

A Healthcare Sector Analysis focused on Nursing in Kentucky

Labor Market Information, Migration Analysis, and Program
Demand Gap Analysis

Prepared by EMSI
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The Panel



#KyHigherEdMatters

WEBINAR: ANALYSIS OF NURSES AND HEALTHCARE WORKERS IN KENTUCKY

FRIDAY, AUG. 21, 1 P.M. ET | REGISTER: [CPE.KY.GOV](https://cpe.ky.gov)

Join the Council on Postsecondary Education, in partnership with Emsi, for a webinar to discuss our new report, Healthcare Sector Analysis in Kentucky, with panelists representing nursing, healthcare and higher education sectors. The presentation will look at the challenges of meeting the demand for nurses and other healthcare workers in Kentucky.



Julie Marfell, Associate Professor, University of Kentucky College of Nursing



Delanor Manson, Chief Executive Officer, Kentucky Nurses Association



Anna Brown, Economist, Vice President of Higher Education Consulting, Emsi



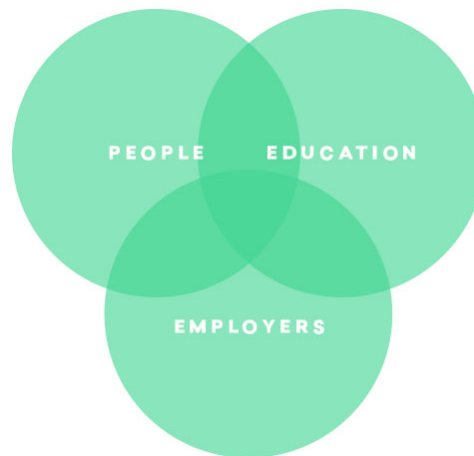
Aaron Thompson, President, CPE



David Mahan, Associate Vice President, Data, Research and Advanced Analytics, CPE

About Emsi

- Economic Modeling Specialist International (Emsi) was founded in 2001
- Data analytics: Emsi uses labor market data software and consulting to connect and inform people, education, and business
- Emsi covers more than 99% of the workforce, is compiled from a wide variety of government sources, job postings, and online profiles and resumes
- Focus on alumni outcomes to serve higher education



Presentation Outline

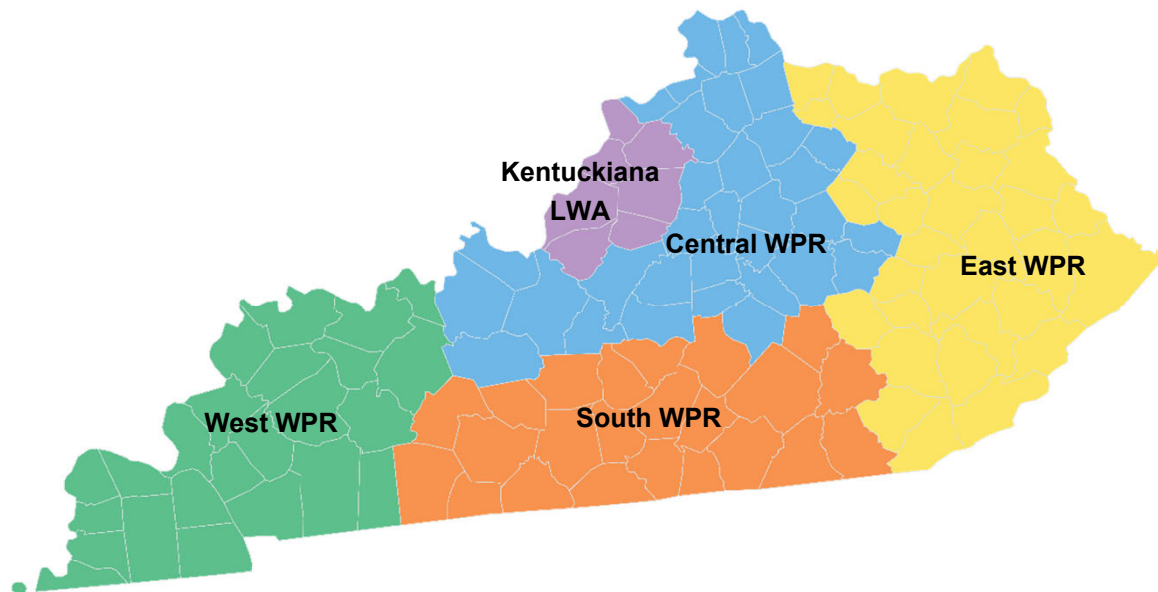
- Research question
- Kentucky's five regions
- Nursing and healthcare jobs in Kentucky
- Healthcare migration analysis
- Job postings for nurses
- Statewide job openings for nursing and nursing graduates
- Recommendations for academic programs in nursing

Research Question

Where are there misalignments between the workforce demand and the supply of KY college and university nursing graduates?










- Job growth projections
- KY healthcare alumni migration analysis
- Nursing wages in KY
- Comparing the number of annual job openings and graduates
- Program demand gap analysis (academic program recommendations)

Kentucky's WPRs and the Kentuckiana LWA



Kentucky has four Workforce Planning Regions (WPRs), and the city of Louisville and its surrounding counties comprise the Kentuckiana Local Workforce Area (LWA), an area within the Central WPR.

Occupational Groups in Healthcare

-  Medical doctors
-  Direct care workers and nurses
-  Clinical practitioners
-  Mental and social healthcare workers
-  Hearing, speech, and vision health workers
-  Dental health workers
-  Athletic trainers and physical therapists
-  Medical administrators
-  Veterinary medicine workers

Direct Care Workers and Nurses

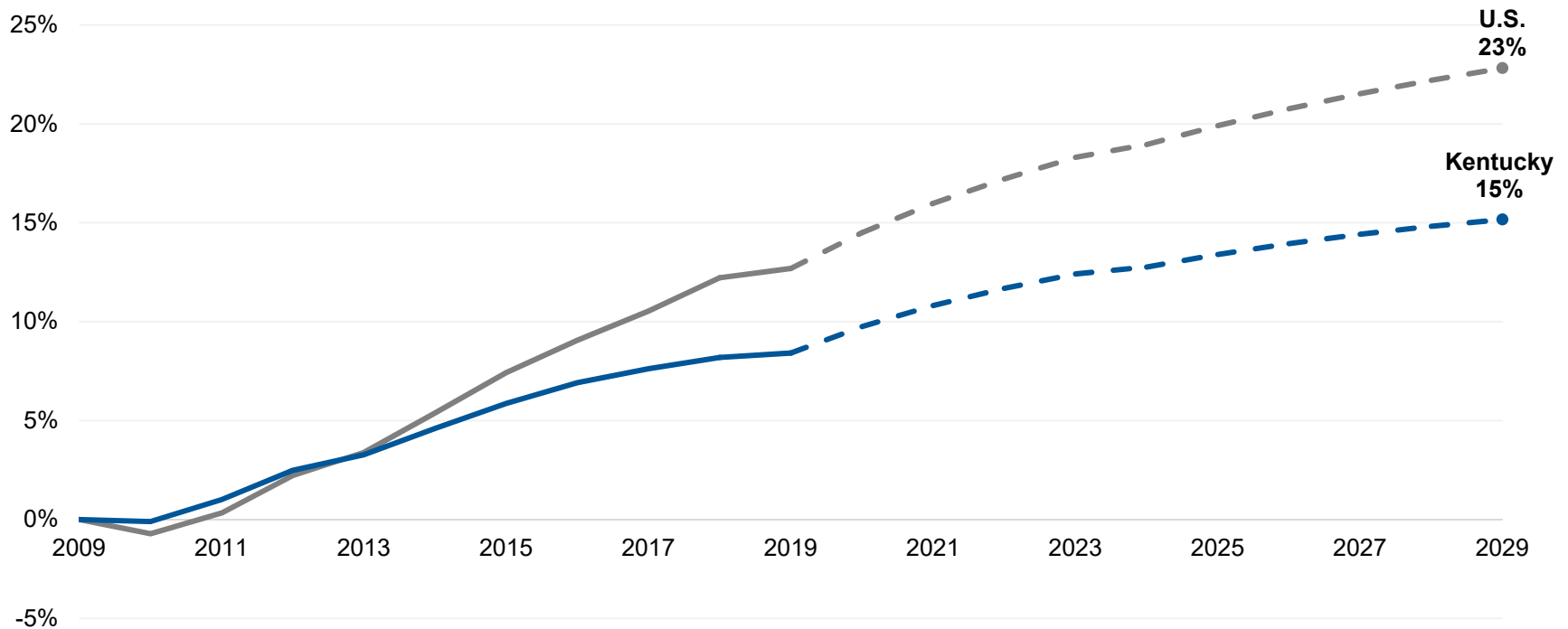


The group is comprised of nine occupations:

- Emergency Medical Technicians (EMTs) & Paramedics
- Home Health & Personal Care Aides
- Nurse Anesthetists
- Nurse Midwives
- Medical Assistants

- Nurse Practitioners (NPs)
- Registered Nurses (RNs)
- Licensed Practical & Licensed Vocational Nurses (LPNs)
- Nursing Assistants (CNAs)

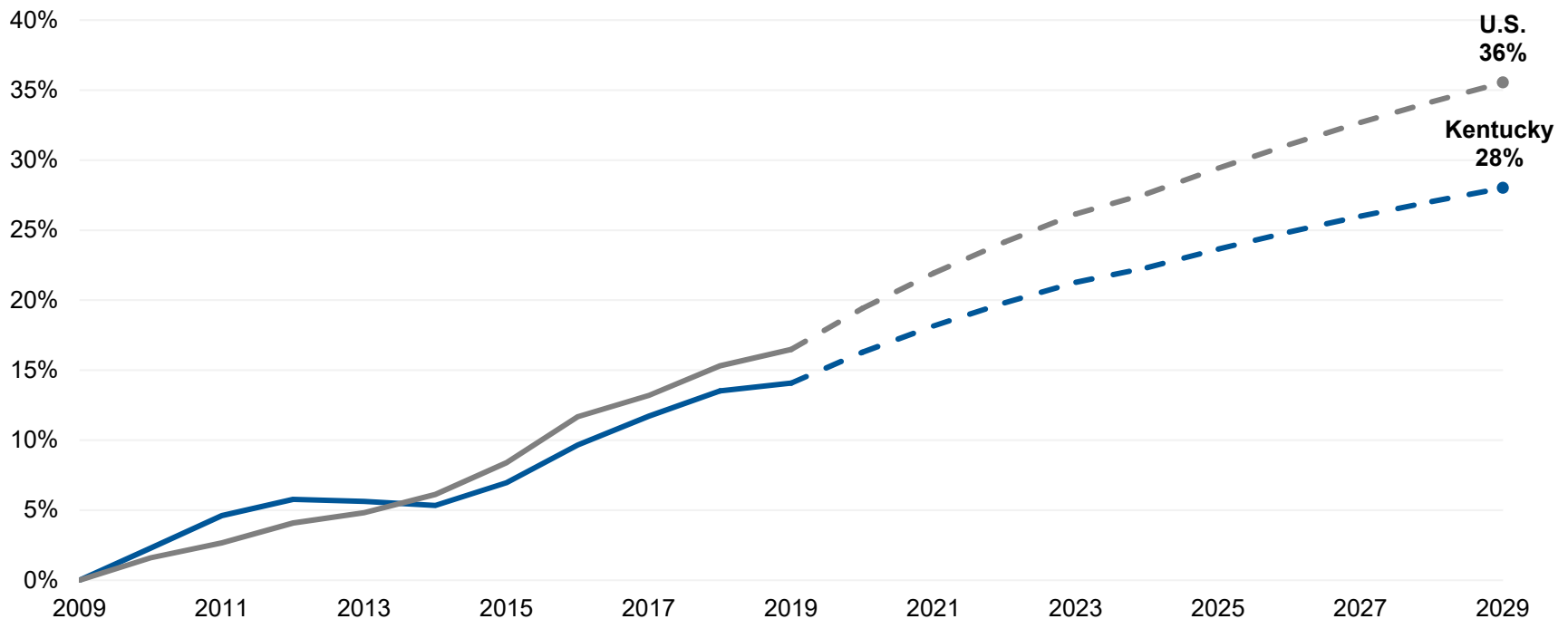
Total Job Growth



Source: Emsi Employees & Self-Employed 2020.1.

U.S. jobs are projected to increase by 23% between 2009 and 2029, and Kentucky's jobs are projected to increase by 15% during those years, for an 8% difference.

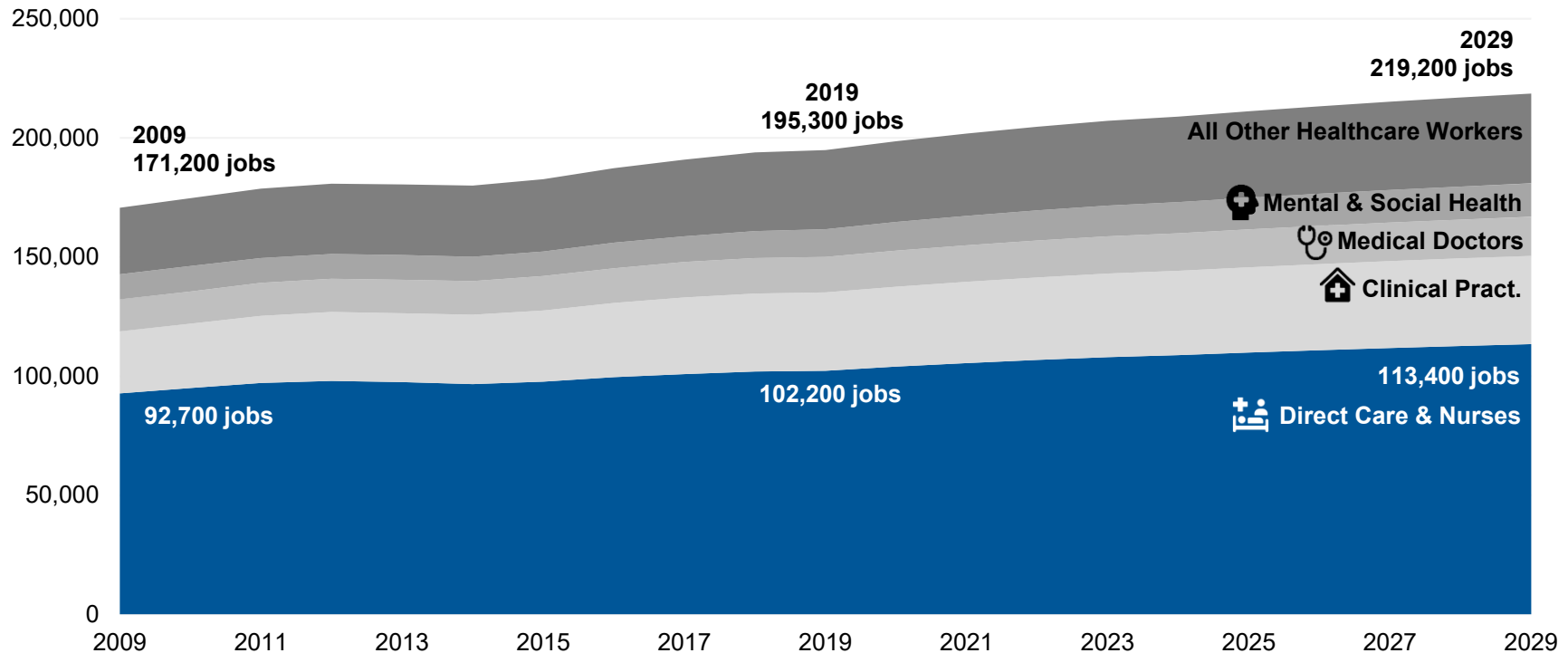
Job Growth in Healthcare



Source: Emsi Employees & Self-Employed 2020.1.

Kentucky's jobs in healthcare are projected to increase by 28% between 2009 and 2029. Nurses account for nearly 40% of those jobs, whereas nurses account for about 30% of healthcare jobs in the U.S.

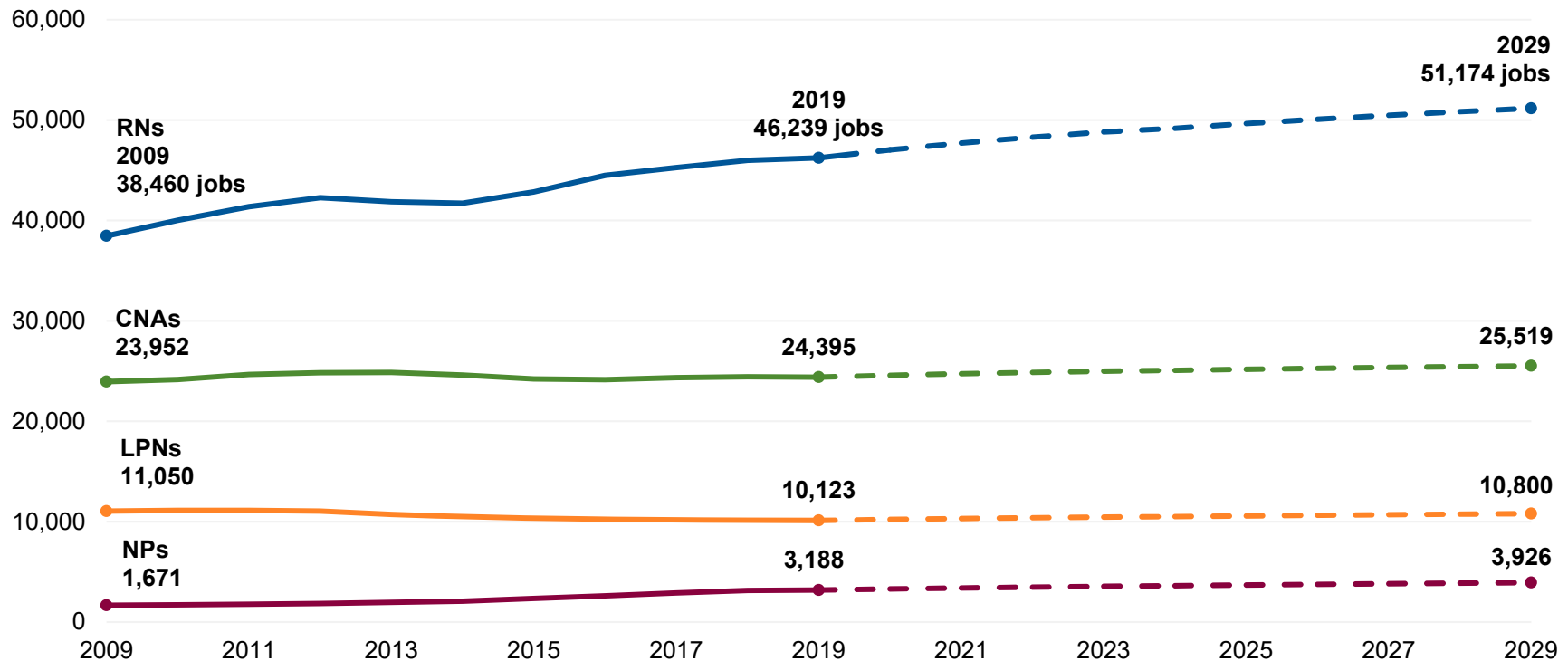
Kentucky's Healthcare Jobs by Occupational Group



Source: Emsi Employees & Self-Employed 2020.1.

Kentucky supported 195,300 healthcare jobs in 2019, about half of which were for direct care workers and nurses. Clinical practitioners, medical doctors, and mental and social healthcare workers also account for a substantial share of the state's healthcare jobs.

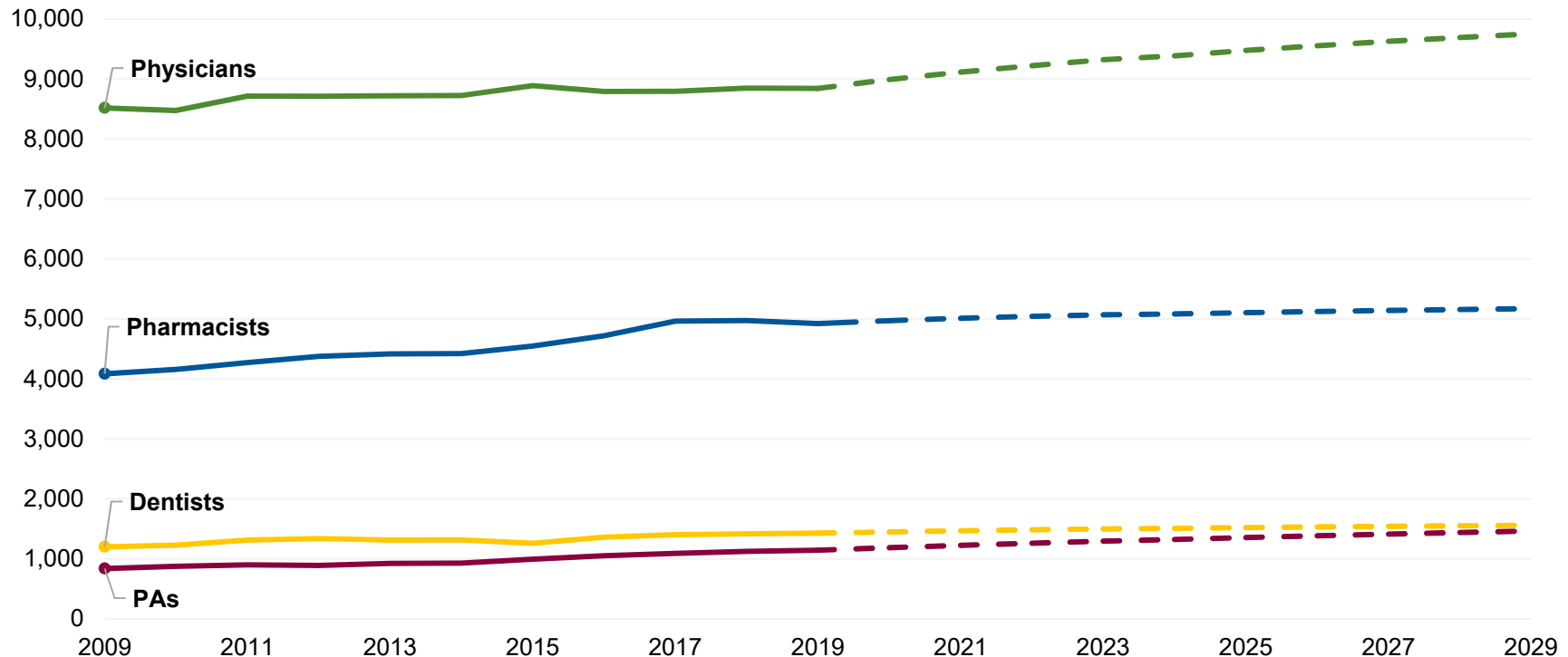
Kentucky's Jobs for Nurses



Source: Emsi Employees & Self-Employed 2020.1.

RNs and CNAs account for about 70% of the group's jobs. There are fewer jobs for NPs, but the occupation is projected to grow by 23% over the next decade.

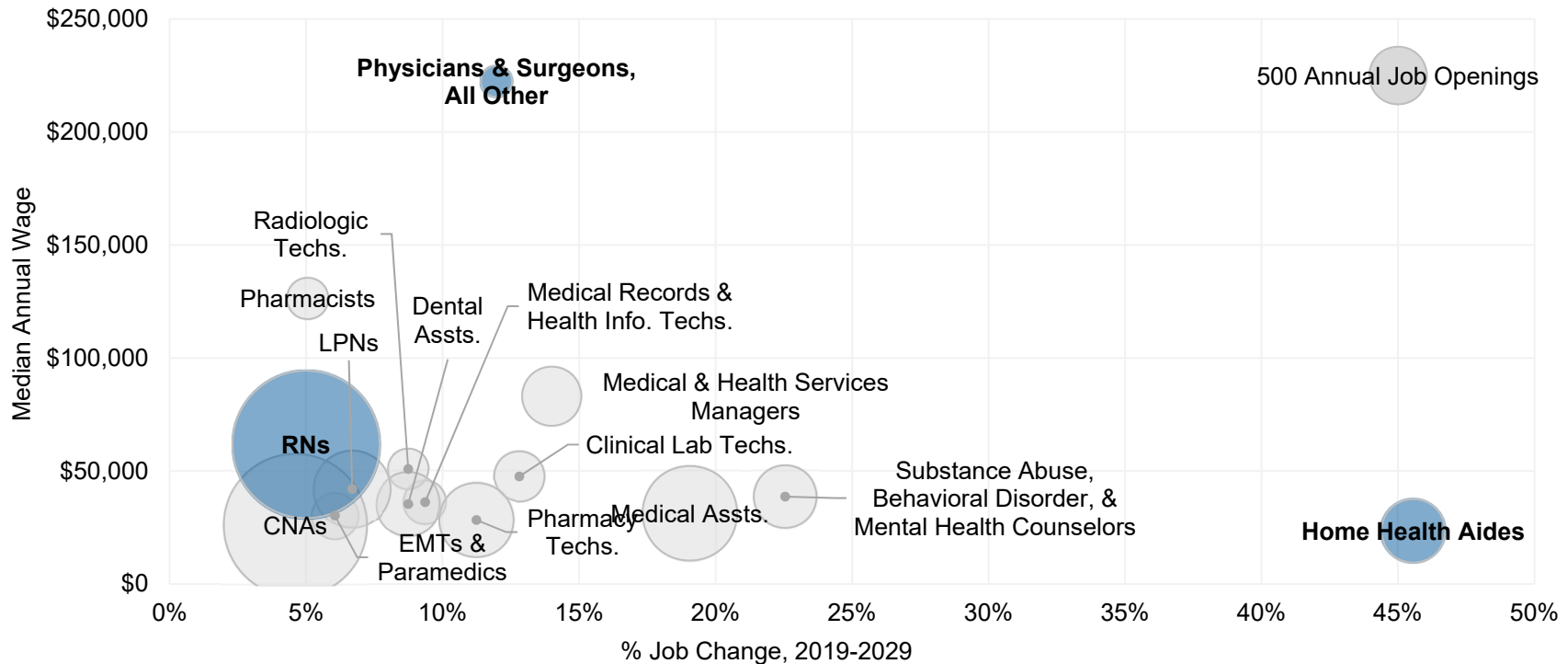
Kentucky's Jobs for Doctors



Source: Emsi Employees & Self-Employed 2020.1.

Kentucky supports the most jobs for physicians, among doctors and medical professionals. There are fewer jobs for physician assistants, but the occupation is projected to grow by 28% between 2019 and 2029.

Kentucky's Healthcare Occupations, by Annual Wage and Job Change



Source: Emsi Employees & Self-Employed 2020.1.

Among Kentucky's largest healthcare occupations, home health aides are projected to grow the fastest (46%) between 2019 and 2029, but they get paid the least (\$23,500). Physicians & surgeons get paid the most (\$222,400). Registered nurses (RNs) are paid well (\$55,500), and there are lots of jobs in the occupation.

Kentucky's Nurses



- Nurses are typically White females
 - 15% are people of color, comparable to all adults 25 years and above (13%)
 - 91% are female, whereas 80% of healthcare workers and 51% of Kentuckians are female
- Nurses are as diverse as a typical healthcare worker
 - 14% of the Kentuckians working in healthcare are people of color
- Nurses are not in danger of “graying out”
 - Even distribution of the workforce between 25 and 64 years

Source: Emsi Demographics. American Community Survey.

Migration Analysis

SECTOR	HEALTHCARE* ALUMNI			ALL ALUMNI		
	PROFILES	% IN-STATE	% OUT-OF-STATE	PROFILES	% IN-STATE	% OUT-OF-STATE
State University	15,093	55%	45%	477,491	56%	44%
KCTCS	2,454	62%	38%	67,634	68%	32%
AIKCU	3,056	66%	34%	57,111	65%	35%
Kentucky	22,575	56%	44%	748,030	56%	44%
U.S.	2,100,955	49%	51%	94,180,933	44%	56%

* Based on students completing a healthcare program (CIP code 51) from an educational institution in Kentucky.

State universities include Eastern Kentucky University, Morehead State University, Murray State University, Northern Kentucky University, the University of Louisville, the University of Kentucky, and Western Kentucky University. KCTCS refers to the Kentucky Community & Technical College System, and AIKCU refers to the Association of Independent Kentucky Colleges & Universities.

Source: Emsi Profile Analytics.

Around 56% of the alumni from Kentucky's healthcare programs remain in-state, which is the same as all majors in the state and higher than the 49% of healthcare alumni in the U.S. who remain in their states after graduation.

Migration Analysis using 2019 Wages

OCCUPATION	2019 MEDIAN ANNUAL WAGE (STATE RANKING)					
	KY	TN	OH	FL	IN	TX
Registered Nurses (n = 4,486) [†]	\$61,759 (5) [‡]	\$60,164 (6)	\$64,192 (3)	\$64,336 (2)	\$62,306 (4)	\$71,952 (1)
Medical and Health Services Managers (n = 1,422)	\$83,086 (6)	\$88,626 (5)	\$90,693 (3)	\$93,980 (2)	\$89,971 (4)	\$94,831 (1)
Nurse Practitioners (n = 691)	\$96,127 (5)	\$94,442 (6)	\$100,886 (3)	\$96,951 (4)	\$102,303 (2)	\$108,487 (1)
Pharmacists (n = 588)	\$126,338 (2)	\$125,387 (3)	\$121,750 (6)	\$122,456 (5)	\$123,740 (4)	\$128,104 (1)
Dentists (n = 515)	\$137,285 (6)	\$178,260 (2)	\$187,678 (1)	\$144,606 (5)	\$160,445 (3)	\$160,288 (4)

* Based on students completing a healthcare program (CIP code 51) from an educational institution in Kentucky.

[†] The number in parentheses after the occupation represents the number of healthcare alumni from Kentucky institutions in the U.S.

[‡] The number in parentheses after the median annual wage represents the rank of the state from high to low wages across the occupation.

Source: Emsi Profile Analytics and Employees & Self-Employed 2020.2.

The top states where Kentucky healthcare alumni move to are Tennessee, Ohio, Florida, Indiana, and Texas. Kentucky's wages for the occupations above are not as competitive with these states, except for the wages for pharmacists.

Migration Analysis using 2009 Wages

OCCUPATION	2009 MEDIAN ANNUAL WAGE (STATE RANKING)					
	KY	TN	OH	FL	IN	TX
Registered Nurses (n = 4,486) [†]	\$55,569 (5) [‡]	\$55,613 (6)	\$58,340 (3)	\$59,918 (2)	\$57,327 (4)	\$62,872 (1)
Medical and Health Services Managers (n = 1,422)	\$70,885 (4)	\$68,131 (6)	\$77,170 (3)	\$84,546 (1)	\$70,058 (5)	\$77,685 (2)
Nurse Practitioners (n = 691)	\$55,032 (6)	\$56,031 (5)	\$58,961 (3)	\$59,740 (2)	\$57,400 (4)	\$62,829 (1)
Pharmacists (n = 588)	\$110,656 (3)	\$114,559 (1)	\$105,214 (6)	\$107,713 (4)	\$105,474 (5)	\$112,552 (2)
Dentists (n = 515)	\$143,501 (5)	\$163,991 (1)	146,831 (4)	\$131,257 (6)	\$156,984 (2)	\$147,765 (3)

* Based on students completing a healthcare program (CIP code 51) from an educational institution in Kentucky.

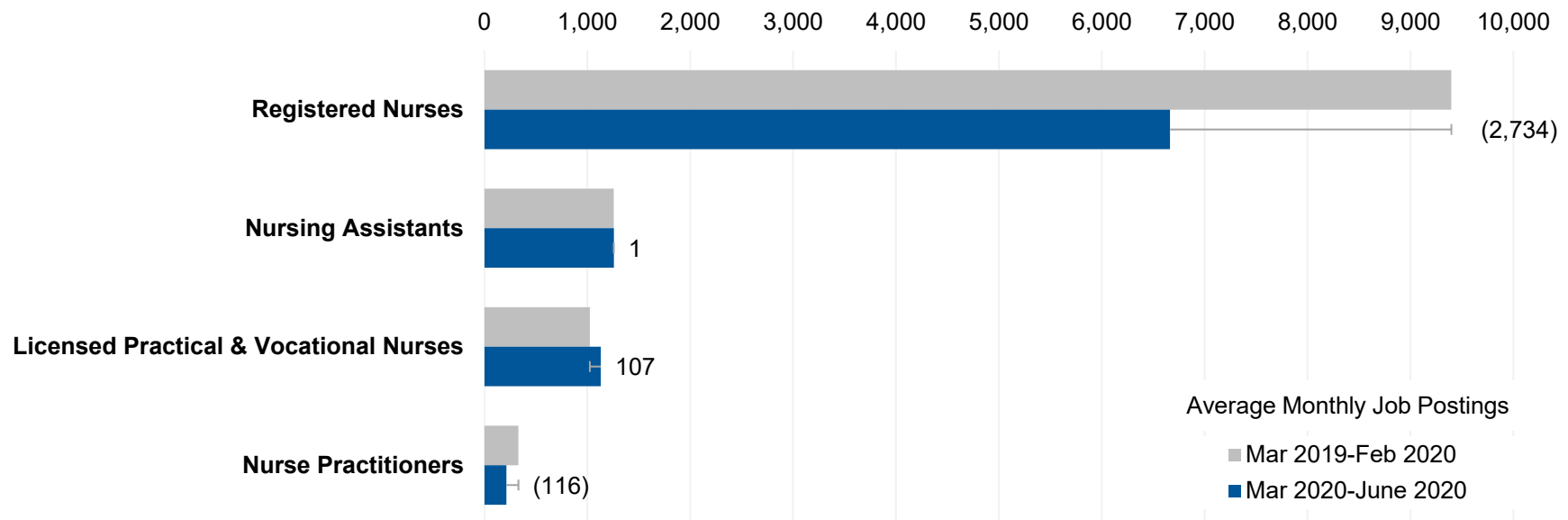
[†] The number in parentheses after the occupation represents the number of healthcare alumni from Kentucky institutions in the U.S.

[‡] The number in parentheses after the median annual wage represents the rank of the state from high to low wages across the occupation.

Source: Emsi Profile Analytics and Employees & Self-Employed 2020.2.

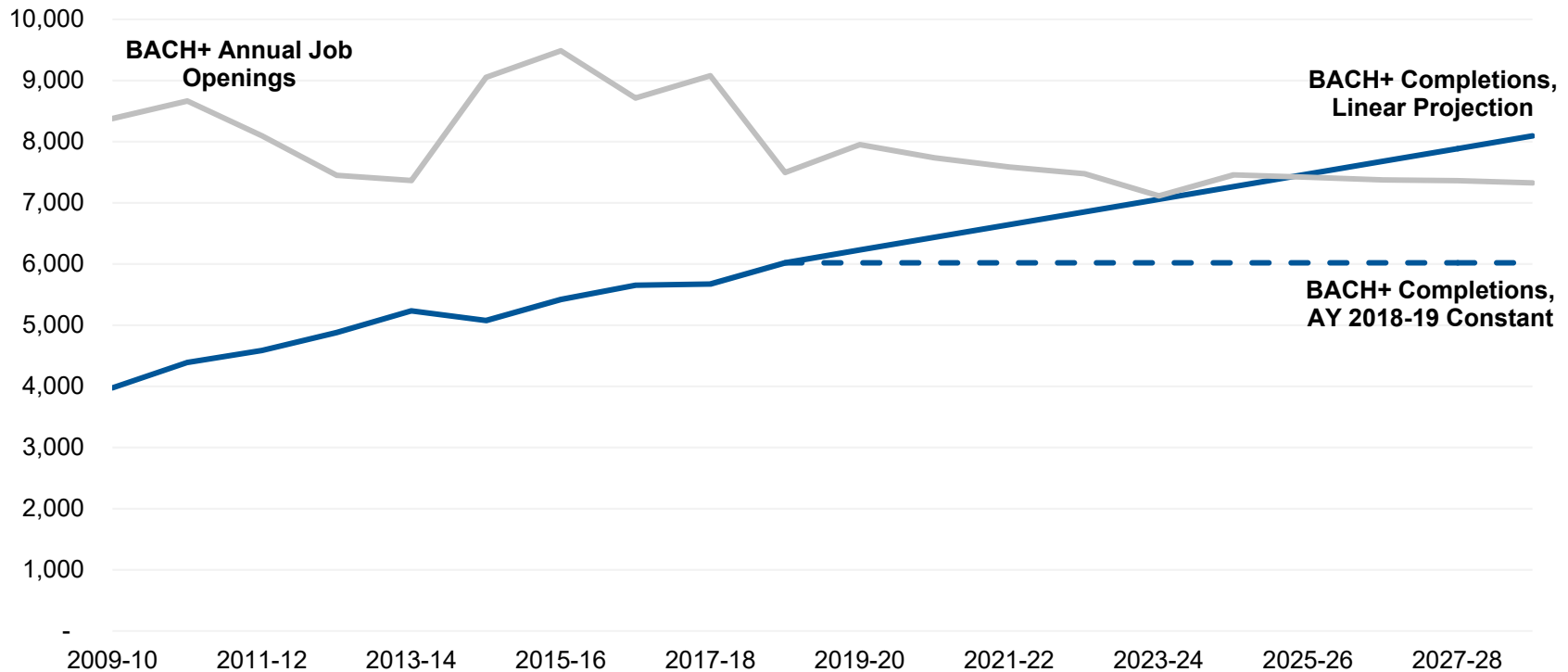
Likewise, Kentucky's wages for the same occupations were not as competitive in 2009, except for the wages for pharmacists. Notably, the wages for nurse practitioners have increased considerably in the last 10 years.

Job Postings for Nurses



Registered nurses are the most represented nursing occupation in statewide job postings with about 9,400 monthly postings, on average, from March 2019 to February 2020. Recent monthly postings decreased by 29%, whereas recent monthly postings for LPNs increased by 10%.

Job Openings and Graduates in Healthcare in Kentucky

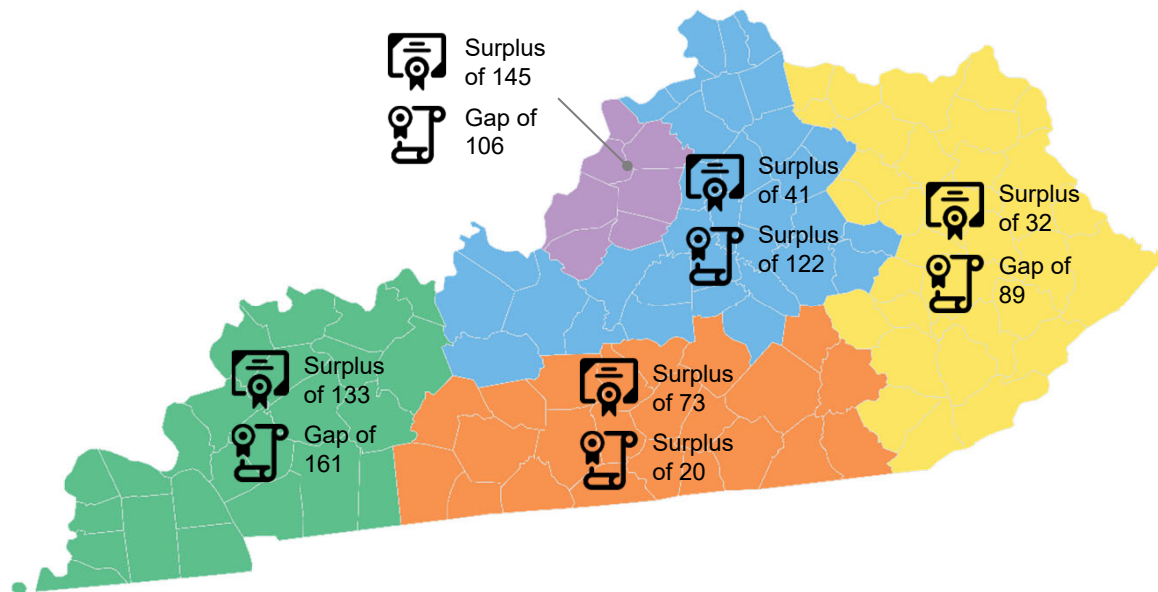


Source: Emsi Employees & Self-Employed 2020.2 and KY CPE Data and Advanced Analytics Team.



Two methods are used to project future healthcare degrees (BACH+) awarded by the state's institutions. Regardless of the method, there will be a gap between degree completions and annual job openings until at least 2024.

Registered Nursing Program Overview



Gaps and Surpluses between Job Openings and Program Completions by Region



AWARD LEVELS

-  Certificate and associate degree (CERT+)
-  Bachelor's, master's, and doctoral degrees (BACH+)

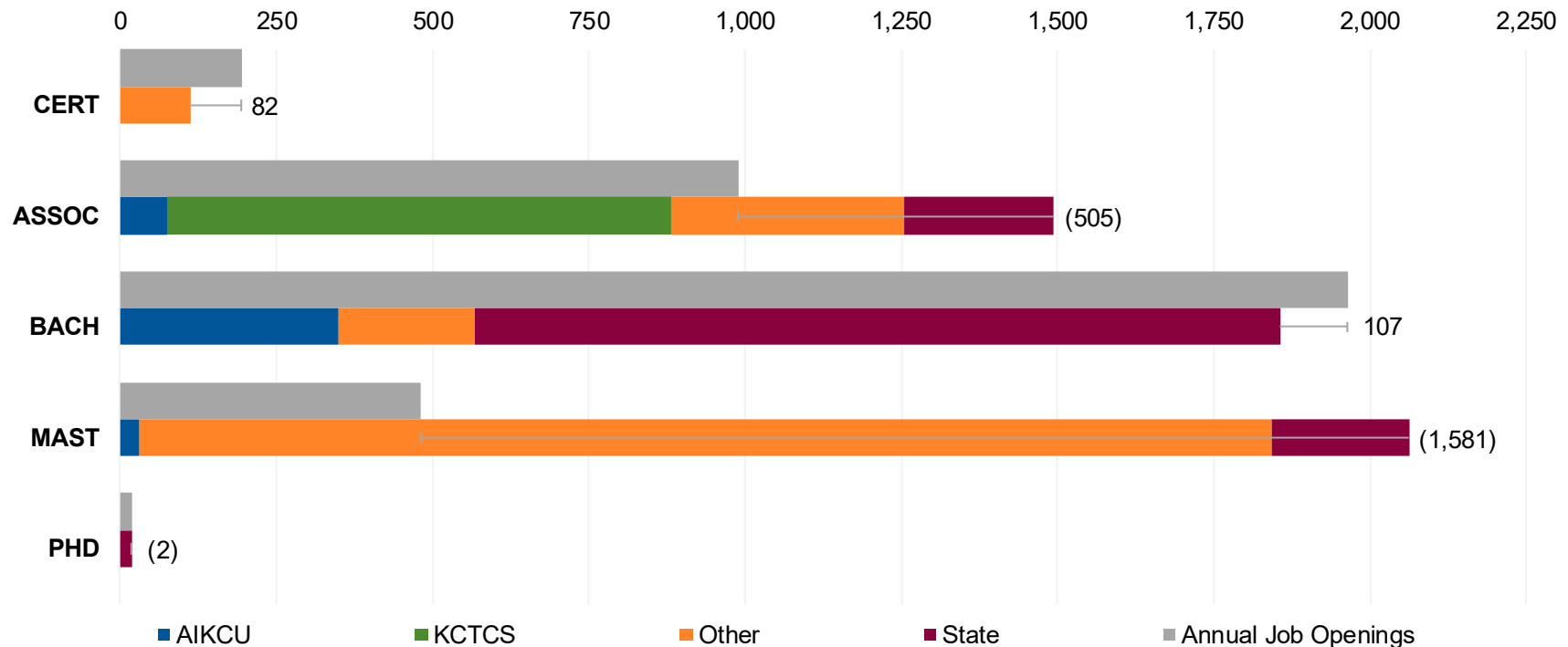
KY GAP OR SURPLUS

-  Surplus of 422
-  Surplus of 1,475

Program Demand Gap Analysis

- At the certificate level, Registered Nursing programs are only offered by licensed out-of-state schools (“Other”)
 - Low demand, low supply
- Half of the state’s Registered Nursing program completers are awarded an associate degree by a KCTCS institution
 - Moderate demand, high supply
- 7 out of 10 Registered Nursing program completers are awarded a bachelor’s degree by a state university
 - High demand, high supply
- Every year, licensed out-of-state schools produce 1,800 master’s degree level Registered Nursing program graduates
 - Low demand, high supply

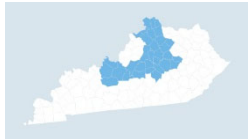
Kentucky Nursing Program Completions by Sector



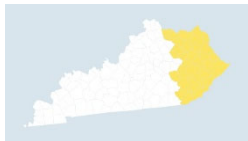
Source: Emsi program demand gap model.

The state's Registered Nursing programs (CIP 51.3801) have large surpluses of program completers at the associate and master's degree levels. The master's degree surplus is attributable to the completions from licensed out-of-state schools.

Program Demand Gap Analysis



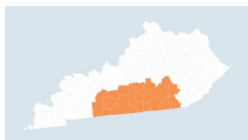
The Central WPR supports lots of jobs for RNs but still has too many program completers.



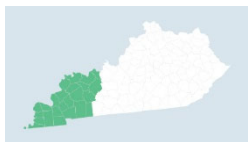
In the East WPR, the top gap programs at the bachelor's degree level are all nursing-related, indicating a need for RNs, as well as medical & health services managers.



The Kentuckiana LWA has a need for RNs with bachelor's and master's degrees.



The South WPR is offering nursing programs well-aligned to the regional labor market, with no programs facing a large gap or surplus.



In the West WPR, nursing programs should be expanded at the bachelor's degree level and above.

Statewide Program Recommendations

<p>HIGH DEMAND, LOW SUPPLY</p> <p><i>How can we expand these program opportunities?</i></p> <p>Nursing Education (BACH+)</p>	<p>HIGH DEMAND, HIGH SUPPLY</p> <p><i>How can we maintain focus on program quality & student success?</i></p> <p>Emergency Medical Technology/Technician (CERT+)</p>
<p>LOW DEMAND, LOW SUPPLY</p> <p><i>Should we discontinue these programs?</i></p> <p>Emergency Medical Technology/Technician (BACH+)</p>	<p>LOW DEMAND, HIGH SUPPLY</p> <p><i>Can we consolidate or reduce enrollment in these programs?</i></p> <p>Family Practice Nursing (BACH+)</p> <p>Licensed Practical/Vocational Nurse Training (CERT+)</p> <p>Nursing Midwifery (BACH+)</p> <p>Registered Nursing/Registered Nurse (MAST & CERT+)</p>

Source: Emsi program demand gap model.

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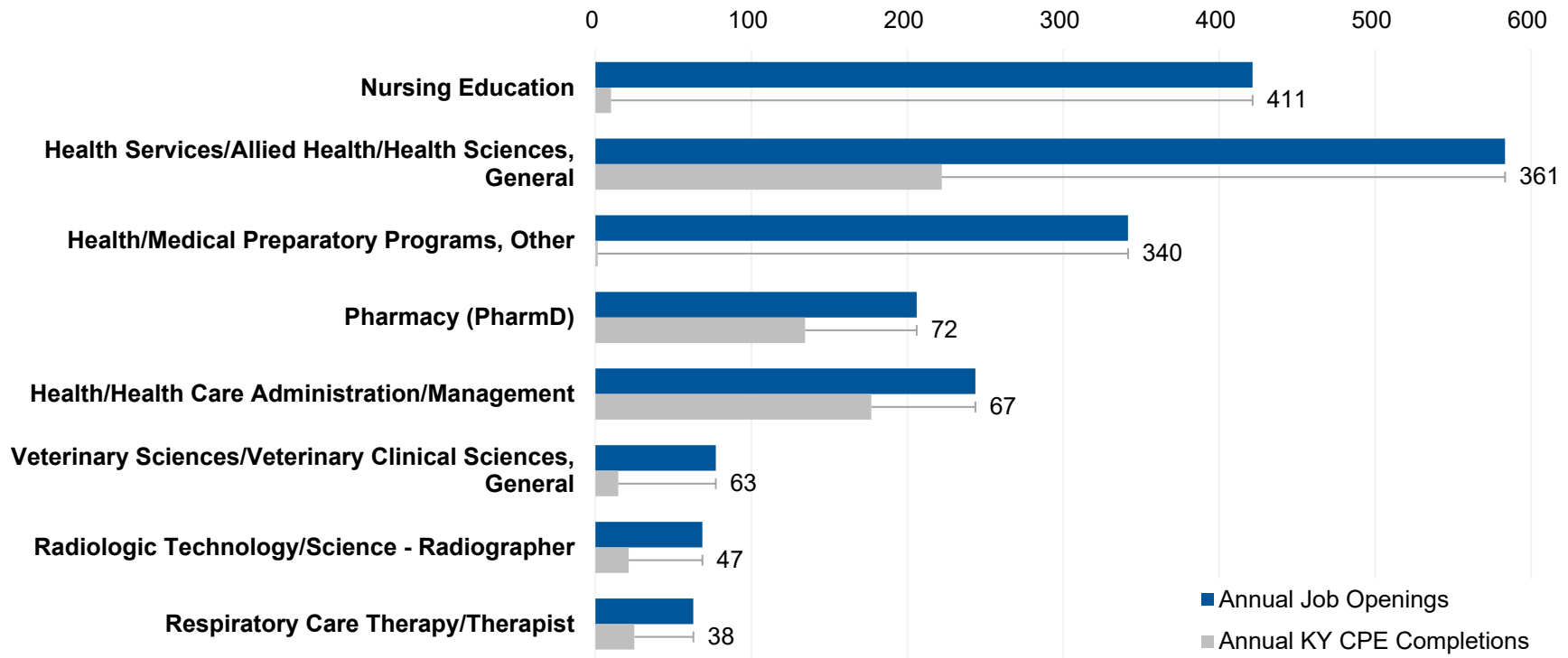


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Job Openings and Graduates in Healthcare in Kentucky



Source: Emsi program demand gap model.

The Nursing Education program has the largest gap between annual job openings and completions among all BACH+ programs. The gap can be filled by experienced registered nurses looking to become nursing instructors. Pharmacists and healthcare administrators are also in high demand.

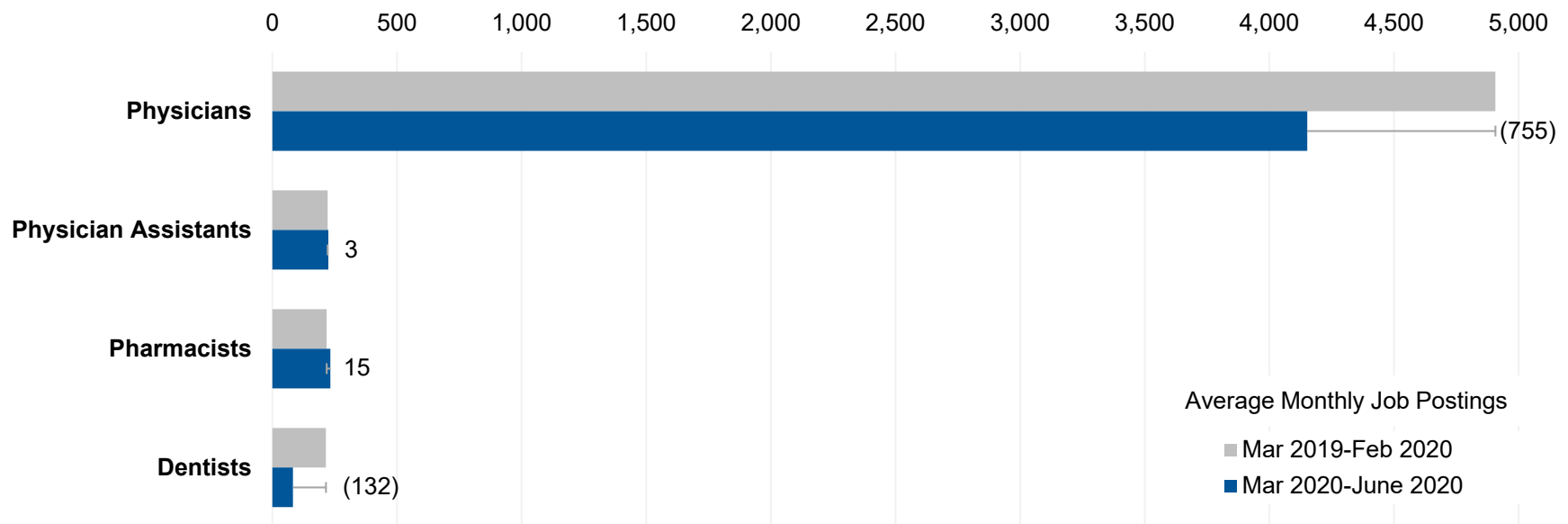
Job Postings for Healthcare

OCCUPATION GROUP	AVG. MONTHLY POSTINGS, MAR 2019-FEB 2020	AVG. MONTHLY POSTINGS, MAR 2020-JUN 2020	CHANGE	% CHANGE
 Direct care workers & nurses	13,328	10,588	-2,740	-21%
 Medical doctors	5,347	4,610	-737	-14%
 Clinical practitioners	2,782	2,779	-3	<-1%
 Athletic trainers & physical therapists	2,283	970	-1,313	-58%
 Medical administrators	1,373	1,218	-155	-11%
 Mental & social healthcare workers	1,343	1,251	-92	-7%
 Hearing, speech, & vision health workers	931	763	-168	-18%
 Dental health workers	441	264	-177	-40%
 Veterinary medicine workers	126	158	32	25%

Source: Emsi Job Postings.

Direct care workers and nurses are the most represented occupational group in Kentucky's healthcare job postings. Recent monthly postings for athletic trainers and physical therapists decreased by 58%, whereas postings for veterinary medicine workers increased by 25%.

Job Postings for Doctors



In Kentucky job postings, physicians are the most represented occupation among doctors and medical professionals with about 5,000 monthly postings, on average, from March 2019 to February 2020. Recent monthly postings decreased by 15%, and those for dentists decreased by 61%.

Job Postings for Doctors



JOB TITLE	TOTAL UNIQUE POSTINGS, MAR 2020-JUN 2020	POSTING RANK, PRE-COVID	MEDIAN POSTING DURATION, MAR 2020-JUN 2020	MEDIAN POSTING DURATION, PRE-COVID
Physicians	1,061	1	32 days	31 days
Family Practice Physicians	344	2	31 days	29 days
Physician Assistants (PA)	233	4	34 days	24 days
Pharmacists	209	3	46 days	41 days
Surgeons	206	5	27 days	45 days
Cardiologists	110	6	18 days	35 days
Registered Nurses	83	9	42 days	48 days
Hospitalists	83	8	11 days	30 days
Medical Science Liaisons	72	10	30 days	33 days
Nurse Practitioners	72	7	53 days	34 days

Source: Emsi Job Postings. Pre-COVID is defined as March 2019–February 2020.

In Kentucky job postings, physicians are the most requested job title among doctors and medical professionals. Registered nurses increased in job posting rank from March 2020-June 2020 compared to their pre-COVID rank.