

# RAMPING UP MEDICAL ASSISTANTS IN THE COVID-19 RECOVERY:

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A CASE FOR REGISTERED  
APPRENTICESHIPS



# ACKNOWLEDGMENTS

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# Executive Summary

## Introduction

- Medical assistants (MAs) are an essential workforce for healthcare providers, yet an insufficient number of new workers has hindered recruitment.
- Apprenticeship programs could help put additional MAs in the labor market, but implementation costs sometimes deter training agents from recruiting apprentices.
- This report by Seattle Jobs Initiative describes the labor market for medical assistants in the Puget Sound region and estimates the return on investment (ROI) of setting up an MA apprenticeship program.

## **Despite a short-lived decline in demand due to COVID-19, the labor market for Medical Assistants suffers from a shortage of new workers**

- Before COVID-19, the supply of medical assistants in the Puget Sound region was insufficient to cover the high demand.
- Indeed, supply has increased very slowly in the past few years because of structural factors, including the high cost of living and the high opportunity cost of training relative to wages.
- On the other hand, while demand for new MAs fell at the beginning of the COVID-19 pandemic (almost 500 fewer job postings in May 2020 than in May 2019), the latest data shows job postings increasing since August 2020.

## **40% return on investment for medical apprenticeship programs after three years**

- Scaling and creating new apprenticeship programs provides a cost-effective way to tackle this shortage.
- These programs provide organizations with a 40% return on investment after three years, compared to 14% for college graduates.
- In other terms, apprenticeship programs offer a net benefit of \$72,767 after three years, while college graduate recruitments have a net benefit of \$30,826.
- MA apprentices are also more diverse than the rest of the MA field which could provide employers with new means to reach their workforce diversity goals and improve connections with marginalized communities.

## **Key recommendations**

- Registered MA Apprenticeship programs can help strengthen supply by attracting students with a paid training option and increasing the number of MAs in the local labor market.
- Medical assistant apprentices could also help organizations face renewed demand for personal care services stimulated by an aging population and greater health coverage.
- However, the high upfront costs needed to set up and manage the program can discourage employers.
- There are three primary ways to offset these upfront costs:
  - First, the Washington College Grant could offer eligible MA students tuition waivers, helping them access the medical assistant occupation.
  - Second, existing state and federal funding sources can also help address barriers to implement MA Apprenticeship programs.
  - Finally, early recruitment of program management staff would enhance coordination between the provider's administrative services, which would reinforce the support system for students enabling them to perform well in the program.

# Introduction

Medical assistants (MAs) are crucial for healthcare facilities' smooth functioning. They work alongside physicians to perform administrative tasks (scheduling appointments, filing patient medical records, etc.) and clinical duties (preparing patients for examination, assisting the physician during exams, etc.). A predicted surge in the number of physicians' offices and an increase in the elderly population has driven demand for MAs nationally and in the Puget Sound region. However, the occupation suffers from a chronic shortage. Apprenticeship programs would help attract more students to this occupation and increase supply, but the novelty and cost of this training model may act as a deterrent for training agents.

This report presents evidence that apprenticeship programs could strongly benefit healthcare providers thanks to a strong return on investment. The report first describes the regional labor market for medical assistants before and after the COVID-19 pandemic by enumerating the demand- and supply-driving factors. It also estimates the return on investment of setting up an MA apprenticeship program using labor market data from EMSI, the Oregon Apprenticeship Calculator, and information from the Washington State Department of Labor & Industries. It then reviews the barriers preventing employers from setting up apprenticeship programs and highlights some recommendations and available grants to address these barriers.

## Supply and Demand of MAs in the Region, Before and After COVID-19

### Factors explaining the low supply of MAs

Before the COVID-19 crisis, there was a long-standing shortage of MAs in the Puget Sound region<sup>1</sup> due to structural factors. First, the growing and aging regional population stimulated demand for healthcare services, which, combined with increased retirement among healthcare workers, increased the demand for medical assistants. However, lean management and pressure to reduce costs<sup>2</sup> have kept these positions' pay low, barely keeping pace with the regional cost of living. Figure 1 (next page) compares the annual growth rate in median hourly earnings for medical assistants, median hourly wages for other healthcare support occupations<sup>3</sup>, and consumer price index (CPI)<sup>4</sup> in the Seattle-Tacoma-Bellevue Metropolitan Statistical Area (Seattle MSA). Hourly wage changed very differently between 2005 and 2019 for medical assistants, other healthcare occupations, and the consumer price index (CPI):

- For each dollar received in 2015, a medical assistant would have received \$1.15 in 2015 and \$1.37 in 2019.
- However, MAs' hourly wages barely kept pace with the cost of living as the CPI would have had increased to \$1.25 in 2015 and \$1.38 in 2019. MAs' pay thus fell just short of keeping up with regional inflation.
- On the other hand, workers in other healthcare support occupations (such as occupational therapy assistants or physical therapist assistants) would have earned \$1.46 in 2019, well above the cost of living.
- Fortunately, there was a sharp increase in MA wages in 2018, indicating the shortage finally reached the point where employers needed to pay more to attract MA talent.

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1 See, for example, WTB, 2002, "Healthcare Shortage, Crisis or Opportunity"

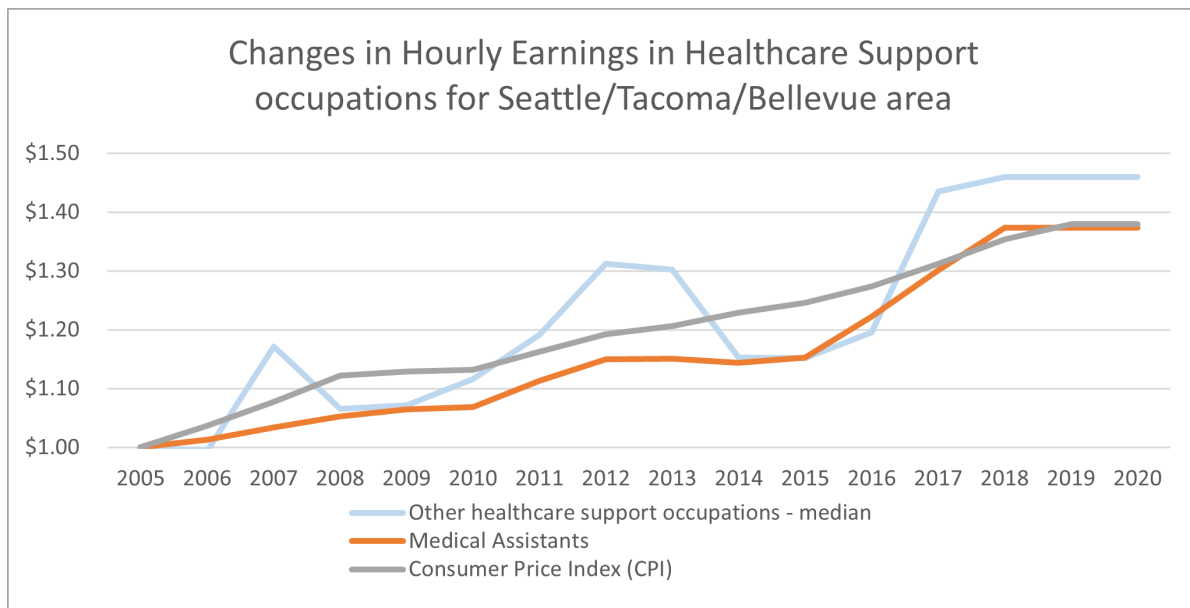
2 Frogner, Spetz, Parente, & Oberlin, 2015, "Skillman: Frontline Workers' Career Pathways: A Detailed Look at Washington State's Medical Assistant Workforce"

3 Source of data: EMSI, 2020

4 Source of data: U.S. Bureau of Labor Statistics



**Figure 1: Change in hourly earnings in healthcare support occupations vs. CPI**



Source: EMSI, 2020

MAs' earnings have increased at a slower pace than other healthcare support occupations and the cost of living in Washington State. As a result, the median pay for this occupation is relatively low. The median hourly earnings of an MA in King County is \$23.35, or \$17.28 adjusted to the cost of living in the area.<sup>5</sup> It has also been documented that MAs are often dissatisfied with the work environment and lack clear career advancement opportunities.<sup>6</sup> Because of these multiple factors, attracting and retaining medical assistants has been increasingly difficult. At 50%, MAs' turnover rate<sup>7</sup> is indeed significantly larger than for other healthcare support occupations (34%).<sup>8</sup>

Additional factors also negatively impact the number of new MA graduates. First, the high cost of living in Seattle and the opportunity cost of training (wages foregone by the student during training) make it expensive to commit to a medium-term college program without pay. As apprentices get paid from the very beginning of their practical training, apprenticeship programs could make this occupation more inclusive by removing these financial barriers.

## Estimating the structural shortage of MAs

In a balanced labor market, worker supply should be approximately equal to or slightly larger than demand. However, due to the difficulties exposed in the previous section, supply of medical assistants has not kept up with demand. In Figure 2, regional supply is compared to demand for MAs. These two components are computed as follows:

- Demand is the total quantity of MAs needed by employers in the labor market. It is measured by the number of unique job postings for MA positions found on job search websites.
- Supply is the total quantity of MAs for hire in the labor market. It is the sum of completions (number of graduates from all recognized educational programs) and separations<sup>9</sup> (MAs who left an employer during the year).

<sup>5</sup> EMSI, 2020

<sup>6</sup> [https://depts.washington.edu/fammed/chws/wp-content/uploads/sites/5/2019/02/WA\\_MA\\_SURVEY\\_2019.pdf](https://depts.washington.edu/fammed/chws/wp-content/uploads/sites/5/2019/02/WA_MA_SURVEY_2019.pdf). It is important to note that minorities are more likely to seek other training or employment in healthcare.

<sup>7</sup> The turnover rate, which is calculated by dividing separations by jobs, indicates how often employees in an occupation are moving to different employers.

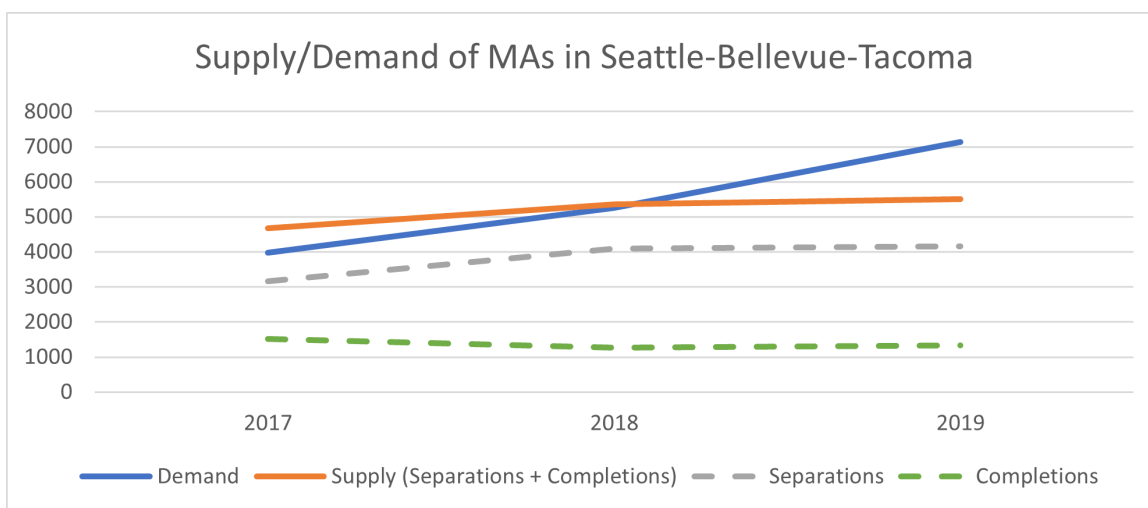
<sup>8</sup> EMSI, 2020

<sup>9</sup> More precisely, the number of MAs that appeared on a company's payroll in the previous quarter but not anymore.

As we can see in Figure 2, the demand for MAs increased rapidly from 2017 onwards, while completions (the number of new graduates) declined in the Seattle MSA. These low completion numbers may reflect limited educational program capacity and the occupation's low wages. However, the overall supply remained close to demand until 2018, when the gap between demand and supply started increasing rapidly.

Separations explain part of this gap as a medical assistant leaving her or his position is replaced by a new MA. The difference between the number of hires and separations gives a clearer indication of the market's capacity to absorb recent graduates. In 2017, there were 286 more MA graduates than available openings. This trend reversed starting in 2018: in that year, there were 95 more openings than graduates and 1,281 more in 2019. Thus, separations were not sufficient to offset the rapid increase in openings, resulting in demand well above supply in 2019.

**Figure 2: Supply and Demand of MAs in the Seattle Metropolitan Statistical Area (MSA)**



Source: EMSI, 2020

An area with the same population as King County should have had 6,697 employed MAs in 2019, yet there were only 5,097 MAs (EMSI, 2020). Similarly, the Seattle MSA should have had 9,548 MAs, while there were only 7,770 MAs (EMSI, 2020). In other words, King County had 25% fewer employed MAs in 2019 than expected from the national average, and the MSA had 19% fewer MAs.

## Demand for MAs now and after COVID-19

### Before COVID-19

Several general demographic factors have contributed to the recent surge in demand for MAs:

- Population growth: Washington State's population increased by 13% between 2010 and 2019. Inbound migration played a key role as the number of people from out of state or abroad has increased by 19% in the same period<sup>10</sup>.
- Population aging: the age bracket 55 years old and older grew from 25% of the population in 2010 to 28.8% in 2019<sup>11</sup>, increasing healthcare services activity. While people 65 years and older account for 34.4% of the national healthcare spending, they represent only 14.7% of the US population.
- Increased medical coverage: Thanks to the Affordable Care Act from 2010, the percentage of people

<sup>10</sup> U.S. Census Bureau, 2020

<sup>11</sup> U.S. Census Bureau, 2020

in Washington State without health coverage decreased from 14% in 2010 to 5.5% in 2017<sup>12</sup>. This has allowed more people to seek preventative and non-emergent care.

Yet, demand for MAs might depend on applicants' educational background as employers describe challenges with finding qualified applicants who are a good fit among graduates from traditional educational programs<sup>13</sup>. A theme that emerged from a 2013 survey of Washington State employers was that some MA programs were too short to cover all components of MA work. According to one employer, new graduates "seemed better prepared for administrative work than clinically oriented tasks"<sup>14</sup>. Overall, employers preferred graduates of community college programs over shorter, private, for-profit programs. The interviews conducted for this project supported this view. However, some employers disagreed and complimented the quality of graduates from the shorter, for-profit programs.

### **During and after COVID-19**

The COVID-19 pandemic negatively impacted demand for MAs mainly because of the three following reasons:

- Decline in non-emergent care services: non-COVID patients have deferred or canceled their healthcare appointments at the height of the pandemic due to fear of imposing unnecessary strains on hospitals' resources and of exposing themselves to the SARS-CoV-2 virus.
- Limited availability of personal protection equipment: at the height of the pandemic, state officials and hospitals had to ensure appropriate PPE supply for COVID-19 patients' care. However, national constrained production capacities and the short-term collapse of international supply chains greatly limited PPE availability. This equipment was thus reserved for urgent procedures and intensive care units, decreasing equipment availability, and thus activity, in less critical services. Healthcare providers deferred elective and preventive visits and adopted or increased telemedicine use to reduce the risk of spreading the virus in healthcare facilities.
- Telemedicine: telehealth is likely to remain a popular service delivery model, at least in the medium-term recovery phase. This healthcare method requires fewer MAs than traditional office visits because MAs do not collect patients' vitals and update medical history before patients meet with the provider. MAs can still play a role in telemedicine by setting up and supporting a healthcare provider moving between virtual appointments. Medical assistants now need good digital literacy skills to deliver efficient virtual services.

Because of the factors mentioned above, demand for new MAs temporarily declined. Providers furloughed some medical assistants, resulting in 26% of working MAs in King County filing an initial claim for unemployment at some point between March 8th, 2020 and September 12th, 2020<sup>15,16</sup> (see Figure 3 below).

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12 Wei, Yen. "Public-funded Health Coverage in Washington: 2017", Research Brief No. 92, August 2019, Washington State Office of Financial Management

13 Skillman et al., 2019, "Medical Assistants in Washington State: Demographic, Education, and Work Characteristics of the State's Medical Assistant-Certified Workforce", Center for Health Workforce Studies, University of Washington, School of Medicine, Department of Family Medicine.

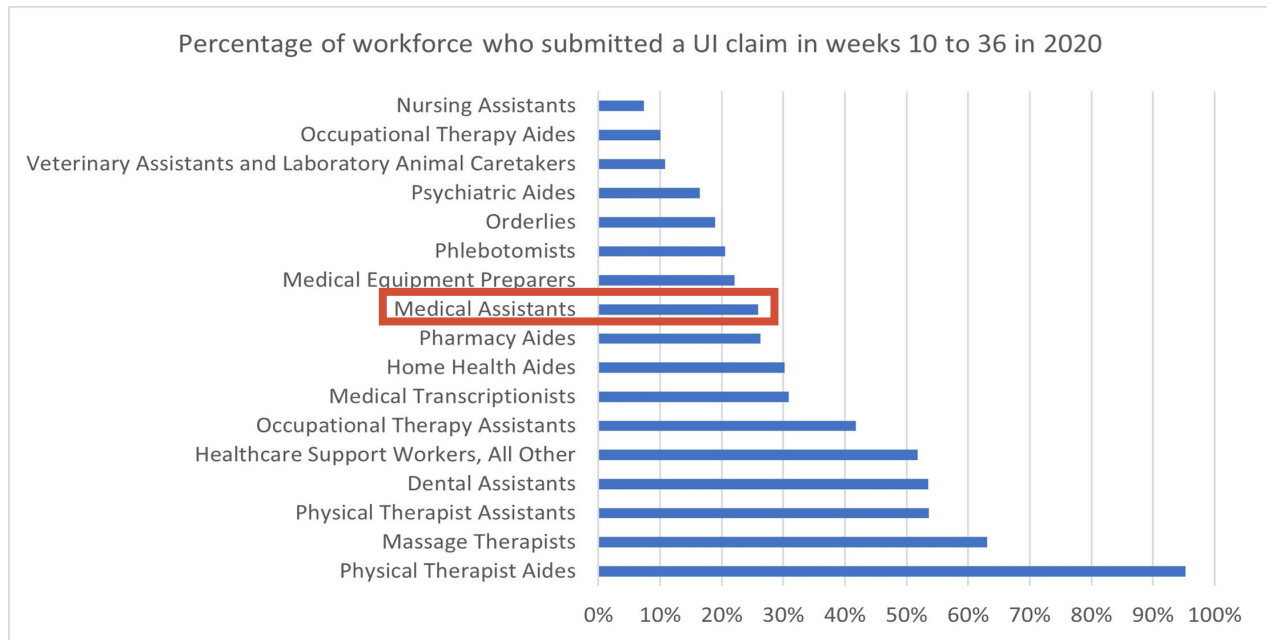
14 [http://depts.washington.edu/uwrhrc/uploads/CHWS\\_FR145\\_Palazzo.pdf](http://depts.washington.edu/uwrhrc/uploads/CHWS_FR145_Palazzo.pdf)

15 <https://depts.washington.edu/fammed/chws/washington-state-initial-unemployment-claims-health-related-occupations-as-a-percentage-of-total-employed/>

16 Employment Security Department of Washington State, 2020



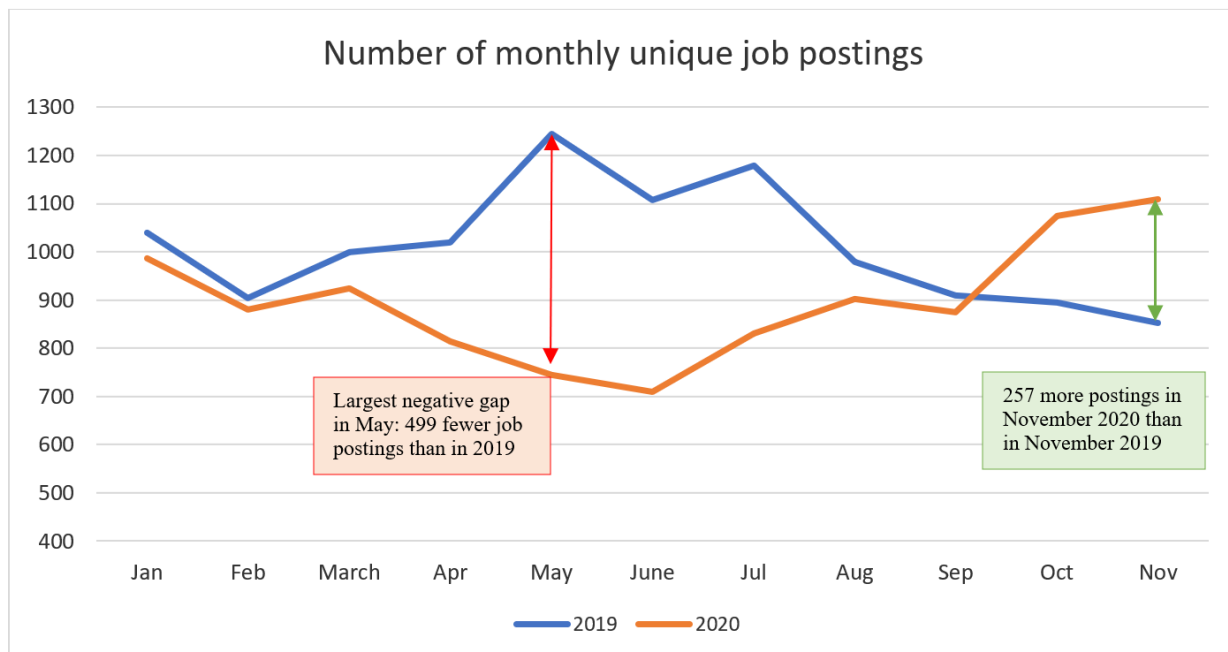
**Figure 3: Percentage of healthcare support occupations workforce who submitted a UI claim in weeks 10 to 36**



Source: EMSI and Employment Security Department of Washington State, 2020

Yet, as working conditions have slowly returned to normal, and patients feel increasingly comfortable seeking care, healthcare facilities have brought furloughed MAs back. Continued claims represented only 2.7% of the MA workforce in week 45 in Washington State and 1.9% in King County. As illustrated in figure 4 below, employers are opening new positions with monthly job postings in 2020 exceeding their 2019 level for the first time this October, reaching 1,075 compared to 895 in October 2019.

**Figure 4: Number of job postings for Medical Assistants in the Seattle-Tacoma-Bellevue area**



Source: EMSI, 2020

This recent rebound in job openings is encouraging and many factors explaining the high demand for MAs before the COVID-19 pandemic are likely to remain in place after the crisis. Consequently, even though the pandemic's evolution is still uncertain with potential future waves of infection looming, the MA occupation still has a bright future. For example, average annual openings are expected to reach 960 in King County until 2023, and 1,054 between 2023 and 2028<sup>17</sup>.

The structural factors that drove the disparity between demand and supply in the pre-COVID-19 era (e.g., low pay, high cost of living in the region) will persist after the pandemic. The shortage of medical assistants might even reach new heights because of the spike in visits that many expect when elective procedures and routine healthcare appointments resume. Given the challenges of the traditional college pathway to medical assisting, a registered apprenticeship offers an alternative path to the occupation, potentially attracting more students and increasing completion numbers. Apprenticeship programs also offer many advantages and a large return on investment (ROI) to employers, as presented in the following section.

## Registered Apprenticeship as a Pathway to MA

### Overview of apprenticeship programs

Since 2012, MA has been a credentialed occupation in Washington State. Criteria include passing a competency exam and completing a medical assistant training program at an accredited educational institution (public community college, private college, or technical school). Alternatively, applicants can also complete a registered apprenticeship program, military training, or gain experience (such as medical school abroad) that satisfies the requirements<sup>18,19</sup>. Figure 5 (next page) shows the breakdown of certified MAs by educational background in the state of Washington.

There are currently two registered medical assistant apprenticeship programs in Washington: Healthcare Apprenticeship Consortium and Washington Association for Community Health<sup>20</sup>. The former enrolls presently 200 apprentices, the latter 157. Programs rely on community colleges to provide up to 364 hours of theoretical coursework (allowing students to earn college credits in the process) and on partnering healthcare providers for the required 2000 hours of on-the-job training.

Apprentices receive full benefits and wages for the duration of their fieldwork with an incremental schedule following their progress in the program. This progressive wage schedule is enough to cover tuition and expenses such as books and transportation. Some programs also offer tuition assistance to most students, which cover tuition fees and supplies. Yet, in the first year of the program, the estimated apprentices' annual wage of \$28,872 is well below the \$36,064 annual self-sufficiency wage calculated by the Workforce Development Council of Seattle-King County for a single adult with no children living in Seattle<sup>21</sup>.

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17 Employment Security Department of Washington State, 2020

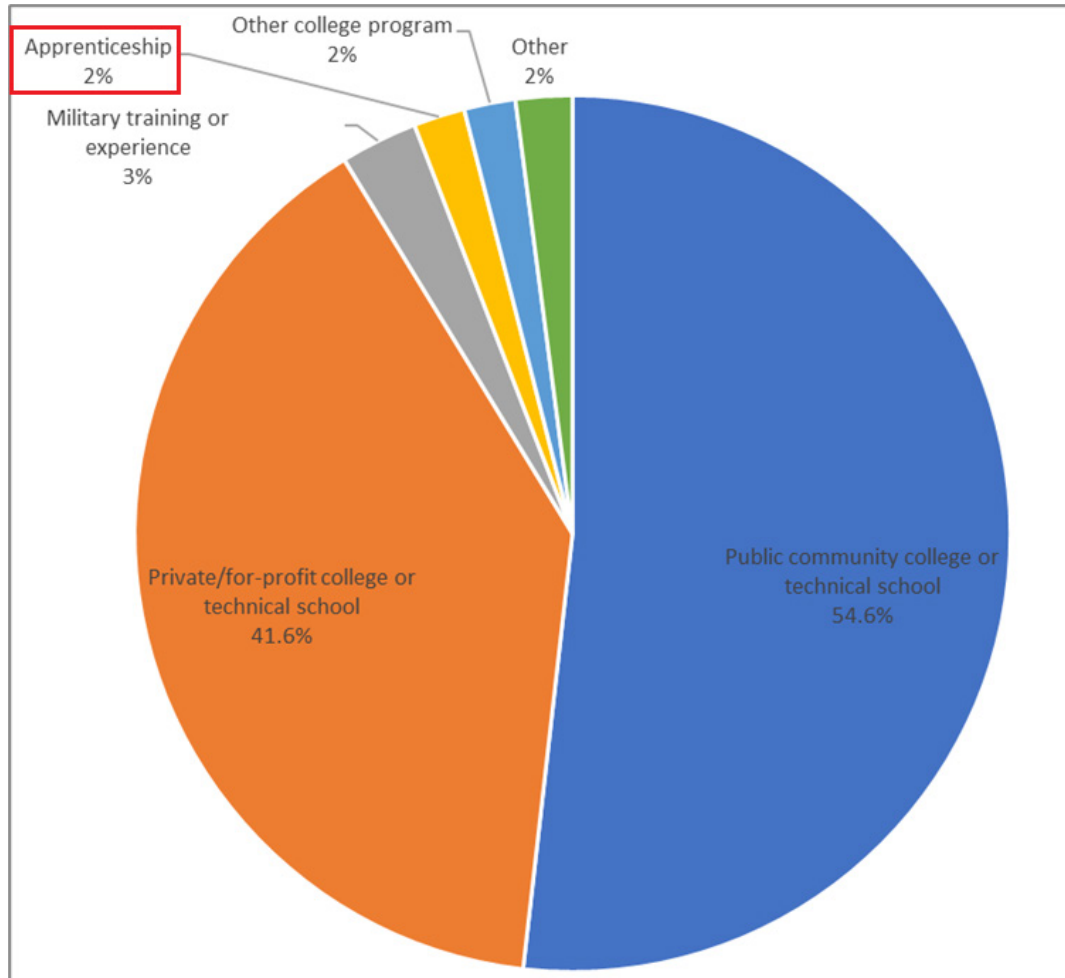
18 Since 2012, MA has been a credentialed occupation in Washington State. Criteria include passing a competency exam and completing a medical assistant training program at an accredited educational institution (public community college, private college, or technical school). Alternatively, applicants can also complete a registered apprenticeship program, military training, or gain experience (such as medical school abroad) that satisfies the requirements. Figure 5 below shows the breakdown of certified MAs by educational background in the state of Washington.

19 Medical Assistant – Certified is one of the four categories of MAs in Washington. The other three categories are: Medical assistant – hemodialysis technician., Medical assistant – phlebotomist, and Medical assistant-registered. <http://wa.sentinelnetwork.org/wp-content/uploads/sites/2/2019/05/2018HWCReport-FINAL12-19-18.pdf>

20 <https://lni.wa.gov/licensing-permits/apprenticeship/become-an-apprentice>

21 Washington State Self-Sufficiency Calculator, 2020: <https://thecalculator.org/>

**Figure 5: Breakdown of Certified Medical Assistants by educational background in Washington State**



Source: Skillman et al., 2019, "Medical Assistants in Washington State: Demographic, Education, and Work Characteristics of the State's Medical Assistant-Certified Workforce", Center for Health Workforce Studies, University of Washington, School of Medicine, Department of Family Medicine.

## Calculating ROI for Healthcare Apprenticeships

Calculating the return on investment (ROI) for any apprenticeship program is notably tricky as benefits can be diffuse and hard to quantify. Data is often collected by different departments, units, or systems within the organization, complicating comparison and data analysis.

However, studies on apprenticeship programs' ROI emphasize the benefits of such programs. For example, a 2016 evaluation of 13 apprenticeship programs in the US found that participating employers considered their programs very valuable, and the data collected from the employers suggested increases in production due to the apprenticeship programs<sup>22</sup>.

Commonly identified costs of setting up an apprenticeship program in the research include<sup>23</sup>:

<b>Fixed Costs</b>	<b>Variable Costs</b>
Curriculum development	Wages and benefits of apprentices
Equipment purchases	Mentor time
Staff time spent on setup	Supplies and uniforms
Overhead and management	Tuition, books, and classroom materials
Classroom space	
Recruitment	

Benefits of apprenticeships include apprentices' productivity, improved workforce outcomes for employers, and improved soft skills.

<b>Production</b>	<b>Workforce</b>	<b>Soft Skills</b>
Output during the apprenticeship at a reduced wage	Reduced turnover and lower recruiting costs	Employee engagement and loyalty
Higher post-apprenticeship productivity relative to similarly tenured employees	Pipeline of skilled employees	Greater problem-solving ability and adaptability
Reduction in mistakes or errors	Better matching of employee skills and character with employer needs and firm culture	Reduced need for supervision
Greater patient diversity and payor mix	Greater workforce diversity	Greater cultural competency
Greater retention of patients from underrepresented communities	Development of future managers	

In addition to the benefits to production and workforce, apprenticeships can also provide value beyond the employer's organization through different partnerships. First, industry consortia allow employers to combine outreach efforts, share classroom costs, and reduce the risk of poaching skilled workers from competitors. Partnerships with unions can help curriculum development and ensure its relevance to workers' every-day tasks and provide a collective bargaining structure for dispute resolutions. Finally, working with intermediaries such as community colleges allow employers to reduce tuition costs and tap into communities' talent pools<sup>24</sup>.

Comprehensive public ROI calculations for apprenticeship programs can be hard to come by. The ROI of the Dartmouth-Hitchcock nonprofit academic health system apprenticeship program in New England is one of them. As they opened a new clinic in 2012, they underwent multiple simultaneous transitions, including a new medical records system and transition to a team-based care model. Amidst these changes, they struggled to find qualified MAs due to a low local educational supply.

To solve this problem, they started an apprenticeship program. The new program allowed Dartmouth-Hitchcock to successfully switch to the team-based care model and led to increased provider satisfaction as MAs could reduce the time they spent in basic support tasks like checking patients' vital signs. They also improved scheduling and used capacity more efficiently, reducing wait-time to get an appointment, and improving patient satisfaction.

The benefits of the Dartmouth-Hitchcock MA apprenticeship program (described in appendix A) significantly exceeded the cost of sustaining the program by an estimated \$55,000. They included reducing overtime charges, higher productivity of their team-based care model, greater physician retention, and an increase in booked hours.

<sup>23</sup> Case Western, 2016, page 20

<sup>24</sup> Case Western, 2016, page 14

## ROI for an MA Apprenticeship Program in the Puget Sound Area

To calculate the ROI for an MA Apprenticeship program locally, we requested and received assistance and data from multiple regional actors. For the calculation, we used an ROI calculator developed by Oregon Apprenticeship and available at <https://oregonapprenticeship.org/roi-calculator/>. The following three tables present the costs and benefits of an apprentice hire, compared to a traditional, college graduate MA hire in the first year of the apprenticeship program and the following two years. Appendix B includes detailed descriptions and computation steps of the variables.

The analysis suggests that hiring an apprentice is more expensive than hiring a college-graduate MA in the first year of the program. However, in year two, the apprenticeship program pays for itself, and the ROI is slightly higher for the apprentice than for an MA graduate. Finally, with a return on investment of 40% and a net-cost benefit of \$72,767 after three years, the apprenticeship program is significantly more profitable than hiring college-graduate Medical Assistants (14% ROI and net-cost benefit of \$30,826).

The difference between apprentices and college graduates is caused by the additional benefits that the apprenticeship program offers, such as the larger expected output of apprentices and increased mentors' retention<sup>25</sup>. Moreover, the apprentice is assumed to work for the same employer for three years, while a new college graduate MA has a 50% chance of quitting each year<sup>26</sup>. This entails significantly lower hiring costs over time for apprentices compared to college graduates.

### *After Year 1: Costs and Benefits of Hiring an MA Graduate and Apprentice*

	MA Graduate	MA Apprentice
<b>Costs per worker</b>		
Wages	\$48,569	\$28,872
Benefits & Taxes	\$14,085	\$8,373
Direct Training Costs	\$3,000	\$4,750
Mentor Time	\$3,000	\$6,000
Clinical Liaison	\$0	\$4,900
Recruitment Costs	\$4,000	\$0
Program Overhead	\$0	\$3,500
<b>Total Costs</b>	<b>\$72,655</b>	<b>\$56,395</b>
<b>Benefits per worker</b>		
Employee Output	\$78,683	\$43,713
Improved Skills & Culture Match	\$0	\$4,636
<b>Total Benefits</b>	<b>\$78,683</b>	<b>\$48,349</b>
<b>ROI</b>		
Total Benefits	\$78,683	\$48,349
Total Costs	\$72,655	\$56,395
Net Cost-Benefit	\$6,028	-\$8,046
<b>Return on Investment</b>	<b>8%</b>	<b>-14%</b>

25 For a local view, see <https://info.nhanow.com/learning-leading-blog/how-apprenticeships-are-filling-the-need-for-high-skilled-healthcare-workers>.

26 EMSI, 2020: Turnover rate of 50% for the Medical Assistant occupation.



**After Year 2: Cumulative Costs and Benefits of Hiring an MA Graduate and Apprentice**

	MA Graduate	MA Apprentice
<b>Costs per worker</b>		
Wages	\$97,139	\$77,441
Benefits & Taxes	\$28,170	\$22,458
Direct Training Costs	\$6,000	\$4,750
Mentor Time	\$6,000	\$6,000
Clinical Liaison	\$0	\$4,900
Recruitment Costs	\$6,000	\$0
Program Overhead	\$0	\$3,500
<b>Total Costs</b>	<b>\$143,309</b>	<b>\$119,049</b>
<b>Benefits per worker</b>		
Employee Output	\$161,736	\$131,139
Improved Skills & Culture Match	\$0	\$9,272
Mentor Retention	\$0	\$11,000
<b>Total Benefits</b>	<b>\$161,736</b>	<b>\$151,410</b>
<b>ROI</b>		
Total Benefits	\$161,736	\$151,410
Total Costs	\$143,309	\$119,049
Net Cost-Benefit	\$18,427	\$32,360
<b>Return on Investment</b>	<b>13%</b>	<b>27%</b>

**After Year 3: Cumulative Costs and Benefits of Hiring an MA Graduate and Apprentice**

	MA Graduate	MA Apprentice
<b>Costs per worker</b>		
Wages	\$145,708	\$126,011
Benefits & Taxes	\$42,255	\$36,543
Direct Training Costs	\$9,000	\$4,750
Mentor Time	\$9,000	\$6,000
Clinical Liaison	\$0	\$4,900
Recruitment Costs	\$8,000	\$0
Program Overhead	\$0	\$3,500
<b>Total Costs</b>	<b>\$213,964</b>	<b>\$181,704</b>
<b>Benefits per worker</b>		
Employee Output	\$244,790	\$218,563
Improved Skills & Culture Match	\$0	\$13,908
Mentor Retention	\$0	\$22,000
<b>Total Benefits</b>	<b>\$244,790</b>	<b>\$254,471</b>
<b>ROI</b>		
Total Benefits	\$244,790	\$254,471
Total Costs	\$213,964	\$181,704
Net Cost-Benefit	\$30,826	\$72,767
<b>Return on Investment</b>	<b>14%</b>	<b>40%</b>

## Diversity of Medical Assistant Apprentices

The Healthcare Industry Leadership Table in King County recognizes that structural racism is a public health crisis. Racial disparities in healthcare access still exist in the country, but hospitals and other healthcare facilities in Washington State have strongly ramped up their efforts in recent years to improve workforce diversity. There is indeed overwhelming evidence that providers who represent the diversity of their patient community lead to better health outcomes (Peterson et al. (1994), Cohen et al. (2002), Rothman, P. B. (2016), Kington et al. (2001), Xu et al. (2004)).

On the other hand, the academic literature has highlighted racial gaps in service delivery: geographic variation in utilization rates of care treatments exhibits apparent racial differences in treatment patterns, even after accounting for income, insurance, and underlying health factors. For example, African Americans in the Department of Veterans Affairs have been found less likely to undergo cardiac procedures in acute myocardial infarction than white patients<sup>27</sup>. Additionally, in 2017, Hispanic/Latinx patients in Washington State were 11% less likely than white patients to receive diabetes education after being diagnosed with diabetes<sup>28</sup>.

A diverse team of providers could be instrumental in reducing these disparities as it is less likely to suffer from implicit bias. It is also better equipped to tailor care and services to patients' needs. When providers understand a patient's background, culture, attitudes, or beliefs about healthcare, patients feel more comfortable seeking services and voicing their concerns<sup>29</sup>. Receiving culturally competent care reinforces their trust in physicians or support staff and cements the relationship between the practice and its patients.

Medical assistant apprentices can help close racial gaps in service delivery as they are more likely to be from an underrepresented group (52%) than medical assistants in general (37%). Medical apprentices score 7% higher on the Racial Index of Diversity (RID)<sup>30</sup> than the overall apprentice population<sup>31,32</sup>. Controlling for alternative explaining factors of business outcomes (such as company size or age), Herring (2009) found that a one-unit increase in the RID raises the number of customers by 4.3%.

Thus, evidence indicates that MA apprenticeships are likely to positively impact patient retention and mix thanks to increased workforce diversity. Medical assistant apprentices are indeed more diverse than the total population of medical assistants, as shown in Figure 6. If data permits, further research should assess whether MA apprentices increase their employer's revenue and patient retention. Adding these estimates to the ROI calculator benefits would likely increase MA apprentices' total return and entice more employers to create apprenticeship programs.

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27 Peterson et al., 1994, "Racial variation in cardiac procedure use and survival following acute myocardial infarction in the Department of Veterans Affairs", JAMA, vol. 271, no. 15, p. 1175-1180.

28 HealthyPeople.gov, <https://www.healthypeople.gov/2020/data-search/Search-the-Data#topic-area=3514;sld=53>;

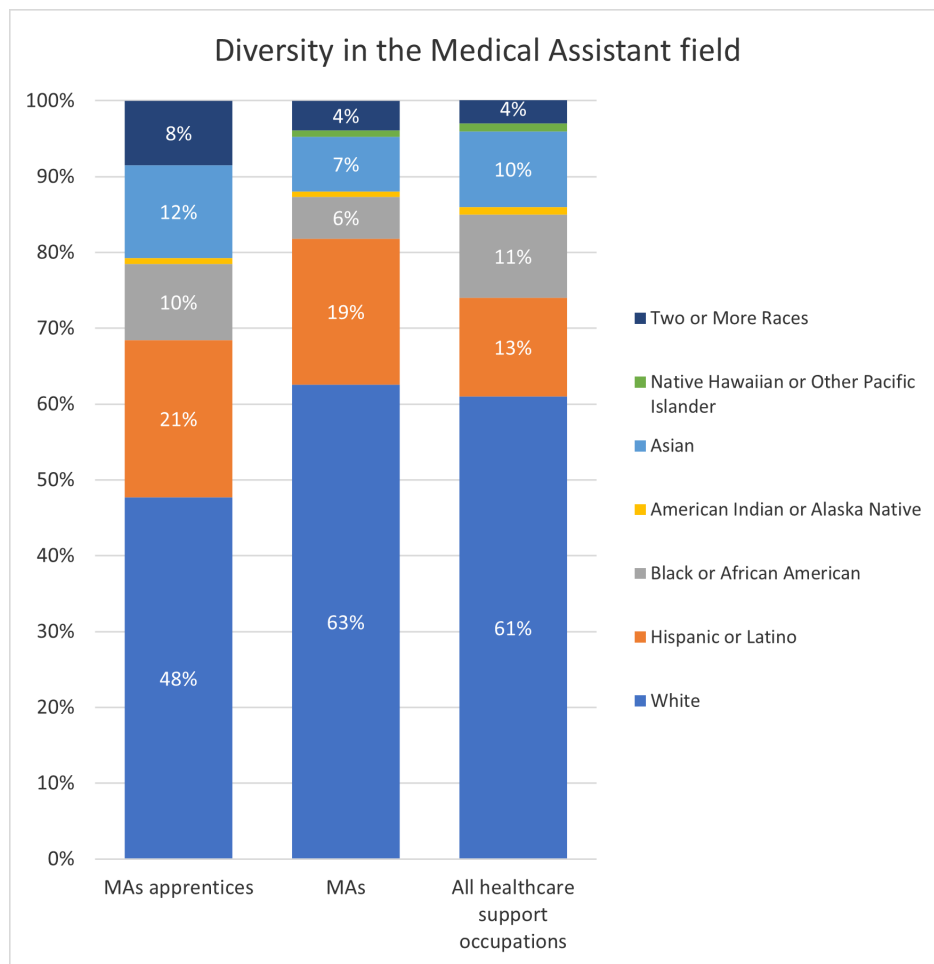
29 Smedley, B. D., Stith, A. Y., and A. R., Nelson, 2003, "Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care", appendix D, Institute of Medicine.

30 The Racial Index of Diversity (RID) represents the probability that two independently, and randomly chosen individuals will belong to different racial groups. It equals 0.74 for apprentices but only 0.67 for the overall medical apprentice population, representing a difference of 7 percentage points.

31 Bratter, J. and T. Zuberi, 2001, "The Demography of Difference: Shifting Trends of Racial Diversity and Interracial Marriage, 1960–1990", Race and Society, vol. 4, p. 133–148.

32 Zuberi, T., 2001, "The Population Dynamics of the Changing Color Line in the USA.", p.145–167 in Problem of the Century: Racial Stratification in the United States at Century's End, edited by E. Anderson and D. Massey. New York: Russell Sage Foundation.

**Figure 6: Racial diversity of medical assistants in the state of Washington**



Source: EMSI and Washington State Department for Labor & Industries, 2020

## Barriers to Scaling Up Apprenticeships and Potential Solutions

Offsetting the shortage of medical assistants would require stimulating supply, either through a rapid increase in MAS' wages, ramping up apprenticeship programs, or both. However, there are significant challenges to creating and scaling up apprenticeship programs. Focus groups were conducted in June 2020 with the assistance of Kim Anderson from Swedish Medical Center, Jocelyn Herrera-Ternes from Kaiser Permanente, Dorene Hersh from Public Health Seattle, Laura Hopkins from the SEIU 1199NW Training Fund, Tonia Lavelle from Valley Medical Center, Jill Rogerson-Black from Neighborcare Health and Seanna Ruvkun from Seattle Children's Hospital. Interviewees identified barriers to scaling up registered MA Apprenticeships. These barriers are listed below, along with our recommendations for addressing them:

1. High upfront costs, diffuse benefits, and recent financial hardships created by the pandemic can discourage executives from investing in an apprenticeship program.

► **Recommendations:** Additional investment by state agencies could support greater regional coordination between policymakers, educational institutions, and providers, helping spread costs across multiple organizations and provide additional training capacity<sup>33</sup>. Creating public seed funding, and other tax incentives for employers could also cover part of the apprenticeship program costs, decreasing providers' financial risks.

2. The novelty of the apprenticeship model might deter leadership and staff from adopting it.
  - **Recommendations:** Greater communication between state officials, training organizations, and professionals can improve program knowledge and readiness. Registered apprenticeships are already a well-established training model in Washington State, and creating new programs is more akin to a plug-in model as providers can opt to join an existing registered apprenticeship program as a training agent. With this option, employers can register as a training agent within a few weeks or days<sup>34</sup>. Providers can also rely on federal guidance and tools<sup>35</sup> to guide them through the creation of their program.
3. The lack of support services for apprentices may hinder student participation and performance. The fact that apprenticeships attract students from diverse racial and income backgrounds makes this issue even more salient.
  - **Recommendations:** Earmarked financial resources from providers would facilitate the recruitment of dedicated program management staff and the creation of wraparound support services to ensure that students can enter, perform in, and complete the program.
4. Finding and training mentors is especially challenging in smaller clinics where physicians and experienced assistants are extremely busy and already spread thin across multiple patients. It creates a vicious cycle where facilities are understaffed but recruiting new MAs or apprentices requires already burnt-out mentors to allocate some time to precepting.
  - **Recommendations:** Greater communication amongst regional healthcare providers around precepting programs would enable identifying best practices, improving mentoring time, and increasing mentors' retention. If there is enough financial capacity, providing or increasing hourly stipends to mentors could help attract experienced MA staff volunteers to train new apprentices.
5. Coordinating the administrative pieces required to manage the apprenticeship program can also hinder its development. A lack of administrative capacity within the organization can create confusion and numerous problems with enrollment, outreach, and training activities down the road.
  - **Recommendations:** Early identification of the critical administrative roles and respective responsibilities could help ensure the program's smooth functioning and streamline day-to-day operations. Key positions include program administrator, program coordinator, recruitment, outreach to registered apprenticeship programs, mentors support, etc.
6. An MA apprenticeship curriculum should ensure the parallel acquisition of skills and knowledge between on-the-job training and educational instruction. This requires strong communication between educational institutions, employers, and the Washington State Department of Labor & Industries. Federal and state-level program standards are stringent, but employers have some leeway to adapt their on-the-job training curriculum to their organization's unique needs<sup>36</sup>. However, given the current circumstances from the COVID-19 pandemic, whether the local healthcare systems can develop their curricula is still unclear.
7. Finally, larger organizations' complex structure with collective bargaining agreements, multiple clinics, and several healthcare models increases the need for coordination and administrative support.

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34 <https://lni.wa.gov/licensing-permits/apprenticeship/offer-a-registered-apprenticeship>

35 <https://www.dol.gov/apprenticeship/docs/RA-Planning-Tool.pdf>

36 <https://seeker.worksourcewa.com/microsite/Content.aspx?appid=MGSWAAPPREN&pageType=simple&seo=sponsor-an-apprenticeship>

## Funding Opportunities

As documented previously, the high expected upfront costs can deter organizations from investing and creating medical assistant apprenticeship programs. However, because of the benefits to the healthcare industry (improved treatment capacity), to patients (faster and more personalized care), and apprentices (new employment opportunities and enhanced match between training and work), the federal and state governments have created funding opportunities to encourage the creation of apprenticeship programs. The following list of grants and institutions could help organizations set up an apprenticeship program or help people interested in apprenticeship pay for tuition.

- **Youth apprenticeship readiness grant**

- US Department of Labor
- More than \$42 million distributed in 2020 to 14 selected educational entities (awards between \$1 and \$5 million)
- Help grantees establish new apprenticeship programs for youth 16 to 24-year-old in a variety of sectors, including healthcare
- It supports the 2017 Executive Order on “Expanding Apprenticeships in America” and could be renewed in 2021
- Website (2020 round closed): <https://www.grants.gov/web/grants/view-opportunity.html?opId=325965>

- **COVID-19 National Dislocated Worker grant**

- Used by grantees to temporarily expand capacity and reemploy or support on-the-job training for laid-off workers
- \$12 million grant received by Washington State will help support workforce development initiatives across the state, including vocational training

- **National emergency grant**

- Created to confront the opioid crisis in 2018
- Awards may be used to address the economic impacts of the crisis, train dislocated workers, and build a skilled workforce to address health concerns (pain management, mental health, substance abuse treatment)
- Website: [https://wdr.doleta.gov/directives/corr\\_doc.cfm?DOCN=7468](https://wdr.doleta.gov/directives/corr_doc.cfm?DOCN=7468)

- **CareerConnect Washington**

- CCW intermediary grants to bridge the gap between industry and educators and scale-up apprenticeship programs and other Career Launch programs

- **Tuition support for students:**

- Apprenticeship Tuition Waiver and WorkSource support for students <https://seeker.worksourcewa.com/microsite/Content.aspx?appid=MGSWAAPPREN&pageType=simple&seo=already-an-apprentice>
- Washington College Grant: partial or full tuition waivers to eligible students depending on income and household size, including apprentices starting 2020-2021 <https://wsac.wa.gov/wcg>



## Future Research

Additional data and further research could help better estimate future employment projections, quantify the most diffuse benefits of apprenticeship programs, and study apprenticeship programs' response to the COVID-19 pandemic. Specifically, future research could:

- Include data from Q4-2020 and 2021 when it becomes available to quantify the pandemic's medium-term impacts on MAs' demand. The COVID-19 crisis could have also altered outside employment options for MA students, thus impacting completion numbers and supply.
- Study which factors contributed to apprenticeship programs' adaptability during the pandemic. They indeed remained resilient when simultaneously facing a temporary decline in demand for new MAs and increased online training. Additionally, it would be interesting to know whether additional public funding could have provided them with greater capacity to face these challenges.
- Estimate whether available funding sources, such as the Washington College Grant, significantly alleviate the financial cost of setting up new programs and help smaller providers become training agents.
- Uncover the causes of work dissatisfaction in medical assisting and identify new career advancement opportunities or pathways to other occupations. This could help address the MAs shortage by attracting more students and improving job retention.
- Estimate the effects of a more diverse MA workforce on healthcare facilities' revenue and patient retention. This could increase benefits from implementing a medical assistant apprenticeship program and encourage additional healthcare facilities to hire apprentices.

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#### **Data sources**

- EMSI
- Employment Security Department of Washington State
- Federal Reserve Bank of Saint Louis
- HealthyPeople.gov
- US Bureau of Labor Statistics
- US Census Bureau

# Appendix A – Costs and Benefits of the Dartmouth-Hitchcock Medical Assistant Apprenticeship Program

## 1. Costs

An apprentice's cost was \$47,000/apprentice (\$12,800 of which was covered by grant funding).

## 2. Benefits

Dartmouth-Hitchcock benefitted from the apprenticeship program in multiple ways:

- First, thanks to the newly created MA positions, they were able to significantly reduce overtime charges, starting from the very first cohort of apprentices. Analysts estimate that one MA hour saved \$24/hour in overtime.
- Second, the apprenticeship program also helped Dartmouth-Hitchcock adopt a team-based care model that capitalizes on team members' capacities and uses them to the fullest. Among other organizational changes, medical assistants have greater administrative responsibilities during patients' visits, allowing physicians to spend more time on purely care-based activities.
- Third, the resulting efficiency and greater physician job satisfaction helped with provider recruitment and retention. Considering the cost of replacing a physician is \$250,000, implementing the team-based care model with MA apprentices saved the clinic approximately \$2,000 per MA per year.
- Finally, the analysis estimated an increase of 318 booked hours per month after the third MA cohort. Assuming reimbursement of \$100/hour, the revenue growth was \$31,800 per month.

In summary, as of the third cohort, the apprenticeship program brought in \$48,000 in reduced overtime and \$7,000 in increased revenue from additional booked hours for a net gain of \$55,000. In other words, the apprenticeship program paid for itself and helped the clinic made significant savings.

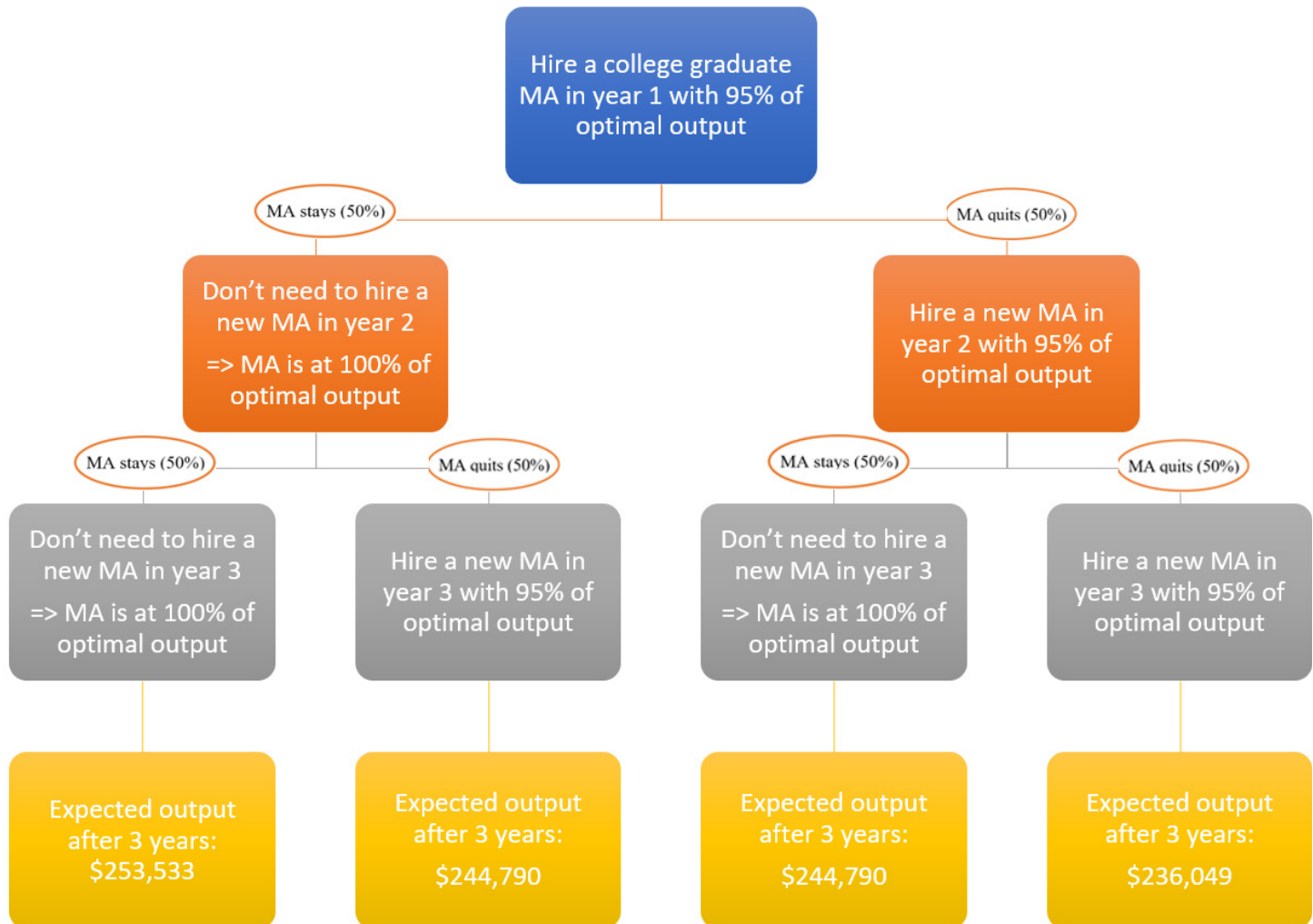
## Appendix B – ROI Calculator variables and assumptions

Variable	Data source	Assumptions
<b>Costs per worker</b>		
Wages	<ul style="list-style-type: none"> <li>• <b>College graduate:</b> Emsi, 2020</li> <li>• <b>Apprentice:</b> Wage schedule of apprenticeship programs and journey wage (WA, Labor &amp; Industries)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>College graduate:</b> Median annual salary in Washington State</li> <li>• <b>Apprentice:</b> Annual salary computed based on 2000 hour worked and hourly wage schedule, weighted by the number of apprentices in the different apprenticeship programs in WA state</li> </ul>
Benefits & Taxes	29% of the annual wage	Oregon ROI Calculator assumption for the healthcare industry
Direct Training Costs	Interviews with partnering organizations	Interviews with partnering organizations
Mentor Time	Interviews with partnering organizations	<ul style="list-style-type: none"> <li>• <b>College graduate:</b> takes up 5% of mentor's time</li> <li>• <b>Apprentice:</b> takes up 10% of the mentor's time</li> </ul>
Clinical Liaison	Interviews with partnering organizations	Interviews with partnering organizations
Recruitment Costs	Oregon ROI Calculator assumption for the healthcare industry	<ul style="list-style-type: none"> <li>• <b>College graduate:</b> the employer hires a new MA in year 1 and in each year 2 and 3, the MA has a 50% chance of quitting (turnover rate from EMSI, 2020), which means the employer has 50% of hiring someone new</li> <li>• <b>Apprentice:</b> No cost incurred if the employer has set up a recruitment pipeline with partnering apprenticeship programs</li> </ul>
Program Overhead	Interviews with partnering organizations	Interviews with partnering organizations
<b>Benefits per worker</b>		
Employee Output	Same source as college graduates wage: Emsi, 2020	<p>Oregon ROI Calculator assumption for the healthcare industry: optimal output is 180% of annual wage</p> <ul style="list-style-type: none"> <li>• <b>College graduate:</b> 95% of the optimal output in year 1 and 100% in subsequent years (adjusted to the fact that the MA has 50% chance of quitting each year and that the new hire MA will be back to 95% of optimal output)</li> <li>• <b>Apprentice:</b> 50% of the optimal output in year 1 and 100% in subsequent years (MA is assumed to remain with the same employer during the three years)</li> </ul>
Improved Skills & Culture Match	Interviews with partnering organizations	Interviews with partnering organizations
Mentor Retention	Interviews with partnering organizations	Interviews with partnering organizations



## Appendix C – Expected wage progression of apprentices

### 1. College graduates



Total expected output after 3 years of a college graduate Medical Assistant:  
 $\$253,533 \times 0.25 + \$244,790 \times 0.25 + \$244,790 \times 0.25 + \$236,049 \times 0.25 = \$244,790$

### 2. MA apprentices (Apprentices are assumed to remain with their employer for three years)

