

HEALTH CARE GRADS EARNING HIGHER DEGREES But worker shortages remain

Bachelor's degree completions in nursing and other health care fields have increased at higher education institutions in southeast Wisconsin in recent years. While this is a positive trend, fewer students are now completing shorter nursing assistant programs and other programs tied to critical entry-level health care occupations. Demand for these workers is likely to remain high and the challenge of preparing enough graduates to meet the demand may grow as total enrollment at some area institutions has fallen.

The number of students completing bachelor's and advanced degrees in health science fields at colleges and universities in southeast Wisconsin has risen considerably over the last decade, providing much-needed talent to one of the largest sectors of the region's economy. Yet, major health systems in the area continue to report shortages in the supply of nurses, medical assistants, and other health care professionals.

These findings emerge from a Wisconsin Policy Forum analysis of data covering the 18 institutions involved in the [Higher Education Regional Alliance](#) (HERA) and from interviews with higher education and health care industry leaders. HERA was formed in 2018 to promote collaboration among public and private two-year and four-year institutions in southeast Wisconsin to work toward common regional goals.

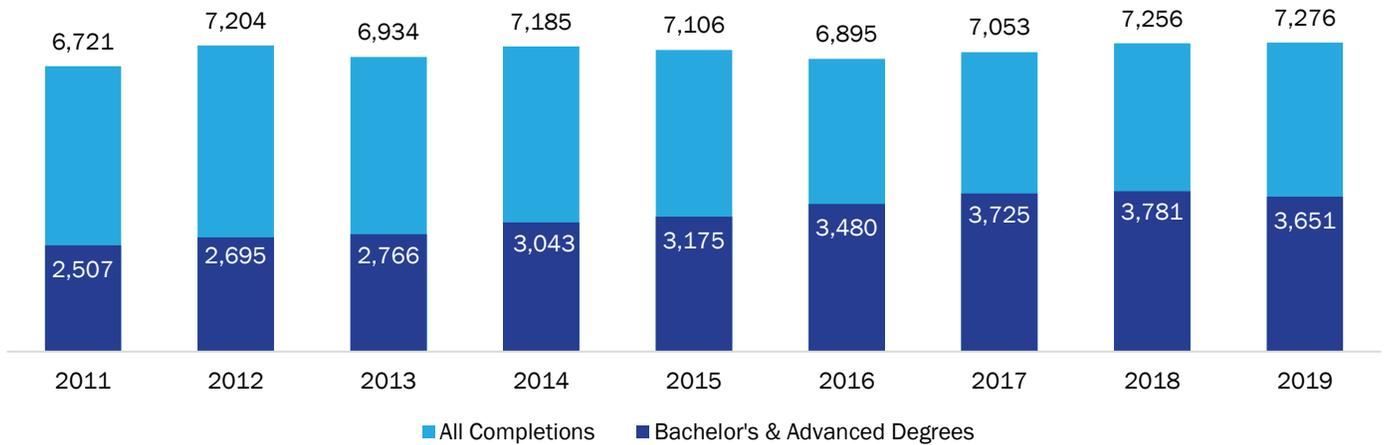
HERA tracks the number of students who complete academic programs across its partner institutions and categorizes all programs into 15 career clusters. The health science career cluster consistently produces more graduates than any other cluster. It includes 22 program categories tied to health care occupations (e.g. nursing, dentistry, public health), which account for close to 90% of graduates within the cluster each year. The remaining 10% of graduates complete programs in biological and biomedical sciences such as biology, biochemistry, and neurobiology. Notably, the Medical College of Wisconsin is not part of HERA and no other institution within HERA has a medical school that trains physicians.

This is the second in a series of reports the Wisconsin Policy Forum is producing through a partnership with the Higher Education Regional Alliance (HERA). These reports examine degree production trends in several critical fields and gauge how the combined graduates of the region's higher education institutions align with current and projected workforce demands in the regional economy.

Since 2011, the total number of students completing degrees and certificates in health science fields at HERA institutions has fluctuated somewhat from year to year but was 8.3% higher in 2019 than in 2011 (see **Figure 1**). The modest growth in health science graduates was larger than the growth in graduates across all other fields at HERA institutions, which increased by 3.9% during the same period. These totals include both students who earned bachelor's and advanced (master's and doctorate) degrees at four-year institutions and those who completed shorter certificate and associate degree programs primarily at technical colleges.

While the totals have not changed much, the number of students completing bachelor's and advanced degrees in health science fields has risen quickly and steadily and was 45.6% higher in 2019 than in 2011 despite a small decline in 2019. During the same period, the number of students completing shorter certificate and associate degree programs in health science fields

Figure 1: Health Science program completions at HERA institutions



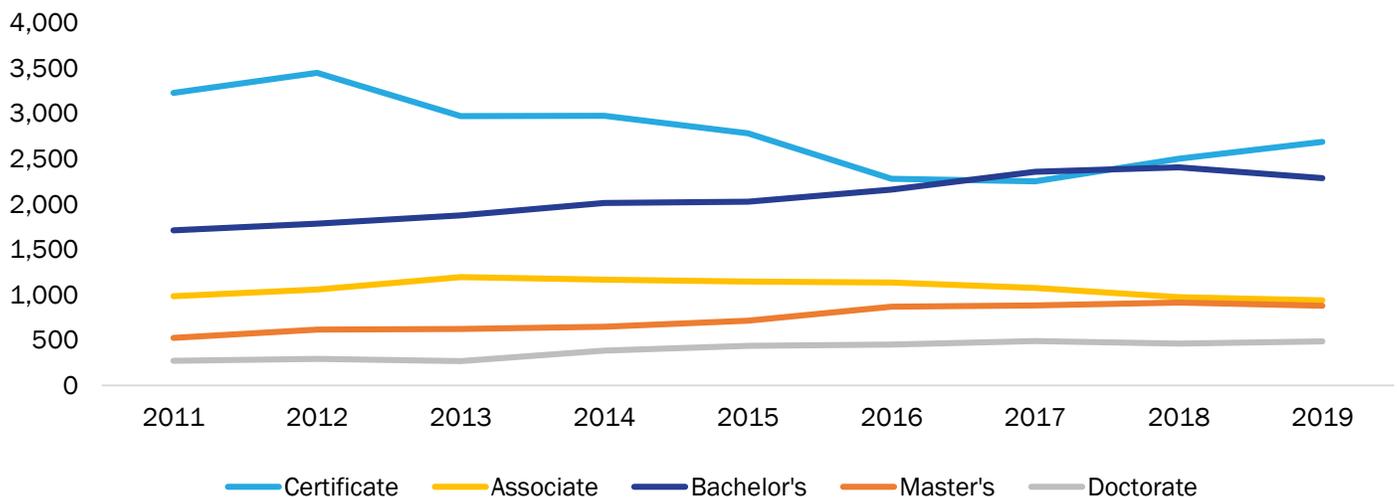
Source: WPF analysis of HERA data

declined by 14%. This suggests that some of the increase in bachelor's and advanced degrees represented an upward shift among students to higher-level programs that require longer time commitments.

In 2017, more students completed bachelor's degrees than certificates in health science fields (see **Figure 2**), a striking change from 2011 and 2012 when nearly twice as many certificates were awarded than bachelor's degrees. Certificate completions increased in 2018 and 2019 to again outnumber program completions at all other levels, however.

The increasing educational attainment of graduates in health science programs stands out relative to other fields. The share of total health science program completions that have been at the bachelor's degree level and above increased from 37.3% in 2011 to 50.2% in 2019, despite modest decreases in 2018 and 2019 (see **Figure 3**). During that same period, the share of program completions at the bachelor's level and above in all fields other than health science declined significantly. Though a gap continues to exist on this measure between health science and all other fields, it has narrowed considerably.

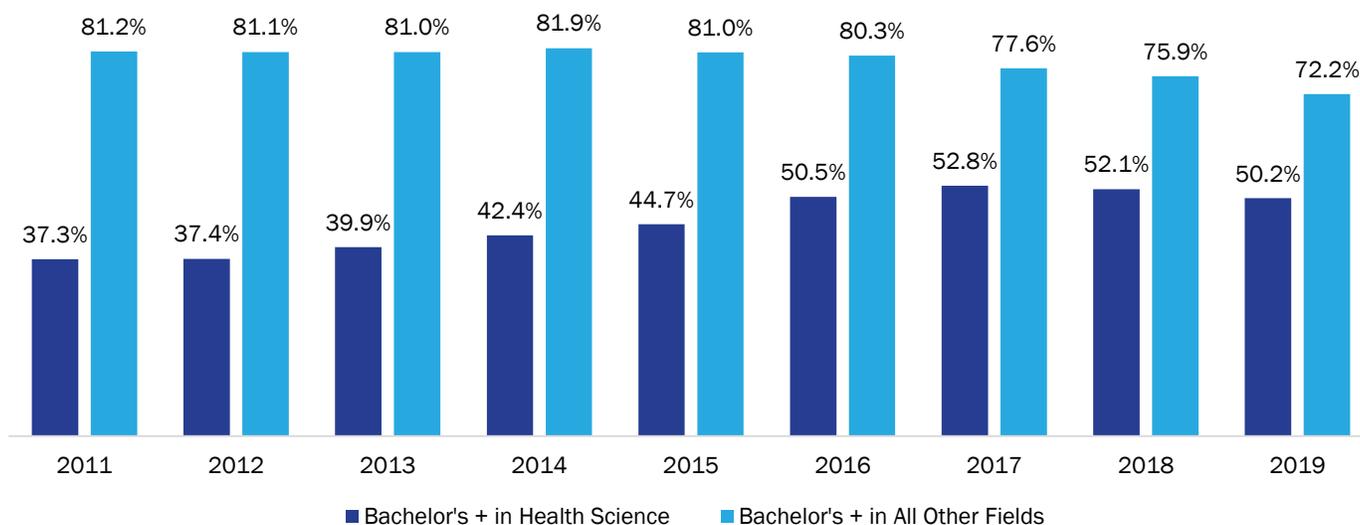
Figure 2: Program completions in health science fields by degree type
HERA institutions



Source: WPF analysis of HERA data



Figure 3: Bachelor's & advanced degrees as a % of all program completions



Source: WPF analysis of HERA data

One factor contributing to the increase in bachelor's and advanced degree completion in the health science cluster is the introduction of new programs. Since 2011, HERA institutions have introduced new programs in pharmacy and pharmaceutical sciences and administration; physiology, pathology, and related sciences; and public health, among others. These programs were added to help fill gaps in the regional talent pipeline.

NURSING FIELD DRIVES CHANGE

Another major contributor to the rise in educational attainment among health science graduates is an upward shift in bachelor's and advanced degree completion in nursing. The two largest program categories in the health science cluster are in nursing fields, together accounting for roughly half (50.2%) of the total degrees and certificates awarded by HERA institutions in health science between 2011 and 2019. Changes in nursing therefore have an outsize influence on overall trends in health science.

One of the two nursing program categories is "Registered Nursing, Nursing Administration, Nursing Research, and Clinical Nursing," which includes a variety of programs primarily at the bachelor's degree level and above. Between 2011 and 2019, the number of students at HERA institutions who graduated with bachelor's and advanced degrees in this category

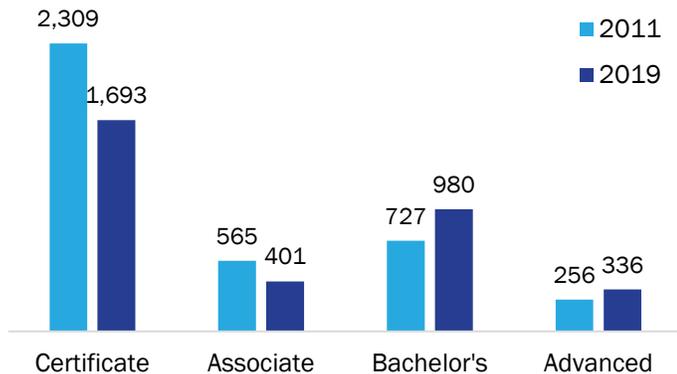
increased by 33.9%, though it was at its highest in 2017 and has declined somewhat since. During the same period, the number of students earning associate degrees in this program category declined by 29%.

The increase in bachelor's degree completion among nursing students follows a national trend that began to accelerate in 2010, when an influential [report](#) by the Institute of Medicine (now the National Academy of Medicine) called for at least 80% of registered nurses (RNs) to earn Bachelor of Science in Nursing (BSN) degrees by 2020. Hospitals also have become motivated to increase the share of their nurses with BSN degrees to attain "[magnet status](#)," which is a national credential awarded to health care organizations that meet certain quality standards. Many hospitals and clinics still hire RNs with associate degrees, but they are often expected or required to earn a BSN degree within a certain timeframe and offered tuition reimbursement to help them do so.

The other nursing category is "Practical Nursing, Vocational Nursing, and Nursing Assistants," which includes several programs at the certificate level. The number of students completing those programs declined by 26.7% between 2011 and 2019, which was a major factor contributing to the overall decline in certificates awarded by HERA institutions in health science. Certified nursing assistant (CNA) programs, which typically take six weeks to complete, produced



Figure 4: Credentials awarded in nursing fields, 2011 vs. 2019
HERA institutions



Source: WPF analysis of HERA data

most of the graduates in this category, with one-year licensed practical nursing (LPN) programs accounting for most of the remainder.

While the growth in students completing higher-level degree programs in nursing is a positive trend, the drop since 2011 in students completing certificates in nursing fields was larger on a numerical basis (see **Figure 4**). The overall result is a slightly increasing number of registered nursing graduates, but fewer graduates preparing for entry-level CNA and LPN positions and fewer nursing graduates overall.

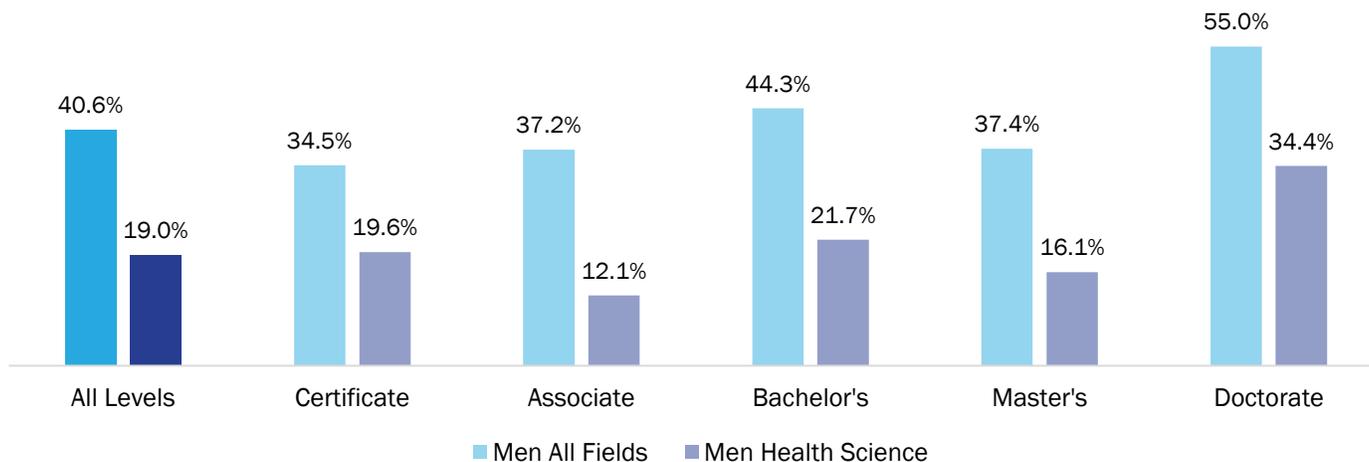
According to higher education leaders we interviewed, many health care facilities began to phase out LPN positions 10-15 years ago, so that could be another factor contributing to declining certificate completions in health science. Another capacity challenge cited by one area technical college is a shortage of faculty needed to expand the number of nursing assistant class sections they offer.

The relatively low wages offered for CNA positions could be another factor behind the lagging program completion numbers, though CNA positions can be the first step in building a career in nursing or other health care fields. In fact, some colleges and universities require students to complete a CNA certificate (or even to work as a CNA) before entering their nursing programs, and many working CNAs are nursing students who cycle out of the occupation and into higher-level nursing positions once they earn their degrees.

MEN AND PEOPLE OF COLOR UNDERREPRESENTED

Women continue to account for a strong majority of students completing academic programs in health science. In fact, between 2011 and 2019, men earned less than one of every five degrees and certificates awarded by HERA institutions in health science fields (19%). Women outpaced men in college completion across all fields – with men earning less than 41% of degrees and certificates overall – but the gender gap is

Figure 5: Men as % of program completions in health science vs. all fields
HERA institutions, 2011-2019

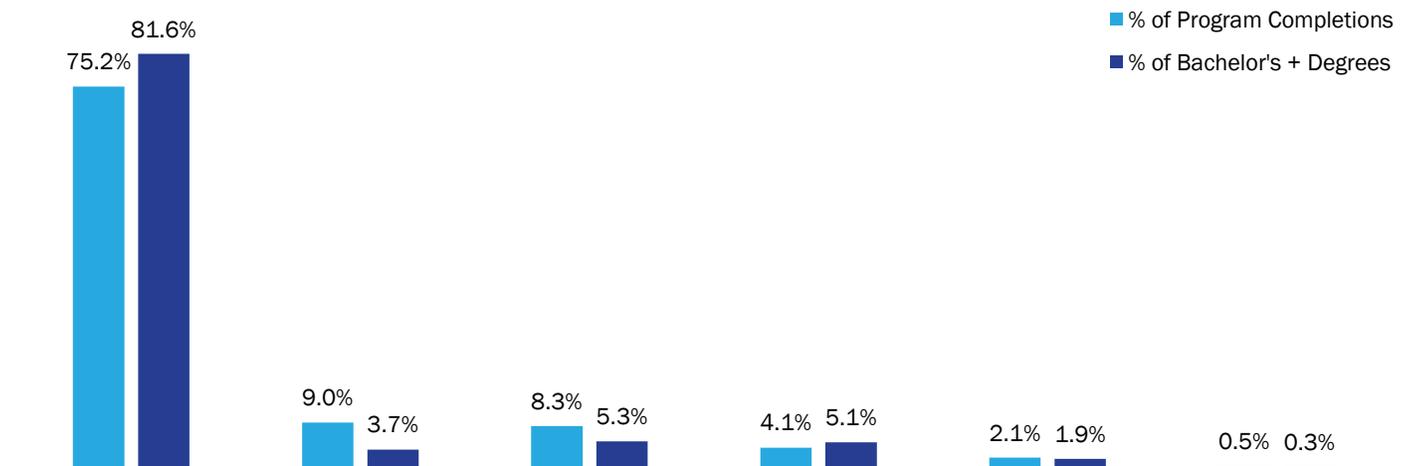


Source: WPF analysis of HERA data

Note: No HERA institutions provide medical degrees.



Figure 6: Race/ethnicity of health science graduates, 2011-2019
HERA institutions



Source: WPF analysis of HERA data

particularly large in the health science cluster (see **Figure 5** on the previous page). Men are better represented among those earning doctorate degrees than other credential types both in the health science cluster and across all fields. As previously noted, MCW is not involved in HERA so these figures do not include programs that train physicians, which are among the highest paid positions in health care and may have a different gender breakdown.

Black and Latinx students are also underrepresented among health science graduates at the bachelor's degree level and above (see **Figure 6**). For example, while Black students earned 9% of the total health science degrees and certificates awarded by HERA institutions between 2011 and 2019, they accounted for only 3.7% of those at the bachelor's degree level and above. According to health system leaders we spoke with, people of color are also underrepresented in the current health care workforce, so the student pipeline is likely to reinforce existing gaps in the field.

Higher education and health system leaders we interviewed said improving the representation of men and especially people of color in health care occupations is a priority. The goal is to have the health care workforce reflect the population it serves. HERA leaders said there is a big need within HERA to make programs more welcoming to students of color. Health system leaders said they have discussed the need to increase diversity in the health care workforce for a long time, but that organizations are placing more emphasis

on this issue now and putting more resources toward achieving progress.

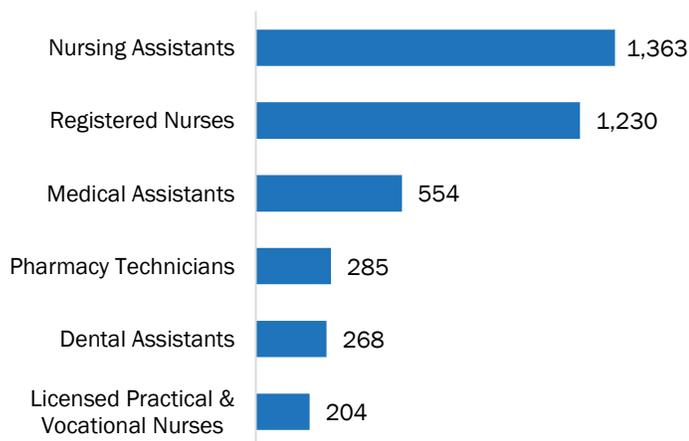
One specific way health care organizations can strengthen the diversity of the health care workforce pipeline is through outreach to high school students. Froedtert Hospital, for example, has established relationships with Carmen High School on Milwaukee's north side and Cristo Rey on the south side. Hospital staff introduce students to health care careers and bring them to the hospital for an in-person experience.

DEMAND FOR HEALTH CARE WORKERS STRONG

While HERA institutions are producing a relatively consistent supply of health science graduates that has even grown slightly over time, area health care industry leaders have reported growing worker shortages. Nursing shortages in particular have been cited at all levels, from CNAs to RNs to nurse educators in both clinical and academic settings. Those we interviewed also identified worker shortages in several other occupations, including medical assistants, pharmacy technicians, respiratory therapists, and surgical technologists. One factor contributing to worker shortages is the aging of both the health care workforce and the population overall; as baby boomers retire, their jobs open up while there is simultaneously an increasing need for health care workers to care for a growing population of seniors.



Figure 7: Projected annual job openings in health fields in southeast Wisconsin 2018-2028



Source: WPF analysis of DWD Long Term Occupational Projections

Many of the occupations cited by health system leaders as top workforce challenges are among those with the largest number of expected job openings in the seven-county southeast Wisconsin region in which HERA institutions operate.¹ The state Department of Workforce Development has made 2018-2028 [projections](#) for the average number of jobs expected to be created or to open for any reason (such as retirement) each year by occupation. For nursing, we found DWD projects a combined 1,567 nursing assistants and licensed practical and vocational nurses will be needed each year in southeast Wisconsin (see **Figure 7**). That is somewhat higher than the number who have graduated from HERA institutions with certificates in those fields in recent years, which averaged 1,516 annually between 2016 and 2019. Failure to grow the number of graduates likely will perpetuate existing worker shortages.

A large number of registered nursing jobs are expected to open in the region each year as well. HERA institutions produced an annual average of 1,374 registered nursing graduates at the associate and bachelor's degree levels between 2016 and 2019. That appears to exceed the amount needed to fill the annual average of 1,230 RN job openings, but demand for RNs has been high for many years and it may take sustained production of these graduates to meet the need.

¹ Those counties include Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington, and Waukesha.

Efforts to strengthen the nursing pipeline

A number of efforts are underway at HERA institutions to address the region's nursing shortage, but challenges remain.

Several HERA institutions have added nursing programs in recent years that open up new or accelerated pathways to becoming a nurse. For example, Mt. Mary introduced a [Nursing 1-2-1 program](#) about four years ago in collaboration with Milwaukee Area Technical College (MATC) and Waukesha County Technical College (WCTC). Students come to Mt. Mary for their first year of education, then spend two years completing their nursing courses at one of the technical colleges. At the end of their third year, they become licensed as RNs and can begin working in the field while they complete their fourth and final year of coursework online to earn their BSN degrees from Mt. Mary. Another example is Marquette University's [direct-entry nursing program](#) that allows individuals with bachelor's degrees in fields other than nursing to earn a master's degree in nursing in just two years.

WCTC and Gateway Technical College have created associate degree [programs](#) in nursing specifically designed to assist paramedics who wish to become RNs. To improve retention among returning nursing students, WCTC has also introduced several [new courses](#) designed to help them transition back to school.

Still, some health care system leaders we interviewed said that associate degree programs in nursing may be underutilized in southeast Wisconsin. They suggested expanding those programs to supply the industry with more RNs who could then work while earning their BSN degrees with tuition reimbursement provided by their employers. One barrier to expanding nursing programs identified by higher education leaders we spoke with, however, is competition among institutions for limited clinical sites.

Medical assistants also in short supply

Area employers also have struggled for years to fill open medical assistant positions. In fact, after nursing, medical assistant is the health care occupation with the largest projected number of annual job openings in southeast Wisconsin. Medical assistants work with



physicians primarily in clinical settings, but unlike CNA and LPN positions, the medical assistant position is not a step toward becoming an RN.

A formal education is not required to become a medical assistant either, so HERA's role in preparing a sufficient supply of future workers is less clear. Many medical assistants complete one-year programs at technical colleges to prepare for a certification exam and work in the occupation, but others are hired based on their customer service experience alone and receive on-the-job training. Medical assistants who become certified can earn higher wages, so that is one motivation for completing a technical program, though some individuals prepare for and pass the certification exam on their own.

To help strengthen the pipeline of medical assistants, area health systems recently created their own accelerated medical assistant training program through the nonprofit [Center for Health Care Careers](#).

FUTURE CHALLENGES AND OPPORTUNITIES

Preparing enough workers to fill expected job openings in health care and other fields may become an even bigger challenge in the future if college enrollment trends continue. Overall enrollment has declined since 2010 at many higher education institutions in southeast Wisconsin, including [all three UW System schools](#) in the region (UW-Milwaukee, UW-Parkside, and UW-Whitewater). This trend is partially driven by a declining number of high school graduates in Wisconsin.

A great deal of untapped potential to reverse the trend remains, however, as a large share of high school graduates do not enroll in any college. HERA leaders say the challenge is to get more students to enroll in college and to create welcoming and supportive environments for them once they arrive.

Another complicating factor is the COVID-19 pandemic, which has and will continue to impact the health care workforce and students' interest in pursuing careers in health care. Some higher education leaders suggest the pandemic has increased motivation among students to go into health care occupations because it shined a light on the importance of frontline health workers. On the other hand, some individuals already in the field or considering it may be driven away by the stress and

burnout they experienced or witnessed in their communities. The net effect remains unknown.

Demand for health care workers is unlikely to diminish, however, and HERA and its partner institutions will need to continue to look for ways to create new and expedited pathways to degrees and certificates in critical fields. This includes expanding opportunities for non-traditional students to complete programs more quickly and potentially do so while they are also working.

Two recent announcements will bolster local efforts to grow and diversify the pipeline of nurses and other health care workers in southeast Wisconsin. In February, Marquette University received a [\\$31 million grant](#) that will help to expand and improve its nursing program considerably. Meanwhile, in June, the Froedtert Hospital Trust created an \$11.5 million [scholarship fund](#) for UWM and MATC students in health care fields. It is the largest donation MATC has ever received and among the largest ever received by UWM. These contributions are an important opportunity to address workforce challenges in the health care field at a time when they are critically needed.

