

Arizona Health Workforce Profile: Physician Specialty

The purpose of this brief is to understand the physician workforce by specialty in Arizona, the percentage of each specialty who completed their undergraduate medical education (UME) in Arizona, and how those specialties are distributed across rural and non-rural Arizona.

This brief uses 2019 physician licensure data from the Arizona Medical Board and the Arizona Board of Osteopathic Examiners and includes physicians with an active license status and a practice address in Arizona. Physician self-report areas of interest (AOIs) in the licensure process. AOIs do not represent board certification. These AOIs were matched to the specialties reported by the Association of American Medical Colleges (AAMC) in their State Physician Workforce Data Report.¹

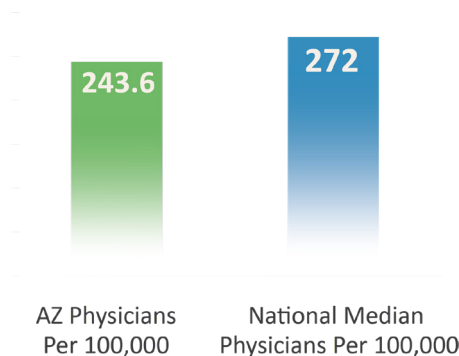


In 2019 there were 17,180 physicians with active licenses and an Arizona practice address

In 2019, the ratio of physicians per 100,000 was 243.6. The AAMC estimates the national median ratio of physicians per 100,000 is 272.0²

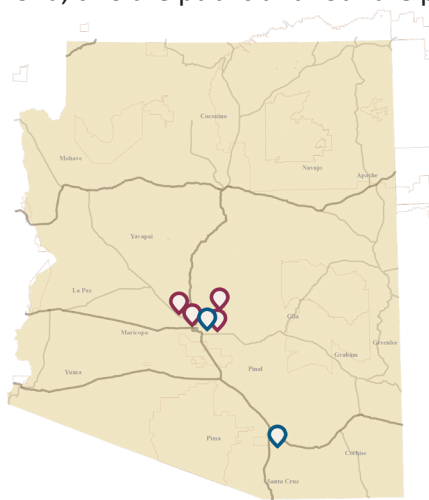
BACKGROUND

- Currently Arizona meets just 37% of its primary care needs and needs 653 primary care providers to address the primary care shortage²
- In the prior twenty years, Arizona's population has increased significantly by over 2 million between 2000 and 2021⁴
- Arizona ranks 12th highest by state in terms of population over 65 years old (in 2000 Arizona ranked 22nd)⁵
- The COVID-19 pandemic has strained the physician and health workforce. According to the Coping With Covid study, 31% of physicians intended to reduce hours in the next 12 months⁶



ARIZONA UNDERGRADUATE MEDICAL EDUCATION

There are six Undergraduate Medical Education institutions in Arizona, two are public and four are private.



Public

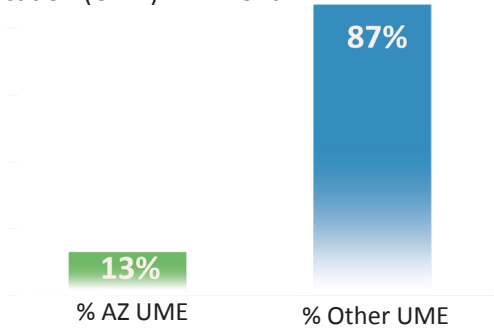
- University of Arizona College of Medicine – Tucson
- University of Arizona College of Medicine – Phoenix

Private

- A.T. Still University School of Osteopathic Medicine - Mesa
- Creighton University School of Medicine - Phoenix
- Mayo Clinic Alix School of Medicine - Scottsdale
- Midwestern University Arizona College of Osteopathic Medicine - Glendale



Of licensed physicians with an Arizona practice address, 13% received the undergraduate medical education (UME) in Arizona.



FIVE SPECIALTIES WITH THE HIGHEST NUMBER OF PHYSICIANS REPORTING UME IN ARIZONA

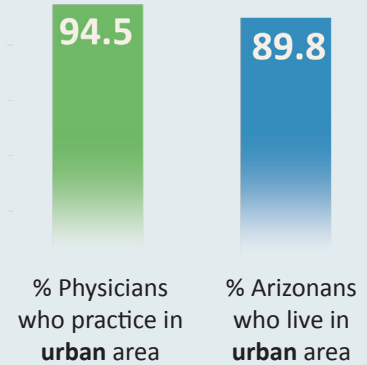
- Family Medicine/General Practice (445)
- Internal Medicine (243)
- Emergency Medicine (239)
- Pediatrics (221)
- Anesthesiology (171)

RURAL PRACTICE LOCATION

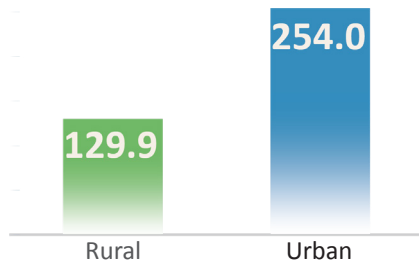
A lower percent physicians work in rural areas compared to the percent of Arizonans who live in rural areas.



A higher percent physicians work in urban areas compared to the percent of Arizonans who live in urban areas.



The ratio of physicians per 100,000 population in urban Arizona is 254.0 compared to 129.9 in rural Arizona

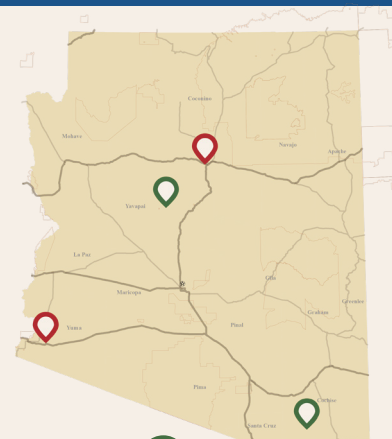


FIVE SPECIALTIES WITH THE HIGHEST NUMBER OF PHYSICIANS REPORTING A RURAL PRACTICE LOCATION

- Family Medicine/General Practice (245)
- Emergency Medicine (120)
- Internal Medicine (102)
- General Surgery (50)
- Pediatrics (49)

RESIDENCY (GRADUATE MEDICAL EDUCATION)

- In 2022, 95% of available residency training positions were filled in Arizona. In 2021, 98% of available residency training positions were filled in Arizona⁸
- Only 2 of the 15 residency sponsoring institutions are located outside of Phoenix or Tucson, Yuma Regional Medical Center (Yuma) and North Country HealthCare (Flagstaff). Midwestern University GME programs include Emergency Medicine and Family Medicine programs in Kingman, Family Medicine and Internal Medicine programs in Sierra Vista, and Internal Medicine program in Cottonwood⁸



Residency with specialty Programs (green icon) Residency Programs (red icon)



METHODS & DATA

This analysis uses data from the state licensing boards and includes physicians with an active license and with an Arizona practice address. This data is likely an overestimate of physician supply as licensure data does not indicate if a physician is in active clinical practice, only that they maintain an active license. This data does not include physicians who may be licensed in other states and working at federal facilities. Self-reported areas of interest (AOIs) in the licensure data do not represent board certification. The process of categorizing the AOIs to match the AAMC list of specialties is imperfect. For details on the specialty alignment process please contact Bryna Koch, DrPH at brynak@arizona.edu The AzCRH maintains our own system of AOI/specialty categorization based on data from the AAMC, the American Board of Medical Specialties (ABMS).

Population estimates used in the analysis are from the U.S. Census American Community Survey 2019. The rural classification is the Rural Urban Commuting Areas (RUCA). This classification is a sub-county level definition of rural using “population density, urbanization, and daily commuting.”⁹ Physician practice addresses were geo-coded to their census tract, and the RUCA to tract cross-walk was used to identify that tract by the RUCA.

Residency data is from the National Resident Matching Program⁸.

References

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TABLE 1. ARIZONA PHYSICIANS BY SPECIALTY

Specialties	AZ Physicians 2019		Specialties	AZ Physicians 2019	
	Total	Ratio per 100,000		Total	Ratio per 100,000
All Specialties - U.S.		272.0			
All Specialties - AZ	17180	243.6	Obstetrics & Gynecology	787	11.2
Allergy & Immunology	67	0.9	Ophthalmology	335	4.7
Anatomic/Clinical Pathology	350	5.0	Orthopedic Surgery	584	8.3
Anesthesiology	1184	16.8	Otolaryngology	202	2.9
Cardiovascular Disease	530	7.5	Pain Medicine & Pain Management	60	0.9
Child & Adolescent Psychiatry	91	1.3	Pediatric Anesthesiology	52	0.7
Critical Care Medicine	109	1.5	Pediatric Cardiology	47	0.7
Dermatology	315	4.5	Pediatric Critical Care Medicine	75	1.1
Emergency Medicine	1094	15.5	Pediatric Hematology & Oncology	46	0.7
Endocrinology, Diabetes & Metabolism	121	1.7	Pediatrics	1208	17.1
Family Medicine/General Practice	2295	32.5	Physical Medicine & Rehabilitation	193	2.7
Gastroenterology	319	4.5	Plastic Surgery	192	2.7
General Surgery	667	9.5	Preventive Medicine	91	1.3
Geriatric Medicine	133	1.9	Psychiatry	746	10.6
Hematology & Oncology	260	3.7	Pulmonary Disease	252	3.6
Infectious Disease	130	1.8	Radiation Oncology	127	1.8
Internal Medicine	2123	30.1	Radiology & Diagnostic Radiology	863	12.2
Internal Medicine/Pediatrics	123	1.7	Rheumatology	87	1.2
Interventional Cardiology	39	0.6	Sports Medicine Orthopedic Surgery	1	0.0
Neonatal-Perinatal Medicine	38	0.5	Thoracic Surgery	79	1.1
Nephrology	219	3.1	Urology	231	3.3
Neurological Surgery	123	1.7	Vascular & Interventional Radiology	4	0.1
Neurology	399	5.7	Vascular Surgery	41	0.6
Neuroradiology	5	0.1	Other	143	2.0

Source: Arizona Licensing Board Data 2019

TABLE 2. ARIZONA PHYSICIANS BY SPECIALTY & UME LOCATION

Licensed Physicians 2019

Licensed Physicians 2019 cont.

Specialties	All	#, % AZ UME	#, % Other UME	Specialties	All	#, % AZ UME	#, % Other UME
All Specialties	17180	2300, 13%	14880, 87%		787	122, 16%	665, 84%
Allergy & Immunology	67	5, 7%	62, 93%	Obstetrics & Gynecology	335	30, 9%	305, 91%
Anatomic/Clinical Pathology	350	36, 10%	314, 90%	Ophthalmology	584	76, 13%	508, 87%
Anesthesiology	1184	171, 14%	1013, 86%	Orthopedic Surgery	202	20, 10%	182, 90%
Cardiovascular Disease	530	27, 5%	503, 95%	Otolaryngology	60	11, 18%	49, 82%
Child & Adolescent Psychiatry	91	10, 11%	81, 89%	Pain Medicine & Pain Management	52	7, 13%	45, 87%
Critical Care Medicine	109	1, 1%	108, 99%	Pediatric Anesthesiology	47	3, 6%	44, 94%
Dermatology	315	58, 18%	257, 82%	Pediatric Cardiology	75	4, 5%	71, 95%
Emergency Medicine	1094	239, 22%	855, 78%	Pediatric Critical Care Medicine	46	1, 2%	45, 98%
Endocrinology, Diabetes & Metabolism	121	8, 7%	113, 93%	Pediatric Hematology & Oncology	1208	221, 18%	987, 82%
Family Medicine/General Practice	2295	445, 19%	1850, 81%	Pediatrics	193	22, 11%	171, 89%
Gastroenterology	319	15, 5%	304, 95%	Physical Medicine & Rehabilitation	192	25, 13%	167, 87%
General Surgery	667	73, 11%	594, 89%	Plastic Surgery	91	15, 16%	76, 84%
Geriatric Medicine	133	17, 13%	116, 87%	Preventive Medicine	746	97, 13%	649, 87%
Hematology & Oncology	260	15, 6%	245, 94%	Psychiatry	252	17, 7%	235, 93%
Infectious Disease	130	7, 5%	123, 95%	Pulmonary Disease	127	13, 10%	114, 90%
Internal Medicine	2123	243, 11%	1880, 89%	Radiation Oncology	863	102, 12%	761, 88%
Internal Medicine/Pediatrics	123	23, 19%	100, 81%	Radiology & Diagnostic Radiology	87	4, 5%	83, 95%
Interventional Cardiology	39	3, 8%	36, 92%	Rheumatology	1	0, 0%	1, 100%
Neonatal-Perinatal Medicine	38	0, 0%	38, 100%	Sports Medicine Orthopedic Surgery	79	3, 4%	76, 96%
Nephrology	219	11, 5%	208, 95%	Thoracic Surgery	231	25, 11%	206, 89%
Neurological Surgery	123	3, 2%	120, 98%	Urology	4	0, 0%	4, 100%
Neurology	399	46, 12%	353, 88%	Vascular & Interventional Radiology	41	5, 12%	36, 88%
Neuroradiology	5	1, 20%	4, 80%	Vascular Surgery	143	20, 14%	123, 86%
				Other			

Source: Arizona Licensing Board Data 2019

TABLE 4. 2021 & 2022 RESIDENCY MATCH DATA FOR ARIZONA RESIDENCY PROGRAMS BY SPECIALTY

	2021		2022	
	Number Positions in the Match	Number Filled	Number Positions in the Match	Number Filled
Anesthesiology (PGY-1)	3	3	4	4
Anesthesiology (PGY-2)	12	12	13	13
Anesthesiology (Physician)	2	2	3	3
Child Neurology (PGY-1)	3	3	4	4
Dermatology (PGY-1)	2	2	2	2
Dermatology (PGY-2)	4	4	5	5
Emergency Medicine (PGY-1)	33	33	49	49
Family Medicine (PGY1)	66	66	73	63
Internal Medicine (PGY-1)	131	130	165	162
Internal Medicine/Pediatrics (PGY-1)	6	6	6	6
Interventional Radiology (Integrated) (PGY-2)	1	1	3	3
Neurological Surgery (PGY-1)	6	6	6	6
Neurology (PGY-1)	16	16	21	21
Neurology (PGY-2)	3	3	-	-
Obstetrics and Gynecology (PGY-1)	13	13	22	22
Orthopaedic Surgery (PGY-1)	10	10	11	11
Otolaryngology (PGY-1)	4	4	4	4
Pathology (PGY-1)	4	4	4	4
Pediatrics (PGY-1)	52	50	54	54
Pediatrics/Emergency Medicine (PGY-1)	3	3	3	3
Physical Medicine Rehabilitation (PGY-2)	2	2	2	2
Plastic Surgery (Integrated) (PGY-1)	1	1	1	1
Psychiatry (PGY-1)	18	18	24	24
Radiation Oncology (PGY-1)	1	1	1	0
Radiation Oncology (PGY-2)	2	2	1	1
Radiology-Diagnostic (PGY-1)	2	2	2	2
Radiology-Diagnostic (PGY-2)	11	11	19	19
Surgery (PGY-1)	44	37	63	51
Transitional Year (PGY-1)	26	26	26	26
Vascular Surgery (PGY-1)	1	1	1	1
Total	482	472	592	566

Source: National Resident Matching Program, Results and Data: 2022 Main Residency Match® Program Results.⁸

Note: The increase in total residency positions between 2021 (482) and 2022 (592) is largely driven by a change in how the Creighton University Arizona GME programs were reported. From 2017-2021 these slots (99 total in 2021) were reported under Nebraska. In 2022, these programs and slots were reported under Arizona.



TABLE 5.
2021 & 2022 RESIDENCY QUOTAS & MATCHED POSITIONS FOR ARIZONA RESIDENCY PROGRAMS, 2021-2022

Program Institution	2021		2022	
	Residency Quotas	Matched	Residency Quotas	Matched
Abrazo Health Network - AZ	44	44	45	44
Barrow Neurological Institute at SJHMC-AZ	11	11	11	11
Creighton University Affiliated Hospitals - AZ	0	0	0	0
Creighton University -AZ	80	79	100	88
HonorHealth - AZ	25	25	26	26
Maricopa Medical Center	0	0	0	0
Mayo Clinic School of Graduate Medical Education - AZ	37	37	43	42
Midwestern University OPTI-AZ	39	38	8	31
North Country HealthCare -AZ	4	4	1	4
Phoenix Children’s Hospital - AZ	37	37	40	40
Tucson Hospitals Med Ed-AZ	17	15	17	7
U Arizona COM-Phoenix	84	81	79	79
U Arizona COM - South Campus	24	24	14	12
U Arizona COM - Tucson	113	109	123	122
Yuma Regional Medical Center	8	8	8	7

Source: National Resident Matching Program, Results and Data: 2022 Main Residency Match® Program Results.⁸

