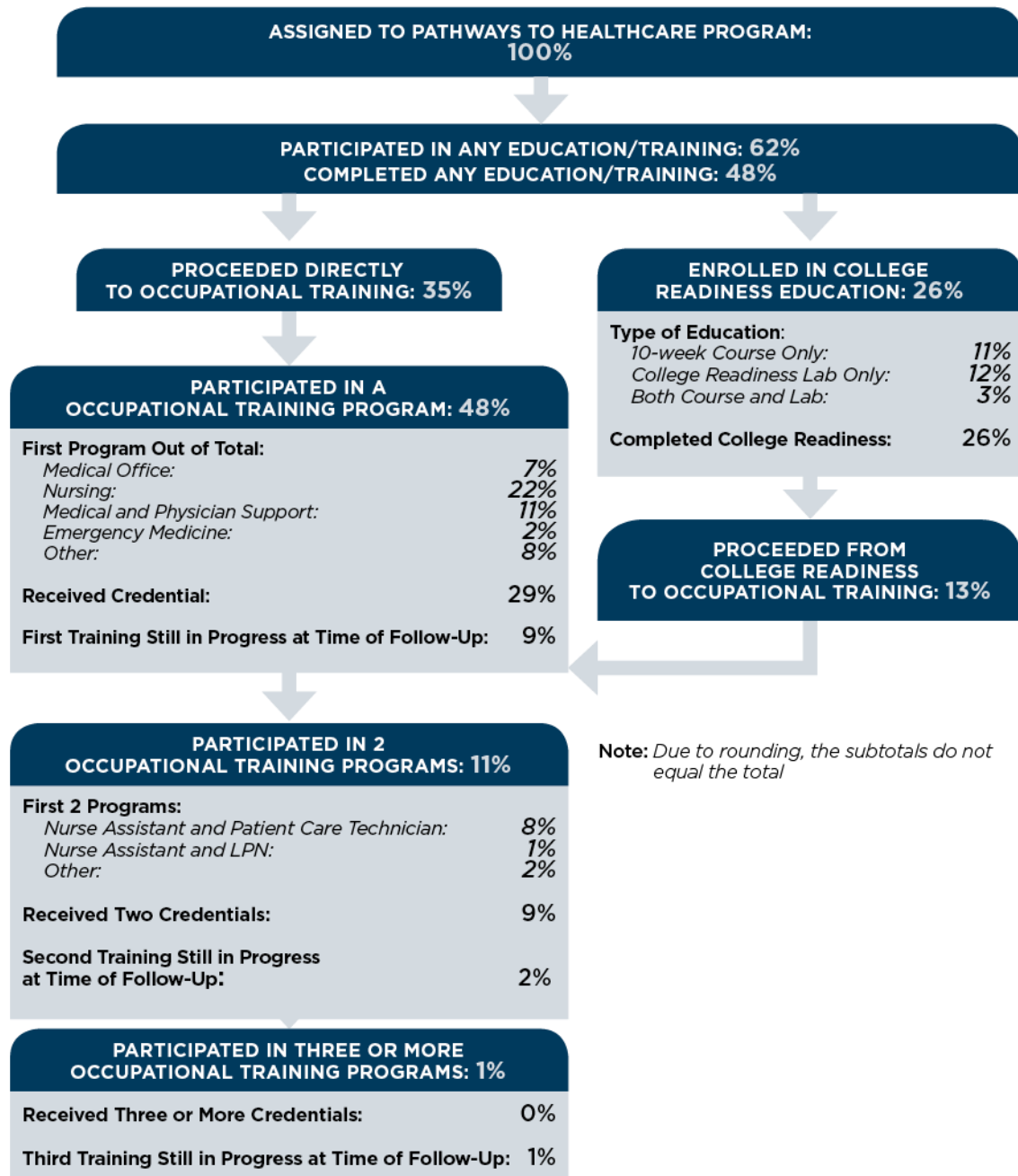
There are many potential reasons why only half of College Readiness completers enrolled in occupational training. Some who did not may have chosen not to take the Compass assessment required for occupational training or may not have passed it. Some may have decided to enroll in other types of training at PCC. Responses to the follow-up survey suggest that some students did not have enough time for work and family, or would not receive enough financial aid.

The exhibit also demonstrates that close to one-quarter of the 48 percent who enrolled in occupational training went on to attend a second training during the follow-up period. Most of these combined the Level 1 Nursing Assistant and the Level 2 Patient Care Technician programs. One likely reason more students had not progressed along their chosen pathway during the study period is that program staff encouraged training completers to work for six months in the occupation before returning for an additional credential. The Nursing Assistant/Patient Care Technician pairing was the only case in which students could enroll directly in a second program upon completion of the first.

⁵ HPOG funds could be used for training but not wages.

⁶ Due to rounding the figures do not add up to 62.

Exhibit ES-2. Participation in and Completion of Education and Training among Treatment Group Members within an 18-Month Follow-Up Period



SOURCE: Pima Community College records.

- *A sizable subgroup of treatment group members did not enroll in College Readiness or occupational training.*

Thirty-eight percent of treatment group members attended neither College Readiness nor occupational training. There are a number of possible reasons. Responses to the follow-up survey suggest that some may have found it more difficult than they expected to juggle school with other commitments, particularly work. Similar to the group of participants who did not advance beyond College Readiness, for the subset of Pathways to Healthcare treatment group members who did not enroll in training at all, the most common reasons reported as very important to not enrolling were not enough time for work and for family and not enough financial aid. Also, as noted below, treatment group members had to wait an average of four months to start their programs which may have discouraged them from enrolling.

- *Nursing was the most common pathway and Nursing Assistant was the most commonly attended and completed training program.*

As Exhibit ES-3 shows, of those who participated in education or occupational training, more than one-third (36 percent) were in the Nursing pathway; within this pathway, Nursing Assistant was the most common program (84 percent of those in the pathway and 30 percent of participants overall). The Nursing pathway completion rate was 82 percent, driven largely by the five-week Nursing Assistant program (88 percent) and four-week Patient Care Technician add-on (92 percent). The third program in the pathway, the 13-month Level 3 Licensed Practical Nurse program, had a lower completion rate (29 percent), but a large proportion of participants were still enrolled at the end of the follow-up period (54 percent, not shown).

The next most common pathway was Medical and Physician Support (18 percent of participants overall); within this pathway, the 15-month Medical Assistant program was the most common. Its completion rate (25 percent) was lower than for other programs in the pathway, notably Phlebotomy (80 percent), but the duration of the program was longer and more participants were still in training at the end of the follow-up period (not shown). This pathway had the largest proportion of participants still enrolled at the end of the follow-up period (44 percent).

Exhibit ES-3. Type of Program Attended, Completion Rates, and Average Length of Stay among Treatment Group Members in Pathways to Healthcare over 18-Month Follow-Up Period

Education and Training Program	Participation Rate	Of Participants in Specified Program		
		Completion Rate	Average Length of Stay (mos.)	Participating at End of Follow-Up
College Readiness	42.4%	99.4%	2.4	1.6%
Occupational Training	78.4%	59.9%	6.4	24.8%
College Readiness and Occupational Training	20.8%	47.4%	7.0	30.8%
Attended Any Training Program or College Readiness	100.0%	53.1%	6.0	19.5%
Occupational Training Programs				
Medical Office—Health Information Management Pathway	11.5%	51.2%	6.4	14.0%
Medical Office (Level 1)	5.9%	63.6%		
Medical Records Technician (Level 2)	3.2%	66.7%		
Health Information Technology (Level 3)	2.4%	0.0%		
Nursing Pathway	35.7%	82.1%	3.2	15.7%
Nursing Assistant (Level 1)	29.9%	87.5%		
Patient Care Technician (Level 2)	16.0%	91.7%		
Licensed Practical Nurse (Level 3)	7.5%	28.6%		
Medical and Physician Support Pathway	17.6%	40.9%	10.5	43.9%
Phlebotomy (Level 1)	4.0%	80.0%		
Medical Assistant (Level 2)	11.7%	25.0%		
Clinical Research Coordinator (Level 3)	1.9%	28.6%		
Emergency Medicine Pathway	2.9%	45.5%	5.6	18.2%
EMT—Basic (Level 2)	2.9%	45.5%		
EMT—Paramedicine (Level 3)	0.0%	—		
Other Pathway	12.8%	41.7%	8.9	31.3%
Community Health Advisor (Level 1)	0.5%	50.0%		
Direct Care Professional (Level 1)	0.0%	—		
Behavioral Health Specialist (Level 1)	5.3%	55.0%		
Surgical Technician (Level 2)	1.3%	40.0%		
Pharmacy Technology (Level 3)	4.8%	16.7%		

SOURCE: PCC records.

NOTES: Sample size is 375 and includes all students who participated in at least one Pathways to Healthcare training program. Completion rate and length of stay are calculated for those who attended the specified program. Individual items may not sum to totals because students can attend more than one training.

- ***While the average length of stay in a training program was six months, an average of almost 11 months elapsed between enrollment in Pathways to Healthcare and completion of training.***

Some 60 percent of those who participated in occupational training completed their program in an average of six months, and 25 percent were still in their training program at the end of the follow-up period (see Exhibit ES-3). However, the average time between random assignment (enrollment in Pathways to Healthcare) and last date of participation was 11 months, with more than 45 percent of students attending a year or longer. A key factor in this total length of stay in the Pathways to Healthcare program is the amount of time students spent between enrollment and the start of training. Students averaged almost four months before starting their training, with one-third waiting longer than

four months. Several factors likely contributed to the delay in training enrollment, including getting a Training Plan approved, completing pre-enrollment activities, and waiting for the training start date.

- *The treatment group was significantly more likely than the control group to participate in education and training.*

All 1,217 study participants (treatment and control group) could enroll in PCC's training programs and receive services from PCC and PCOS, but only treatment group members could access the additional components that comprised the Pathways to Healthcare program. Students in the treatment group were significantly more likely to participate in training than members of the control group. This held true both for training in any subject (60 percent of the treatment group versus 47 percent of the control group) and for healthcare-related training (37 percent versus 30 percent). Treatment group members were significantly more likely to participate in basic skills instruction than were control group members (18 percent versus 10 percent), with the College Readiness class and lab likely accounting for the difference.

- *The treatment group was significantly more likely than the control group to participate in advising and employment services; a minority of both groups reported they used the services, however.*

Treatment group members were significantly more likely than control group members to receive career counseling (28 percent versus 19 percent) or help arranging supports (14 percent versus 7 percent). Those in the treatment group also were significantly more likely to receive job search assistance than were control group members (23 percent versus 14 percent). Significantly fewer treatment group students (58 percent) cited financial support as a challenge to enrollment or persistence in the program than did control group members (69 percent).

From the Impact Study

- *The Pathways to Healthcare program increased the total hours of college occupational training that students received. Since this is the primary outcome for the early analysis of this program, the finding indicates that the program was on track toward achieving its main goals.*

As Exhibit ES-4 shows, Pathways to Healthcare had a statistically significant impact on the primary outcome of interest for this analysis period: hours of occupationally focused college training. The program had a 63-hour impact on total hours of training (over the 18-month follow-up period, 190 hours for the treatment group compared with 127 hours for the control group), a finding statistically significant at the 1-percent level.

Exhibit ES-4. Early Impacts on Educational Attainment (18 Months after Random Assignment)

Outcome	Treatment Group	Control Group	Difference		Standard Error	p-Value
Primary Outcome						
Total hours of college occupational training (average)	190.1	127.0	+63.1 ***		15.2	<.001
Secondary Outcomes						
Enrollment in college occupational training in successive months after random assignment (%)						
Months 1-6	37.3	27.3	+10.0 ***		2.6	<.001
Months 7-12	45.4	28.0	+17.5 ***		2.6	<.001
Months 13-18	39.6	24.5	+15.1 ***		2.6	<.001
Any month	55.8	36.0	+19.7 ***		2.7	<.001
Total hours of college occupational training in successive months after random assignment (average)						
Months 1-6	56.4	49.1	+7.2		7.2	.156
Months 7-12	72.3	40.2	+32.1 ***		6.2	<.001
Months 13-18	61.4	37.6	+23.8 ***		6.4	<.001
All months	190.1	127.0	+63.1 ***		15.2	<.001
Total hours of occupational training at (average)						
A college	190.1	127.0	+63.1 ***		15.2	<.001
Another place	17.5	32.7	-15.2		8.2	.968
Any place	210.3	159.2	+51.1 ***		17.6	.002
Total credits earned from colleges by 18 months	1.5	1.7	-0.2		0.3	.799
Received a credential from (%)						
A college	23.1	10.4	+12.7 ***		2.1	<.001
Another education-training institution	2.1	9.0	-6.8		1.6	1.000
A licensing/certification body	24.1	22.5	+1.6		2.7	.282
Any source	34.6	29.4	+5.2 **		2.9	.040
Sample size ^a	609	608				

Covariate procedure used for these tables: Residualization.

SOURCE: Abt Associates calculations based on data from Pima college records and the PACE short-term follow-up survey.

NOTES: Statistical significance levels, based on one-tailed t-tests of differences between research groups, are summarized as follows: ***statistically significant at the one percent level; ** at the five percent level; * at the ten percent level.

^a Sample sizes in this row apply to estimates based on college records for the full sample. In the last two panels (total hours and credentials by place), estimates for activity at a college are based on college records for the full sample, while all other estimates (including those for activity at any source) are based on the subsample who responded to the PACE follow-up survey, including 500 treatment and 477 control group members.

This impact on participation in occupational training is the result of the Pathways to Healthcare program enrolling more students in the treatment group (20 percentage points) in training compared to the control group, rather than increasing the hours of participation among those who otherwise would have enrolled. From this perspective, the average effect of an increase of 63 hours across the entire treatment group translates into roughly a 320 hour increase for the approximately 20 percent of treatment group members who in the absence of Pathways to Healthcare would not have enrolled in occupational training.

There were also impacts on a number of training-related secondary outcomes, including enrollment in and total hours of occupational training in successive months after random assignment and receipt of a credential from a college. The second and third panels in Exhibit ES-4 show that both fractions of students enrolled and average total hours of college occupational training received are higher for

treatment group members than for control group members in each of the three six-month follow-up intervals after random assignment. Impacts on enrollment are smaller in the first six-month period (10 percentage-point difference), grow in the next six months (18 percentage-point difference), and remain positive in the last six months (15 percentage point difference). Impacts on average total hours follow a similar pattern. The bottom panel shows that treatment group members were also significantly more likely than control group members to obtain a credential from a college (23 percent versus 10 percent) and from any source (35 percent versus 29 percent).

- *Pathways to Healthcare had a limited effect on employment-related outcomes 18 months after random assignment.*

The evaluation team also investigated the impact of program participation on two dimensions of career progress. Self-assessed progress towards career goals included measures of perceived career progress, confidence in career knowledge, and access to career supports. The analyses found positive impacts for these measures, with the largest effect on perceived career progress. At this point in time, there is no evidence of impact on employment outcomes, indicated by working in a job that pays at least \$12 per hour, requires at least mid-level skills, or is in a healthcare occupation.

It is not surprising that the effects for self-assessed career progress are more positive than for actual employment outcomes after 18 months. The treatment group's greater progress in training compared with the control group's might well increase their sense of career knowledge and prospects. However, more treatment than control group members were still enrolled in training at the end of the 18-month follow-up period, suggesting it may be too early to expect positive effects on career-path jobs.

Next Steps in the Pathways to Healthcare Evaluation

This report on Pathways to Healthcare focuses on the implementation of the program and its early effects on participating students' education and training. At 18 months after students were randomly assigned into the program or not, the key program goal examined was increased occupational training, with limited analysis of employment and earnings. This reflects expectations that many students participating in the program would still be engaged in training at the end of 18 months.

The next Pathways to Healthcare report will cover a **36-month follow-up period**. It will take a more systematic look at program effects on students' economic outcomes for a period when these are expected to occur. The report will examine **employment outcomes**, such as average rate of employment and average earnings over successive follow-up quarters, and **job characteristics**, such as occupation, hourly wage, receipt of benefits, and career progress. Thus, it will begin to answer whether the occupational training gains that Pathways to Healthcare achieved after 18 months will translate into economic gains in the workplace in the longer term. An analysis at 72 months after random assignment will estimate long-term effects of the program.

References

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