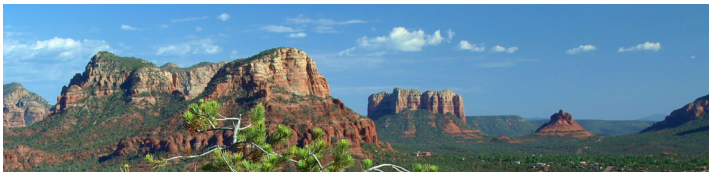

Arizona Rural Health Workforce Trend Analysis 2007 - 2010

A report prepared for the

THE UNIVERSITY OF ARIZONA | ARIZONA AHEC Area Health Education Centers Program

Joe Tabor, and Howard J. Eng
Center for Rural Health
Mel and Enid Zuckerman College of Public Health
The University of Arizona | June 2012

MEL AND ENID ZUCKERMAN COLLEGE OF PUBLIC HEALTH
THE UNIVERSITY OF ARIZONA

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EXECUTIVE SUMMARY

Access to health care services is a top priority for policy makers at federal, state, and local levels. How the health care workforce is distributed affects access to care, particularly in rural and remote areas of the state. To that end, the Arizona Area Health Education Centers Program (AzAHEC) invested in this study that examined the extent to which the state's health care workforce distribution has changed over time. The AzAHEC asked researchers at the Center of Rural Health in the Mel and Enid Zuckerman College of Public Health to study workforce distribution trends from 2007 to 2010 and to offer conclusions and recommendations that might impact AzAHEC and the State of Arizona strategic approaches. This report provides state, rural and urban health care provider distribution comparisons and multi-year trends that can be used to review policies and programmatic practices.

The health professions examined in this report were physicians (primary care specialists, non-primary care specialists, obstetrics-gynecologists, and psychiatrists), physician assistants, nurses (certified registered nurse anesthetists, nurse practitioners, certified nurse midwives, clinical nurse specialists, registered nurses, licensed practical nurses, and certified nurse assistants), dentists (general and specialist), registered dental hygienists, pharmacists, pharmacy technicians, psychologists, and emergency medical technicians.

This report presents workforce data that was acquired from Arizona licensing boards, or indirectly from Arizona Department of Health Services. Table summaries of active licensed professionals from 2007 to 2010 are presented statewide, by counties, and by ruralness classification for each health profession. Graphs of workforce trends are presented from 2000 to 2010.

The rural areas of Arizona have proportionally less health professionals than urban areas for all the professions analyzed except for certified nursing assistants and emergency medical technicians.

Nearly a third of all physicians in Arizona are primary care providers, totaling 5,099 in 2010. The numbers and coverage per 100,000 population of primary care providers (physicians, physician assistants, and nurse practitioners) have increased in urban and rural Arizona from 2007 to 2010. Over the 4 year period there was more than double the percent growth in numbers and coverage for physician assistants (26% in numbers and 21% in coverage) and nurse practitioners (29% in numbers and 24% in coverage) than for primary care physicians (12% in numbers and 8% in coverage). The growth in certified registered nurse anesthetists, and clinical nurse specialists from 2007 to 2010 was around 20 percent. The number of certified nurse midwives decreased 3 percent from 144 to 140 active licenses. The number of registered nurses increased 4 percent to 55,936, licensed practical nurses decreased 7 percent to 8,846, and certified nurse assistants increased 16 percent to 24,564.

The 2010 coverage of 55 dentists per 100,000 population decreased 1 percent statewide from the 2007 coverage. The coverage of dental hygienists increased statewide by 8 percent.

The numbers and coverage per 100,000 of pharmacists and pharmacy technicians increased in rural and urban Arizona from 2007 to 2010. Psychologist coverage was relatively unchanged between 2007 and 2010 with rural areas having around 8 psychologists per 100,000 population and urban areas having 25 per 100,000 in 2010. The coverage of emergency medical technicians increased 5 percent to 259 per 100,000 in 2010.

SECTION 1: INTRODUCTION

Congressional passage of the Patient Protection and Affordable Care Act of 2010 (PPACA) brings with it a measure of health reform in the country that will rapidly increase the demand for health care as well as training programs in health information technology adoption. By 2014 when the Act moves fully into effect, Arizona's health workforce will experience a higher demand for patient care, pressure to adopt electronic health records and electronic health record exchange systems.

In addition to increased demand for health care services, the retirement of 'baby boomers' will further stress the health care system. For example, 51 percent of Arizona's practicing physicians are over 50 years old[1] with a larger proportion of this age group practicing in rural counties[2]. The rates of retirement will be different between health care professions and specialties. Effectively replacing this retiring workforce will require a nuanced approach resulting from evidence and informed action.

Workforce studies will be needed to periodically examine the effects of the PPACA on access to health care in rural and remote areas of the state. Examples include rural health workforce distribution, the impact of health facility expansions (e.g., Arizona's 16 Federal Qualified Health Centers and their satellites, rural health clinics, and small hospitals) on rural health workforce, the effects of the aging of rural populations on the demand of health services, the impact of the aging health workforce on the delivery of rural health care, and the effects of health technology on workforce needs.

Care needs to be exercised by users of this report when comparing estimates of workforce coverage with estimates from different studies due to issues related to differences in data sources and quality, classification and aggregation of specialties, licensing requirements, estimates of full-time equivalent work (FTE) from number of active licenses, and productivity of workers.

The data in this report was acquired from Arizona licensing boards or acquired indirectly from Arizona Department of Health Services. Table summaries of active licensed professionals from 2007 to 2010 are presented statewide, by counties, and by four ruralness categories. The rural areas of Arizona have proportionally less health professionals than urban areas for all the professions analyzed except for certified nursing assistants and emergency medical technicians (Table 1.1). Graphs of workforce trends are presented from 2000 to 2010.

1.1. Rural and Urban Definitions

Rural definitions are used to identify rural people, places, and /or health care providers. Methods for defining *rural* are based on geographic units that are sometimes combined with population or provider characteristics. There is no single, universally preferred definition of rural, nor can a single rural definition serve all policy issues.

There are demographic differences between urban and rural areas. Also, there are generally fewer health resources available in rural areas than urban areas. Nationally, there are several definitions of rural used. Rural definitions include those defined by:

- The U.S. Census Bureau bases rurality on a combination of population density, relationship cities, and population size.
- The Office of Management and Budget (OMB) classifies counties on the basis of their population size and integration with large cities.
- Goldsmith and Associates modified the OMB's definition to include parts of large metropolitan counties that are

small town or open-county and without easy geographical access to central areas.

- The U.S. Department of Agriculture bases rurality on a rural typology that provides a way to identify groups of U.S. non-metropolitan counties sharing important economic and policy traits.
- The U.S. Administration on Aging combines the identification of urbanized areas as defined by the U.S. Census Bureau and postal zip code boundaries to classify all zip code areas as either urban or rural.
- The State of Arizona defines rural as (1) a county with a population less than 400,000 persons according to the most recent United States decennial census, and (2) a census county division with less than 50,000 persons in a county with a population of 400,000 or more persons according to the most recent United States decennial census.[3]
- University of Washington Rural Urban Commuting Areas (RUCAs) defines degrees of rural and urban by their proximity to urban areas and the portion of the populations that commute from rural to urban areas.[4] This is the rural classification system used in this report.

In addition to urban and rural designations, the U.S. Department of Health and Human Services, Health Resources and Services Administration identifies *frontier* areas for federal funding purposes. Frontier areas are "the most isolated, rural settled places along the rural-urban continuum, with residents far from health care, schools, grocery stores, and other necessities."[5] Several working definitions of frontier areas exist, one definition is "ZIP code areas whose calculated population centers are more than 60 minutes or 60 miles along the fastest paved road trip to a short-term nonfederal general hospital of 75 beds or more, and are not part of a large rural town with a concentration of over 20,000 population."[6] A simpler definition is "places having a population density of six or fewer people per square mile."[7]

Funding availability for rural areas is highly dependent on which definition is used. Some funding sources include:

- Rural Health Outreach Grant Program creates models of outreach and health care delivery services in rural areas.
- Rural Health Network Development Grant Program develops an integrated healthcare network in rural communities.
- Medicare Rural Flexibility Hospital Grant Program helps to stabilize and improve access to America's smallest and most vulnerable rural hospitals.
- Small Rural Hospital Improvement Grant supports small rural hospitals with the implementation of projects involving the prospective payment system, the Health Insurance Portability and Accountability Act (HIPAA), and/or the improvement of overall hospital quality performance.[8]

The type of rural definition used can affect whether or not a community is designated as a *medically underserved area* (MUA), *medically underserved population* (MUP), and *health professional shortage area* (HPSA). These designations affect the placement of National Health Service Corp health personnel and J-1 Visa physicians and reimbursements for nurse practitioners, physician assistants, and nurse midwives for rural health clinics.

Rural-urban commuting areas (RUCA) used in this study were based on postal zip codes (Map 1.1) from self-reported addresses that professionals provided the licensing boards during applications or renewals. The four classes of RUCAs used are: (1) urban areas (e.g., Phoenix), (2) areas around and including large rural towns (e.g., Payson), (3) areas around and including small rural towns (e.g., Chinle), and (4) isolated areas around and including small rural towns (e.g., Ashfork and Tombstone). These

four categories are commonly used for health related projects. It divides urban and rural areas approximately the same way as the US Office of Management and Budget's metro classification.

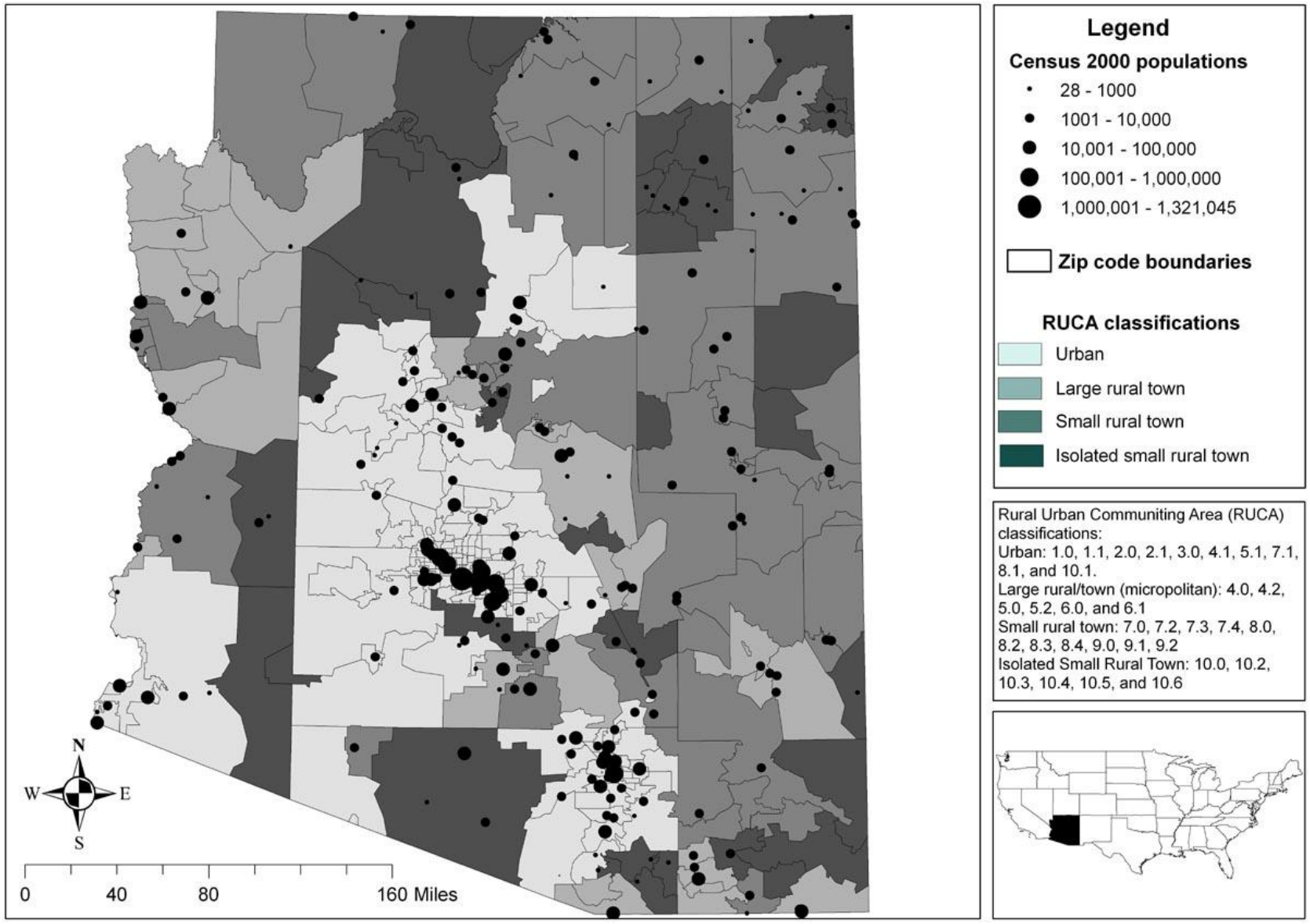
Population estimates by zip codes were provided by the US Census and Nielsen-Claritas, a marketing research company.

Table 1.1. Relative comparison of the distribution of Arizona's health professionals in 2010 by ruralness using rural-urban commuting areas classification system with the US-Census populations. (Percentages in italic red font indicate health professionals that are less than the relative percentage of population served in each ruralness category.)

2010 Arizona health professionals and population served	Total statewide number of professionals and population	Percent of professionals and population distributed by ruralness categories (RUCA)			
		Urban	Large rural towns	Small rural towns	Isolated small rural towns
Physicians, all	14,839	91.6%	*4.8%*	*3.1%*	*0.5%*
Physicians, primary care specialties	5,106	88.9%	*6.0%*	*4.0%*	*1.1%*
Physicians, other specialties	9,733	93.0%	*4.3%*	*2.6%*	*0.2%*
Physicians, obstetrics and gynecology specialties*	784	90.5%	*5.6%*	*3.7%*	*0.1%*
Physicians, psychiatric specialties	748	94.0%	*3.5%*	*2.0%*	*0.5%*
Physician assistants	1,833	85.7%	7.6%	5.9%	*0.8%*
Certified registered nurse anesthetists	310	85.5%	8.1%	*5.5%*	*1.0%*
Nurse practitioners	2,957	90.2%	*5.1%*	*3.5%*	*1.2%*
Certified nurse midwives*	140	*85.0%*	*2.9%*	11.4%	*0.7%*
Clinical nurse specialists	122	95.9%	*2.5%*	*1.6%*	*0.0%*
Registered nurses	55,936	89.6%	*5.9%*	*3.9%*	*0.7%*
Licensed practical nurses	8,846	88.2%	*7.2%*	*3.5%*	*1.1%*
Certified nurse assistants	24,564	*81.3%*	9.8%	7.2%	1.7%
Dentists, all	3,558	91.8%	*4.6%*	*3.4%*	*0.2%*
Dentists, generalists	2,907	90.9%	*5.0%*	*3.9%*	*0.2%*
Dentists, specialists	651	95.9%	*2.6%*	*1.4%*	*0.2%*
Dental hygienists	3,200	91.4%	*4.5%*	*3.4%*	*0.7%*
Pharmacists	5,933	93.4%	*3.8%*	*2.3%*	*0.5%*
Pharmacy technicians	8,679	91.1%	*5.3%*	*3.1%*	*0.5%*
Psychologists	1,424	94.9%	*2.2%*	*2.1%*	*0.7%*
Emergency medical technicians	16,619	*80.5%*	9.5%	7.6%	2.4%
Census, total population	6,391,933	85.0%	7.4%	5.9%	1.7%
Census, women 15 to 44 years of age*	1,262,543	87.5%	6.1%	5.0%	1.4%

* Professions serving women of child bearing age

Map 1.1. Location of rural-urban commuting areas (RUCA) based on postal zip code geography.



SECTION 2: ARIZONA CHARACTERISTICS

2.1. Geography

Arizona is divided into only 15 counties and they are much larger than counties and parishes in other states (Table 2.1). Arizona is bordered to the north by Nevada and Utah, to the east by New Mexico, and to the west by California. It is one of the four states in the US that borders Mexico. Arizona's culture and history are replete with influences assimilated from the Spanish Empire to Mexican, Central and South American immigrants. Native Americans from 21 federally recognized American Indian tribes[9] reside in Arizona and includes those from the Navajo nation, the largest on-reservation population in the United States that also occupies portions of Utah and New Mexico.

Table 2.1. Arizona counties and comparable states and countries by area.

County (sq miles)		State equivalent (sq miles)		Country equivalent (sq miles)	
Apache County	11,218	Hawaii	10,931	Solomon Islands	11,157
Cochise County	6,219	Connecticut	5,543	Swaziland	6,704
Coconino County	18,661	Maryland	12,407	Dominican Republic	18,792
Gila County	4,796	Connecticut	5,543	Vanuatu	4,706
Graham County	4,641	Connecticut	5,543	Falkland Islands	4,700
Greenlee County	1,848	Rhode Island	1,545	Trinidad & Tobago	1,980
La Paz County	4,513	Connecticut	5,543	Qatar	4,473
Maricopa County	9,224	New Hampshire	9,350	Djibouti	9,000
Mohave County	13,470	Maryland	12,407	Moldova	13,068
Navajo County	9,959	Vermont	9,614	Macedonia	9,928
Pima County	9,189	New Jersey	8,721	Djibouti	9,000
Pinal County	5,374	Connecticut	5,543	The Bahamas	5,374
Santa Cruz County	1,238	Rhode Island	1,545	Northern Cyprus	1,295
Yavapai County	8,128	New Jersey	8,721	El Salvador	8,124
Yuma County	5,519	Connecticut	5,543	East Timor	5,743

2.2. Population and Demographics

According to the U.S. Census Bureau, Arizona experienced a 4 percent increase in population from 2007 to 2010. Arizona is the most populous landlocked state in the United States and is the 16th most populous with more than 6.4 million residents. Arizona is the 6th largest in area of the 50 states, exceeded only by Alaska, Texas, California, Montana, and New Mexico. Arizona's 114,000 square miles make it as large as New York and the New England states combined and even as large as Italy. Arizona ranks 33 out of 50 in population density (56.3 persons per square mile) with most of its population concentrated in the Phoenix and Tucson metropolitan areas (Map 2.1). Most of Arizona is non-private land (82.4 percent) and much of its area does not have resident populations (Maps 2.1 and 2.2).

The percent of Arizona's population under 18 years of age and population 65 years and over are larger than the national percentage (Table 2.2).

Table 2.2. Percent of population in 2010 by age groups in Arizona and USA.

Age groups	Arizona	USA
Under 5 years	7.1	6.5
5 to 17 years	18.4	17.5
18 to 24 years	9.9	9.9
25 to 44 years	26.3	26.6
45 to 64 years	24.5	26.4
65 years and over	13.8	13.0

US Census

The 2010 Arizona population of men and women are nearly the same but their population by age distribution is different with greater percentage of males less than 40 years of age and greater percentage of females 50 years or older (Figure 2.1). Male populations are noticeable larger in Graham, Pinal, and Greenlee counties while the female population is noticeable larger in Santa Cruz County (Table 2.3).

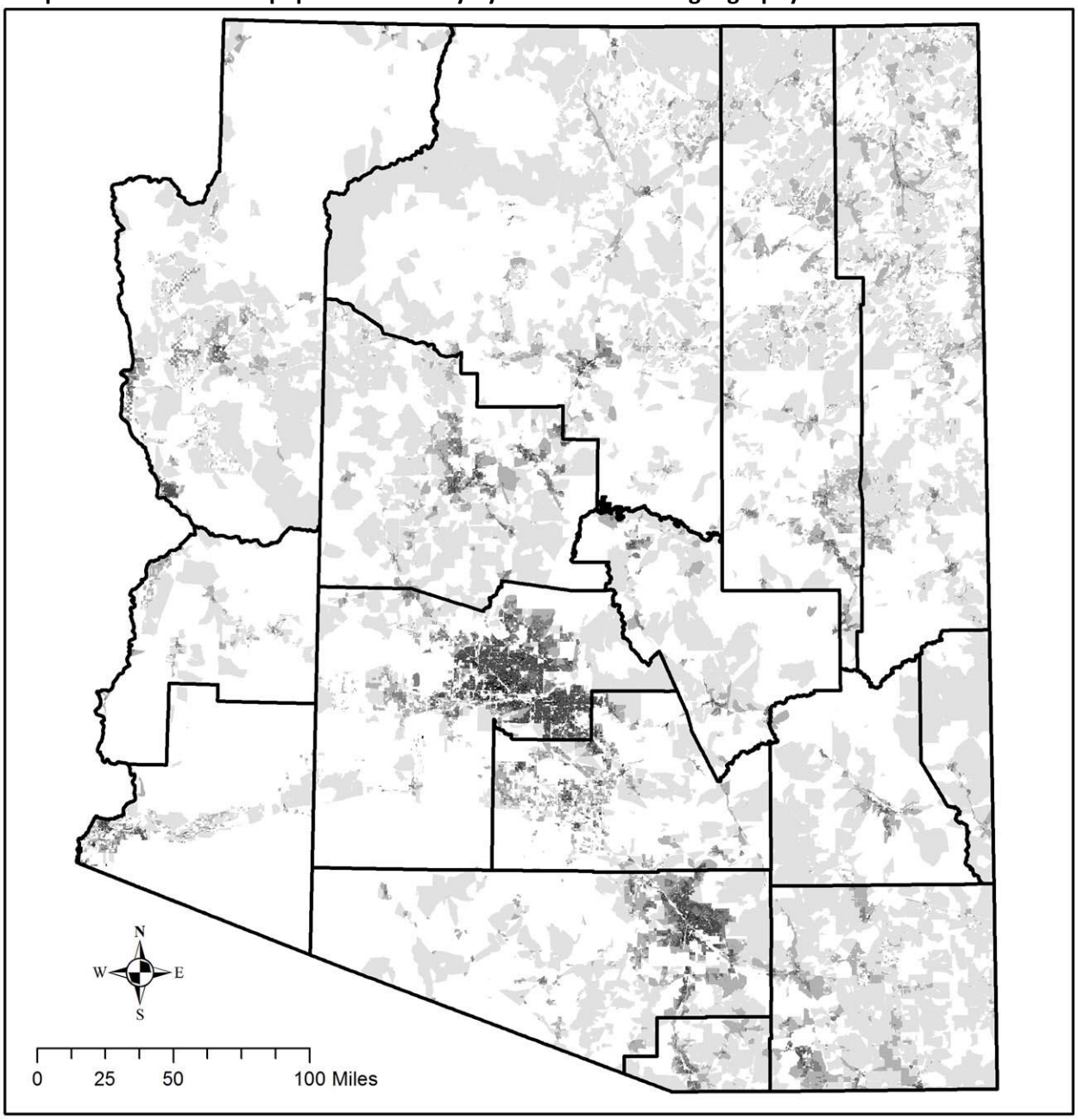
There were noticeable race-ethnicity differences between the U.S. and Arizona in 2010 (Table 2.4). Arizona had lower percentages of non-Hispanic White, Black, and Asian persons than national percentages and had higher percentages, almost twice, for Hispanic-Latino persons and over five times the percentage of American Indian persons than national percentages. Hispanic-Latino persons (29.6%) were the largest minority population in the state. The 2010 differences in race-ethnicity distributions between Arizona counties was more striking (Table 2.5). The counties with the highest percentage of each race-ethnicity group were: Yavapai County had 89 percent White persons, Maricopa County had 5 percent Black persons and 3.5 percent Asian persons, Apache County had 73 percent Native American persons, Pinal County had 0.4 percent Pacific Islander persons, and Santa Cruz County had 83 percent Hispanic persons.

Table 2.3. Population of Arizona and Arizona counties by gender in 2010.

County	Population	Males		Females	
Apache	71,518	35,678	(49.9%)	35,840	(50.1%)
Cochise	131,346	66,977	(51.0%)	64,369	(49.0%)
Coconino	134,421	66,666	(49.6%)	67,755	(50.4%)
Gila	53,597	26,633	(49.7%)	26,964	(50.3%)
Graham	37,220	19,977	(53.7%)	17,243	(46.3%)
Greenlee	8,437	4,398	(52.1%)	4,039	(47.9%)
La Paz	20,489	10,550	(51.5%)	9,939	(48.5%)
Maricopa	3,817,117	1,888,465	(49.5%)	1,928,652	(50.5%)
Mohave	200,186	100,078	(50.0%)	100,108	(50.0%)
Navajo	107,449	53,777	(50.0%)	53,672	(50.0%)
Pima	980,263	481,437	(49.1%)	498,826	(50.9%)
Pinal	375,770	197,165	(52.5%)	178,605	(47.5%)
Santa Cruz	47,420	22,559	(47.6%)	24,861	(52.4%)
Yavapai	211,033	103,458	(49.0%)	107,575	(51.0%)
Yuma	195,751	98,005	(50.1%)	97,746	(49.9%)
Arizona	6,392,017	3,175,823	(49.7%)	3,216,194	(50.3%)

US Census

Map 2.1. Arizona's 2010 population density by US Census blocks geography.



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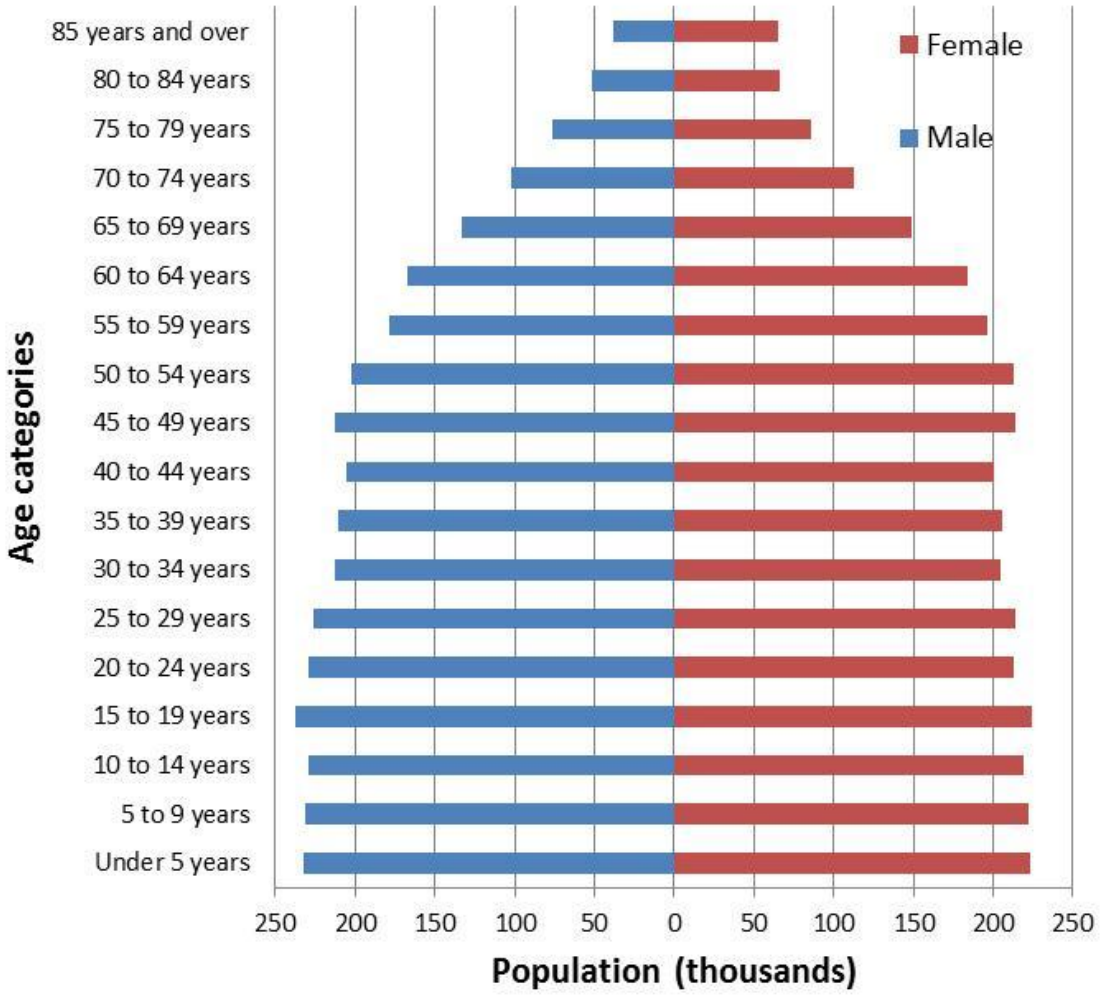
Population density per square mile

- 0 (no resident population)
- 0.001 - 6 (frontier areas)
- 6 - 100
- 100 - 1000
- 1000 - 10,000
- 10,000 - 8,900,000
- County boundaries

Figure 2.1. Population pyramid of gender by age categories for Arizona in 2010).



US Census

Map 2.2. Arizona land and ownership.

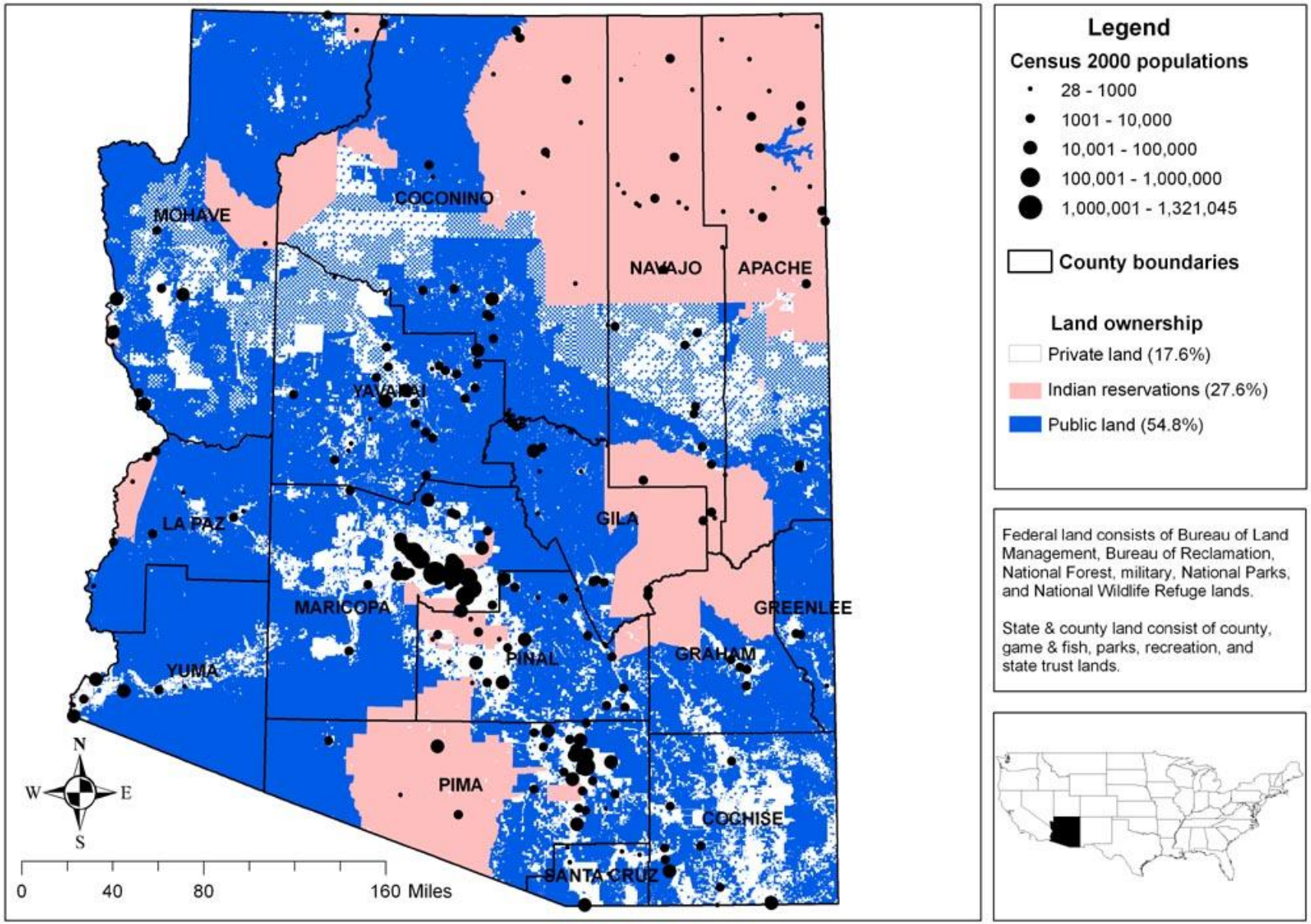


Table 2.4. Percent of population in 2010 by race-ethnicity groups in United States, Arizona, and Arizona counties.

Counties	Population	White Persons	Black or African American Persons	American Indian & Alaska Native persons	Asian persons	Native Hawaiian & Other Pacific Islanders	Persons Reporting Some Other Race	Persons Reporting Two or More Races	Persons of Hispanic or Latino Origin	White persons, not Hispanic
USA	308,745,538	72.4%	12.6%	0.9%	4.8%	0.2%	6.2%	2.9%	16.3%	63.7%
Arizona	6,392,017	73.0%	4.1%	4.6%	2.8%	0.2%	11.9%	3.4%	29.6%	57.8%
Apache	71,518	23.3%	0.24%	72.9%	0.28%	0.04%	1.3%	2.0%	5.8%	20.4%
Cochise	131,346	78.5%	4.16%	1.2%	1.92%	0.32%	9.9%	4.0%	32.4%	58.5%
Coconino	134,421	61.7%	1.21%	27.3%	1.37%	0.12%	5.2%	3.1%	13.5%	55.2%
Gila	53,597	76.8%	0.43%	14.8%	0.51%	0.09%	5.3%	2.0%	17.9%	65.9%
Graham	37,220	72.1%	1.84%	14.4%	0.54%	0.14%	8.2%	2.8%	30.4%	52.3%
Greenlee	8,437	77.2%	1.05%	2.3%	0.55%	0.06%	15.0%	3.8%	47.9%	48.1%
La Paz	20,489	69.8%	0.63%	12.8%	0.52%	0.03%	12.5%	3.7%	23.5%	62.7%
Maricopa	3,817,117	73.0%	4.99%	2.1%	3.46%	0.20%	12.8%	3.5%	29.6%	58.7%
Mohave	200,186	86.9%	0.94%	2.2%	1.05%	0.17%	6.0%	2.7%	14.8%	79.6%
Navajo	107,449	49.3%	0.87%	43.4%	0.54%	0.07%	3.4%	2.5%	10.8%	43.9%
Pima	980,263	74.3%	3.54%	3.3%	2.62%	0.17%	12.3%	3.7%	34.6%	55.3%
Pinal	375,770	72.4%	4.58%	5.6%	1.73%	0.42%	11.5%	3.8%	28.5%	58.7%
Santa Cruz	47,420	73.5%	0.38%	0.7%	0.54%	0.03%	22.9%	2.0%	82.8%	16.0%
Yavapai	211,033	89.3%	0.60%	1.7%	0.85%	0.10%	4.9%	2.5%	13.6%	82.0%
Yuma	195,751	70.4%	2.01%	1.6%	1.19%	0.16%	20.8%	3.8%	59.7%	35.3%

US Census

2.3. Economy

Economic conditions in Arizona has exceeded national conditions from 1994 to present however the recent recession has resulted in greater impacts on Arizona than nationally from 2007 to 2010 (Figure 2.2). This economic trend is similar to the trend in median household income. Arizona's median income increased each year from 2003 ($41,166) until 2007 ($47,215) then decreased in 2008 and 2009 ($45,739) then increased in 2010 ($47,279) to a level exceeding the 2007 median income.[10] Arizona supports a diverse mixture of professions and incomes. Retirees, military personnel, high tech industry leaders, teachers and farm laborers often reside in the same communities. Health care, transportation, and government are Arizona's largest economic sectors with mining, livestock, and agricultural sectors providing the economic base for many rural communities. Arizona ranks below the national average in many economic indicators and Arizona's rural areas rank below its urban areas (Table 2.6).

Figure 2.2. Monthly coincident indexes of Arizona and the nation that measure the economic conditions.[11]

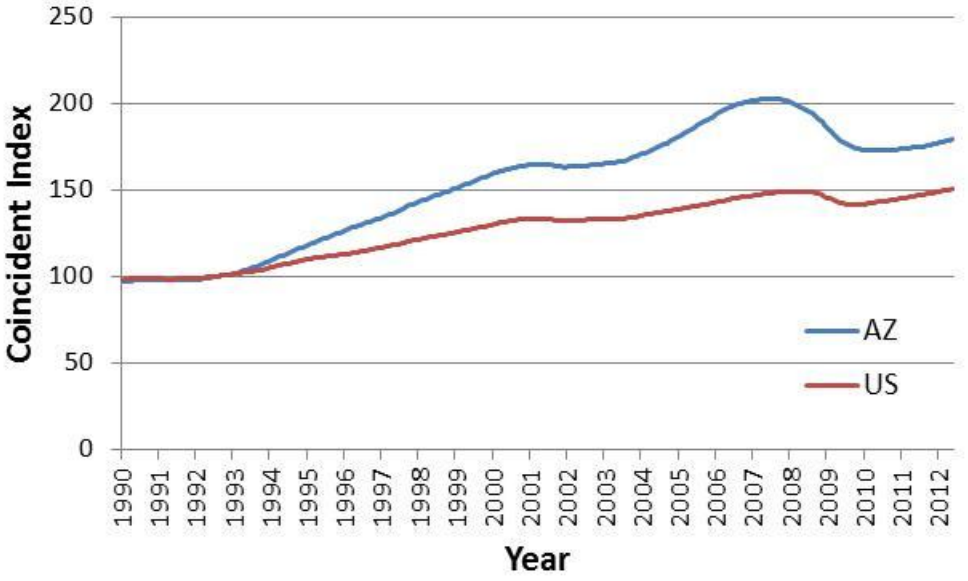


Table 2.5. Economic measures for rural and urban Arizona in 2010.[12]

	Arizona			USA
	Statewide	Rural	Urban	
Total number of jobs	3,201,494	252,368	2,949,126	na
Median household income	$47,279	na	na	$49,445
Per-capita income	$34,539	$28,180	$35,292	$39,937
Earnings per job	$44,254	$41,486	$48,270	$47,046
Unemployment rate	10.4%	12.7%	10.3%	9.6%
Poverty rate	17.6%	22.6%	17.0%	15.1%
Population below the Federal Poverty Level	25%	37%	23%	21%
Federal funding, per person	$10,079**	$14,742*	$11,351*	$10,475**

2.4. Rural Health Characteristics

Rural areas pose different and frequently greater challenges than urban areas for achieving good public health. There are rural-urban disparities in health conditions associated with acute and chronic diseases, and disparities in infrastructure and professional capacity to address health needs. Rural Arizonans are more likely to be older (more susceptible), poorer (have less access to treatment) and less healthy (less resilient) than their urban counterparts. There tends to be greater problems in rural than urban areas regarding cardiovascular disease, diabetes mellitus, mental health and mental disorders, oral health, tobacco use, substance abuse (including alcohol use), maternal and child health, nutrition and obesity, cancer screening and treatment, and immunization.

Rural Arizonans face a combination of factors that create these disparities in health status and well-being. Factors that allow urban areas to have better health care than rural areas include economic, infrastructural, social, educational, and geographical isolation. These factors lead to rural populations having lower percentage of health insurance coverage and reduced access for services that are needed to assure the same quality of medical care as urban areas. These rural-urban disparities are often magnified along the U.S.-Mexico border as well as in Native American communities and tribal reservations.

Access to (availability and means to utilize) health insurance and health care continues to be a problem in rural areas. Lower utilization of health insurance in rural populations is a problem associated with a lower paid workforce reliant upon smaller employers that are less likely than larger employers to offer health insurance.

There are fewer numbers of primary care and specialist physicians per population in rural areas compared to urban areas and fewer numbers of mental health and oral health providers. These health workforce shortages, including the recruitment and retention of primary care providers, pose challenges to assuring access to timely and effective primary care in rural areas. Primary care is essential to avoid hospitalization for ambulatory care conditions. Rural populations can expect less timely and more expensive emergency services (e.g., ambulance and trauma services) than the urban areas, particularly for helicopter transport to higher levels of emergency care at urban hospitals.

Over 353,000 Native Americans (2010 US Census, race alone or in combination with other races) live in Arizona. Most of them are members of Arizona's 21 federally recognized American Indian tribes and contribute rich cultural diversity to the state. Reservations and tribal communities occupy over a quarter of Arizona's land. They are located mostly in rural and frontier areas (Maps 2.1 and 2.2).

Tribes in Arizona face numerous health challenges. American Indians have higher incidences of diabetes, heart disease, certain cancers, tuberculosis, substance abuse, obesity, and violence than other racial groups. A growing tribal demand for diabetes care has placed a heavy burden on the Indian health care system.

Providing for good public health in Native American communities is challenging to attain because of a lack of culturally competent care delivered by a variety of health care providers, inadequate funding of the health care system, and poor access to care. While some tribes have the capacity to run their healthcare systems through options like 638[13], most Native American people receive health care from a blend of Indian Health Service (IHS), state, local,

and private providers. However, seamless access to care is still lacking.

The special characteristics of communities along or near the U.S.-Mexico border present significance issues for achieving good public health in rural Arizona. Four of Arizona's fifteen counties, Yuma, Pima, Santa Cruz and Cochise share a portion of Arizona's 377 mile border with Mexico. The border region also includes a portion of Maricopa and Pinal counties according to the La Paz Agreement that defines the border region as the area within 62 miles of the border. Of the 12 sister cities located on the U.S.-Mexico Border, three of them are in Arizona (Yuma/San Luis Rio Colorado, Nogales/Nogales, and Douglas/Agua Prieta).

Communities along the U.S.-Mexico border have some of the highest rates of poverty, unemployment, uninsured people, and lack of access to health care in the nation. Residents in these communities experience greater rates of communicable illnesses such as tuberculosis[14] and vaccine preventable illnesses than people across the United States. The frequent movement of people between both countries and within the U.S. has increased the potential for international spread of diseases such as tuberculosis and has created difficulties identifying affected populations. High rates of hepatitis A and B and other intestinal infections, due to a lack of clean water and proper sewage disposal, are also a concern. The border region also has a higher prevalence rate of diabetes.

There are four American Indian tribes that reside in the four Arizona-Mexico border counties. The Tohono O'odham Nation shares 80 miles of Mexican border with Pima County, the state of Arizona, and the U.S.A. This creates physical and administrative barriers for the Mexican members of the Tohono O'odham Nation. This shared border by three nations, Mexico, U.S.A, and Tohono O'odham has resulted in complicated public health issues and their resolution is made more difficult by illegal cross-border travel.

SECTION 3: PHYSICIANS AND PHYSICIAN ASSISTANTS

3.1. Physicians

The workforce of allopathic (MD) and osteopathic (DO) physicians were analyzed for this report. Both physician types provide preventive, primary, and chronic care. Osteopathic medicine differs from allopathic medicine by emphasizing the importance of normal body mechanics and manipulative methods of detecting and correcting faulty structure.

There were 14,839 physicians with active Arizona licenses in the state in 2010 (Table 3.1). The number of physicians in the state had increased by 1,174 – an increase of 8.6 percent during 2007 to 2010. Ninety-two percent (91.6%) of Arizona physicians were located in urban areas in 2010. During the four years, the largest physician percentage increase occurred in the large rural towns (13.2%). Allopathic physicians (1,032, 8.6%) had a greater increase in numbers but as smaller percentage increase than osteopathic physicians (142, 8.7%) (Tables 3-2 and 3.3).

Table 3.1. Number of active licensed physicians from 2007 to 2010 in Arizona and by four statewide rural-urban commuting area classifications.

All Physicians (MDs and DOs)	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Total statewide	13,665	13,294	14,110	14,839	8.6%
Urban	12,548	12,195	12,957	13,591	8.3%
Large rural town	635	626	646	719	13.2%
Small rural town	413	402	430	454	9.9%
Isolated small rural town	69	71	77	75	8.7%

Table 3.2. Number of active licensed allopathic physicians from 2007 to 2010 in Arizona and by four statewide rural-urban commuting area classifications.

Allopathic Physicians (MDs)	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Total statewide	12,039	11,638	12,436	13,071	8.6%
Urban	11,124	10,750	11,498	12,049	8.3%
Large rural town	513	498	515	578	12.7%
Small rural town	339	330	357	379	11.8%
Isolated small rural town	63	60	66	65	3.2%

Table 3.3. Number of active licensed osteopathic physicians from 2007 to 2010 in Arizona and by four statewide rural-urban commuting area classifications.

Osteopathic Physicians (DOs)	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Total statewide	1,626	1,656	1,674	1,768	8.7%
Urban	1,424	1,445	1,459	1,542	8.3%
Large rural town	122	128	131	141	15.6%
Small rural town	74	72	73	75	1.4%
Isolated small rural town	6	11	11	10	66.7%

The ratio of physicians per 100,000 population increased from 221.6 to 231.4 (4.4%) from 2007 to 2010 (Figures 3.1 and 3.2; Table 3.4). Pinal County (-12.2%) had the largest percent decrease in physicians-population ratio, while Apache County (23.6%) had the largest percent increase in physicians-population ratio. The small rural town areas (12.0%) had the largest percent increase in the physicians-population ratio, while large rural town areas (3.4%) had the smallest percent increase.

The inequalities in distribution of physicians-population ratios by ruralness were as large as a factor of 3.7 from 2007 to 2010. The 2010 ratios are 250 per 100,000 for urban areas, 151 for large rural town areas, 120 for small rural town areas, and 70 for isolated small rural town areas.

Figure 3.1. Trend of all physicians (MD and DO) per 100,000 population in Arizona and by four rural-urban commuting area classifications from 2000 to 2010.

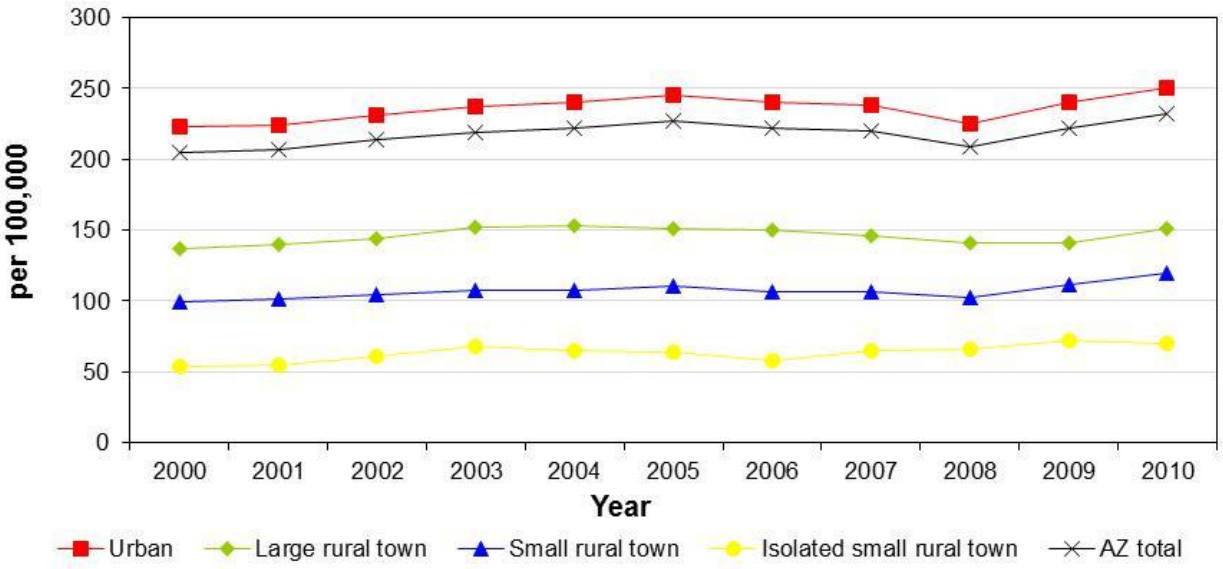


Figure 3.2. Trend of all physicians (MD and DO) per 100,000 population in Arizona and by counties from 2000 to 2010.

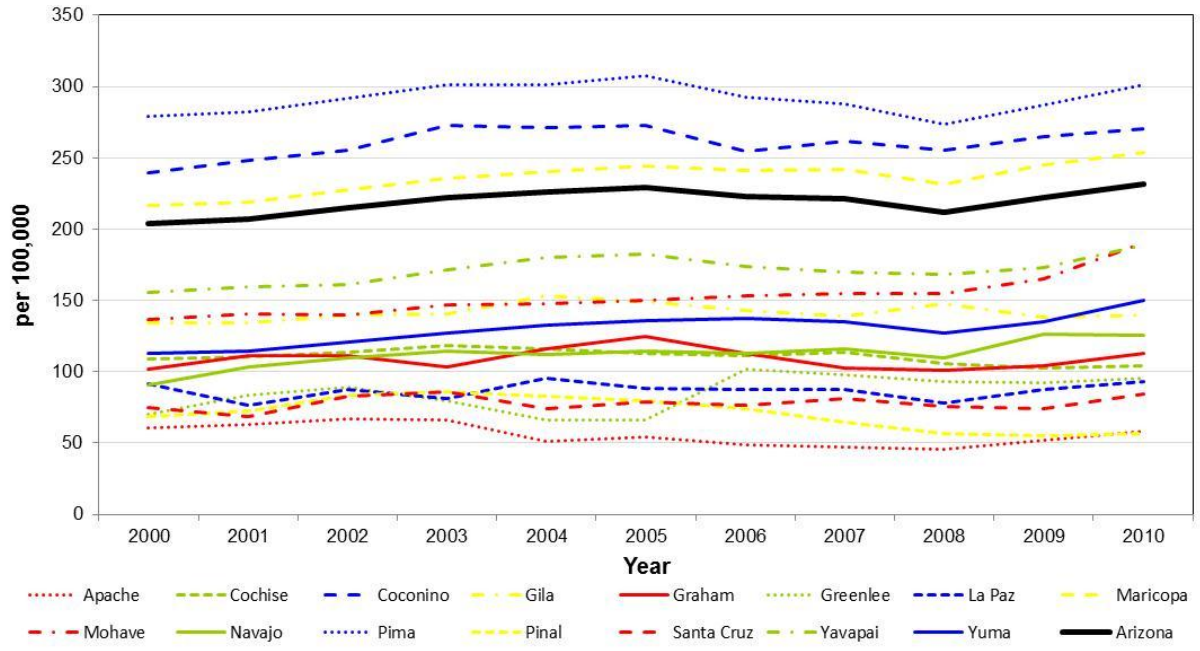


Table 3.4. Number of active licensed physicians per 100,000 population from 2007 to 2010 in Arizona by four statewide rural-urban commuting area classifications and by each county.

Physicians (MDs and DOs)	Professionals per 100,000 population				Change from 2007 to 2010
	2007	2008	2009	2010	
Total statewide	221.6	211.7	222.4	231.4	4.4%
Urban	238.0	225.3	240.1	250.3	5.1%
Large rural town	146.5	141.2	141.4	151.4	3.4%
Small rural town	107.0	102.6	112.1	119.8	12.0%
Isolated small rural town	64.7	65.8	71.9	69.9	8.1%
Apache County	47.4	45.8	52.1	58.6	23.6%
Cochise County	113.9	105.4	102.2	104.0	-8.7%
Coconino County	261.4	255.6	265.2	270.3	3.4%
Gila County	139.0	147.8	138.2	140.0	0.8%
Graham County	102.3	101.0	103.9	113.2	10.6%
Greenlee County	97.5	93.4	92.6	95.8	-1.8%
La Paz County	87.2	77.8	87.7	92.9	6.5%
Maricopa County	241.9	232.0	245.1	254.2	5.1%
Mohave County	155.2	154.9	164.8	190.3	22.6%
Navajo County	116.0	109.6	126.4	125.5	8.2%
Pima County	287.8	273.5	287.4	301.0	4.6%
Pinal County	64.7	57.0	55.5	56.8	-12.2%
Santa Cruz County	81.6	75.8	74.5	84.3	3.3%
Yavapai County	170.0	168.1	173.3	189.0	11.2%
Yuma County	135.0	127.1	134.7	150.1	11.2%

Allopathic Physicians

There were 13,071 active licensed allopathic physicians in Arizona in 2010 (Table 3.2). The number had increased from 12,039 to 13,071 during 2007 to 2010. The statewide ratio of allopathic physicians per 100,000 population had increased from 195 to 204 (Figure 3.3; Table 3.5). The largest percentage increase in allopathic physicians-population ratio occurred in the small rural town areas (13.9%).

Figure 3.3. Trend of total allopathic physicians (MD) per 100,000 population in Arizona and by four rural-urban commuting area classifications from 2000 to 2010.

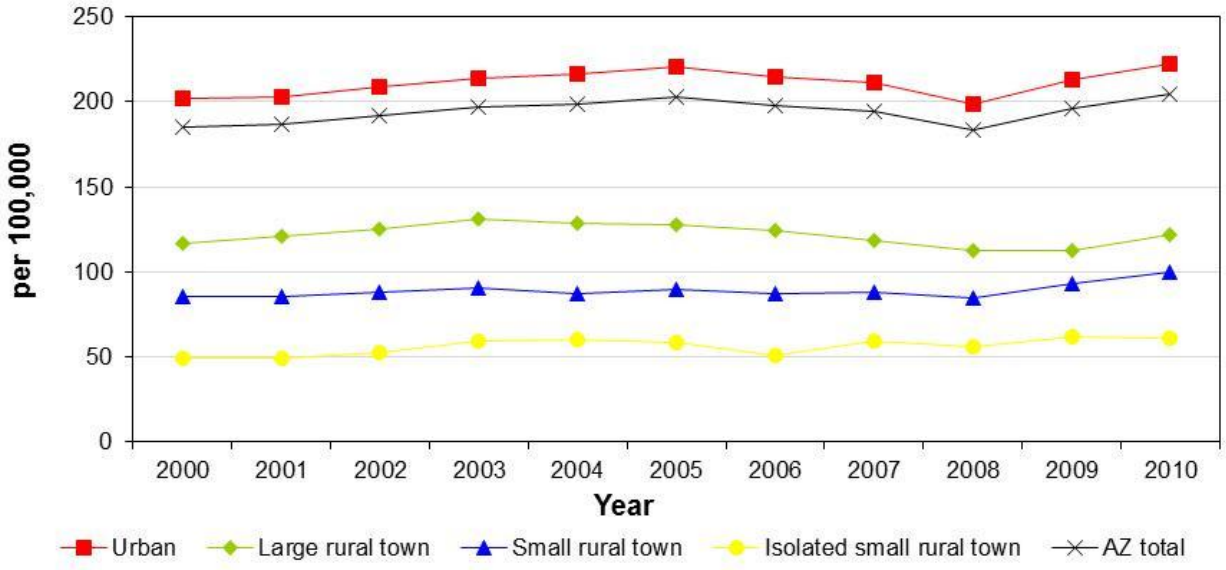


Table 3.5. Number of active licensed allopathic physicians per 100,000 population from 2007 to 2010 in Arizona by four statewide rural-urban commuting area classifications.

Allopathic Physicians (MDs)	Professionals per 100,000 population*				Change from 2007 to 2010
	2007	2008	2009	2010	
Statewide	195	185	196	204	4.4%
Urban	211	199	213	222	5.1%
Large rural town	118	112	113	122	2.9%
Small rural town	88	84	93	100	13.9%
Isolated small rural town	59	56	62	61	2.6%

Osteopathic Physicians

In 2010, there were 1,768 active licensed osteopathic physicians in Arizona (Table 3.3), an increase from 1,626 in 2007. The statewide ratio of osteopathic physicians per 100,000 population had a slight increased from 26.4 to 27.6 (Figure 3.4; Table 3.6). The largest percentage increase in osteopathic physicians-population ratio occurred in the isolated small rural town areas (65.8%).

Figure 3.4. Trend of total osteopathic physicians (DO) per 100,000 population in Arizona and by four rural-urban commuting area classifications from 2000 to 2010.

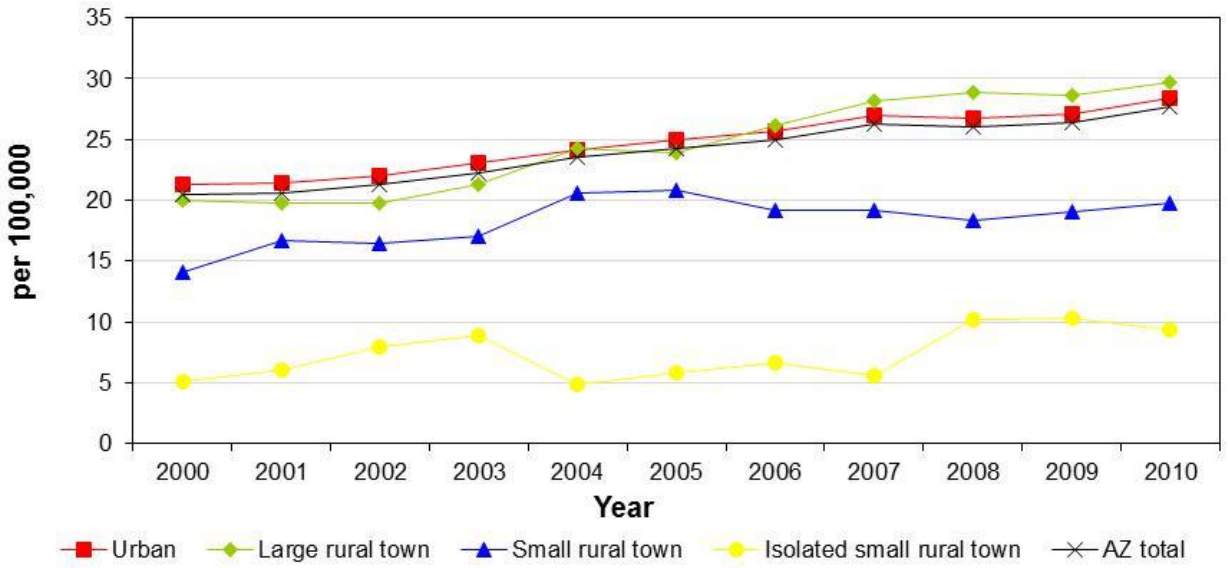


Table 3.6. Number of active licensed osteopathic physicians per 100,000 population from 2007 to 2010 in Arizona by four statewide rural-urban commuting area classifications.

Osteopathic Physicians (DOs)	Professionals per 100,000 population				Change from 2007 to 2010
	2007	2008	2009	2010	
Statewide	26.4	26.4	26.4	27.6	4.6%
Urban	27.0	26.7	27.0	28.4	5.1%
Large rural town	28.1	28.9	28.7	29.7	5.5%
Small rural town	19.2	18.4	19.0	19.8	3.3%
Isolated small rural town	5.6	10.2	10.3	9.3	65.8%

3.2. Primary Care Specialties

Primary care physicians in this study are allopathic physicians (MDs) and osteopathic physicians (DOs) with active licenses, residing in Arizona, whose primary or secondary specialty is one of the primary health care specialties: family practice, general practice, internal medicine, or pediatrics. Even though general surgeons and gynecology specialties may provide primary care services, especially in rural areas, they were not counted as primary care physicians unless they also reported one of the primary care specialties as part of their practice.

In 2010, there were 5,106 active licensed primary care physicians in Arizona. Eighty-nine percent (88.9%) of primary care physicians were located in urban areas. There was an increase of 554 primary care physicians (12.2%) from 2007 to 2010. The largest percent increase in numbers of primary care physicians occurred in isolated small rural towns (18.8%) (Table 3.7).

Table 3.7. Number of active licensed primary care physicians from 2007 to 2010 in Arizona and by four statewide rural-urban commuting area classifications.

Primary Care Physicians	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Statewide MDs and DOs	4,552	4,441	4,797	5,106	12.2%
Urban	4,042	3,946	4,270	4,541	12.3%
Large rural town	259	248	269	305	17.8%
Small rural town	203	197	204	203	0.0%
Isolated small rural town	48	50	54	57	18.8%
Statewide MDs	3,666	3,558	3,881	4,171	13.8%
Urban	3,266	3,174	3,466	3,723	14.0%
Large rural town	196	187	202	234	19.4%
Small rural town	160	154	167	165	3.1%
Isolated small rural town	44	43	46	49	11.4%
Statewide DOs	886	883	916	935	5.5%
Urban	776	772	804	818	5.4%
Large rural town	63	61	67	71	12.7%
Small rural town	43	43	37	38	-11.6%
Isolated small rural town	4	7	8	8	100.0%

The ratio of primary care physicians per 100,000 population increased from 73.8 to 79.6 (7.9%) from 2007 to 2010 with MDs having a larger percent increase than DOs (Figures 3.5 -3.7 and Table 3.8). Pinal County had the largest percent decrease (-12.5%) in primary care physicians-population ratio, while Mohave County had the largest percent increase in primary care physicians-population ratio (24.5%) (Figure 3.8; Table 3.7). Isolated small rural town areas had the largest percent increase in the primary care physicians-population ratio (18.1%), while small rural town areas had the smallest percent increase (1.9%).

The inequalities in distribution of primary care physicians-population ratios by ruralness were as large as a factor of 1.7 from 2007 to 2010. The 2010 ratios for urban areas (83.6 per 100,000), large rural town areas (64.2 per 100,000), small rural town areas (53.6 per 100,000), and isolated small rural town areas (53.2 per 100,000) (Figure 3.5). The inequalities in distribution are even greater between counties (Figure 3.8).

Figure 3.5. Trend of all primary care physicians (MD and DO) per 100,000 population in Arizona and by four rural-urban commuting area classifications from 2000 to 2010.

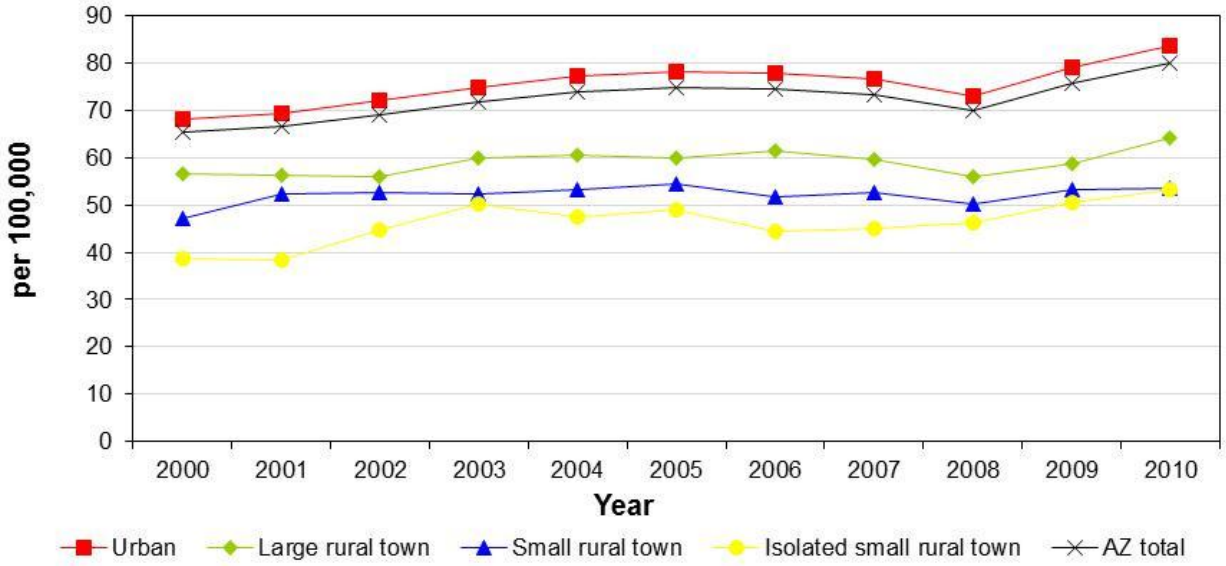


Figure 3.6. Trend of allopathic primary care physicians (MD) per 100,000 population in Arizona and by four rural-urban commuting area classifications from 2000 to 2010.

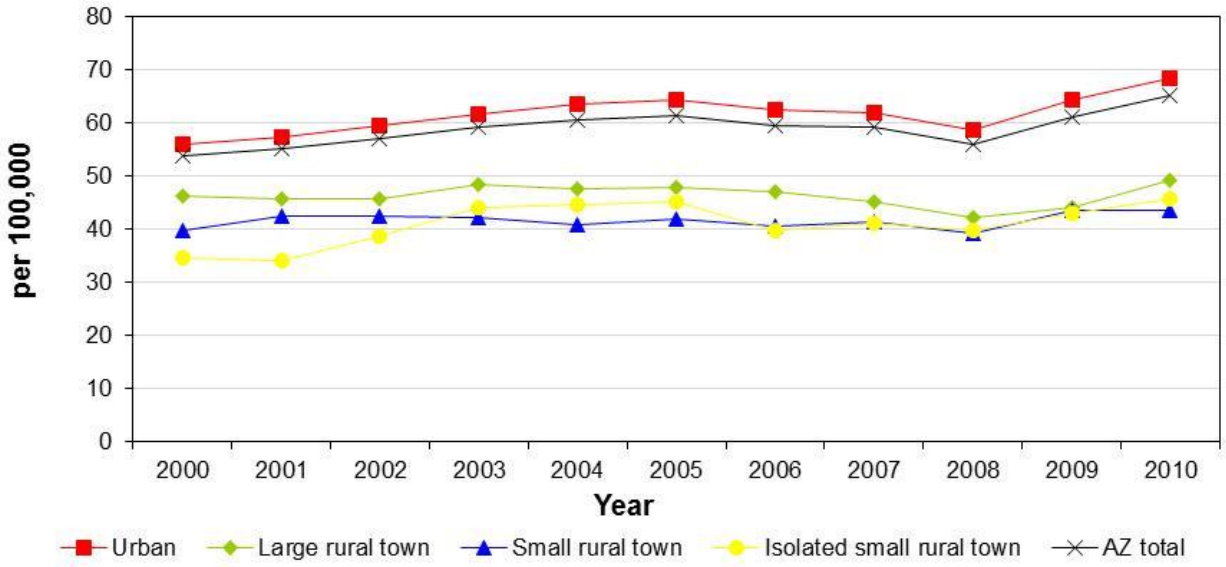


Figure 3.7. Trend of osteopathic primary care physicians (DO) per 100,000 population in Arizona and by four rural-urban commuting area classifications from 2000 to 2010.

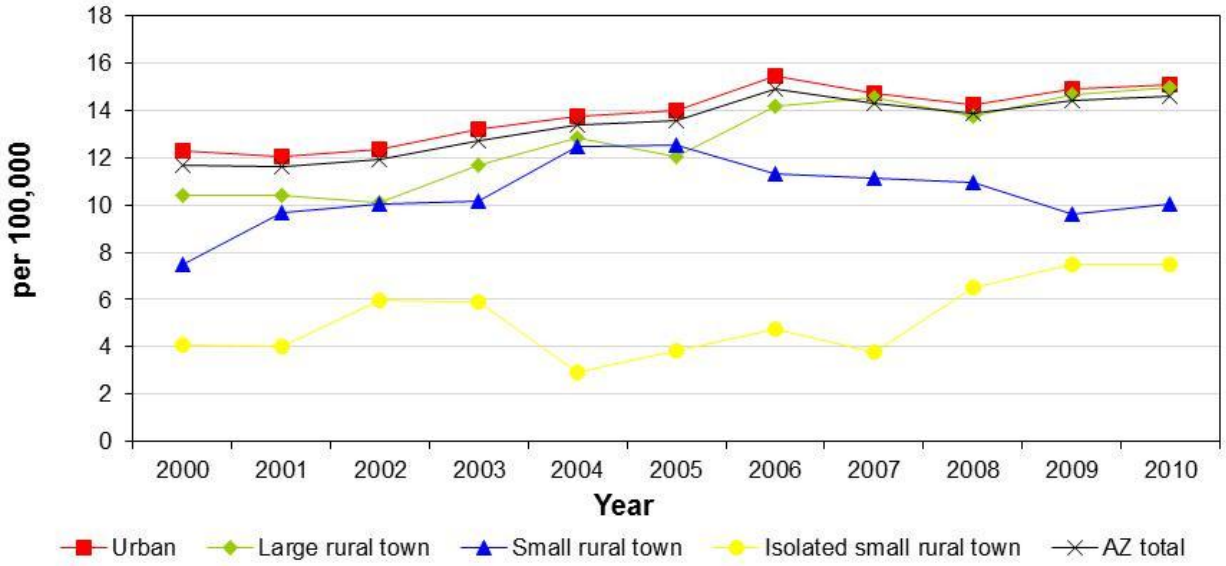


Figure 3.8. Trend of all primary care physicians (MD and DO) per 100,000 population in Arizona and by counties from 2000 to 2010.

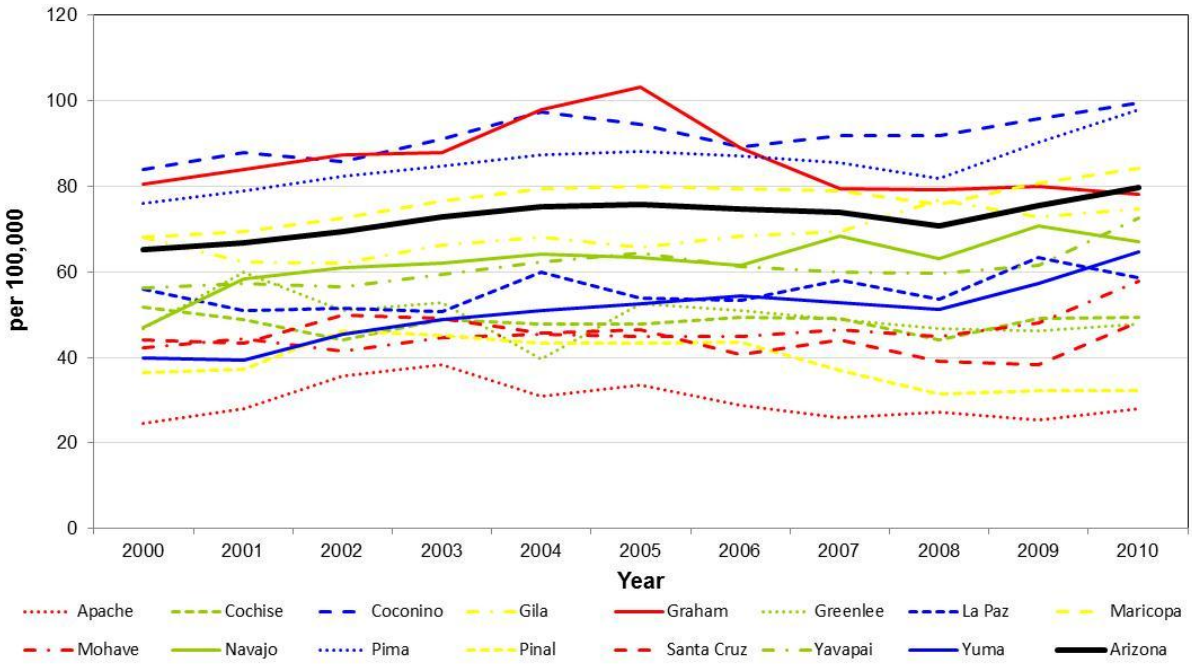


Table 3.8. Number of active licensed primary care physicians per 100,000 population from 2007 to 2010 in Arizona by four statewide rural-urban commuting area classifications and by each county.

Primary Care Physicians	Professionals per 100,000 population				Change from 2007 to 2010
	2007	2008	2009	2010	
Statewide MDs and DOs	73.8	70.7	75.6	79.6	7.9%
Urban	76.7	72.9	79.1	83.6	9.1%
Large rural town	59.8	55.9	58.9	64.2	7.5%
Small rural town	52.6	50.3	53.2	53.6	1.9%
Isolated small rural town	45.0	46.3	50.4	53.2	18.1%
Apache County	25.9	27.2	25.3	27.9	7.9%
Cochise County	49.1	44.2	49.2	49.3	0.4%
Coconino County	92.0	91.8	95.9	99.5	8.2%
Gila County	69.5	76.7	72.8	74.7	7.5%
Graham County	79.6	79.2	79.9	78.1	-1.8%
Greenlee County	48.8	46.7	46.3	47.9	-1.8%
La Paz County	58.1	53.5	63.4	58.7	0.9%
Maricopa County	78.9	75.9	80.9	84.3	6.8%
Mohave County	46.6	45.0	48.1	57.9	24.5%
Navajo County	68.3	63.2	70.7	66.9	-1.9%
Pima County	85.6	81.8	90.2	97.8	14.3%
Pinal County	36.9	31.3	32.3	32.3	-12.5%
Santa Cruz County	44.1	39.0	38.3	48.5	9.9%
Yavapai County	59.9	59.7	61.6	72.5	21.1%
Yuma County	52.8	51.3	57.3	64.6	22.3%
Statewide MDs	59.4	56.7	61.2	65.0	9.4%
Urban	61.9	58.6	64.2	68.6	10.7%
Large rural town	45.2	42.2	44.2	49.3	9.0%
Small rural town	41.4	39.3	43.5	43.5	5.1%
Isolated small rural town	41.3	39.9	43.0	45.7	10.8%
Statewide DOs	14.4	14.1	14.4	14.6	1.5%
Urban	14.7	14.3	14.9	15.1	2.3%
Large rural town	14.5	13.8	14.7	15.0	2.9%
Small rural town	11.1	11.0	9.6	10.0	-10.0%
Isolated small rural town	3.8	6.5	7.5	7.5	99.0%

3.3. Non-Primary Care Specialties

In this study those physicians who are not classified as primary care physicians are classified as non-primary care physicians. There were almost twice as many active licensed non-primary care physicians (9,733) than primary care physicians (5,106) in Arizona in 2010 (Tables 3.7 and 3.9). Ninety-three percent of the non-primary care physicians were located in urban areas. During the four-year period from 2007 to 2010, there was a greater increase in the number of non-primary care physicians (620 and 6.8%) than primary care physicians (554 and 12.2%). Isolated small rural town areas had the largest percent decrease of non-primary care physicians (-14.3%), while small rural town areas had the largest percent increase (19.5%) during the four-year period.

Table 3.9. Number of active licensed non-primary care physicians from 2007 to 2010 in Arizona and by four statewide rural-urban commuting area classifications.

Non-Primary Care Physicians	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Statewide MD and DO	9,113	8,853	9,313	9,733	6.8%
Urban	8,506	8,249	8,687	9,050	6.4%
Large rural town	376	378	377	414	10.1%
Small rural town	210	205	226	251	19.5%
Isolated small rural town	21	21	23	18	-14.3%
Statewide MD	8,373	8,080	8,555	8,900	6.3%
Urban	7,858	7,576	8,032	8,326	6.0%
Large rural town	317	311	313	344	8.5%
Small rural town	179	176	190	214	19.6%
Isolated small rural town	19	17	20	16	-15.8%
Statewide DOs	740	773	758	833	12.6%
Urban	648	673	655	724	11.7%
Large rural town	59	67	64	70	18.6%
Small rural town	31	29	36	37	19.4%
Isolated small rural town	2	4	3	2	0.0%

The ratio of non-primary care physicians per 100,000 population increased from 147.8 in 2007 to 151.8 in 2010 (2.7%) (Figures 3.9 -3.11; Table 3.9). Cochise County had the largest percent decrease in non-primary care physicians-population ratio (-15.6%), while Graham County had the largest percent increase (54.0%) (Figure 3.12; Table 3.9). Isolated small rural town areas had the largest percent decrease in the non-primary care physicians-population ratio (-14.7%); while small rural town areas had the largest percent increase (21.8%).

Inequalities in the distribution of non-primary care physicians-population ratios by ruralness were as large as a factor of 9.9 in 2010 with ratios of 166.6 per 100,000 for urban areas, 87.2 for large rural town areas, 66.2 for small rural town areas, and 16.8 for isolated small rural town areas (Figure 3.9). The inequalities in distribution are even greater between counties (Figure 3.12).

Figure 3.9. Trend of all non-primary care physicians (MD and DO) per 100,000 population in Arizona and by four rural-urban commuting area classifications from 2000 to 2010.

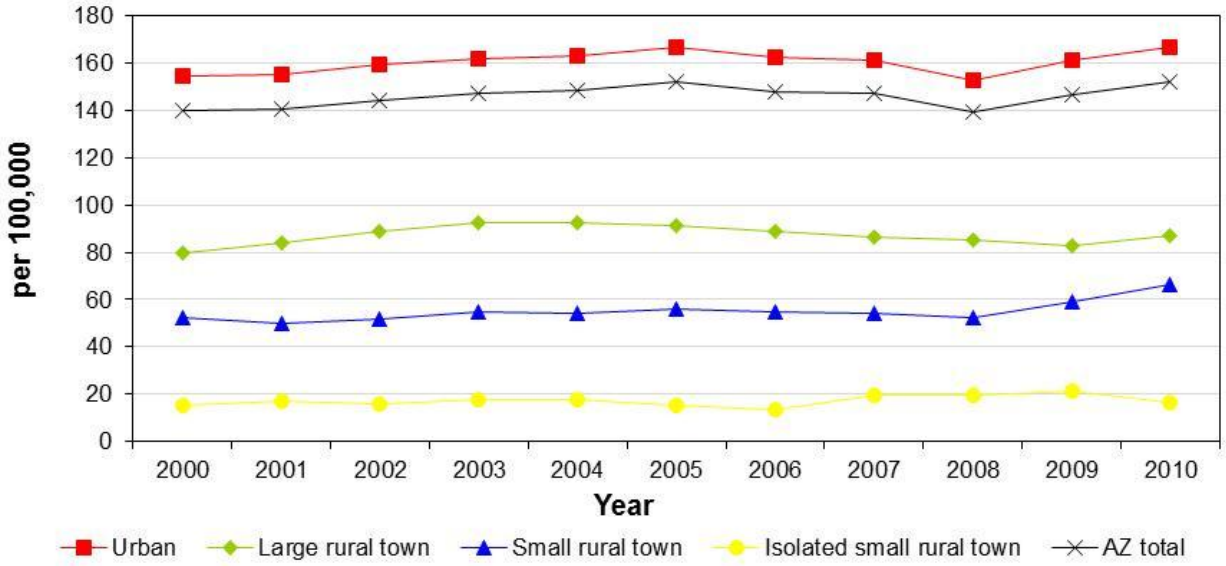


Figure 3.10. Trend of allopathic non-primary care physicians (MD) per 100,000 population in Arizona and by four rural-urban commuting area classifications from 2000 to 2010.

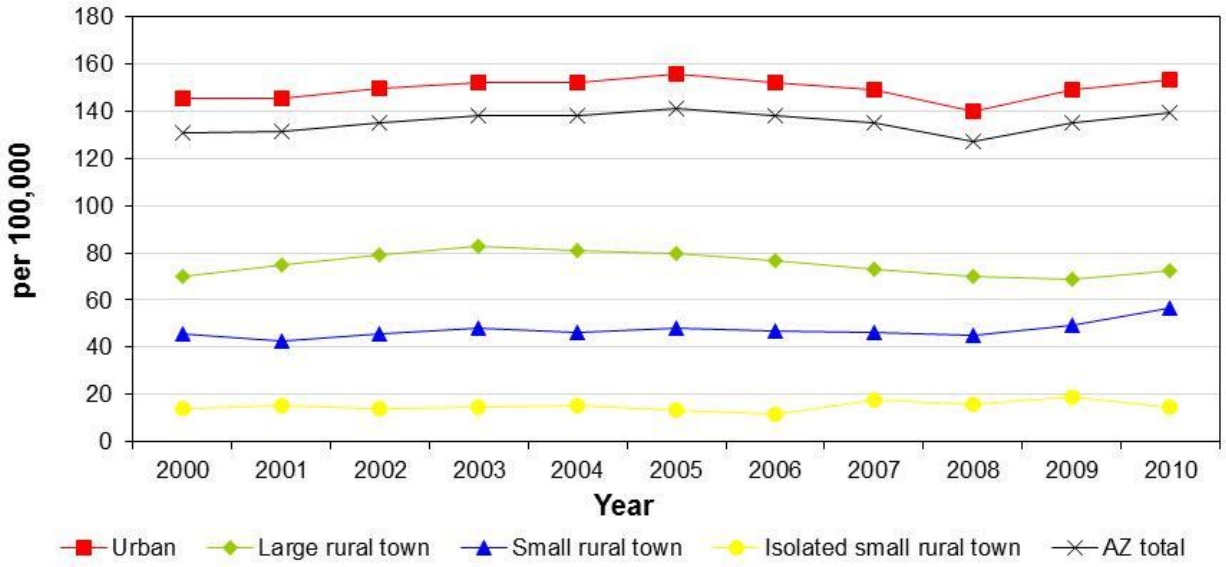


Figure 3.11. Trend of osteopathic non-primary care physicians (DO) per 100,000 population in Arizona and by four rural-urban commuting area classifications from 2000 to 2010.

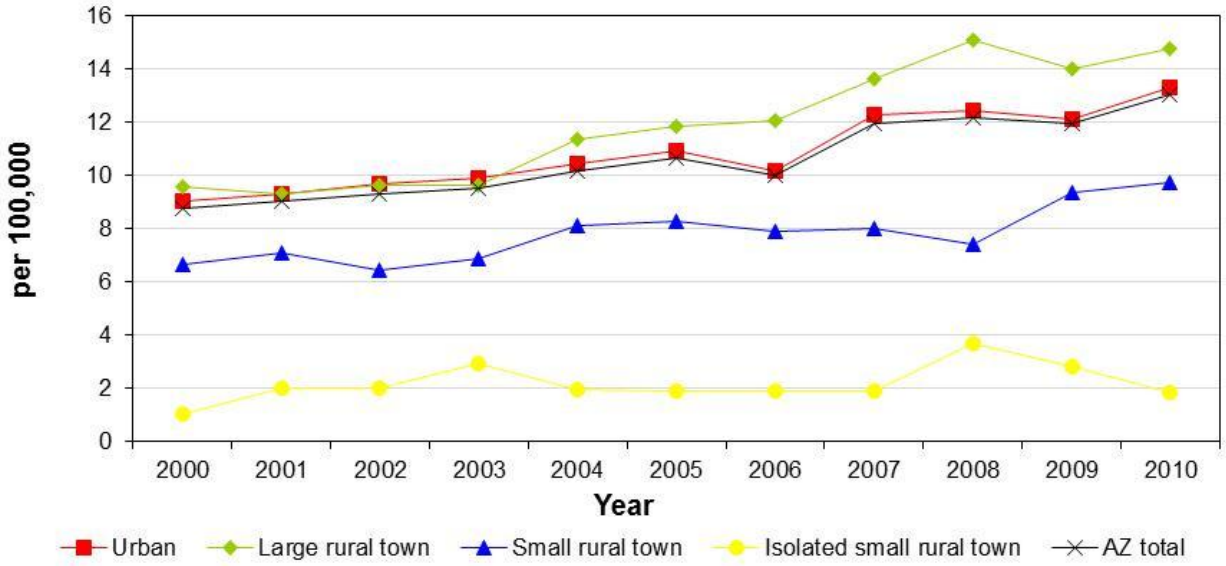


Figure 3.12. Trend of non-primary care physicians (MD and DO) per 100,000 population in Arizona and by counties from 2000 to 2010.

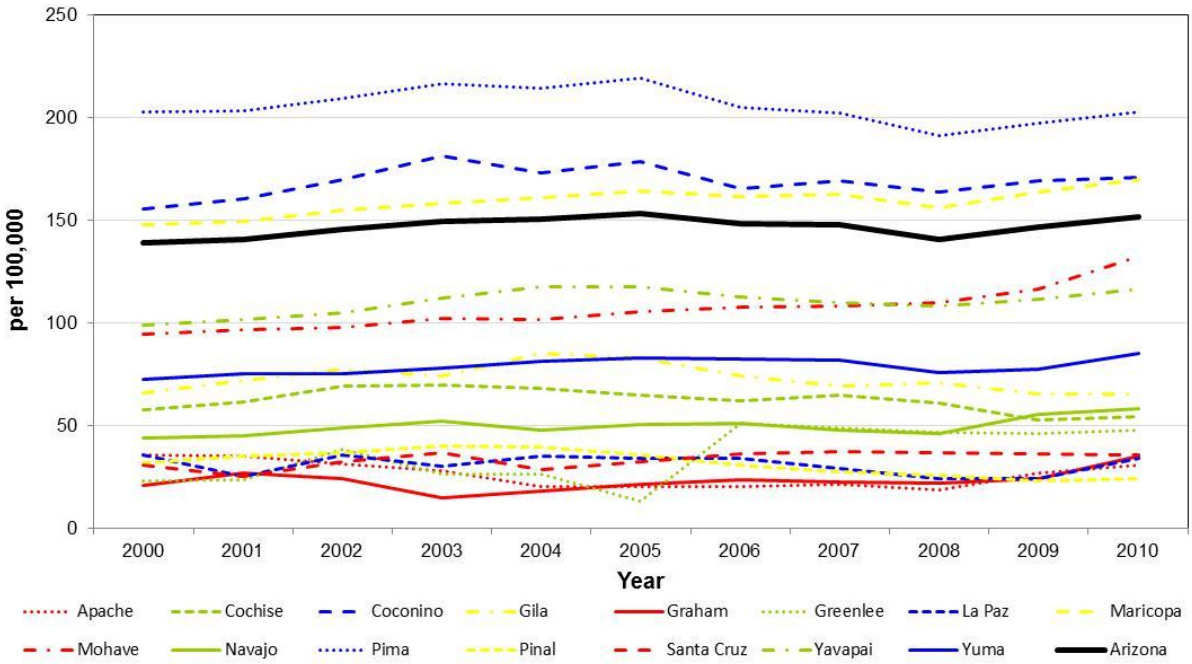


Table 3-9. Number of active licensed non-primary care physicians per 100,000 population from 2007 to 2010 in Arizona by four statewide rural-urban commuting area classifications and by each county.

Non-Primary Care Physicians	Professionals per 100,000 population*				Change from 2007 to 2010
	2007	2008	2009	2010	
Statewide MD and DO	147.8	141.0	146.8	151.8	2.7%
Urban	161.3	152.4	161.0	166.6	3.3%
Large rural town	86.7	85.3	82.5	87.2	0.5%
Small rural town	54.4	52.3	58.9	66.2	21.8%
Isolated small rural town	19.7	19.5	21.5	16.8	-14.7%
Apache County	21.6	18.6	26.8	30.7	42.4%
Cochise County	64.7	61.2	53.0	54.6	-15.6%
Coconino County	169.4	163.8	169.3	170.8	0.8%
Gila County	69.5	71.1	65.3	65.3	-6.0%
Graham County	22.7	21.8	24.0	35.0	54.0%
Greenlee County	48.8	46.7	46.3	47.9	-1.8%
La Paz County	29.1	24.3	24.4	34.2	17.7%
Maricopa County	163.0	156.1	164.2	169.9	4.2%
Mohave County	108.6	110.0	116.7	132.4	21.9%
Navajo County	47.7	46.5	55.8	58.6	22.8%
Pima County	202.2	191.7	197.2	203.1	0.4%
Pinal County	27.8	25.6	23.2	24.5	-11.8%
Santa Cruz County	37.5	36.8	36.2	35.8	-4.5%
Yavapai County	110.2	108.4	111.8	116.6	5.8%
Yuma County	82.2	75.8	77.4	85.5	4.0%
Statewide MDs	135.8	128.7	134.9	138.8	2.2%
Urban	149.0	140.0	148.9	153.3	2.9%
Large rural town	73.1	70.1	68.5	72.4	-0.9%
Small rural town	46.4	44.9	49.5	56.5	21.8%
Isolated small rural town	17.8	15.8	18.7	14.9	-16.2%
Statewide DOs	12.0	12.3	11.9	13.0	8.2%
Urban	12.3	12.4	12.1	13.3	8.5%
Large rural town	13.6	15.1	14.0	14.7	8.3%
Small rural town	8.0	7.4	9.4	9.8	21.6%
Isolated small rural town	1.9	3.7	2.8	1.9	-0.5%

Obstetrics and Gynecology Specialties

There were 784 obstetrics and gynecology physicians in the state in 2010 (Table 3.10), an increase of 34 physicians from 2007 (4.5% increase). Most of the obstetrics and gynecology physicians were located in urban areas (90.6%). Small rural town areas had the largest percent decrease (-9.4%) in the obstetrics/gynecology physicians-population ratio, while urban areas had the largest percent increase (5.3%) from 2007 to 2010.

Table 3.10. Number of active licensed physicians with obstetrics and gynecology specialties from 2007 to 2010 in Arizona and by four statewide rural-urban commuting area classifications.

Obstetrics and Gynecology Specialties	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Statewide MDs and DOs	750	729	769	784	4.5%
Urban	674	653	698	710	5.3%
Large rural town	43	43	42	44	2.3%
Small rural town	32	32	28	29	-9.4%
Isolated small rural town	1	1	1	1	0.0%
Statewide MDs	685	660	695	705	2.9%
Urban	622	597	638	645	3.7%
Large rural town	37	36	36	38	2.7%
Small rural town	25	26	20	21	-16.0%
Isolated small rural town	1	1	1	1	0%
Statewide DOs	65	69	74	79	21.5%
Urban	52	56	60	65	25.0%
Large rural town	6	7	6	6	0.0%
Small rural town	7	6	8	8	14.3%
Isolated small rural town	0	0	0	0	---

The obstetrics and gynecology physicians-population ratio increased slightly from 60.2 to 62.0 per 100,000 women of child bearing age (15 to 44 years old) from 2007 to 2010 (Figures 3.13 -3.15; Table 3.11). Apache and Cochise counties had the largest percent decrease in obstetrics and gynecology physicians-population ratios (-39.8% and -33.3%); while Pinal and Graham counties had the largest percent increase in obstetrics and gynecology physicians-population ratios (39.8% and 30.6%) (Figure 3.16; Table 3.11).

Isolated small rural towns had the largest percent increase in the obstetrics and gynecology physicians-population ratio (15.4%) however the coverage in 2010 was very low (5.7 per 100,000) compared to the other rural categories (large rural town areas with 57.4 per 100,000, small rural town areas with 46.2 per 100,000) (Table 3.11).

As with the other physician types, noticeable inequalities exist in the distribution of obstetrics and gynecology physicians relative to the population served, up to a factor of 12.7 from 2007 to 2010 (Figures 3.13-3.16; Table 3.11).

Figure 3.13. Trend of all physicians (MD and DO) with obstetrics and gynecology specialties per 100,000 women that are of child bearing age in Arizona and by four rural-urban commuting area classifications from 2000 to 2010.

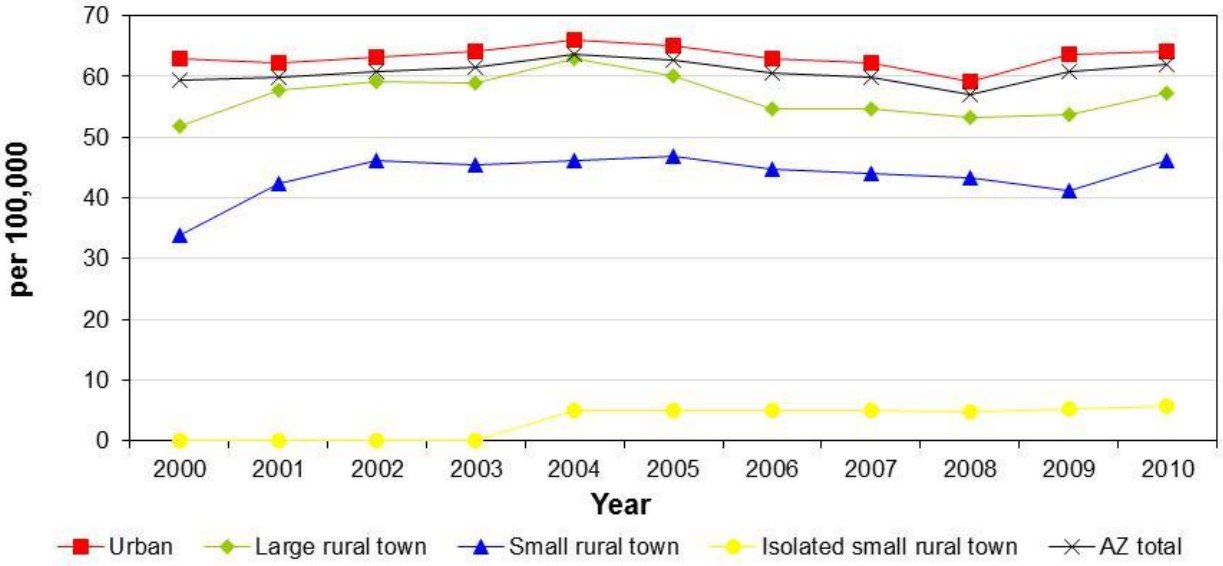


Figure 3.14. Trend of allopathic physicians (MD) with obstetrics and gynecology specialties per 100,000 women that are of child bearing age in Arizona and by four rural-urban commuting area classifications from 2000 to 2010.

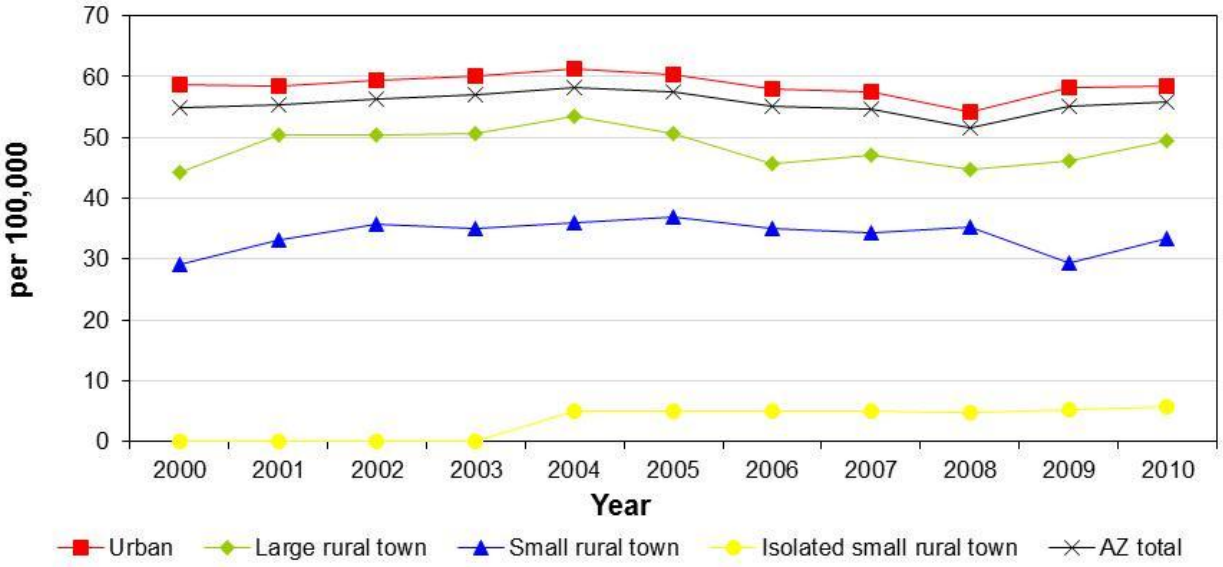


Figure 3.15. Trend of osteopathic physicians (DO) with obstetrics and gynecology specialties per 100,000 women that are of child bearing age in Arizona and by four rural-urban commuting area classifications from 2000 to 2010.

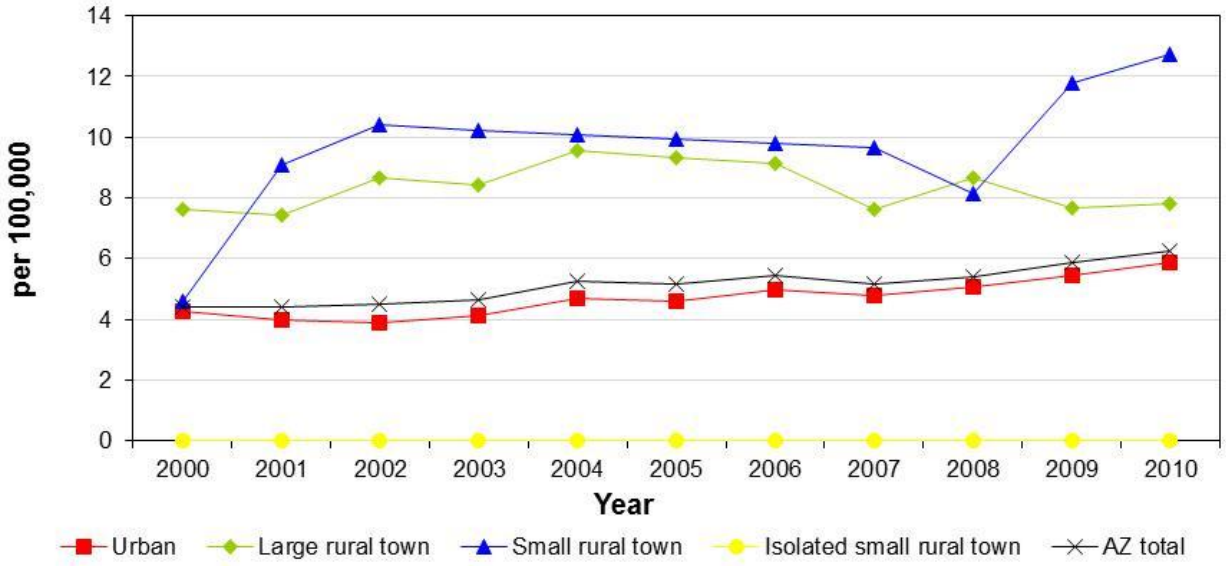


Figure 3.16. Trend of all physicians (MD and DO) with obstetrics and gynecology specialties per 100,000 women that are of child bearing age in Arizona and by counties from 2000 to 2010.

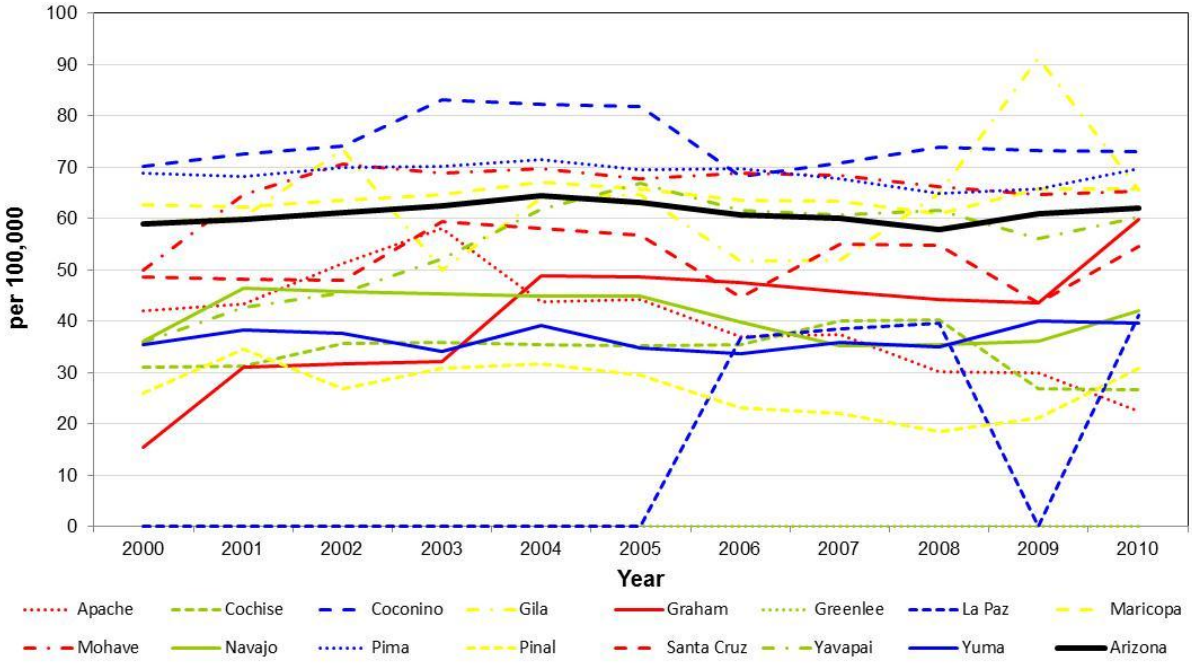


Table 3.11. Number of active licensed physicians with obstetrics and gynecology specialties per 100,000 population from 2007 to 2010 in Arizona by four statewide rural-urban commuting area classifications and by each county.

Obstetrics/Gynecology Specialties	Professionals per 100,000 population*				Change from 2007 to 2010
	2007	2008	2009	2010	
Statewide MDs and DOs	60.2	57.9	60.9	62.0	3.0%
Urban	62.3	59.2	63.6	64.2	3.2%
Large rural town	54.6	53.3	53.7	57.4	5.0%
Small rural town	44.0	43.4	41.3	46.2	4.8%
Isolated small rural town	4.9	4.8	5.3	5.7	15.4%
Apache County	37.5	30.1	30.0	22.6	-39.8%
Cochise County	40.1	40.2	26.8	26.7	-33.3%
Coconino County	70.9	73.8	73.2	73.1	3.1%
Gila County	52.0	64.9	91.3	65.7	26.4%
Graham County	45.9	44.2	43.6	59.9	30.6%
Greenlee County	0.0	0.0	0.0	0.0	---
La Paz County	38.6	39.5	0.0	41.2	6.9%
Maricopa County	63.3	60.9	65.8	65.8	3.8%
Mohave County	68.5	66.3	64.7	65.4	-4.5%
Navajo County	35.2	35.5	36.1	41.9	19.2%
Pima County	67.7	64.8	65.9	69.7	3.0%
Pinal County	22.0	18.5	21.1	30.8	39.8%
Santa Cruz County	54.9	54.7	43.6	54.6	-0.6%
Yavapai County	60.8	61.6	56.0	60.4	-0.7%
Yuma County	36.0	35.0	40.0	39.5	10.0%
Statewide MDs	54.9	52.4	55.0	55.7	1.5%
Urban	57.5	54.1	58.1	58.4	1.6%
Large rural town	47.0	44.7	46.1	49.5	5.4%
Small rural town	34.4	35.2	29.5	33.4	-2.9%
Isolated small rural town	4.9	4.8	5.3	5.7	15.4%
Statewide DOs	5.2	5.5	5.9	6.2	19.8%
Urban	4.8	5.1	5.5	5.9	22.4%
Large rural town	7.6	8.7	7.7	7.8	2.6%
Small rural town	9.6	8.1	11.8	12.7	32.2%
Isolated small rural town	0	0	0	0	---

*Women of child bearing age (15 to 44 years old)

Psychiatric Specialties

In 2010, there were 748 active licensed psychiatric physicians in Arizona (Table 3.12) an increase of 36 psychiatric physicians (5.1%) from 2007. Ninety-four percent of the psychiatric physicians were located in urban areas. Graham and La Paz counties had no psychiatric physicians.

Table 3.12. Number of active licensed physicians with psychiatric specialties from 2007 to 2010 in Arizona and by four statewide rural-urban commuting area classifications.

Psychiatric Specialties	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Statewide MDs and DOs	712	683	704	748	5.1%
Urban	675	644	659	703	4.1%
Large rural town	22	24	22	26	18.2%
Small rural town	14	13	17	15	7.1%
Isolated small rural town	1	2	6	4	300.0%
Statewide MDs	659	626	649	686	4.1%
Urban	625	593	608	645	3.2%
Large rural town	20	20	20	24	20.0%
Small rural town	14	13	17	15	7.1%
Isolated small rural town	0	0	4	2	---
Statewide DOs	53	57	55	62	17.0%
Urban	50	51	51	58	16.0%
Large rural town	2	4	2	2	0.0%
Small rural town	0	0	0	0	---
Isolated small rural town	1	2	2	2	100.0%

Statewide the ratio of physicians with psychiatric specialties per 100,000 population changed little from 11.5 per 100,000 in 2007 to 11.7 in 2010. The rural and urban inequalities in the distribution of psychiatric physicians were as large as a factor of 13.7 from 2007 to 2010. The 2010 psychiatric physicians-population ratios for the four RUCA ruralness categories are: 12.9 per 100,000 for urban areas, 5.5 for large rural town areas, 4.0 for small rural town and 3.7 for isolated small rural town areas (Figures 3.17-3.19; Table 3.13). The inequalities in distribution are even greater between counties (Figure 3.20).

Figure 3.17. Trend of all physicians (MD and DO) with psychiatric specialties per 100,000 population in Arizona and by four rural-urban commuting area classifications from 2000 to 2010.

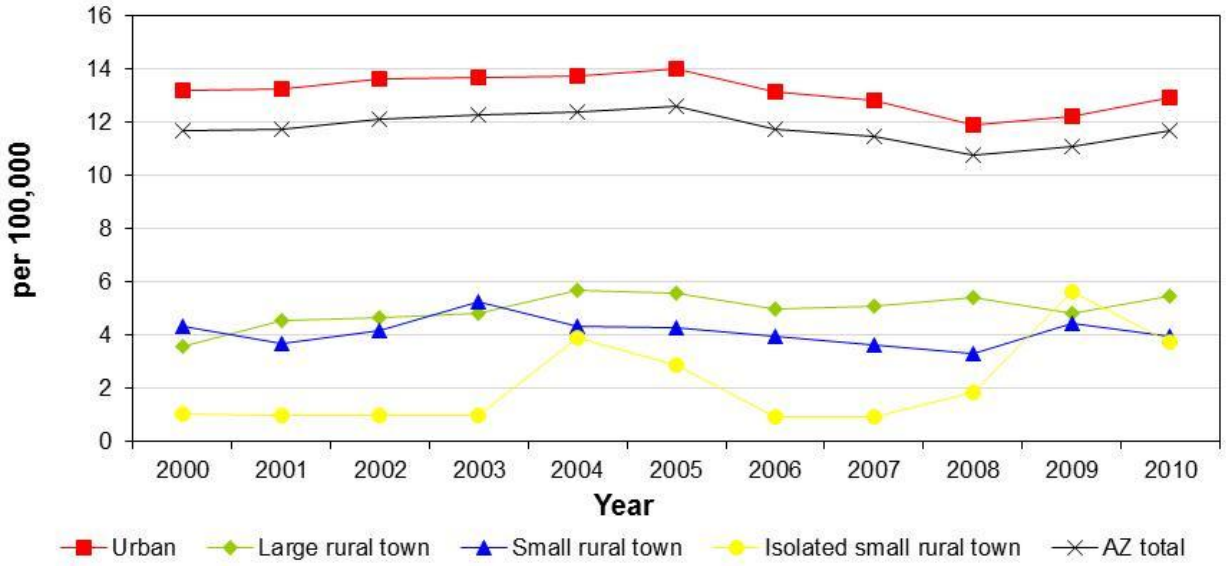


Figure 3.18. Trend of allopathic physicians (MD) with psychiatric specialties per 100,000 population in Arizona and by four rural-urban commuting area classifications from 2000 to 2010.

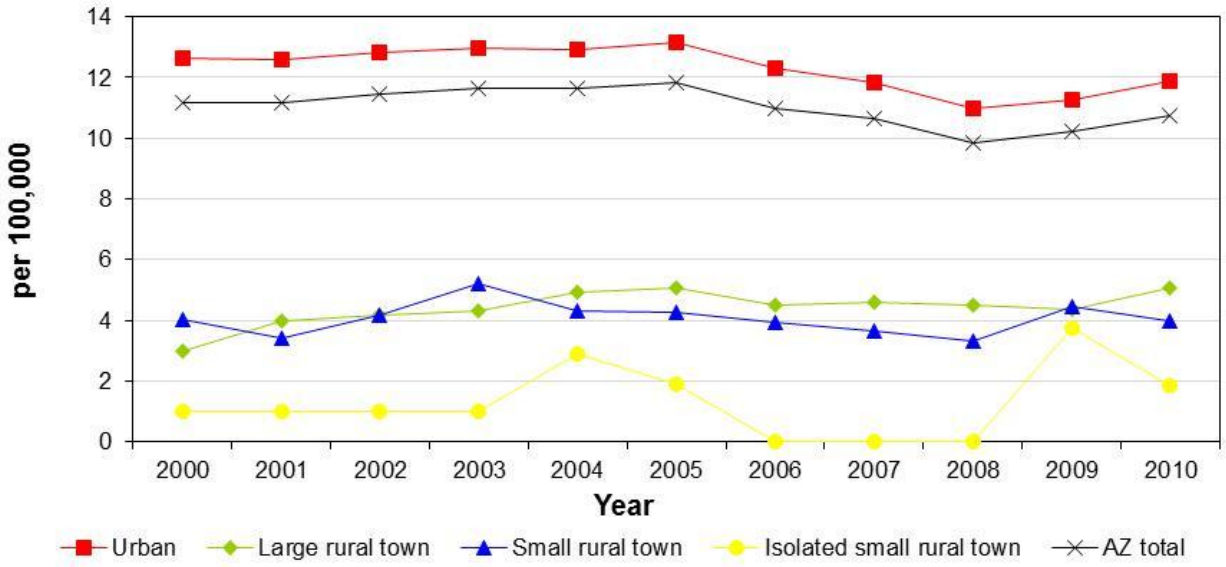


Figure 3.19. Trend of osteopathic physicians (DO) with psychiatric specialties per 100,000 population in Arizona and by four rural-urban commuting area classifications from 2000 to 2010.

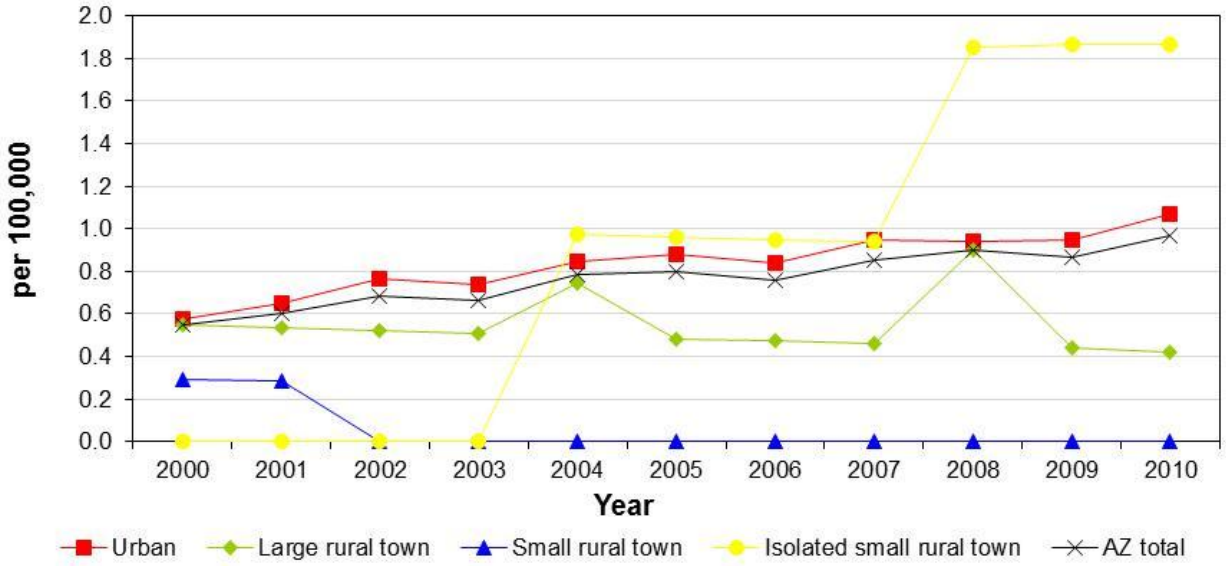


Figure 3.20. Trend of all physicians (MD and DO) with psychiatric specialties per 100,000 population in Arizona and by counties from 2000 to 2010.

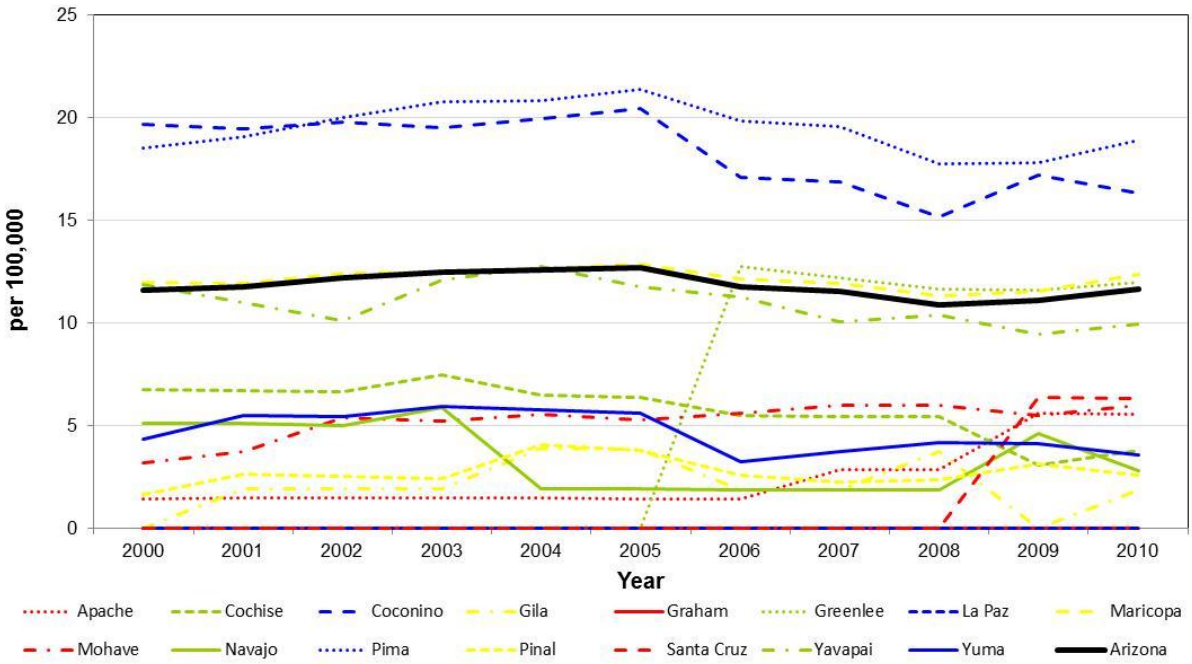


Table 3-13. Number of active licensed physicians with psychiatric specialties per 100,000 population from 2007 to 2010 in Arizona by four statewide rural-urban commuting area classifications and by each county.

Psychiatric Specialties	Professionals per 100,000 population				Change from 2007 to 2010
	2007	2008	2009	2010	
Statewide MDs and DOs	11.5	10.9	11.1	11.7	1.0%
Urban	12.8	11.9	12.2	12.9	1.1%
Large rural town	5.1	5.4	4.8	5.5	7.9%
Small rural town	3.6	3.3	4.4	4.0	9.2%
Isolated small rural town	0.9	1.9	5.6	3.7	297.9%
Apache County	2.9	2.9	5.6	5.6	94.2%
Cochise County	5.5	5.4	3.1	3.8	-30.5%
Coconino County	16.9	15.2	17.2	16.3	-3.1%
Gila County	1.9	3.7	0.0	1.9	-0.6%
Graham County	0.0	0.0	0.0	0.0	---
Greenlee County	12.2	11.7	11.6	12.0	-1.8%
La Paz County	0.0	0.0	0.0	0.0	---
Maricopa County	11.9	11.3	11.6	12.4	3.6%
Mohave County	6.0	6.0	5.5	6.0	-0.2%
Navajo County	1.9	1.9	4.6	2.8	49.1%
Pima County	19.6	17.8	17.8	18.9	-3.2%
Pinal County	2.3	2.4	3.1	2.6	14.0%
Santa Cruz County	0.0	0.0	6.4	6.3	---
Yavapai County	10.1	10.4	9.5	9.9	-1.1%
Yuma County	3.7	4.2	4.1	3.6	-4.7%
Statewide MDs	10.7	10.0	10.2	10.7	0.1%
Urban	11.9	11.0	11.3	11.9	0.2%
Large rural town	4.6	4.5	4.4	5.1	9.5%
Small rural town	3.6	3.3	4.4	4.0	9.2%
Isolated small rural town	0.0	0.0	3.7	1.9	---
Statewide DOs	0.86	0.91	0.87	0.97	12.5%
Urban	0.95	0.94	0.95	1.07	12.6%
Large rural town	0.46	0.90	0.44	0.42	-8.7%
Small rural town	0.00	0.00	0.00	0.00	---
Isolated small rural town	0.94	1.85	1.87	1.87	99.0%

3.4. Physician Assistants

Physician assistants provide primary care services under the responsible supervision of a licensed physician. Physician assistants are considered mid-level health care practitioners. There were 1,833 active licensed physician assistants in Arizona in 2010 (Table 3.14), an increase of 378 (26%) from 2007. Eighty-six percent (85.7%) of the physician assistants were located in urban areas, however the largest percent increase occurred in the small rural town areas (38%) and large rural town areas had a 32% increase from 2007 to2010.

Table 3.14. Number of active licensed physician assistants from 2007 to 2010 in Arizona and by four statewide rural-urban commuting area classifications.

Physician Assistants	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Statewide	1,455	1,457	1,563	1,833	26.0%
Urban	1,259	1,260	1,356	1,571	24.8%
Large rural town	105	105	115	139	32.4%
Small rural town	79	80	82	109	38.0%
Isolated small rural town	12	12	10	14	16.7%

The statewide ratio of physician assistants to 100,000 population increased from 24 to 29 (21.1% increase) from 2007 to 2010. Santa Cruz County had the greatest percent decrease in physician assistants-population ratio with one physician assistant reported in 2007 and 2008 and zero physician assistants reporting in 2009 and 2010. La Paz County had the greatest percent increase in the physician assistants-population ratio (101.8%) from 2007 to 2010.

Small rural town areas had the greatest percent increase in physician assistants-population ratio (40.6%) during the four-year period. Urban areas, large rural town areas, and small rural town areas had the same physician assistants-population ratio (29 per 100,000) in 2010. Both urban areas and large rural town areas had the same percent increase in physician assistants-population ratios (21%) from 2007 to 2010.

Figure 3.21. Trend of physician assistants per 100,000 population in Arizona and by four rural-urban commuting area classifications from 2000 to 2010.

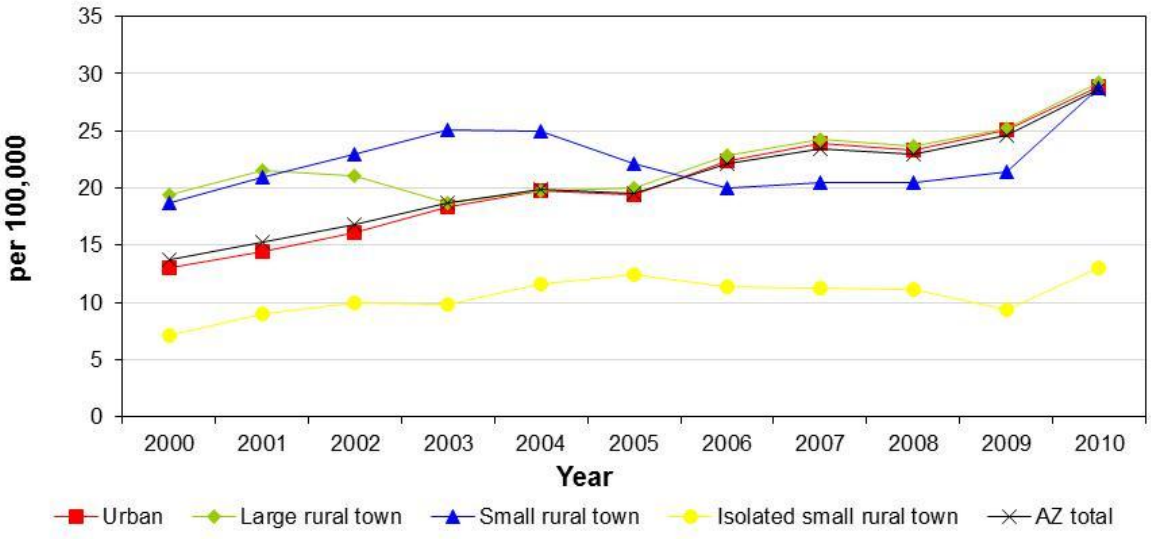


Figure 3.22. Trend of physician assistants per 100,000 population in Arizona and by counties from 2000 to 2010.

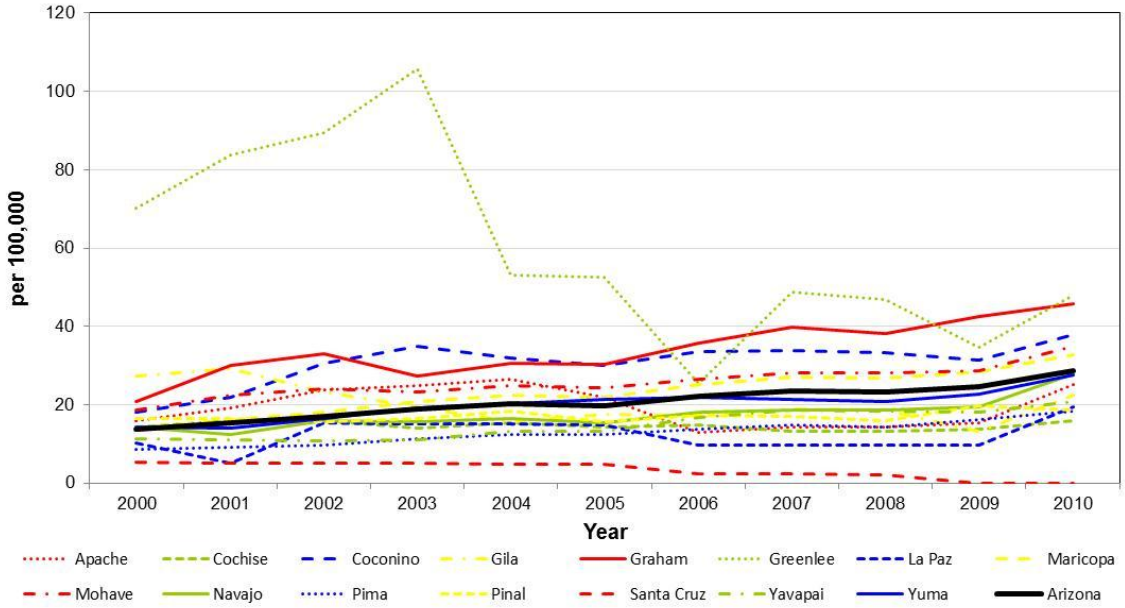


Table 3-16. Number of active licensed physician assistants per 100,000 population from 2007 to 2010 in Arizona by four statewide rural-urban commuting area classifications and by each county.

Physician Assistants	Professionals per 100,000 population				Change from 2007 to 2010
	2007	2008	2009	2010	
State wide	23.6	23.2	24.6	28.6	21.1%
Urban	23.9	23.3	25.1	28.9	21.1%
Large rural town	24.2	23.7	25.2	29.3	20.8%
Small rural town	20.5	20.4	21.4	28.8	40.6%
Isolated small rural town	11.3	11.1	9.3	13.1	16.1%
Apache County	14.4	14.3	15.5	25.1	74.8%
Cochise County	13.3	13.2	13.8	15.9	20.2%
Coconino County	33.7	33.4	31.5	37.9	12.3%
Gila County	18.8	18.7	13.1	22.4	19.3%
Graham County	39.8	38.2	42.6	45.8	15.1%
Greenlee County	48.8	46.7	34.7	47.9	-1.8%
La Paz County	9.7	9.7	9.7	19.6	101.8%
Maricopa County	27.1	26.7	28.3	32.8	21.3%
Mohave County	28.0	28.0	28.5	35.0	24.7%
Navajo County	18.7	18.6	19.5	27.9	49.1%
Pima County	14.8	14.4	16.1	18.3	24.2%
Pinal County	17.0	15.8	19.7	18.5	8.9%
Santa Cruz County	2.2	2.2	0.0	0.0	-100.0%
Yavapai County	18.7	18.5	18.0	20.8	11.6%
Yuma County	21.3	20.9	22.7	27.5	28.7%

SECTION 4: NURSES

This section includes seven types of nursing professionals: certified registered nurse anesthetists, nurse practitioners, certified nurse midwives, clinical nurse specialists, registered nurses, licensed practical nurses, and certified nurse assistants. Many of the nurses have several types of active licenses so the nursing board data were merged and each individual was assigned the type of license that would mostly likely receive the highest wage. This was done to eliminate double or triple counting of individuals and over estimating the nursing workforce.

4.1. Advanced Practice Nurses

Advanced practice nurses (APRNs) are registered nurses (RNs) with additional training and licensing. The APRN workforce analyzed in this study are certified registered nurse anesthetists, nurse practitioners, certified nurse midwives, and clinical nurse specialists. Certified registered nurse anesthetists (CRNA) have graduate-level education and are board certified in anesthesia. Nurse practitioners (NP) have graduate-level education and can diagnose and treat patients with physical and mental conditions. Nurse practitioners with primary care specialties may serve as primary health care providers. Certified nurse midwives (CNM) have graduate-level education and specialized training in midwifery. Certified nurse midwives practice in hospitals, clinics, birthing centers, and attend at-home births. Clinical nurse specialists (CNS) have graduate-level education as clinical specialists in nursing for integrated patient care. Nurse practitioners are the largest group of advance practice nurse, far exceeding the number of other APRNs combined (Table 4.1).

Certified Registered Nurse Anesthetists

There were 310 CRNAs in Arizona with active Arizona licenses in 2010 (Table 4.1), an increase of 50 CRNAs (19.2%) from 2007. The majority of CRNAs (85.5%) are located in urban areas and the largest percent increase in CRNAs (24.4%) occurred in the urban areas.

Statewide, the CRNAs to 100,000 population ratio increased from 4.2 to 4.8 per 100,000 (Figure 4.1; Table 4.2). The largest CRNAs-population ratio in 2010 was in large rural town areas, however the population ratio decreased by 21.3 percent from 2007. The ratio decreased by 25.4 percent in isolated small rural town areas during the same period while the ratio increased in urban areas by 20.8 percent and in small rural town areas by 23.7 percent. Gila County had the largest percent decrease in CRNAs-population ratio (40%). The ratio deceased in Cochise County by 35 percent, increased in Navajo County by 59 percent, and increase in Coconino County by 32 percent.

Although the inequalities in the distribution of CRNAs by counties are great, the inequalities of CRNAs by ruralness are better than most other health professions, a maximum urban/rural factor of 1.7 from 2007 to 2010 (Figures 4.1 and 4.2).

Nurse Practitioners

Nurse practitioners are considered mid-level health care practitioners along with physician assistants (described in Section 3). Nurse practitioners and physician assistants along with physicians are important professions that provide primary health care. In 2010, there were more nurse practitioners (2,957, Table 4.1) than physician assistants (1,833, Table 3.14) in Arizona. Ninety percent (90.2%) of the nurse practitioners were located in urban areas in 2010. There was an increase of 671 nurse practitioners (29.4%) between 2007 and 2010 (Table 4.1).

During this period, the ratio of nurse practitioners to 100,000 population increased

from 37 to 46 (24.4% increase) (Table 4.3). Apache County had the largest percent increase in nurse practitioners-population ratio (55.4%). Greenlee County did not have any nurse practitioners during the four-year period. All four RUCA ruralness categories had at least 20 percent increases in their nurse practitioners-population ratios during 2007 and 2010.

The inequalities in distribution of nurse practitioners-population ratios by ruralness were as large as a factor of 1.8 from 2007 to 2010 with 2010 ratios of 49 per 100,000 for urban areas, 32 for large rural town areas, 27 for small rural town areas, and 34 for isolated small rural town areas (Figure 4.3; Table 4.3).

Table 4.1. Number of active licensed advanced practice nurses from 2007 to 2010 in Arizona and by four statewide rural-urban commuting area classifications.

Advance Practice Nurses	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Certified Registered Nurse Anesthetists (CRNA)					
Statewide	260	280	278	310	19.2%
Urban	213	232	236	265	24.4%
Large rural town	29	30	25	25	-13.8%
Small rural town	14	14	14	17	21.4%
Isolated small rural town	4	4	3	3	-25.0%
Nurse Practitioners (NP)					
Statewide	2,286	2,510	2,710	2,957	29.4%
Urban	2,059	2,257	2,433	2,667	29.5%
Large rural town	114	128	142	150	31.6%
Small rural town	85	95	100	104	22.4%
Isolated small rural town	28	30	35	36	28.6%
Certified Nurse Midwives (CNM)					
Statewide	144	144	138	140	-2.8%
Urban	127	127	116	119	-6.3%
Large rural town	3	3	4	4	33.3%
Small rural town	13	13	17	16	23.1%
Isolated small rural town	1	1	1	1	0%
Clinical Nurse Specialists (CNS)					
Statewide	103	108	117	122	18.4%
Urban	100	103	112	117	17.0%
Large rural town	2	3	3	3	50.0%
Small rural town	1	1	2	2	100.0%
Isolated small rural town	0	1	0	0	---

Figure 4.1. Trend of certified registered nurse anesthetists per 100,000 population in Arizona and by four rural-urban commuting area classifications from 2000 to 2010.

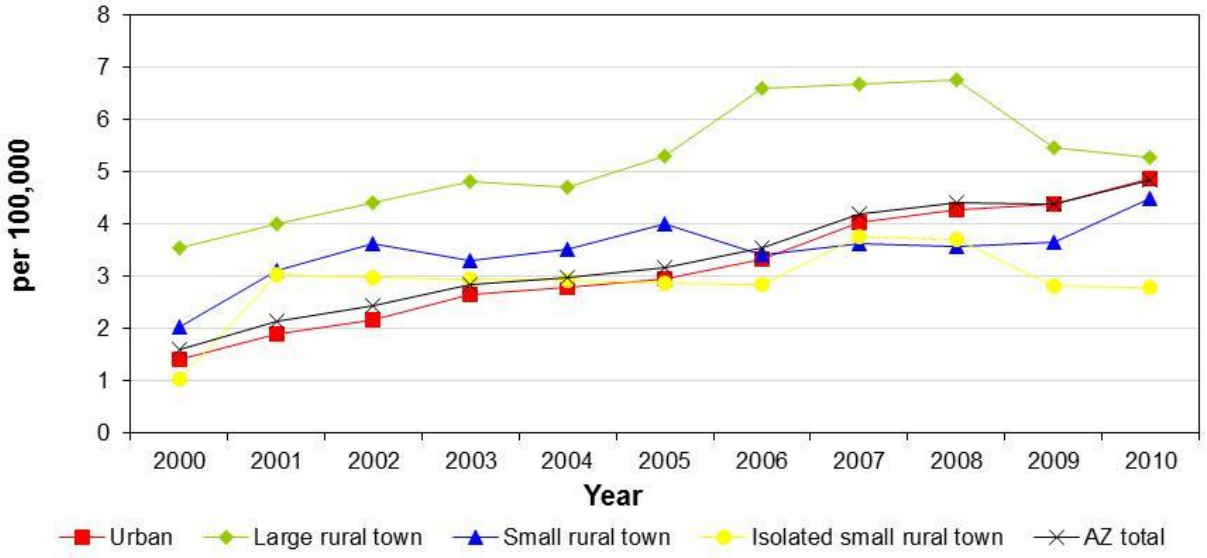


Figure 4.2. Trend of certified registered nurse anesthetists per 100,000 population in Arizona and by counties from 2000 to 2010.

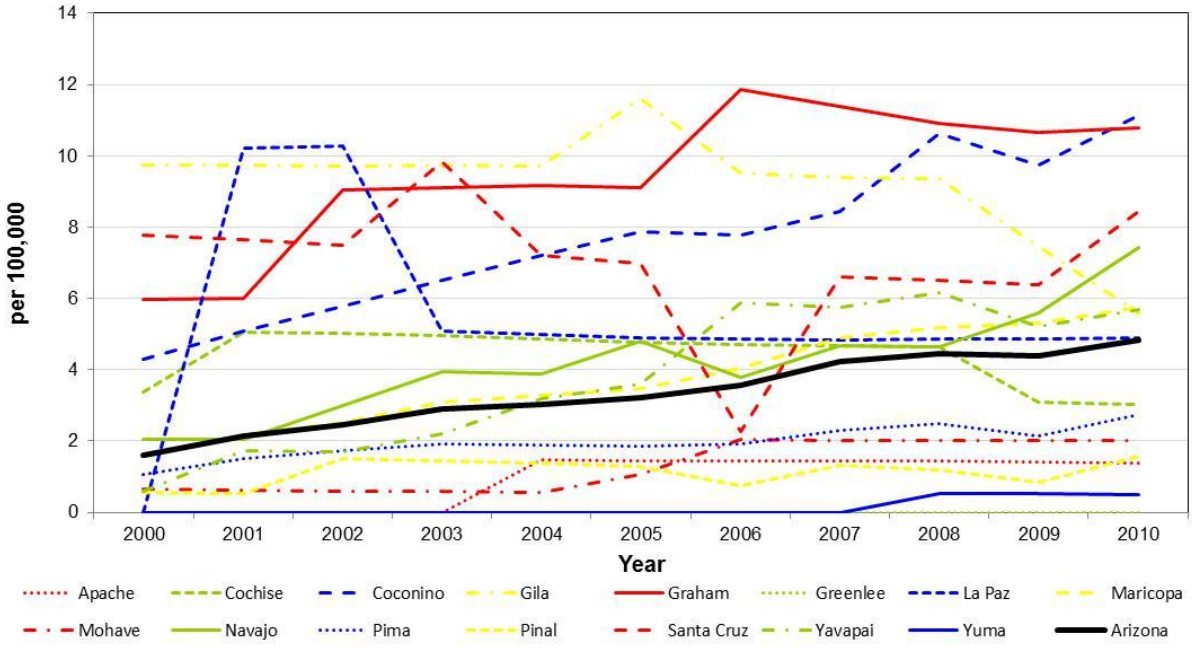


Table 4.2. Number of active licensed certified registered nurse anesthetists per 100,000 population from 2007 to 2010 in Arizona by four statewide rural-urban commuting area classifications and by each county.

Certified Registered Nurse Anesthetists	Professionals per 100,000 population				Change from 2007 to 2010
	2007	2008	2009	2010	
Statewide	4.22	4.46	4.38	4.83	14.7%
Urban	4.04	4.29	4.37	4.88	20.8%
Large rural town	6.69	6.77	5.47	5.27	-21.3%
Small rural town	3.63	3.57	3.65	4.49	23.7%
Isolated small rural town	3.75	3.71	2.80	2.80	-25.4%
Apache County	1.44	1.43	1.41	1.40	-2.9%
Cochise County	4.68	4.65	3.08	3.04	-35.1%
Coconino County	8.43	10.62	9.74	11.14	32.1%
Gila County	9.39	9.36	7.47	5.60	-40.4%
Graham County	11.37	10.92	10.66	10.78	-5.2%
Greenlee County	0	0	0	0	---
La Paz County	4.84	4.86	4.87	4.89	0.9%
Maricopa County	4.90	5.17	5.31	5.75	17.2%
Mohave County	2.00	2.00	2.00	2.00	-0.2%
Navajo County	4.68	4.65	5.58	7.44	59.1%
Pima County	2.30	2.48	2.15	2.75	19.4%
Pinal County	1.31	1.19	0.86	1.56	19.6%
Santa Cruz County	6.62	6.50	6.38	8.43	27.4%
Yavapai County	5.75	6.15	5.21	5.69	-1.1%
Yuma County	0	0.52	0.52	0.51	---

Figure 4.3. Trend of nurse practitioners per 100,000 population in Arizona and by four rural-urban commuting area classifications from 2000 to 2010.

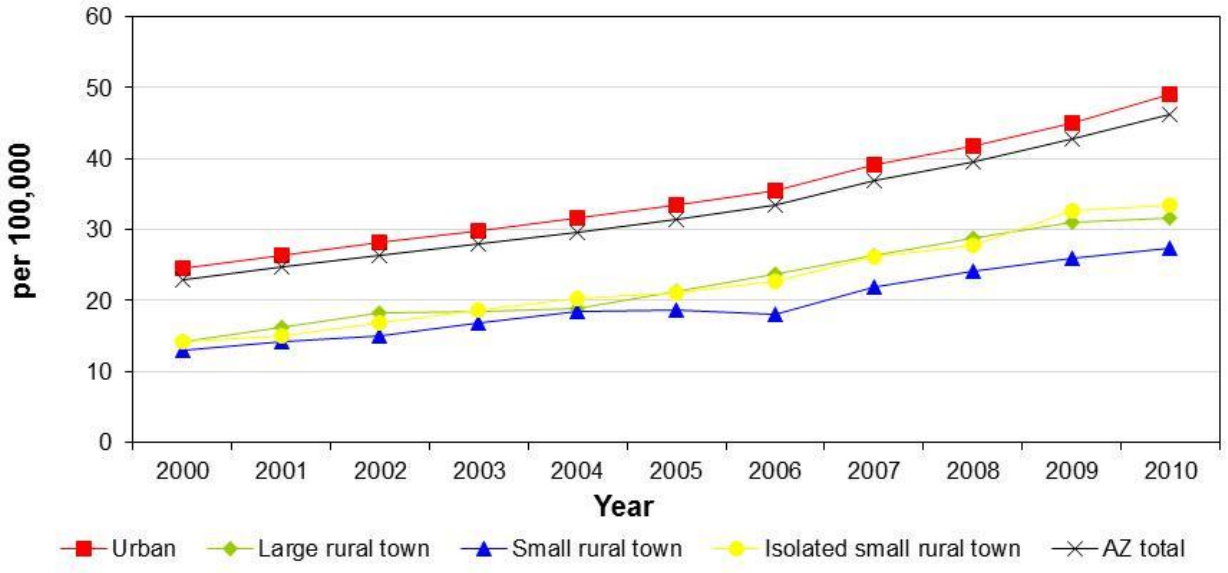


Figure 4.4. Trend of nurse practitioners per 100,000 population in Arizona and by counties from 2000 to 2010.

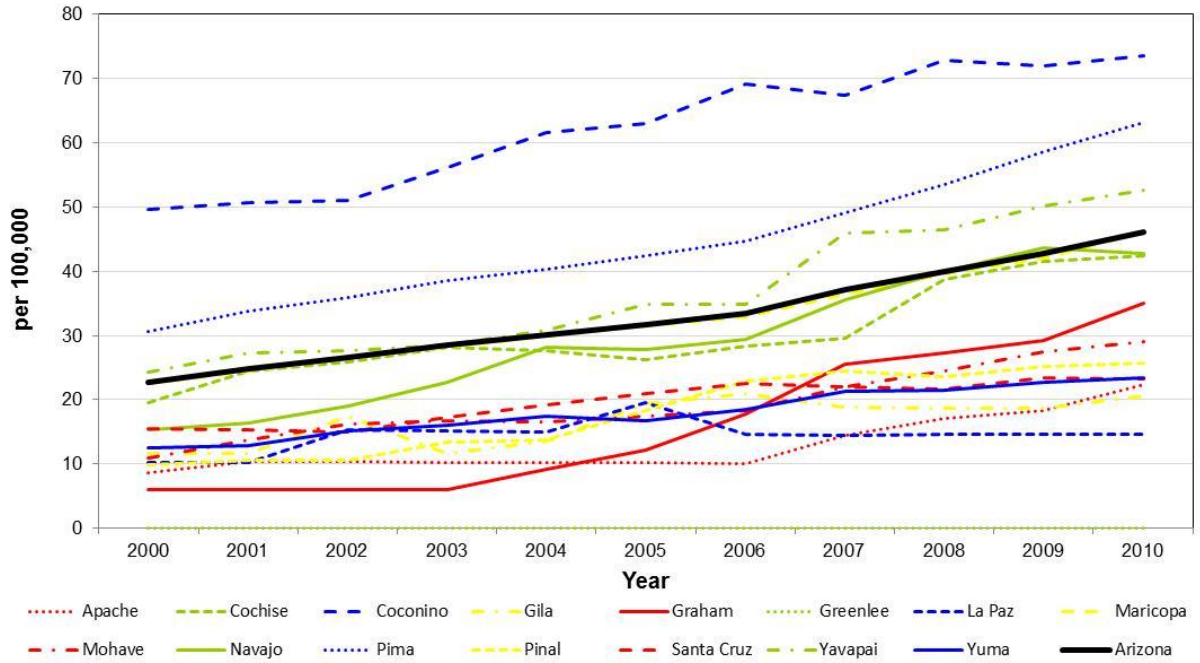


Table 4-3. Number of active licensed nurse practitioners per 100,000 population from 2007 to 2010 in Arizona by four statewide rural-urban commuting area classifications and by each county.

Nurse Practitioners	Professionals per 100,000 population				Change from 2007 to 2010
	2007	2008	2009	2010	
Statewide	37.1	40.0	42.7	46.1	24.4%
Urban	39.1	41.7	45.1	49.1	25.7%
Large rural town	26.3	28.9	31.1	31.6	20.1%
Small rural town	22.0	24.2	26.1	27.4	24.7%
Isolated small rural town	26.3	27.8	32.7	33.6	27.9%
Apache County	14.4	17.2	18.3	22.3	55.4%
Cochise County	29.6	38.8	41.5	42.5	43.4%
Coconino County	67.5	72.8	71.9	73.5	9.0%
Gila County	18.8	18.7	18.7	20.5	9.3%
Graham County	25.6	27.3	29.3	35.0	36.9%
Greenlee County	0	0	0	0	---
La Paz County	14.5	14.6	14.6	14.7	0.9%
Maricopa County	36.5	39.6	42.1	46.2	26.5%
Mohave County	22.0	24.5	27.5	29.0	31.5%
Navajo County	35.5	40.0	43.7	42.8	20.4%
Pima County	49.2	53.4	58.5	63.1	28.4%
Pinal County	24.5	23.6	25.2	25.8	5.3%
Santa Cruz County	22.1	21.7	23.4	23.2	5.1%
Yavapai County	46.0	46.4	50.2	52.6	14.4%
Yuma County	21.3	21.4	22.7	23.4	9.6%

Certified Nurse Midwives

Certified nurse midwives provides care for a normally healthy mother during pregnancy and stays with her during labor, providing continuous physical and emotional support. CNMs evaluate and provide immediate care for a normally healthy newborn, and help the mother to care for her infant and to adjust to the home situation for the new child. Nurse midwives are permitted to deliver babies of low risk mothers in a hospital while under the supervision of a physician, generally, an obstetrician.

Statewide, there were 140 certified nurse midwives in 2010 (Table 4.1), a decrease of 4 CNMs (-2.8%) from 2007. This resulted in a 4.2 percent decrease in the number of certified nurse midwives per 100,000 women of child-bearing age (11.6 to 11.1, Table 4.4). Eighty-five percent of the CNMs were located in urban areas in 2010. There were no CNMs reported in Gila, Greenlee, La Paz, and Santa Cruz counties during the four-year period.

Clinical Nurse Specialists

In 2010, there were 122 clinical nurse specialists statewide, an 18.4 percent increase from 2007 (Table 4.1). Most of the CNSs were located in urban areas (95.9%). The CNSs-population ratio increased from 1.7 to 1.9 from 2007 to 2010 (Table 4.5). There were no active CNSs reported in Apache, Gila, Graham, Greenlee, La Paz, Santa Cruz and Yuma counties from 2007 to 2010 (Appendix B).

Figure 4.5. Trend of certified nurse midwives per 100,000 women that are of child bearing age in Arizona and by four rural-urban commuting area classifications from 2000 to 2010.

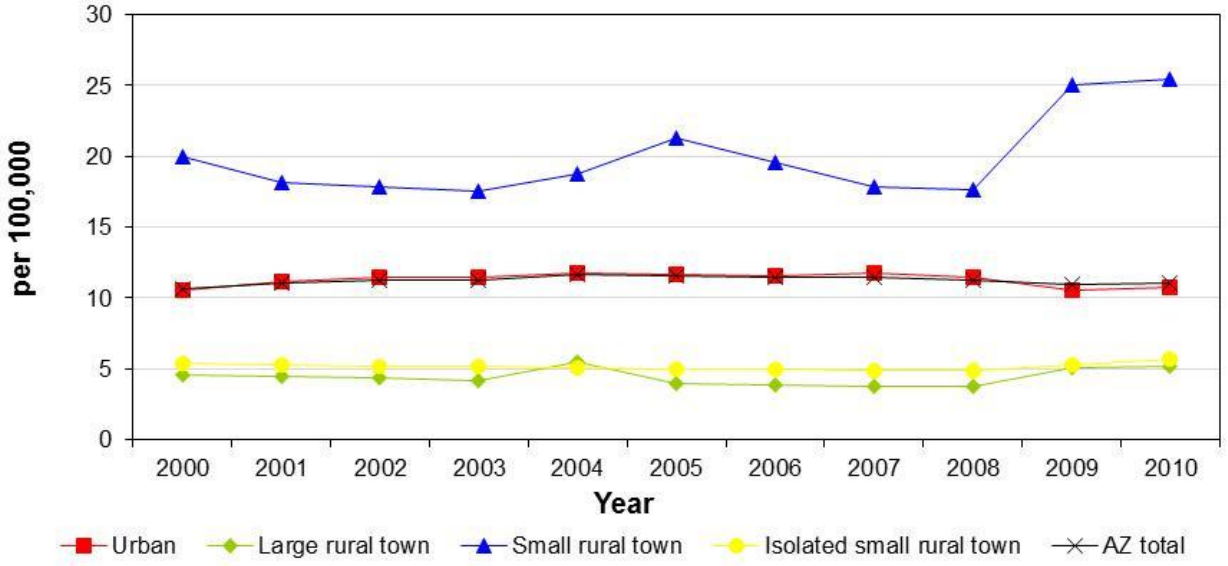


Figure 4.6. Trend of certified nurse midwives per 100,000 women that are of child bearing age in Arizona and by counties from 2000 to 2010.

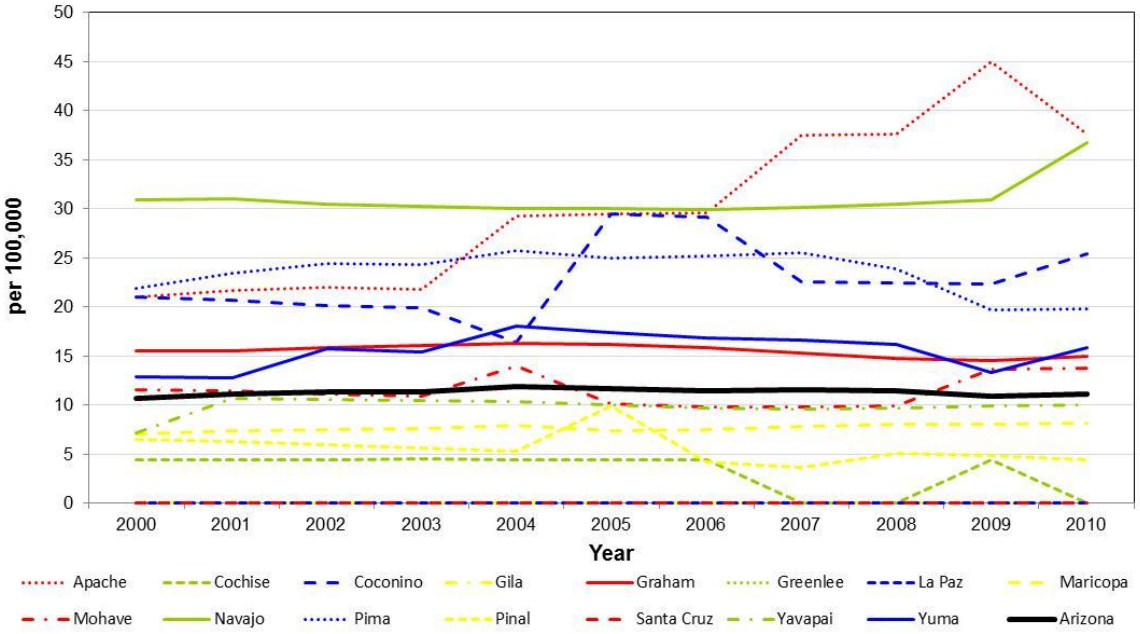


Table 4-4. Number of active licensed certified nurse midwives per 100,000 population from 2007 to 2010 in Arizona by four statewide rural-urban commuting area classifications and by each county.

Certified Nurse Midwives	Professionals per 100,000 population*				Change from 2007 to 2010
	2007	2008	2009	2010	
Statewide	11.6	11.4	10.9	11.1	-4.2%
Urban	11.7	11.5	10.6	10.8	-8.2%
Large rural town	3.8	3.7	5.1	5.2	36.8%
Small rural town	17.9	17.6	25.1	25.5	42.3%
Isolated small rural town	4.9	4.8	5.3	5.7	15.4%
Apache County	37.5	37.7	45.0	37.6	0.3%
Cochise County	0	0	4.5	0	---
Coconino County	22.6	22.5	22.3	25.4	12.7%
Gila County	0	0	0	0	---
Graham County	15.3	14.7	14.5	15.0	-2.1%
Greenlee County	0	0	0	0	---
La Paz County	0	0	0	0	---
Maricopa County	7.9	8.0	8.0	8.2	4.1%
Mohave County	9.8	9.9	13.6	13.8	40.7%
Navajo County	30.1	30.4	30.9	36.7	21.7%
Pima County	25.5	23.9	19.7	19.8	-22.5%
Pinal County	3.7	5.0	4.9	4.4	19.8%
Santa Cruz County	0	0	0	0	---
Yavapai County	9.6	9.7	9.9	10.1	4.8%
Yuma County	16.6	16.2	13.3	15.8	-4.7%

*Women of child bearing age (15 to 44 years old)

Figure 4.7. Trend of clinical nurse specialists per 100,000 population in Arizona and by four rural-urban commuting area classifications from 2000 to 2010.

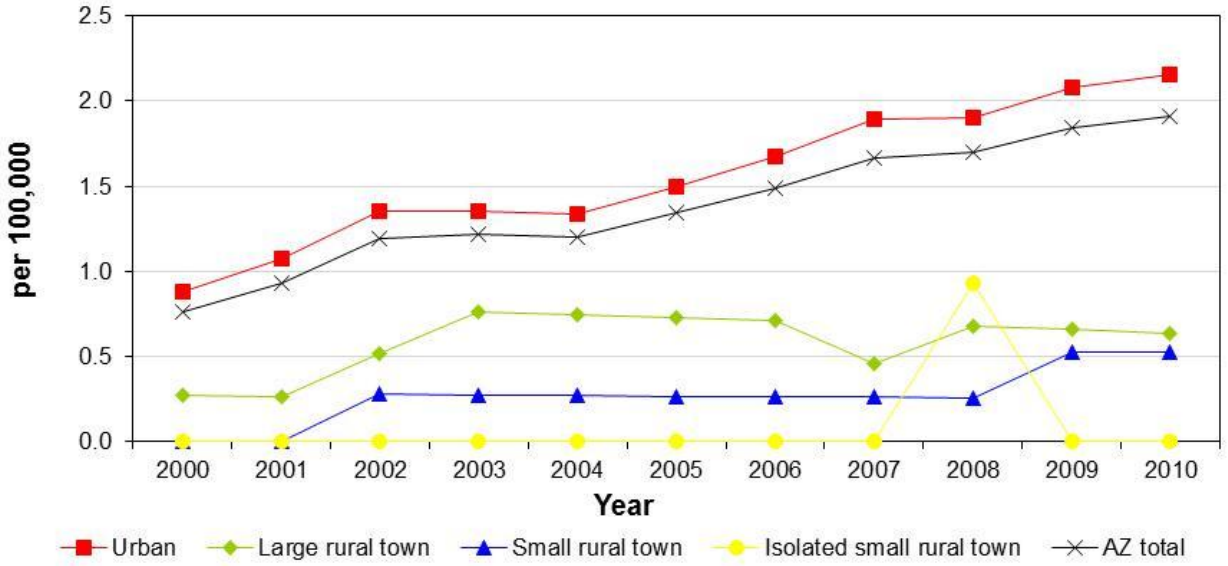


Figure 4.8. Trend of clinical nurse specialists per 100,000 population in Arizona and by counties from 2000 to 2010.

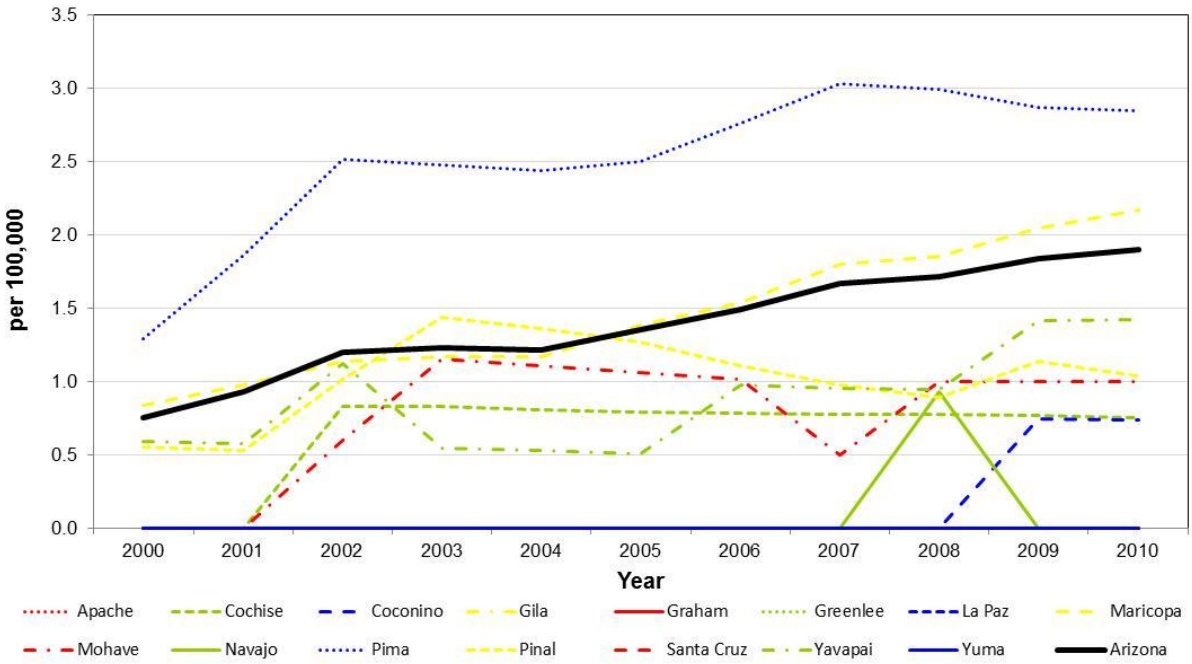


Table 4-5. Number of active licensed clinical nurse specialists per 100,000 population from 2007 to 2010 in Arizona by four statewide rural-urban commuting area classifications and by each county.

Clinical Nurse Specialists	Professionals per 100,000 population				Change from 2007 to 2010
	2007	2008	2009	2010	
Statewide	1.67	1.72	1.84	1.90	13.9%
Urban	1.90	1.90	2.08	2.15	13.6%
Large rural town	0.46	0.68	0.66	0.63	36.9%
Small rural town	0.26	0.26	0.52	0.53	103.8%
Isolated small rural town	0	0.93	0	0	---
Apache County	0	0	0	0	---
Cochise County	0.78	0.78	0.77	0.76	-2.7%
Coconino County	0	0	0.75	0.74	---
Gila County	0	0	0	0	---
Graham County	0	0	0	0	---
Greenlee County	0	0	0	0	---
La Paz County	0	0	0	0	---
Maricopa County	1.80	1.86	2.05	2.17	20.1%
Mohave County	0.50	1.00	1.00	1.00	99.6%
Navajo County	0.00	0.93	0	0	---
Pima County	3.03	3.00	2.87	2.85	-6.0%
Pinal County	0.98	0.89	1.14	1.04	6.4%
Santa Cruz County	0	0	0	0	---
Yavapai County	0.96	0.95	1.42	1.42	48.4%
Yuma County	0	0	0	0	---

4.2. Registered Nurses

Registered nurses are responsible for nursing care that patients receive. In addition to being the primary link between patients and physicians, they supervise licensed practical nurses and other health professionals.[15]

There were 55,936 registered nurses with active Arizona licenses in the state in 2010 and 89.6 percent of them were located in urban areas (Table 4.6). From 2007 to 2010, there was a statewide increase of registered nurses (2,035, 3.8%) with a 1,937 increase in urban areas (4.0%), a 156 increase in large rural town areas (5.0%), a 29 decrease in small rural town areas (-1.3%) and a 29 decrease in isolated small towns areas (-6.7%) (Table 4.6).

The ratio of number of registered nurses per 100,000 population in Arizona slightly decreased from 874 to 872 (-0.2%) during the four years (Table 4.7). Pinal County had the largest percent decrease (-10.9%) in registered nurses-population ratio, while Greenlee had the largest county percentage increase (36.7%) in registered nurses-population ratio (Table 4.7). The isolated small rural town areas (-7.2%) and large rural town areas (-4.1%) decreased in the registered nurses-population ratios, while urban areas (1.0%) and small rural town areas (0.5%) increased (Table 4.7).

The inequalities in distribution of registered nurses-population ratios by ruralness were as large as a factor of 2.4 from 2007 to 2010 and larger between counties (Figures 4.9 and 4.10). The ratios of RNs per 100,000 population in 2010 were 922 for urban areas, 689 for large rural town areas, 570 for small rural town areas, and 377 for isolated small rural town areas (Table 4.7).

Table 4-6. Number of registered nurses with active licenses from 2007 to 2010 in Arizona and by four statewide rural-urban commuting area classifications.

Registered Nurses	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Statewide	53,901	56,099	53,635	55,936	3.8%
Urban	48,161	50,202	48,086	50,098	4.0%
Large rural town	3117	3230	3088	3273	5.0%
Small rural town	2190	2228	2064	2161	-1.3%
Isolated small rural town	433	439	397	404	-6.7%

4.3. Licensed Practical Nurses

Licensed practical nurses provide nursing care to sick, injured, and convalescent patients under the general supervision of physicians and registered nurses; they may also assist in the supervisions of nursing aides, orderlies, and attendants.

There were 8,846 LPNs in Arizona in 2010 and 88.2 percent of them were located in urban areas (Table 4.8). From 2007 to 2010, there was a statewide decrease of 676 LPNs (-7.1%) with larger decreases in large rural town areas (-11.1%), small rural town areas (-9.8%), and isolated small rural town areas (-16.1%) than in urban areas (-6.5%).

The number of LPNs per 100,000 population decreased from 154 to 138 (-10.7%) (Table 4.9). La Paz County was the only county that had an increase in LPNs-population ratio. The inequalities in distribution of LPNs-population ratios by ruralness were as large as a factor of 1.8 from 2007 to 2010 (Table 4.9; Figure 4.11).

Figure 4.9. Trend of registered nurses per 100,000 population in Arizona and by four rural-urban commuting area classifications from 2000 to 2010.

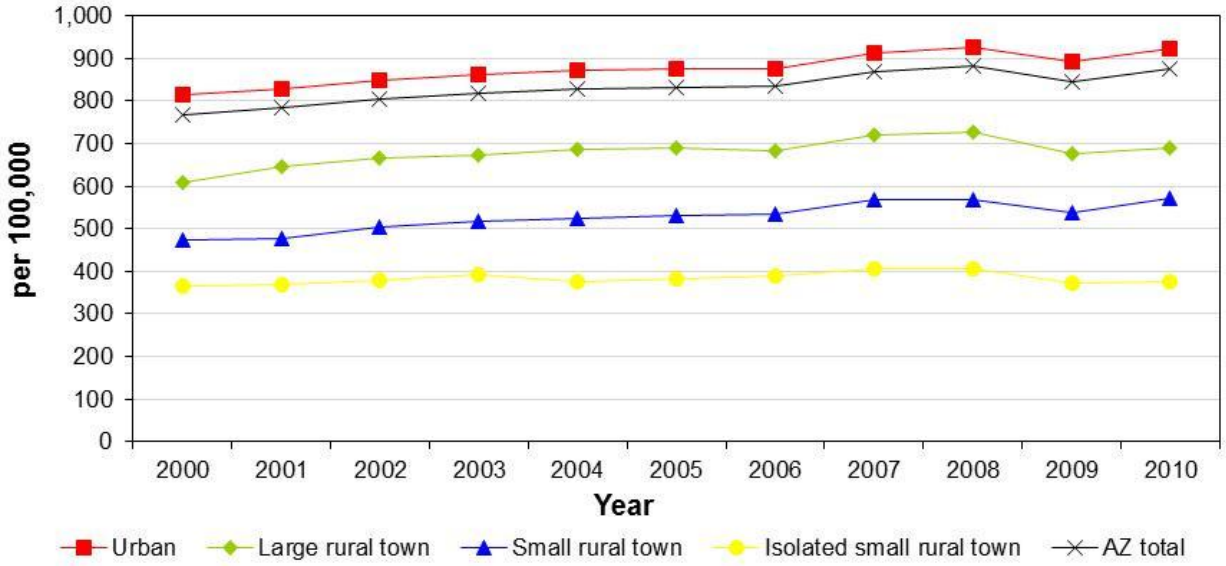


Figure 4.10. Trend of registered nurses per 100,000 population in Arizona and by counties from 2000 to 2010.

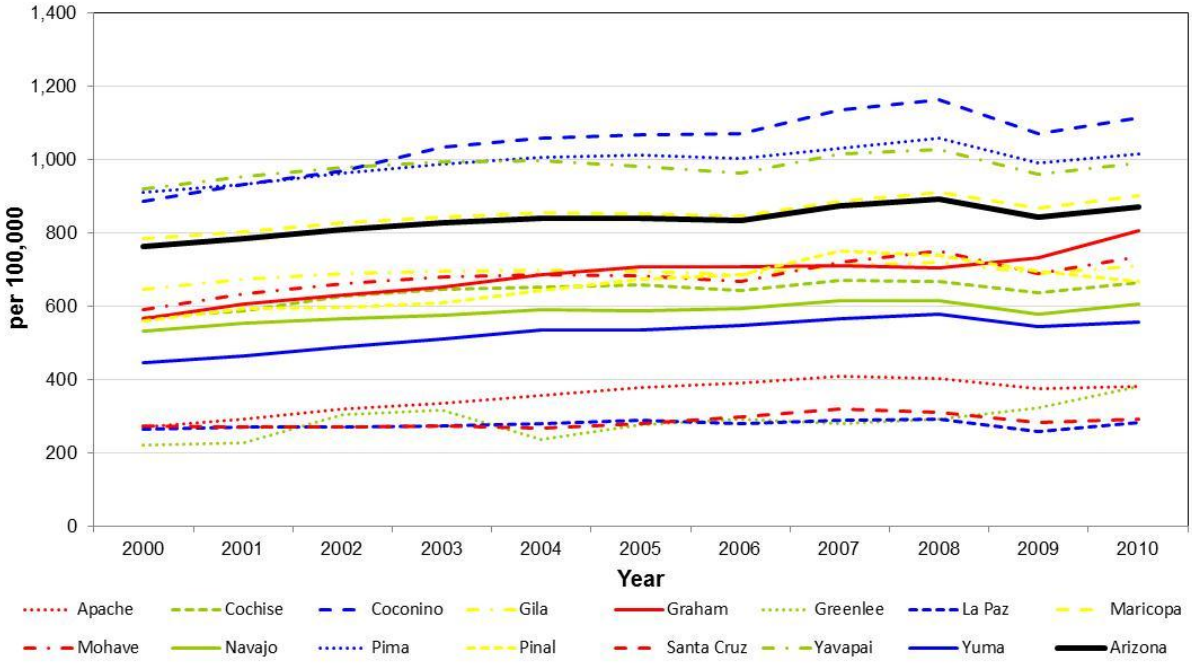


Table 4.7. Number of registered nurses with active licenses per 100,000 population from 2007 to 2010 in Arizona by four statewide rural-urban commuting area classifications and by each county.

Registered Nurses	Professionals per 100,000 population				Change from 2007 to 2010
	2007	2008	2009	2010	
Statewide	874	893	846	872	-0.2%
Urban	913	928	891	922	1.0%
Large rural town	719	728	676	689	-4.1%
Small rural town	567	569	538	570	0.5%
Isolated small rural town	406	407	371	377	-7.2%
Apache County	409	405	376	384	-6.3%
Cochise County	671	668	638	665	-0.9%
Coconino County	1,138	1,166	1,071	1,116	-1.9%
Gila County	712	722	691	713	0.2%
Graham County	711	707	733	808	13.7%
Greenlee County	280	292	324	383	36.7%
La Paz County	291	292	258	284	-2.4%
Maricopa County	888	911	869	901	1.5%
Mohave County	720	752	691	737	2.4%
Navajo County	617	616	579	608	-1.5%
Pima County	1,032	1,059	993	1,017	-1.5%
Pinal County	752	738	697	670	-10.9%
Santa Cruz County	320	312	283	293	-8.4%
Yavapai County	1,016	1,029	960	991	-2.4%
Yuma County	568	579	544	558	-1.7%

Table 4.8. Number of practical nurses with active licenses from 2007 to 2010 in Arizona and by four statewide rural-urban commuting area classifications.

Licensed Practical Nurses	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Statewide	9,522	9,686	8,593	8,846	-7.1%
Urban	8,345	8,488	7,577	7,801	-6.5%
Large rural town	712	721	614	633	-11.1%
Small rural town	347	368	305	313	-9.8%
Isolated small rural town	118	109	97	99	-16.1%

Figure 4.11. Trend of licensed practical nurses per 100,000 population in Arizona and by four rural-urban commuting area classifications from 2000 to 2010.

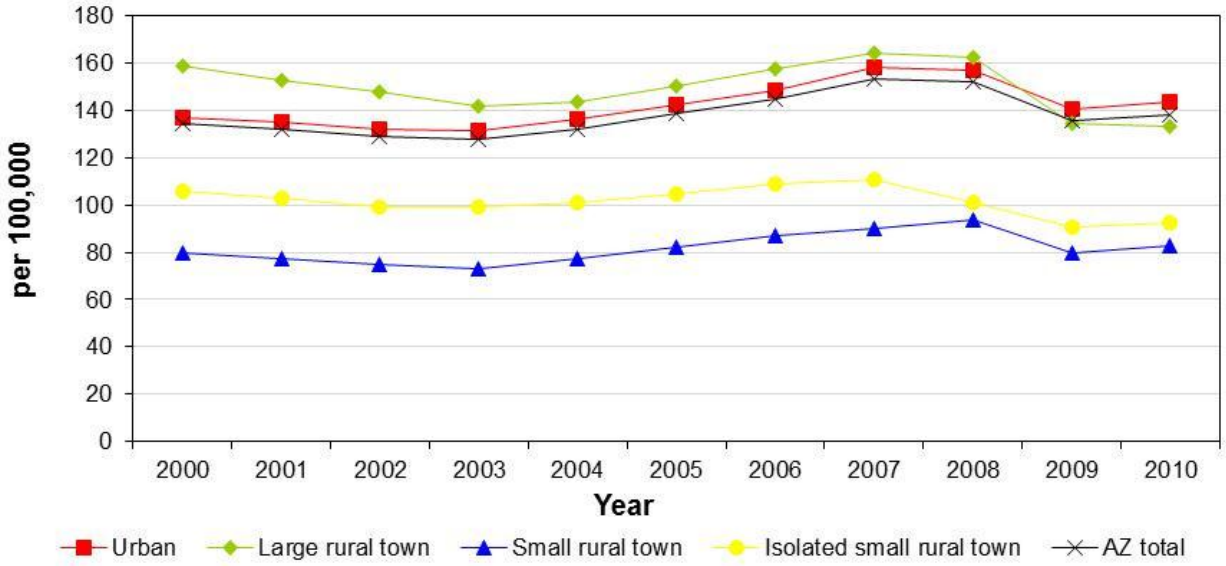


Figure 4.12. Trend of licensed practical nurses per 100,000 population in Arizona and by counties from 2000 to 2010.

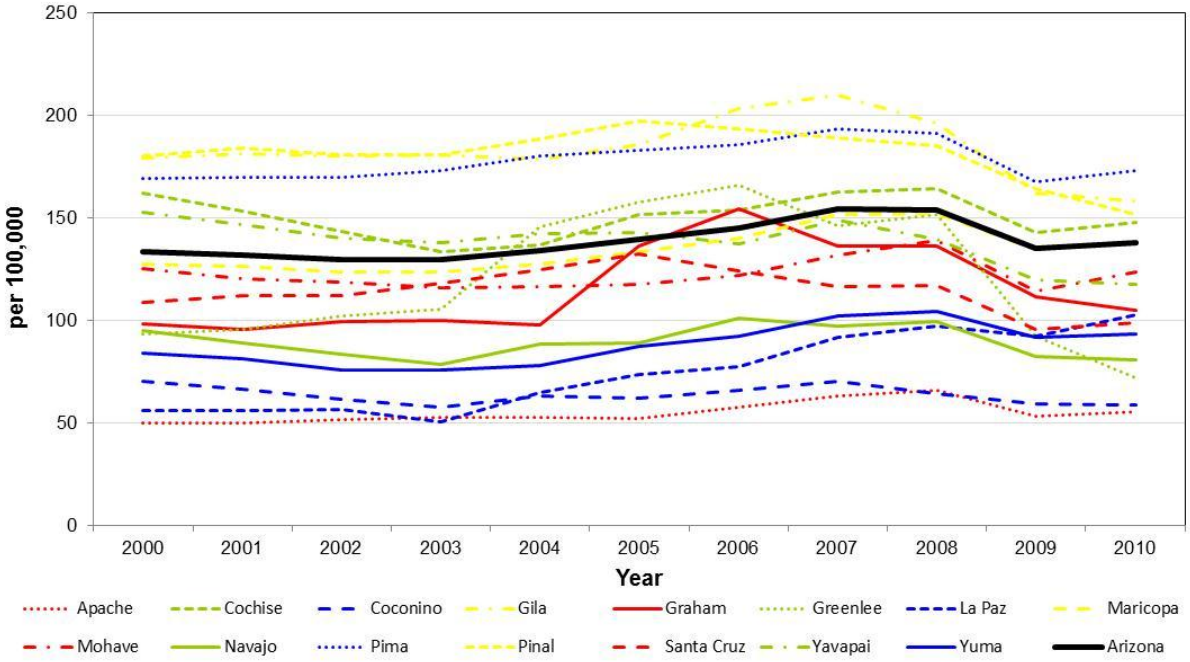


Table 4.9. Number of practical nurses with active licenses per 100,000 population from 2007 to 2010 in Arizona by four statewide rural-urban commuting area classifications and by each county.

Licensed Practical Nurses	Professionals per 100,000 population				Change from 2007 to 2010
	2007	2008	2009	2010	
Statewide	154	154	135	138	-10.7%
Urban	158	157	140	144	-9.3%
Large rural town	164	163	134	133	-18.8%
Small rural town	90	94	80	83	-8.1%
Isolated small rural town	111	101	91	92	-16.5%
Apache County	63	66	54	56	-11.7%
Cochise County	163	164	143	148	-9.2%
Coconino County	71	64	59	59	-16.8%
Gila County	210	196	162	159	-24.6%
Graham County	136	136	112	105	-23.0%
Greenlee County	146	152	93	72	-50.9%
La Paz County	92	97	93	103	11.5%
Maricopa County	152	152	135	138	-9.1%
Mohave County	132	139	114	124	-6.3%
Navajo County	97	99	83	81	-16.8%
Pima County	194	191	168	173	-10.4%
Pinal County	189	185	164	152	-19.8%
Santa Cruz County	117	117	96	99	-15.3%
Yavapai County	149	140	120	118	-20.8%
Yuma County	102	105	92	94	-8.6%

4.4. Certified Nurse Assistants

Certified nurse assistants are persons who assist individuals with healthcare needs that are associated with activities of daily living and provide bedside care, including basic nursing procedures, all under the supervision of a RN or a LPN.

In 2010, there were 24,564 CNAs statewide and 81.3 percent of them were located in urban areas (Table 4.10). There was an increase of 3,361 CNAs (15.9%) from 2007 and 2010. Most of the increase occurred in the urban areas (2,776).

The statewide ratio of CNAs per 100,000 population increased from 344 to 383 (11.4% increase) (Table 4.11; Figure 4.13). Greenlee County had the largest increase in CNAs-population ratio (43.9%), while Pinal (-5.9%) and Mohave (-3.3%) counties decreased (Figure 4.14). The urban areas (368 per 100,000) had lower CNAs-population ratios than large rural town areas (508 per 100,000), small rural town areas (465 per 100,000), and isolated small rural town areas (399 per 100,000) (Table 4.11)

Table 4.10. Number of certified nurse assistants with active licenses from 2007 to 2010 in Arizona and by four statewide rural-urban commuting area classifications.

Certified Nurse Assistants	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Statewide	21,203	22,416	23,913	24,564	15.9%
Urban	17,186	18,162	19389	19,962	16.2%
Large rural town	2,125	2,213	2,373	2,411	13.5%
Small rural town	1,529	1,634	1,729	1,763	15.3%
Isolated small rural town	363	407	422	428	17.9%

Figure 4.13. Trend of certified nurse assistants per 100,000 population in Arizona and by four rural-urban commuting area classifications from 2000 to 2010.

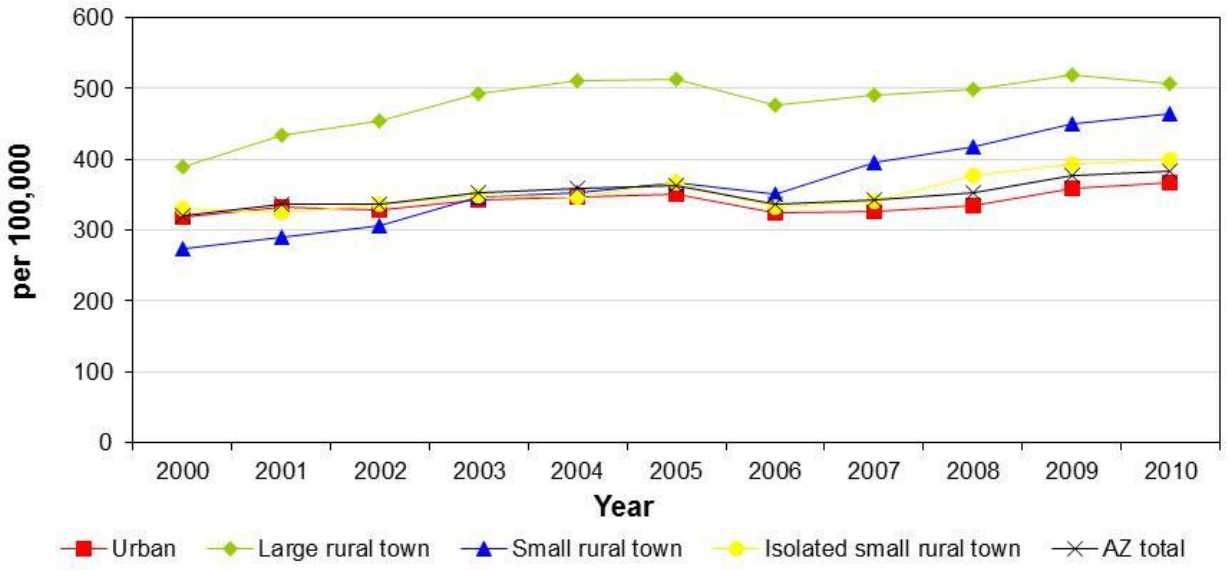


Figure 4.14. Trend of certified nurse assistants per 100,000 population in Arizona and by counties from 2000 to 2010.

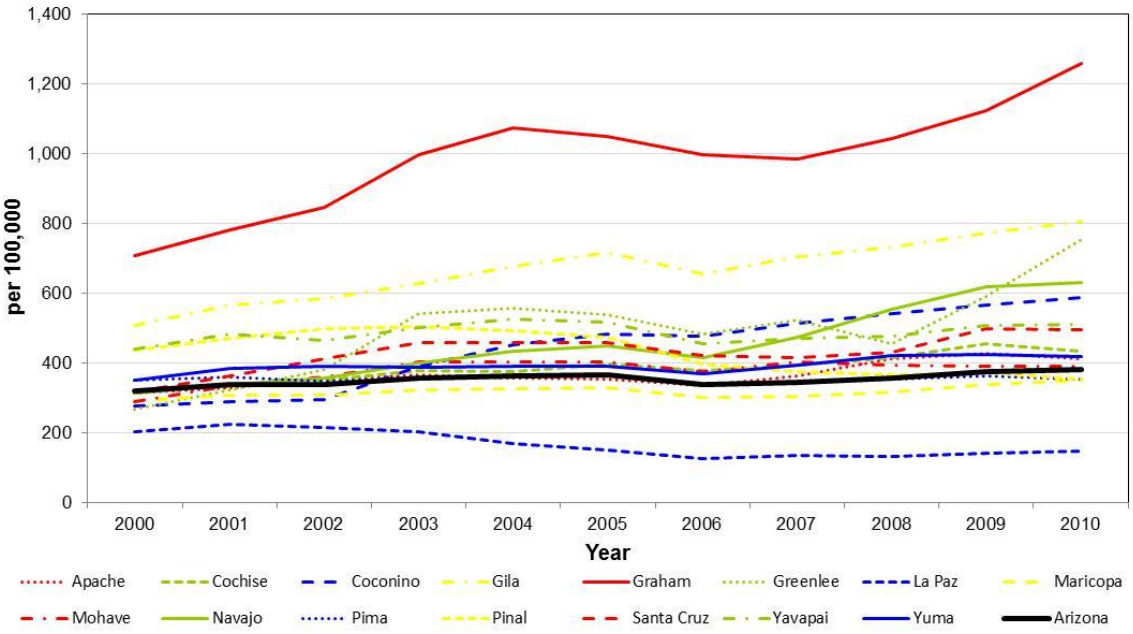


Table 4.11. Number of active certified nurse assistants per 100,000 population from 2007 to 2010 in Arizona by four statewide rural-urban commuting area classifications and by each county.

Certified Nurse Assistants	Professionals per 100,000 population				Change from 2007 to 2010
	2007	2008	2009	2010	
Statewide	344	357	377	383	11.4%
Urban	326	336	359	368	12.8%
Large rural town	490	499	519	508	3.6%
Small rural town	396	417	451	465	17.5%
Isolated small rural town	340	377	394	399	17.3%
Apache County	363	412	430	413	13.6%
Cochise County	394	417	455	433	10.0%
Coconino County	514	542	567	589	14.5%
Gila County	706	732	773	808	14.5%
Graham County	986	1,045	1,125	1,261	27.8%
Greenlee County	524	456	591	754	43.9%
La Paz County	136	131	141	147	8.1%
Maricopa County	305	317	340	352	15.5%
Mohave County	404	393	392	391	-3.3%
Navajo County	473	555	619	632	33.6%
Pima County	345	356	363	355	2.9%
Pinal County	376	366	372	353	-5.9%
Santa Cruz County	417	431	498	497	19.3%
Yavapai County	470	476	509	510	8.5%
Yuma County	394	423	425	418	6.1%

SECTION 5: DENTISTS AND DENTAL HYGIENISTS

5.1. Dentists

Dentists are the primary providers of dental care. They promote the prevention of disease, and diagnose and treat oral diseases of the teeth and supporting structures. Those dentists that reported a specialty were categorized as specialists (i.e., endodontic, periodontics, oral and maxillofacial pathology and radiology, oral surgery, prosthodontics, pediatric dentist, and public health). Those that did not report a specialty were categorized as general dentists.

This analysis of dental licensing board data is complicated by the board's change in its 2010 reporting methods. The 2010 board data reported only one practice location per dentist. Prior to 2010 the board collected and reported information on multiple practice locations if a dentist self-reported more than one location. This allowed more precise estimates of workforce coverage, especially in rural areas. From 2000 to 2009 the number of dentists was calculated as pseudo full time equivalents (FTE). Each practice location of a dentist was assigned an equal FTE fraction of the total number of locations that together sum to 1. The change in reporting for 2010 data has no effect on the statewide total calculation but at finer geographic resolution under-reporting in rural areas likely occurred because dentists working at multiple locations could only report one practice locations.

This issue brings to light the likely systematic under-reporting of rural healthcare workforce when licensing boards collect and report a single practice location when some professionals practice at multiple locations. When professionals are limited to reporting a single practice location it will likely be the main practice address. The main practice address will likely be located in more urban locations as demonstrated by the abrupt decrease in dentist numbers and coverage in rural areas from 2009 to 2010 (Table 5.1, Figure 5.1). The effect is also evident by counties (Figure 5.2) and by comparing changes over the 2007-2009 period with the changes over the 2007-2010 period (Table 5.2).

In 2010, there were 3,558 active licensed dentists in the state, a decrease of 75 dentist (-2%) from 2009 but an increase of 101 total dentists (2.9%) from 2007 (Table 5.1). The number of dentists working in urban areas decreased from 90.3 percent in 2007 to 90.1 percent in 2009 then increased to 91.8 percent in 2010, a likely result caused by the reporting of only one work location for each dentist in the 2010 data. Similarly the number of general dentists working in urban areas increased from 89.5 percent in 2009 to 90.9 percent in 2010 and specialist dentists increased from 92.8 percent to 95.9 percent.

Statewide coverage by dentists peaked in 2009 at 57 dentists per 100,000 population and then dropped to 55 per 100,000 in 2010. Large rural town areas had the largest percent increase (12%) with 194.4 pseudo FTEs in 2009 that resulted in coverage of 43 dentists per 100,000 population (6.2% increase). Noticeable decreases in coverage occurred from 2007 to 2009 in La Paz County (15 to 11, 21.7% decrease), Apache County (25 to 21, 17.3% decrease), and Santa Cruz County (21 to 18, 14.7% decrease) (Table 5.2). Noticeable increases occurred in Pinal County (29 to 34, 15.8% increase) and Gila County (40 to 45, 14.3% increase) during the same period.

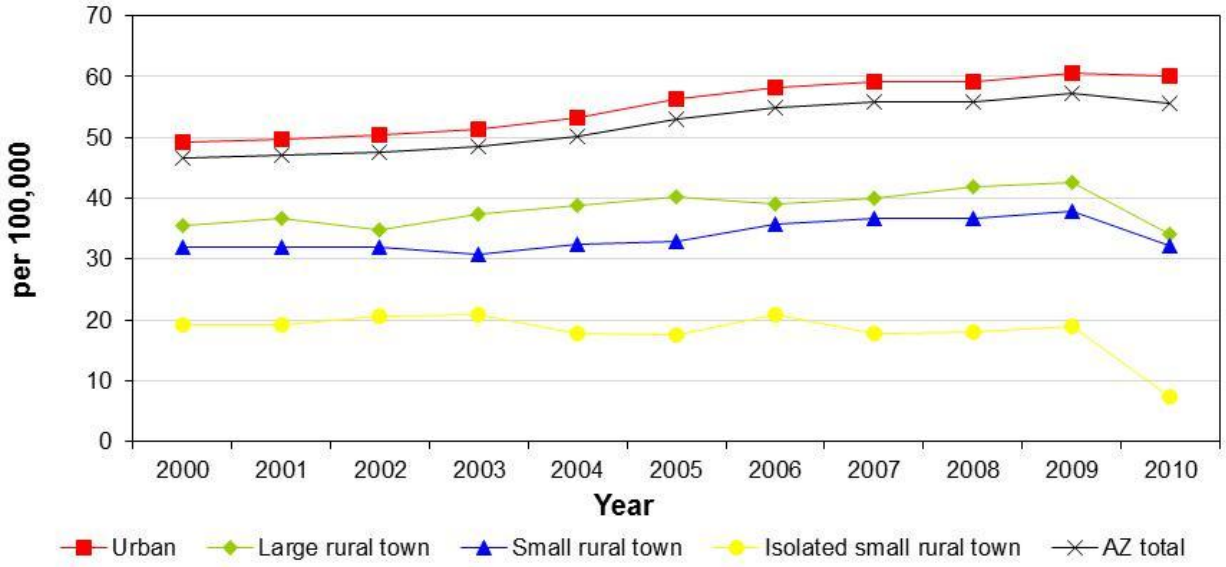
The inequalities in distribution of dentists-population ratios are large, up to a factor of 3 in 2007 between urban and isolated small rural town areas, and up to a factor of 7 between Coconino and La Paz counties in 2008 (Figures 5.1 and 5.2 and Table 5.2).

Table 5.1. Number of active licensed dentists from 2007 to 2010 in Arizona and by four statewide rural-urban commuting area classifications.

Dentists	Number* of Active Licensed Professionals				Change from 2007 to 2009	Change from 2007 to 2010
	2007	2008	2009	2010		
All dentists statewide	3,457.0	3,547.0	3,633.0	3,558	5.1%	2.9%
Urban	3,123.0	3,198.4	3,273.4	3,266	4.8%	4.6%
Large rural town	173.6	185.4	194.4	162	12.0%	-6.7%
Small rural town	141.4	143.8	145.0	122	2.6%	-13.7%
Isolated small rural town	19.1	19.3	20.3	8	6.3%	-58.0%
General dentists statewide	2,802.0	2,888.0	2,957.0	2,907	5.5%	3.7%
Urban	2,515.1	2,587.9	2,646.0	2,642	5.2%	5.0%
Large rural town	147.3	158.1	165.7	145	12.5%	-1.6%
Small rural town	121.3	124.1	127.7	113	5.3%	-6.8%
Isolated small rural town	18.2	18.0	17.6	7	-3.5%	-61.6%
Specialist dentists statewide	655.0	659.0	676.0	651	3.2%	-0.6%
Urban	607.8	610.6	627.4	624	3.2%	2.7%
Large rural town	26.3	27.4	28.6	17	9.0%	-35.3%
Small rural town	20.1	19.7	17.3	9	-13.6%	-55.1%
Isolated small rural town	0.8	1.3	2.7	1	222.0%	20.0%

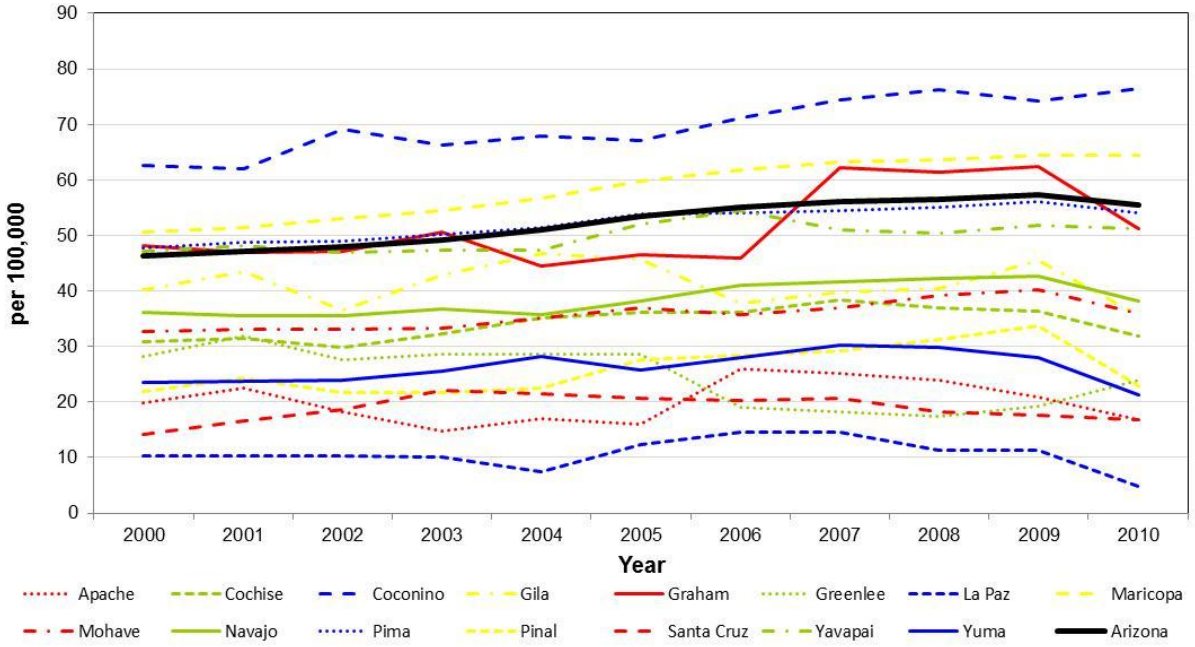
*Pseudo FTEs for 2007-2009 calculated from the reported number of practice locations, 2010 data reported only one practice location.

Figure 5.1. Trend of all dentists per 100,000 population in Arizona and by four rural-urban commuting area classifications from 2000 to 2010.



Based on pseudo-FTEs from 2000 to 2009 that were calculated from the reported number of practice locations; 2010 data reported only one practice location.

Figure 5.2. Trend of all dentists per 100,000 population in Arizona and by counties from 2000 to 2010.



Based on pseudo-FTEs from 2000 to 2009 that were calculated from the reported number of practice locations; 2010 data reported only one practice location.

Table 5-2. Number of active licensed dentists per 100,000 population from 2007 to 2010 in Arizona by four statewide rural-urban commuting area classifications and by each county.

Dentists	Professionals per 100,000 population				Change from 2007 to 2009	Change from 2007 to 2010
	2007	2008	2009	2010		
All dentists statewide	56.1	56.5	57.3	55.5	2.2%	-1.0%
Urban	59.2	59.1	60.7	60.1	2.4%	1.5%
Large rural town	40.1	41.8	42.5	34.1	6.2%	-15%
Small rural town	36.6	36.7	37.8	32.2	3.3%	-12%
Isolated small rural town	17.9	17.9	18.9	7.5	5.9%	-58%
Apache County	25.1	23.8	20.8	16.7	-17.3%	-33.4%
Cochise County	38.4	37.1	36.3	31.9	-5.3%	-16.9%
Coconino County	74.4	76.2	74.3	76.5	-0.1%	2.8%
Gila County	39.8	40.5	45.5	35.5	14.3%	-10.9%
Graham County	62.2	61.4	62.4	51.2	0.4%	-17.6%
Greenlee County	18.3	17.5	19.3	23.9	5.6%	31.0%
La Paz County	14.5	11.4	11.4	4.9	-21.7%	-66.4%
Maricopa County	63.2	63.7	64.5	64.5	2.2%	2.2%
Mohave County	37.0	39.3	40.2	36.0	8.6%	-2.9%
Navajo County	41.7	42.2	42.8	38.1	2.6%	-8.5%
Pima County	54.5	55.0	56.2	54.1	3.2%	-0.7%
Pinal County	29.2	31.4	33.8	22.9	15.8%	-21.4%
Santa Cruz County	20.8	18.2	17.7	16.9	-14.7%	-18.8%
Yavapai County	51.0	50.5	51.9	51.2	1.7%	0.2%
Yuma County	30.2	29.8	27.9	21.4	-7.6%	-29.3%

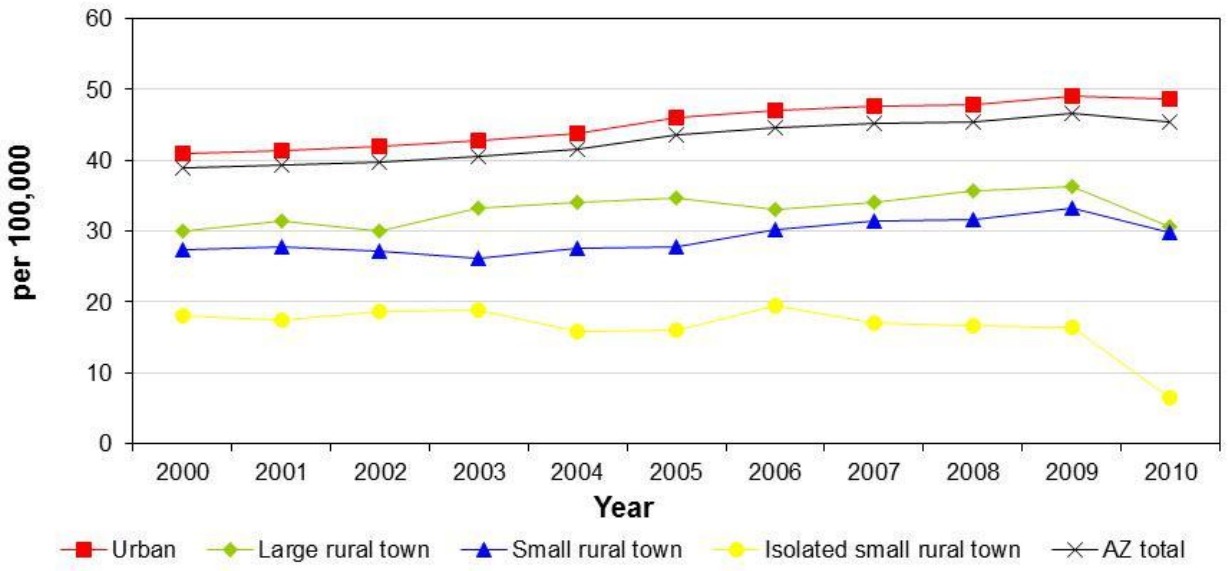
General Dentists

Eighty-two percent of the dentists (2,907) in the state were general dentists in 2010 (Table 5.1), an increase of 105 dentists (3.7%) since 2007 but a decrease of 50 (-1.7%) since 2009.

The statewide ratio of number of general dentists per 100,000 population peaked in 2009 with 47 general dentists per 100,000 then decreased to 2007 coverage (45 per 100,000) in 2010 (Table 5.3). Isolated rural town areas was the only RUCA area that had a decrease in coverage of general dentists from 2007 to 2009 (from 17 to 7 per 100,000, 3.9% decrease), all the other RUCA areas had increased coverage of general dentist in 2009 with large rural town areas having the largest increase (34 to 36 per 100,000, 6.7%). Among the counties there was decreased coverage from 2007 to 2009 in Santa Cruz (-14.7%),Apache (-10.6%), Yuma (-8.6%), Cochise (-6.3%), La Paz (-6.1%), and Yavapai (-0.4%) counties. Pinal County had the largest increase in coverage by general dentists (13.5%).

The inequalities in distribution of general dentists-population ratios are large, up to a factor of 3.0 between urban and isolated small rural town areas in 2009, and up to a factor of 6 between Coconino and La Paz counties in 2008 (Figures 5.3 and 5.4 and Table 5.3).

Figure 5.3. Trend of general dentists per 100,000 population in Arizona and by four rural-urban commuting area classifications from 2000 to 2010.



Based on pseudo-FTEs from 2000 to 2009 that were calculated from the reported number of practice locations; 2010 data reported only one practice location.

Figure 5.4. Trend of general dentists per 100,000 population in Arizona and by counties from 2000 to 2010.

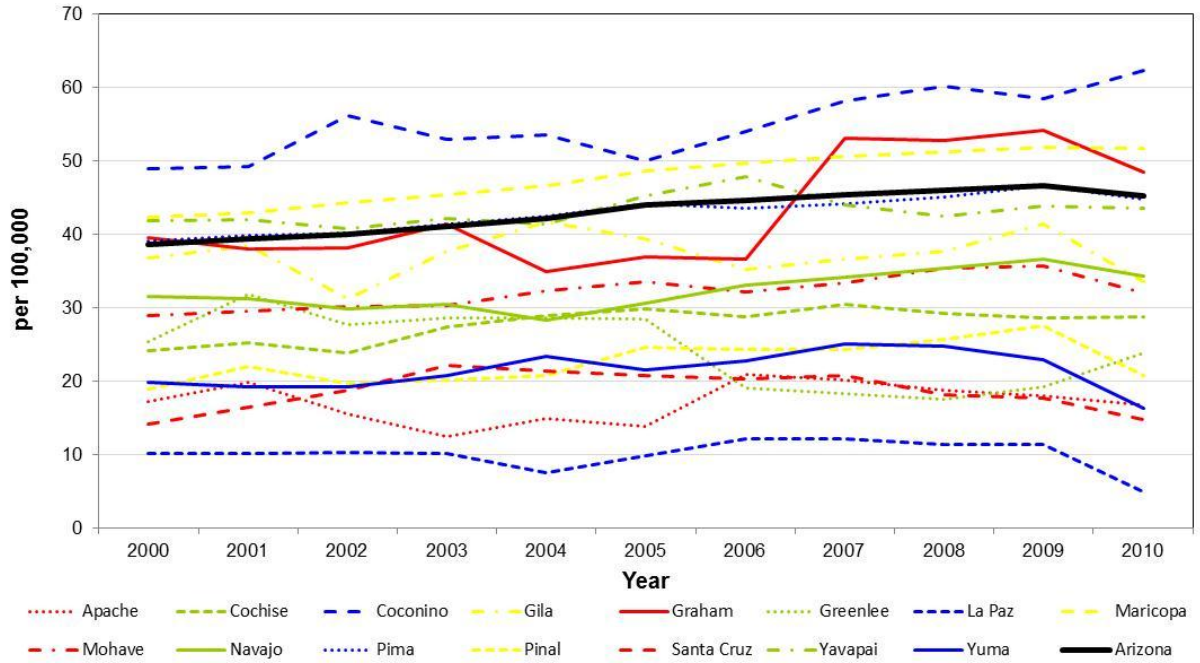


Table 5-3. Number of active licensed general dentists per 100,000 population from 2007 to 2010 in Arizona by four statewide rural-urban commuting area classifications and by each county.

General Dentists	Professionals per 100,000 population				Change from 2007 to 2009	Change from 2007 to 2010
	2007	2008	2009	2010		
Statewide	45.4	46.0	46.6	45.3	2.6%	-0.2%
Urban	47.7	47.8	49.0	48.6	2.8%	2.0%
Large rural town	34.0	35.6	36.3	30.5	6.7%	-10%
Small rural town	31.4	31.7	33.3	29.8	6.0%	-5.1%
Isolated small rural town	17.1	16.7	16.4	6.5	-3.9%	-62%
Apache County	20.1	18.8	18.0	16.7	-10.6%	-16.8%
Cochise County	30.6	29.2	28.7	28.8	-6.3%	-5.7%
Coconino County	58.2	60.2	58.5	62.4	0.6%	7.3%
Gila County	36.7	37.8	41.4	33.6	12.8%	-8.4%
Graham County	53.2	52.8	54.2	48.5	1.9%	-8.8%
Greenlee County	18.3	17.5	19.3	23.9	5.6%	31.0%
La Paz County	12.1	11.4	11.4	4.9	-6.1%	-59.6%
Maricopa County	50.7	51.3	51.9	51.8	2.4%	2.1%
Mohave County	33.5	35.4	35.7	32.0	6.7%	-4.5%
Navajo County	34.3	35.4	36.7	34.4	7.1%	0.4%
Pima County	44.2	45.2	46.6	44.8	5.6%	1.4%
Pinal County	24.3	25.7	27.6	20.8	13.5%	-14.4%
Santa Cruz County	20.8	18.2	17.7	14.7	-14.7%	-29.0%
Yavapai County	44.0	42.6	43.8	43.6	-0.4%	-1.0%
Yuma County	25.2	24.9	23.0	16.3	-8.6%	-35.3%

Specialist Dentists

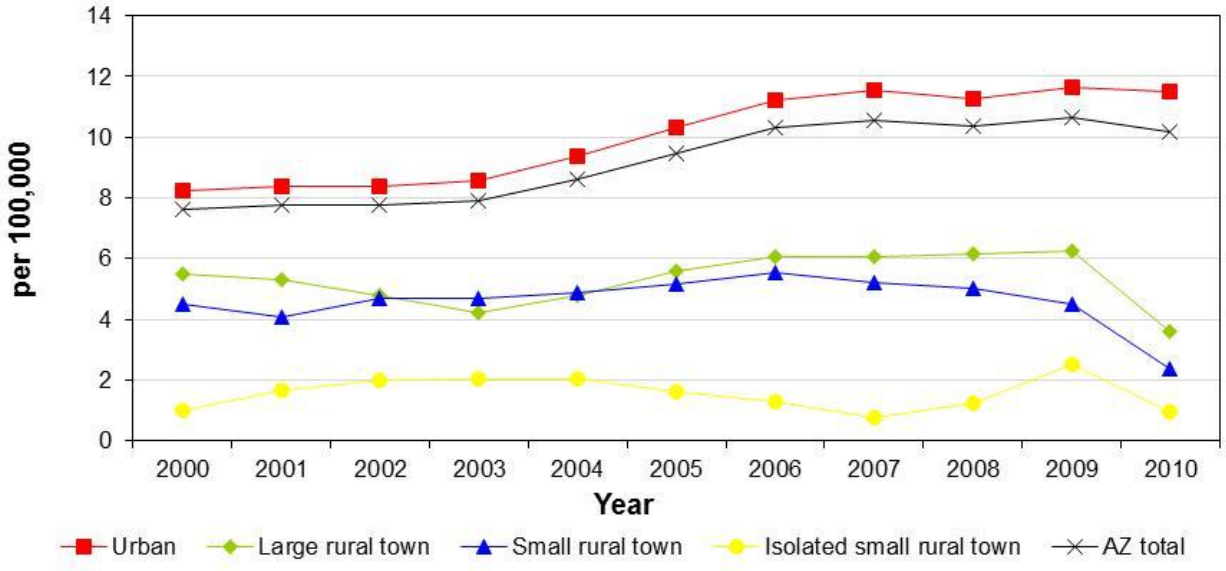
Dentists who reported specialties in endodontics, periodontics, oral and maxillofacial pathology and radiology, oral surgery, prosthodontics, pediatric dentistry, and public health were classified as specialists. Statewide there were 651 dentist specialists in 2010, a decrease of 4 dentist specialists (-0.6%) from 2007 and 2010 and a decrease of 25 since the peak of 676 specialist dentists in 2009.

The statewide ratio of number of specialist dentists per 100,000 population peaked in 2009 with 11 specialist dentists per 100,000 then decrease to 10 in 2010 (Table 5.4). Small rural town areas was the only RUCA area that had a decrease in coverage of specialist dentists from 2007 to 2009 (from 5.2 to 4.5 per 100,000, 13.1% decrease), all the other RUCA areas had increased coverage of specialist dentists in 2009 with Isolated small rural town areas having the largest increase (0.8 to 2.5 per 100,000, 221%).

Among the counties, Greenlee County did not have any specialist dentists reporting that they practiced there from 2007 to 2010. Changes in the number of specialist dentists in most of the Arizona counties can have large effects on the calculated coverage per 100,000 population since may counties have from 0 to 10 specialist dentists. In 2009 there were no specialist dentists that reported practices in Greenlee, La Paz and Santa Cruz counties. Coconino County has the best coverage of specialist dentists in Arizona, ranging from 16.2 dentists per 100,000 population in 2007 to 15.8 in 2009.

The inequalities in distribution of specialist dentists-population ratios are large, from 0.8 per 100,000 in isolated small rural town areas to 12 per 100,000 in urban areas in 2007 (factor 14.8). Likewise the range between counties is larger, for example zero for Greenlee County and 16.2 per 100,000 for Coconino County (Figures 5.5 and 5.6 and Table 5.4)

Figure 5.5. Trend of specialist dentists per 100,000 population in Arizona and by four rural-urban commuting area classifications from 2000 to 2010.



Based on pseudo-FTEs from 2000 to 2009 that were calculated from the reported number of practice locations; 2010 data reported only one practice location.

Figure 5.6. Trend of specialist dentists per 100,000 population in Arizona and by counties from 2000 to 2010.

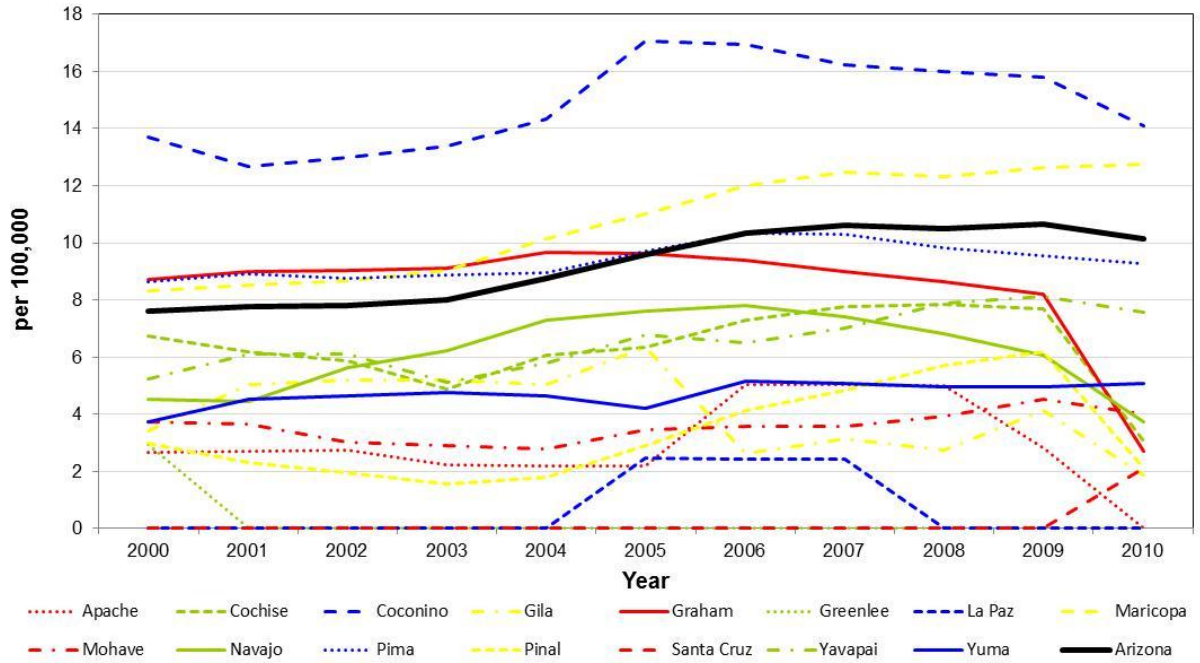


Table 5-4. Number of active licensed specialist dentists per 100,000 population from 2007 to 2010 in Arizona by four statewide rural-urban commuting area classifications and by each county.

Specialist Dentists	Professionals per 100,000 population				Change from 2007 to 2009	Change from 2007 to 2010
	2007	2008	2009	2010		
Statewide	10.6	10.5	10.7	10.2	0.4%	-4.4%
Urban	11.5	11.3	11.6	11.5	0.9%	-0.3%
Large rural town	6.1	6.2	6.3	3.6	3.4%	-40.9%
Small rural town	5.2	5.0	4.5	2.4	-13.1%	-54.3%
Isolated small rural town	0.8	1.2	2.5	0.9	220.8%	19.4%
Apache County	5.0	5.0	2.8	0	-44.0%	-100.0%
Cochise County	7.8	7.9	7.7	3.0	-1.2%	-61.0%
Coconino County	16.2	16.0	15.8	14.1	-2.6%	-13.0%
Gila County	3.1	2.7	4.1	1.9	32.0%	-40.4%
Graham County	9.0	8.6	8.2	2.7	-8.7%	-70.1%
Greenlee County	0	0	0	0	---	---
La Paz County	2.4	0	0	0	-100.0%	-100.0%
Maricopa County	12.5	12.3	12.6	12.8	1.4%	2.3%
Mohave County	3.6	3.9	4.5	4.0	26.8%	12.4%
Navajo County	7.4	6.8	6.1	3.7	-18.2%	-49.8%
Pima County	10.3	9.8	9.5	9.3	-7.4%	-10.0%
Pinal County	4.8	5.7	6.2	2.1	27.3%	-57.0%
Santa Cruz County	0	0	0	2.1	---	---
Yavapai County	7.0	7.9	8.1	7.6	15.3%	7.9%
Yuma County	5.1	5.0	4.9	5.1	-2.4%	0.4%

5.2. Dental Hygienists

There were 3,200 active licensed dental hygienists in Arizona in 2010 (Table 5.5). Ninety-one percent (91.4%) of the dental hygienists were located in urban areas. Greenlee and La Paz counties did not have any dental hygienists in 2010. During 2007 and 2010, there was an increase of 362 dental hygienists (12.8%) in the state. All four RUCA ruralness categories had percentage increases during the four years; the largest percentage of increase occurred in the small rural town areas (27.9%).

The statewide ratio of dental hygienists to 100,000 population increased from 46 to 50 (8.4% increase) from 2007 to 2010. Apache County had the greatest percentage increase dental hygienists-population ratio (94%). All four RUCA ruralness categories had percentage increases during the four years; the largest percentage increase occurred in the small rural town areas (30%).

The inequalities in distribution of dental hygienists-population ratios are large, up to a factor of 2.9 between urban and isolates small rural town areas. Likewise the range between counties is larger, for example zero for Greenlee and La Paz counties and 78 per 100,000 for Coconino County in 2008 (Figures 5.7 and 5.8 and Table 5.6)

Table 5.5. Number of active licensed dental hygienists from 2007 to 2010 in Arizona and by four statewide rural-urban commuting area classifications.

Dental Hygienists	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Statewide	2,838	2,997	3,079	3,200	12.8%
Urban	2,607	2,745	2,811	2,924	12.2%
Large rural town	127	138	143	145	14.2%
Small rural town	86	95	106	110	27.9%
Isolated small rural town	18	19	19	21	16.7%

Figure 5.7. Trend of dental hygienists per 100,000 population in Arizona and by four rural-urban commuting area classifications from 2000 to 2010.

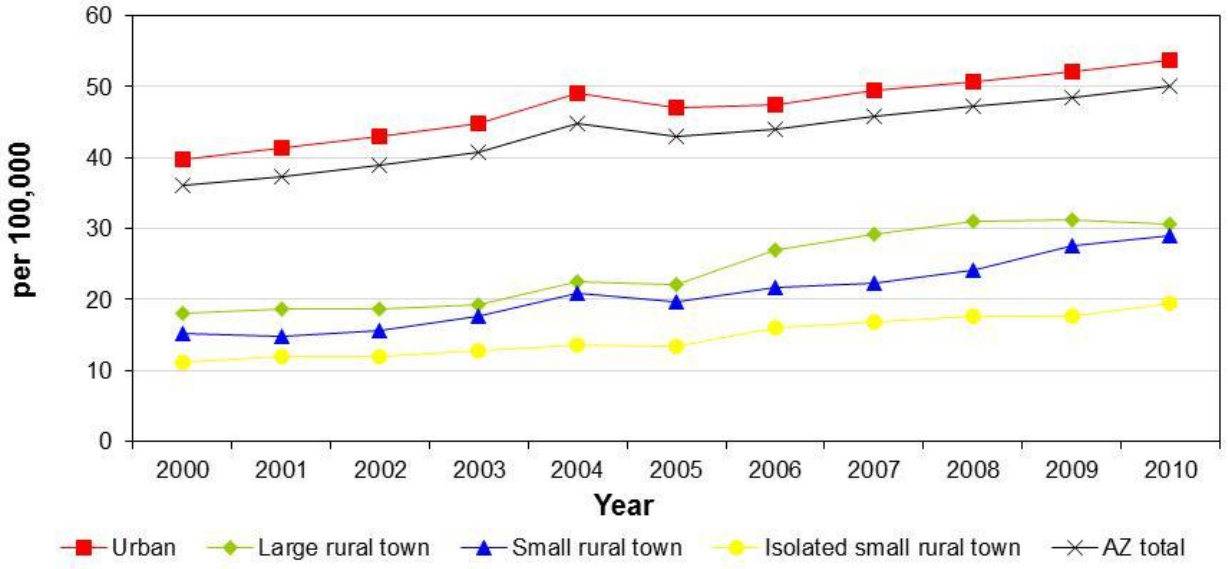


Figure 5.8. Trend of dental hygienists per 100,000 population in Arizona and by counties from 2000 to 2010.

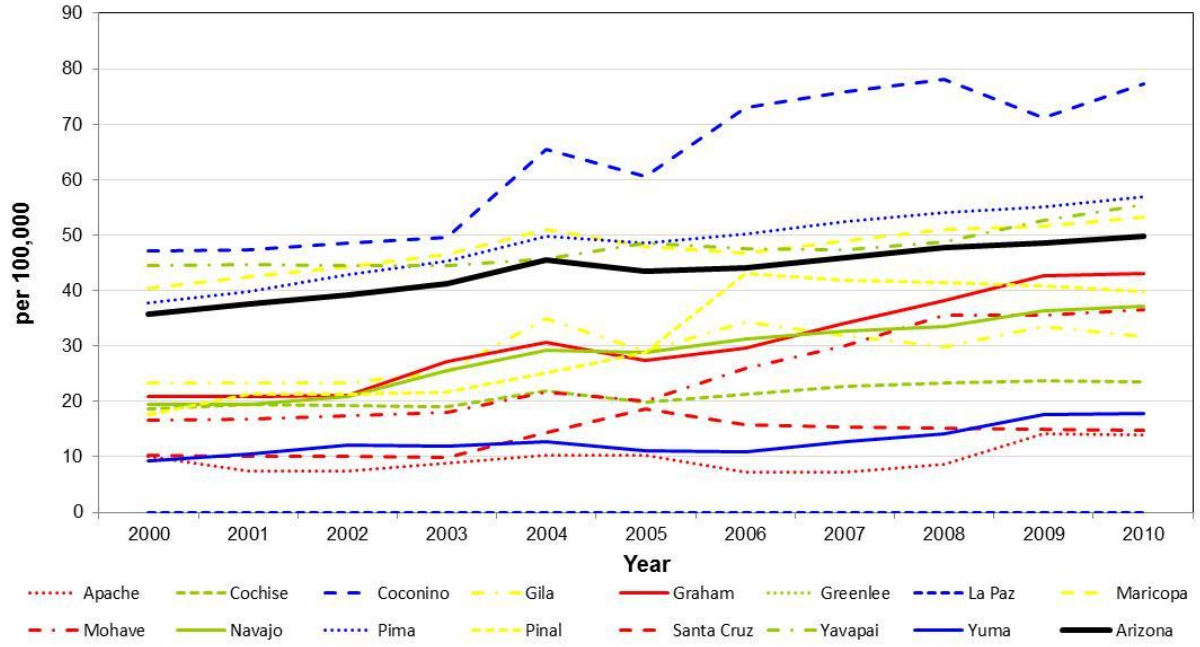


Table 5.6. Number of active licensed dental hygienists per 100,000 population from 2007 to 2010 in Arizona by four statewide rural-urban commuting area classifications and by each county.

Dental Hygienists	Professionals per 100,000 population				Change from 2007 to 2010
	2007	2008	2009	2010	
Statewide	46.0	47.7	48.5	49.9	8.4%
Urban	49.4	50.7	52.1	53.8	8.9%
Large rural town	29.3	31.1	31.3	30.5	4.2%
Small rural town	22.3	24.2	27.6	29.0	30.3%
Isolated small rural town	16.9	17.6	17.7	19.6	16.1%
Apache County	7.2	8.6	14.1	14.0	94.2%
Cochise County	22.6	23.3	23.8	23.5	4.0%
Coconino County	75.9	78.1	71.2	77.2	1.8%
Gila County	31.9	29.9	33.6	31.7	-0.6%
Graham County	34.1	38.2	42.6	43.1	26.4%
Greenlee County	0	0	0	0	---
La Paz County	0	0	0	0	---
Maricopa County	49.1	51.0	51.7	53.2	8.5%
Mohave County	30.0	35.5	35.6	36.5	21.4%
Navajo County	32.7	33.4	36.3	37.2	13.6%
Pima County	52.5	54.0	55.0	57.0	8.6%
Pinal County	41.8	41.5	40.9	39.9	-4.7%
Santa Cruz County	15.4	15.2	14.9	14.7	-4.5%
Yavapai County	47.4	48.8	52.6	55.4	16.9%
Yuma County	12.8	14.1	17.6	17.8	39.0%

SECTION 6: PHARMACISTS AND PHARMACY TECHNICIANS

Pharmacists are recognized as medication experts in the health field and are the primary dispensers of prescription drugs that are used for the prevention, diagnosis, and elimination of diseases. They promote the appropriate use of both prescription and over-the-counter drugs. Most pharmacists are employed in the community setting. Pharmacy technicians may carry out certain functions of a pharmacist under the supervision of a pharmacist. The Arizona Board of Pharmacy began the certification of pharmacy technicians in 2004.

6.1. Pharmacists

There were 5,933 active Arizona licensed pharmacists in 2010 (Table 6.1). This was an increase of 624 (11.8%) from 2007. In 2010, ninety-three percent (93.4%) were located in urban areas. The licensing board did not report any pharmacists practicing in Greenlee County from 2000 to 2010.

Arizona's ratio of pharmacists per 100,000 population increased from 86 to 93 (7.5% increase) from 2007 to 2010. Small rural town areas had the largest percent increase from 29 to 36 pharmacists per 100,000 (24.6% increase) while the pharmacists-population ratio decreased from 50 to 47 for large rural town areas (5.3% decrease). La Paz County had the largest percent increase from 4.8 to 14.7 per 100,000 (203% increase) while Pinal County had the largest decrease from 47 to 39 per 100,000 (17% decrease) (Figures 6.1 and 6.2; Table 6.2).

The inequalities in distribution of pharmacists-population ratios by ruralness range up to a factor of 4.0 between isolated small rural town areas (23) and urban areas (94) in 2007. The inequalities between counties are even greater with no pharmacists in Greenlee County and 111 per 100,000 in Pima County in 2010 (Figures 6.1 and 6.2; Table 6.2).

Table 6.1. Number of active licensed pharmacists from 2007 to 2010 in Arizona and by four statewide rural-urban commuting area classifications.

Pharmacists	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Statewide	5,309	5,399	5,674	5,933	11.8%
Urban	4,957	5,035	5,297	5,544	11.8%
Large rural town	215	218	216	223	3.7%
Small rural town	112	118	131	137	22.3%
Isolated small rural town	25	28	30	29	16.0%

Figure 6.1. Trend of pharmacists per 100,000 population in Arizona and by four rural-urban commuting area classifications from 2000 to 2010.

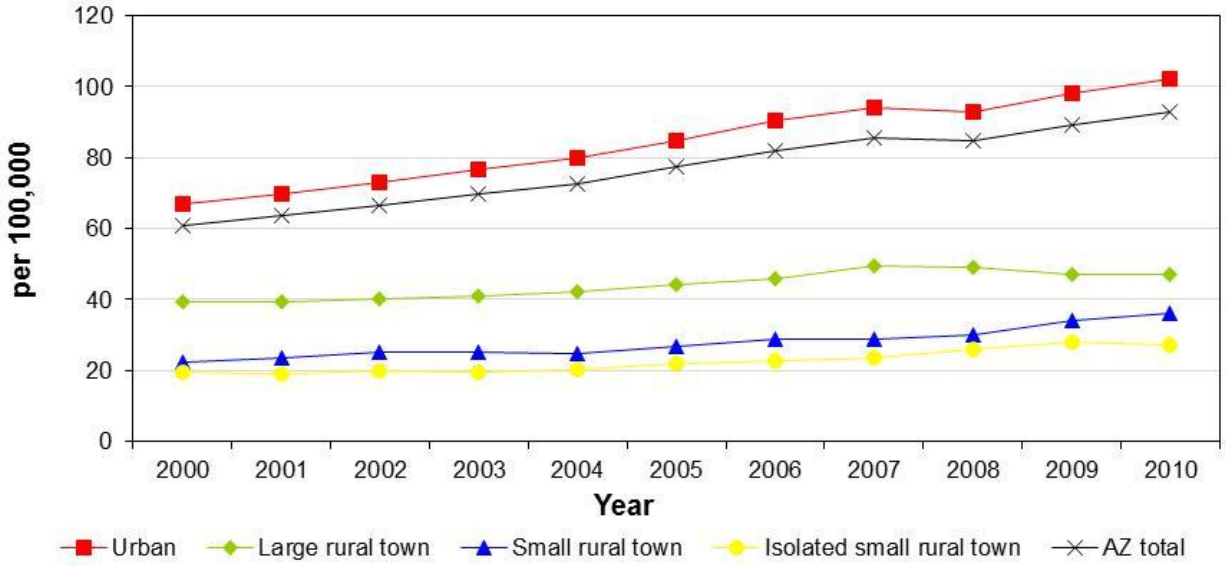


Figure 6.2. Trend of pharmacists per 100,000 population in Arizona and by counties from 2000 to 2010.

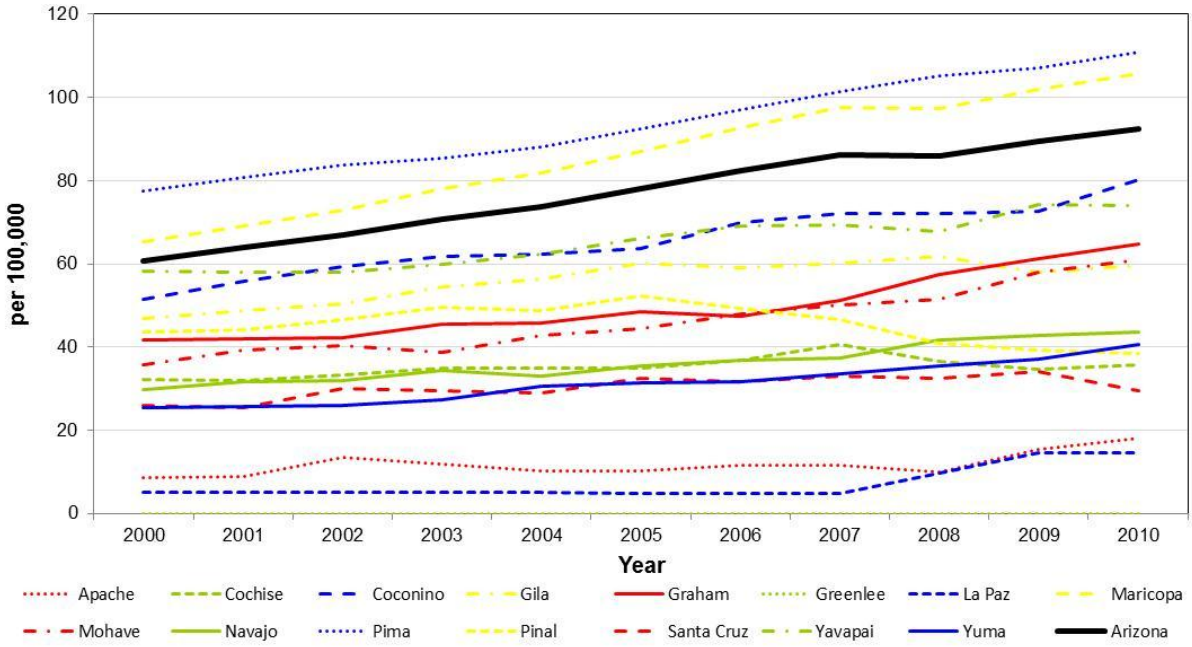


Table 6.2. Number of active licensed pharmacists per 100,000 population from 2007 to 2010 in Arizona by four statewide rural-urban commuting area classifications and by each county.

Pharmacists	Professionals per 100,000 population				Change from 2007 to 2010
	2007	2008	2009	2010	
Statewide	86.1	86.0	89.5	92.5	7.5%
Urban	94.0	93.0	98.2	102.1	8.6%
Large rural town	49.6	49.2	47.3	47.0	-5.3%
Small rural town	29.0	30.1	34.2	36.2	24.6%
Isolated small rural town	23.4	26.0	28.0	27.0	15.4%
Apache County	11.5	10.0	15.5	18.1	58%
Cochise County	40.6	36.4	34.6	35.7	-12%
Coconino County	72.1	72.0	72.7	80.2	11%
Gila County	60.1	61.8	57.9	59.7	-1%
Graham County	51.2	57.3	61.3	64.7	26%
Greenlee County	0	0	0	0	---
La Paz County	4.8	9.7	14.6	14.7	203%
Maricopa County	97.7	97.2	101.8	105.8	8%
Mohave County	50.1	51.5	58.1	60.9	22%
Navajo County	37.4	41.8	42.8	43.7	17%
Pima County	101.5	105.1	107.2	110.8	9%
Pinal County	46.7	40.9	39.2	38.6	-17%
Santa Cruz County	33.1	32.5	34.0	29.5	-11%
Yavapai County	69.5	67.7	74.3	73.9	6.4%
Yuma County	33.6	35.6	37.2	40.7	21%

6.2. Pharmacy Technicians

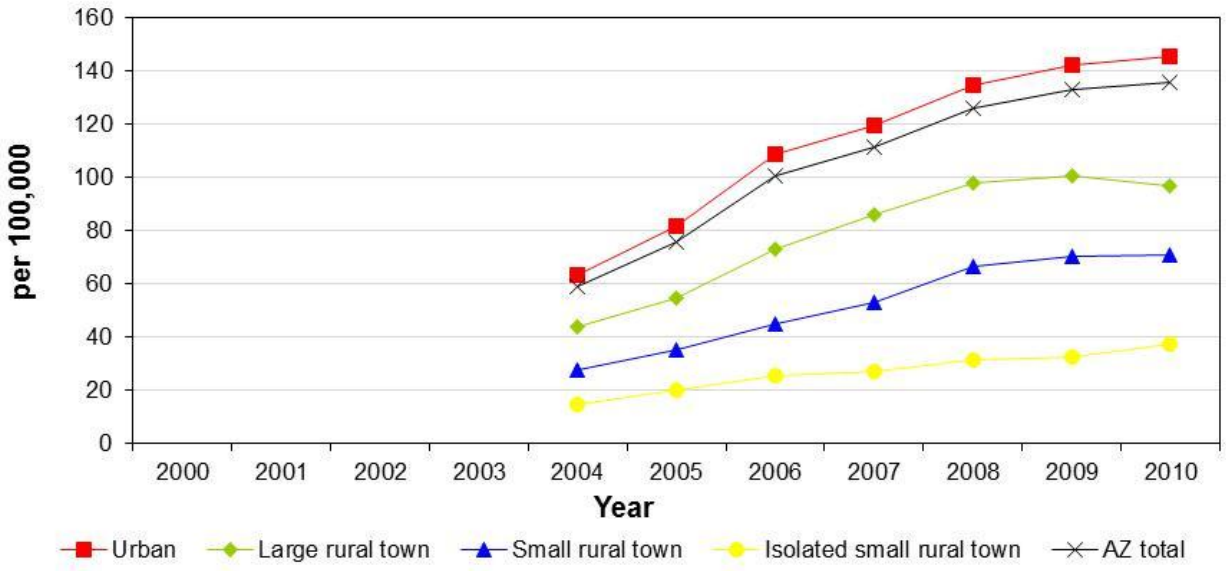
There were more certified pharmacy technicians (8,679) than licensed pharmacists (5,933) in the state in 2010 (Tables 6.1 and 6.3). Most of the pharmacy technicians were located in urban areas (91.1%). There was an increase of 1,774 pharmacy technicians (25.7%) from 2007 to 2010. All four RUCA ruralness categories had increased in numbers of pharmacy technicians during the four-year period. The largest percentage increase occurred in isolated small rural town areas (37.9%).

The statewide ratio of pharmacy technicians to 100,000 population increased from 112 to 135 (20.9**%** increase) during 2007 and 2010 with isolated small rural town areas having the largest percent increase (37.2%). All counties had an increase in population ratio with Pinal County having the smallest percent increase (3.9%) and La Paz County having the largest percent increase (122.0%) (Figures 6.3 and 6.4; Table 6.4).

Table 6-3. Number of active licensed pharmacy technicians from 2007 to 2010 in Arizona and by four statewide rural-urban commuting area classifications.

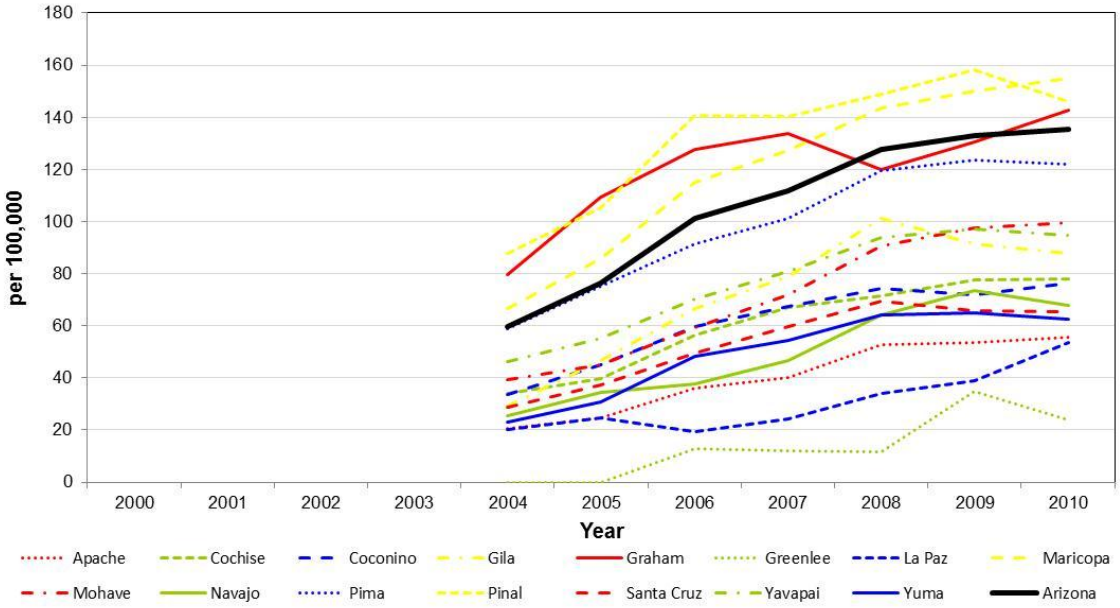
Pharmacy Technicians	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Statewide	6,905	8,010	8,439	8,679	25.7%
Urban	6,298	7,280	7,676	7,910	25.6%
Large rural town	374	435	459	461	23.3%
Small rural town	204	261	269	268	31.4%
Isolated small rural town	29	34	35	40	37.9%

Figure 6.3. Trend of pharmacy technicians per 100,000 population in Arizona and by four rural-urban commuting area classifications from 2004 to 2010.



Pharmacy technicians were not certified by the State Board of Pharmacy before 2004.

Figure 6.4. Trend of pharmacy technicians per 100,000 population in Arizona and by counties from 2004 to 2010.



Pharmacy technicians were not certified by the State Board of Pharmacy before 2004.

Table 6-4. Number of active licensed pharmacy technicians per 100,000 population from 2007 to 2010 in Arizona by four statewide rural-urban commuting area classifications and by each county.

Pharmacy Technicians	Professionals per 100,000 population				Change from 2007 to 2010
	2007	2008	2009	2010	
Statewide	112.0	127.5	133.0	135.3	20.9%
Urban	119.5	134.5	142.3	145.6	21.9%
Large rural town	86.3	98.1	100.5	97.1	12.5%
Small rural town	52.8	66.6	70.1	70.7	33.8%
Isolated small rural town	27.2	31.5	32.7	37.3	37.2%
Apache County	40.2	52.9	53.5	55.8	38.7%
Cochise County	67.1	71.3	77.6	78.2	16.5%
Coconino County	67.5	74.3	71.9	76.5	13.4%
Gila County	78.9	101.1	91.5	87.7	11.2%
Graham County	133.6	120.1	130.6	142.8	6.9%
Greenlee County	12.2	11.7	34.7	23.9	96.5%
La Paz County	24.2	34.1	39.0	53.8	122.0%
Maricopa County	127.1	143.7	149.9	155.1	22.0%
Mohave County	72.1	90.5	97.6	99.4	37.9%
Navajo County	46.8	64.1	73.4	67.9	45.2%
Pima County	101.3	119.4	123.5	121.9	20.3%
Pinal County	140.4	148.8	158.1	145.9	3.9%
Santa Cruz County	59.6	69.3	65.9	65.3	9.7%
Yavapai County	80.9	93.7	97.1	94.8	17.1%
Yuma County	54.4	64.3	65.0	62.6	15.0%

SECTION 7: PSYCHOLOGISTS

Licensed psychologists in Arizona have a doctoral degree and residency training from an institution of higher education in clinical or counseling psychology, school, or educational psychology or any other subject area in applied psychology. Psychologists that work as clinical, counseling, and school psychologists provide assessments and non-psychopharmacology, therapeutic treatment to patients. Psychologists also work as organizational and academic psychologists.

In 2010, there were almost twice as many active licensed psychologists (1,424) than active licensed psychiatric physicians (745) in Arizona (Tables 3.12 and 7.1). Ninety-five percent (94.9%) of the psychologists were located in urban areas. There was an increase of 2 psychologists (0.1%) from 2007 to 2010. The three RUCA rural town areas had percentage increases, while the urban areas had a percentage decrease (-0.8%) during the four years.

Statewide, the ratio of number of psychologists per 100,000 population had decreased (23.0 to 22.2) from 2007 to 2010. Only the urban areas decreased in psychologists-population ratios (-3.7%) among the four ruralness categories.

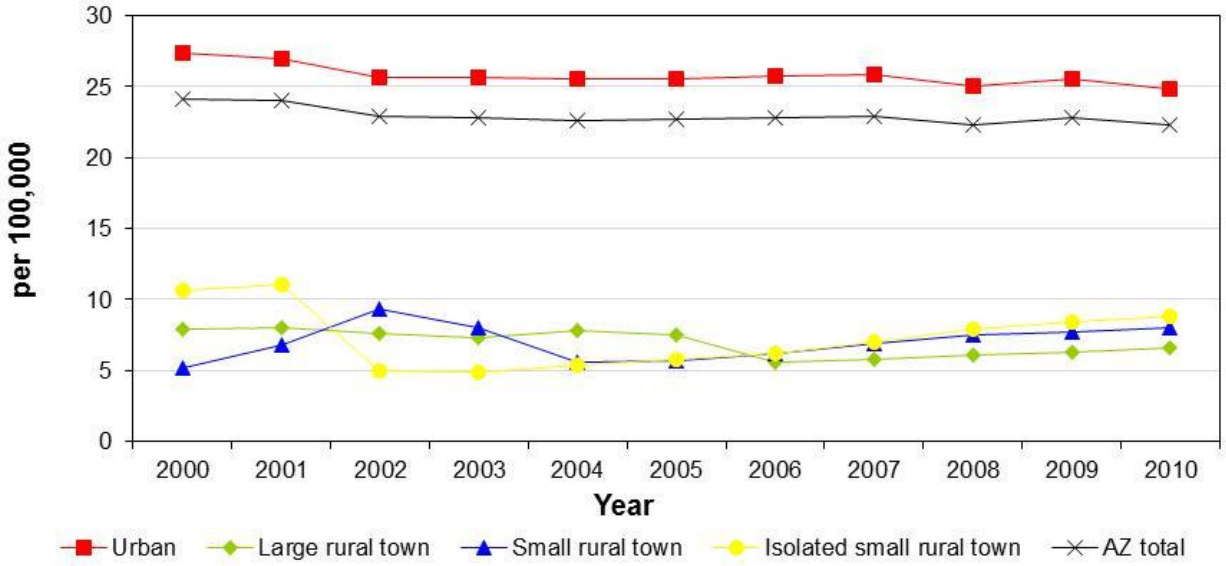
The rural and urban inequalities in the distribution of psychologists range by factors of 2.8 to 4.5 from 2007 to 2010. In 2010 psychologists-population ratios was 25 per 100,000 for urban areas, 7 per 100,00 for large rural town areas, 8 per 100,000 for small rural town areas, and 9 per 100,000 for isolated small rural town areas. The inequalities are more striking among counties in 2010 than between ruralness categories. Coconino County had 55 psychologists per 100,000 population while the rest of the counties have less than 24 per 100,000 and Greenlee and La Paz counties have no physiologists.

Table 7-1. Number of active licensed psychologists from 2007 to 2010 in Arizona and by four statewide rural-urban commuting area classifications.

Psychologists	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Statewide	1,422.0	1,418.0	1,449.0	1,424.0	0.1%
Urban	1,362.5	1,353.0	1,381.5	1,352.0	-0.8%
Large rural town	25.0	27.0	29.0	31.5	26.0%
Small rural town	26.5	29.5	29.5	30.5	15.1%
Isolated small rural town	7.5	8.5	9.0	9.5	26.7%

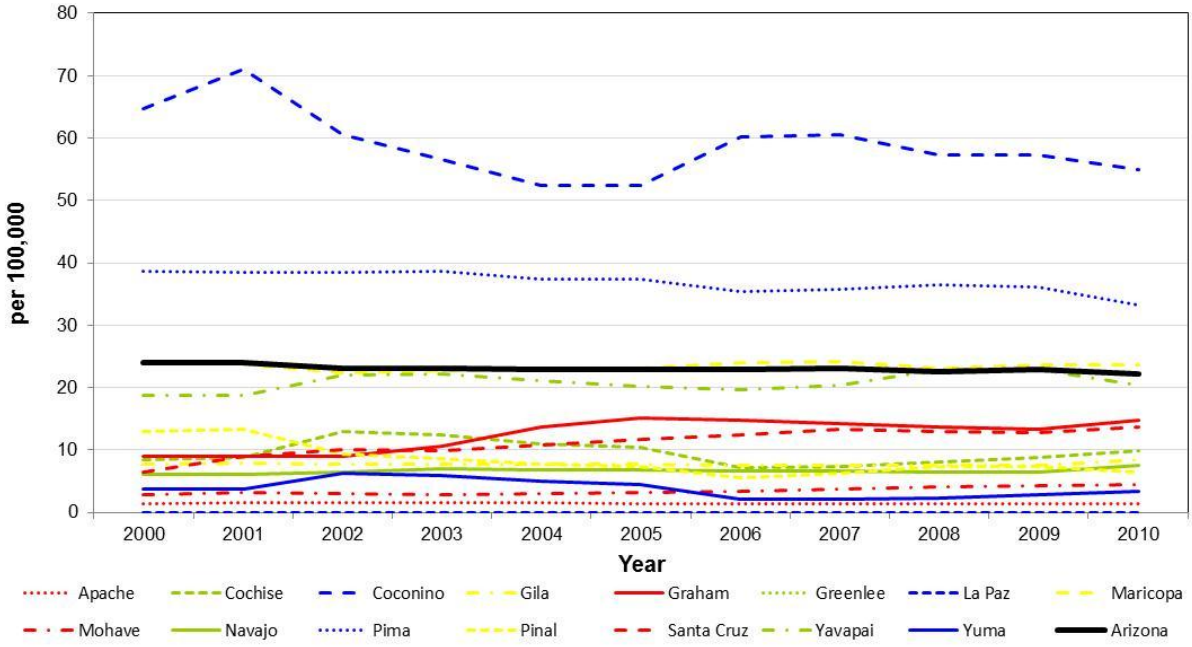
Due to data issues annual values were calculated on two-year moving averages of the previous year.

Figure 7.1. Trend of psychologists per 100,000 population in Arizona and by four rural-urban commuting area classifications from 2000 to 2010.



Due to data issues annual values were calculated on two-year moving averages of the previous year.

Figure 7.2. Trend of psychologists per 100,000 population in Arizona and by counties from 2000 to 2010.



Due to data issues annual values were calculated on two-year moving averages of the previous year.

Table 7-2. Number of active licensed psychologists per 100,000 population from 2007 to 2010 in Arizona by four statewide rural-urban commuting area classifications and by each county.

Psychologists	Professionals per 100,000 population				Change from 2007 to 2010
	2007	2008	2009	2010	
Statewide	23.0	22.6	22.8	22.2	-3.7%
Urban	25.8	25.0	25.6	24.9	-3.7%
Large rural town	5.8	6.1	6.3	6.6	15.0%
Small rural town	6.9	7.5	7.7	8.0	17.3%
Isolated small rural town	7.0	7.9	8.4	8.9	26.0%
Apache County	1.4	1.4	1.4	1.4	-2.9%
Cochise County	7.4	8.1	8.8	9.9	33.1%
Coconino County	61	57	57	55	-9.3%
Gila County	7.5	7.5	7.5	8.4	11.8%
Graham County	14.2	13.6	13.3	14.8	4.3%
Greenlee County	0	0	0	0	---
La Paz County	0	0	0	0	---
Maricopa County	24.1	23.1	23.6	23.5	-2.5%
Mohave County	3.8	4.0	4.3	4.5	19.7%
Navajo County	6.5	6.5	6.5	7.4	13.6%
Pima County	36	37	36	33	-6.7%
Pinal County	6.2	7.3	7.3	6.4	2.9%
Santa Cruz County	13.2	13.0	12.8	13.7	3.5%
Yavapai County	20.4	23.0	23.0	20.4	0.1%
Yuma County	2.1	2.4	2.8	3.3	54.9%

Due to data issues values were calculated using two-year moving averages for the number of psychologists.

SECTION 8: EMERGENCY MEDICAL TECHNICIANS

The Bureau of Emergency Medical Services & Trauma System, Arizona Department of Health Services (ADHS), certifies all levels of emergency medical technicians (EMT-Basic, EMT-Intermediate, and EMT-Paramedic). All levels must complete an approved training course and pass a written examination. Intermediate and paramedic EMTs must pass the National Registry practical examination. The 2000 to 2010 datasets that were provided by ADHS did not include unique identifiers such as names or certification numbers to remove duplicate records or impute missing EMTs. Also, the levels of EMTs were not included in all dataset years and were not separately analyzed in this report. The 2007 data was not available so the 2007 estimates were interpolations of 2006 and 2008 data.

Statewide, there were 16,619 certified emergency medical technicians (EMTs) in 2010 and 80.5% of them were located in urban areas. During 2007 and 2010, there was a statewide increase of 1,368 EMTs (9.0%). There were increased numbers of EMTs in all four RUCA ruralness categories from 2007 to 2010; the largest percent increase occurred in the small rural town areas (13.1%) (Table 8.1).

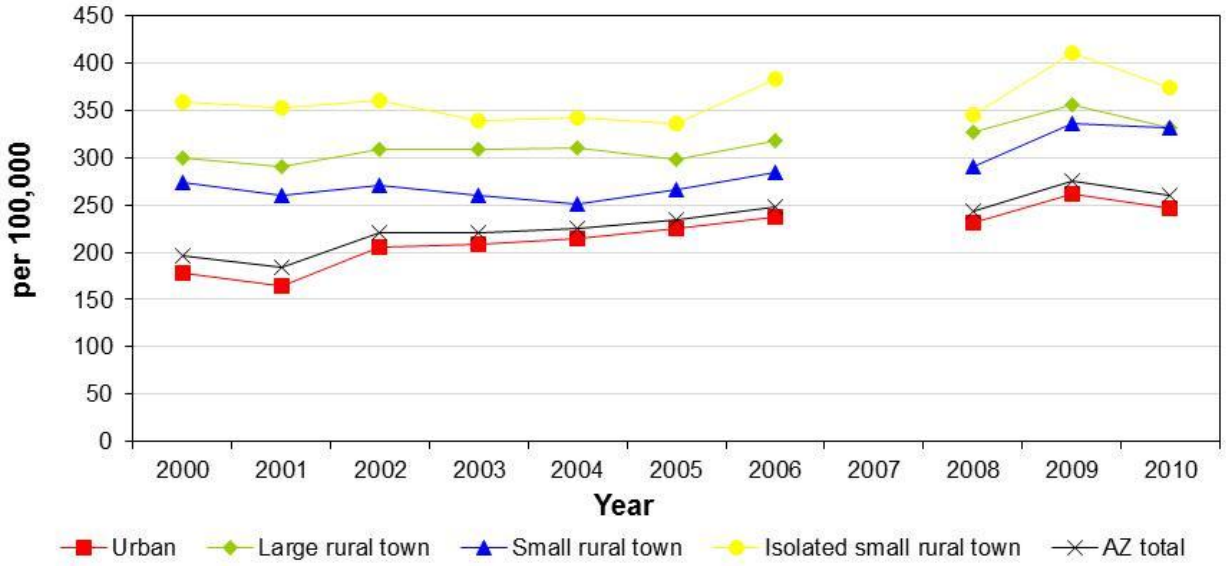
The statewide ratio of emergency medical technicians to 100,000 population increased from 247 to 259 (4.8% increase) during 2007 and 2010. Coconino, Gila, Pinal, and Santa Cruz counties had percentage decreases in emergency medical technicians-population ratios (0.8% to 6.3% decrease). Mohave had the largest increase in the county percentage medical technicians-population ratio (15.5%). EMTs-population ratios increased in all RUCA ruralness categories with the largest percent increase in the small rural town areas (15.2%) (Figures 8.1 and 8.2; Table 8.2).

Table 8-1. Number of active licensed emergency medical technicians from 2007 to 2010 in Arizona and by four statewide rural-urban commuting area classifications.

Emergency Medical Technicians	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Statewide	15,251.5	15,471	17,466	16,619	9.0%
Urban	12,349.5	12,504	14,106	13,386	8.4%
Large rural town	1,401.0	1,453	1,629	1,573	12.3%
Small rural town	1,112.5	1,141	1292	1,258	13.1%
Isolated small rural town	388.5	373	439	402	3.5%

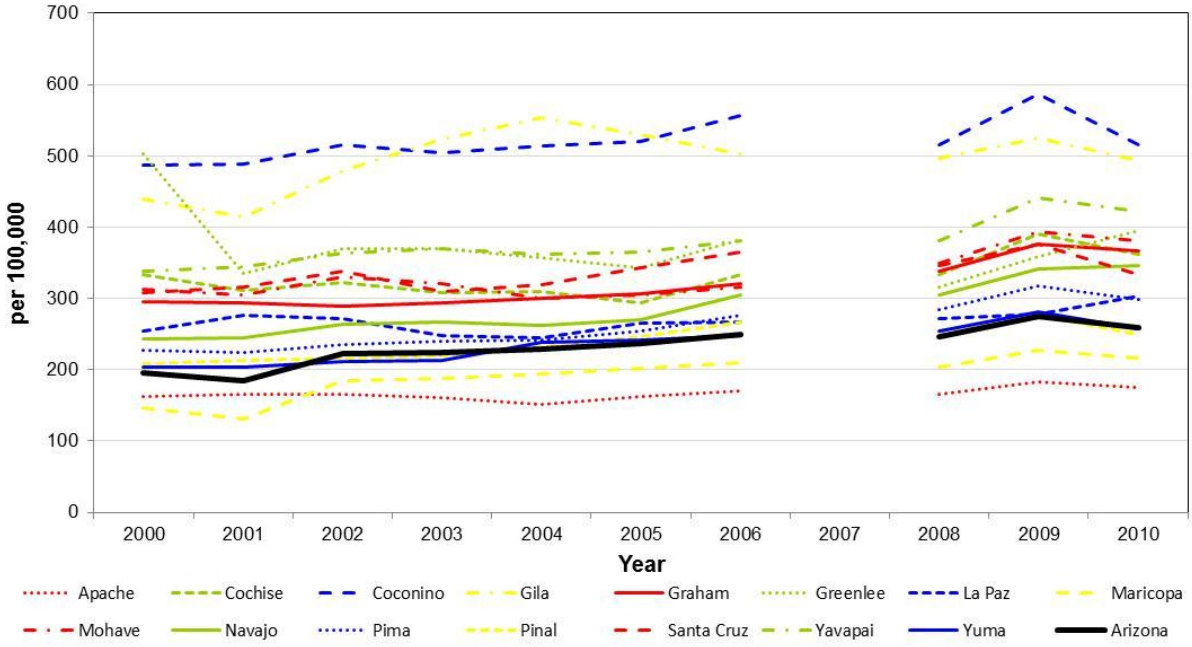
2007 data not available, interpolated 2006-2008 estimates used.

Figure 8.1. Trend of emergency medical technicians per 100,000 population in Arizona and by four rural-urban commuting area classifications from 2000 to 2010.



Data was unavailable for 2007.

Figure 8.1. Trend of emergency medical technicians per 100,000 population in Arizona and by four rural-urban commuting area classifications from 2000 to 2010.



Data was unavailable for 2007.

Table 8-2. Number of active licensed emergency medical technicians per 100,000 population from 2007 to 2010 in Arizona by four statewide rural-urban commuting area classifications and by each county.

Emergency Medical Technicians	Professionals per 100,000 population				Change from 2007 to 2010
	2007	2008	2009	2010	
Statewide	247	246	275	259	4.8%
Urban	234	231	261	246	5.2%
Large rural town	323	328	357	331	2.5%
Small rural town	288	291	337	332	15.2%
Isolated small rural town	364	346	410	375	2.9%
Apache County	168	166	183	174	3.7%
Cochise County	333	333	391	363	8.8%
Coconino County	535	516	587	516	-3.6%
Gila County	497	496	525	493	-0.8%
Graham County	330	338	376	366	11.1%
Greenlee County	347	315	359	395	13.7%
La Paz County	269	272	278	303	12.7%
Maricopa County	207	204	228	216	4.3%
Mohave County	330	350	394	382	15.5%
Navajo County	304	305	341	347	14.1%
Pima County	280	284	318	298	6.4%
Pinal County	258	255	277	249	-3.4%
Santa Cruz County	355	347	377	333	-6.3%
Yavapai County	379	381	441	422	11.4%
Yuma County	251	254	282	257	2.3%

SECTION 9: CONCLUSIONS AND RECOMMENDATIONS

9.1. Conclusions

Statewide from 2007 to 2010 all the health care professions analyzed increased their workforce except certified nurse midwives, licensed practical nurses and specialist dentists. Nurse practitioners were the fastest growing profession (29% over 4 years), followed by physician assistants and pharmacy technicians (26%) (Table 9.1). Over the 4-year period Arizona lost health professional coverage (per 100,000) for certified nurse midwives (4.2% decrease), registered nurses (0.2% decrease), licensed practical nurses (10.7% decrease), general dentists (0.2% decrease), specialist dentists (4.4% decrease), and psychologists 3.7% decrease).

Table 9.2 shows the relative inequalities in professional coverage (e.g., professionals per 100,000 population) with the larger numbers (factors) indicating larger differences of coverage by ruralness categories. Specialty physicians and dentists have relatively larger inequalities in coverage than other professions. There is less extreme (maximum) inequality in 2010 professional coverage compared to previous years.

The spatial inequalities for healthcare workforce from 2007 to 2010 continue to exist where urban areas have better coverage than rural areas for all the health professions analyzed except certified nursing assistants and emergency medical technicians. All rural categories for these two professions have better coverage than urban areas (Table 9.3). Also, large rural town areas have better coverage than urban areas for certified registered nurse anesthetists and licensed practical nurses, and small rural town areas have better coverage than urban areas for certified nurse midwives.

For many health care professions rural-urban workforce inequalities are increasing because urban professional coverage is increasing faster than rural professional coverage. However, health care workforce coverage in urban areas is decreasing and inequality is increasing compared to: (1) large rural town areas for registered nurses and pharmacists, (2) small rural town areas for specialist dentists, and (3) isolated small rural town areas for non-primary care physicians, certified registered nurse anesthetists, registered nurses, licensed practical nurses, and general dentists (Table 9.3).

The number of primary care providers (primary care physicians, physician assistants, and nurse practitioners) has increased in the state, but there is evidence from 2012 data that coverage for primary care physicians may be beginning to decrease. The number of osteopathic primary care physicians per 100,000 population has been relatively static since 2006 compared to non-primary care specialists. The osteopathic primary care physicians-population ratio decreased from 14.6 per 100,000 in 2010 to 14.2 in 2011. The 2012 data also indicated that the number of osteopathic non-primary care physicians per 100,000 population exceeded that of osteopathic primary care physicians for the first time in 2011 (14.5 per 100,000) (Figure 9.1). The 2006 to 2010 static trend does not appear for primary care and non-primary care allopathic physicians (Figure 9.2.) but this could be because of deferred retirement due to the recent recession (Figure 2.2).

Physician assistants (PA) and nurse practitioners (NP) are taking an increasing role in primary health care and their numbers have been increasing during the past decade, although erratically (Figure 9.3). In 2010 there were 1,833 active licensed physician assistants and 2,957 active licensed nurse practitioners.

Dentists, registered nurses, and psychologist are large workforce groups whose 2007 to 2010 recruitment may not be keeping up with Arizona healthcare needs (Tables 4.7, 5.2, and 7.2).

Table 9.1. Arizona statewide health workforce profile in 2010 and percent change from 2007.

Professions	Number in 2010	Net Change from 2007	Change from 2007	Number per 100,000 in 2010	Change per 100,000 from 2007
Physicians, all	14,839	1,174	8.6%	231.4	4.4%
Physicians, primary care specialties	5,106	554	12.2%	79.6	7.9%
Physicians, other specialties	9,733	620	6.8%	151.8	2.7%
Physicians, obstetrics and gynecology specialties	784	34	4.5%	62.0	3.0%
Physicians, psychiatric specialties	748	36	5.1%	11.7	1.0%
Physician assistants	1,833	378	26.0%	28.6	21.1%
Certified registered nurse anesthetists	310	50	19.2%	4.8	14.7%
Nurse practitioners	2,957	671	29.4%	46.1	24.4%
Certified nurse midwives	140	-4	-2.8%	11.1	-4.2%
Clinical nurse specialists	122	19	18.4%	1.9	13.9%
Registered nurses	55,936	2,035	3.8%	872.1	-0.2%
Licensed practical nurses	8,846	-676	-7.1%	137.9	-10.7%
Certified nurse assistants	24,564	3,361	15.9%	383.0	11.4%
Dentists, all	3,558	101	2.9%	55.5	-1.0%
Dentists, generalists	2,907	105	3.7%	45.3	-0.2%
Dentists, specialists	651	-4	-0.6%	10.2	-4.4%
Dental hygienists	3,200	362	12.8%	49.9	8.4%
Pharmacists	5,933	624	11.8%	92.5	7.5%
Pharmacy technicians	8,679	1774	26%	135.3	20.9%
Psychologists	1,424	2	0.1%	22.2	-3.7%
Emergency medical technicians	16,6919	1368	9.0%	259.1	4.8%

Table 9.2. Inequity factors of professional coverage by dividing the highest professional coverage per population ruralness category (urban areas unless noted) with the smallest coverage (usually in a rural category).

Professions	Maximum factors (2007 to 2010)	2010 factors
Physicians, all	3.7	3.6
Physicians, primary care specialties	1.7	1.6
Physicians, other specialties	9.9	9.9
Physicians, obstetrics and gynecology specialties	12.7	11.3
Physicians, psychiatric specialties	13.7	3.5
Physician assistants	2.7	2.2
Certified registered nurse anesthetists [a]	1.7	1.7
Nurse practitioners	1.8	1.8
Certified nurse midwives [b]	4.9	4.9
Clinical nurse specialists [c]	7.5	4.1
Registered nurses	2.4	2.4
Licensed practical nurses	1.8	1.7
Certified nurse assistants	1.5	1.4
Dentists, all	3.3	3.2
Dentists, generalists [d]	3.0	3.0
Dentists, specialists [d]	14.8	4.6
Dental hygienists [d]	2.9	2.9
Pharmacists	4.0	3.8
Pharmacy technicians	4.4	3.9
Psychologists	4.5	3.8
Emergency medical technicians [e]	1.6	1.5

a Large rural town areas is the reference; b Small rural town areas is the reference; c No CNSs in isolated small town area for most years, not included in analysis; d Peroid analyzed was 2007 to 2009, 2009 result in 2010 column; e Isolated small towns areas is the reference.

9.2. Recommendations

Arizona private and public sectors will need to increase support of the state's health professional programs to replace the large number of retiring professionals of the "baby boomers" generation, and to satisfy the expected increased demand in primary health care when the Patient Protection and Affordable Care Act becomes fully implemented in 2014. The lag-time from education enrollment to beginning a practice will likely be too long to initially satisfy the workforce demands with a supply of new graduates. Increased competition between states for health care workers can be expected.

Table 9.3. Population coverage trends of Arizona health professionals from 2007 to 2010 by ruralness and coverage compared to urban areas when rural coverage is less than urban coverage. (Ruralness categories with highest coverage are shaded).

Arizona health professionals	Trends by ruralness categories (urban comparisons)			
	Urban	Large rural towns	Small rural towns	Isolated small rural towns
Physicians, all	+	+ (-)	+ (-)	+ (-)
Physicians, primary care specialties	+	+ (-)	+ (-)	+ (+)
Physicians, other specialties	+	+ (-)	+ (+)	**- (-)**
Physicians, obstetrics and gynecology specialties	+	+ (0)	+ (0)	+ (-)
Physicians, psychiatric specialties	+	+ (0)	+ (0)	+ (+)
Physician assistants	+	+	+ (+)	+ (-)
Certified registered nurse anesthetists	+	-	+ (0)	**- (-)**
Nurse practitioners	+	+ (-)	+ (-)	+ (-)
Certified nurse midwives	-	+ (+)	+	+ (+)
Clinical nurse specialists	+	+ (-)	+ (-)	none
Registered nurses	+	**- (-)**	+ (-)	**- (-)**
Licensed practical nurses	-	-	- (+)	**- (-)**
Certified nurse assistants	+	+	+	+
Dentists, all*	+	+ (+)	+ (-)	+ (-)
Dentists, generalists*	+	+ (+)	+ (+)	**- (-)**
Dentists, specialists*	+	+ (+)	**- (-)**	+ (+)
Dental hygienists	+	+ (-)	+ (+)	+ (-)
Pharmacists	+	**- (-)**	+ (+)	+ (+)
Pharmacy technicians	+	+ (-)	+ (-)	+ (-)
Psychologists	-	+ (+)	+ (+)	+ (+)
Emergency medical technicians	+	+	+	+

* Dentist comparisons for from 2007 to 2009; + increased coverage; - decreased coverage; (+) increased inequality with urban areas; (-) decreased inequality with urban areas; (0) no change in inequality with urban areas.

Table 9.1. Trend of osteopathic physicians (DO) by specialties per 100,000 population in Arizona from 2000 to 2011.

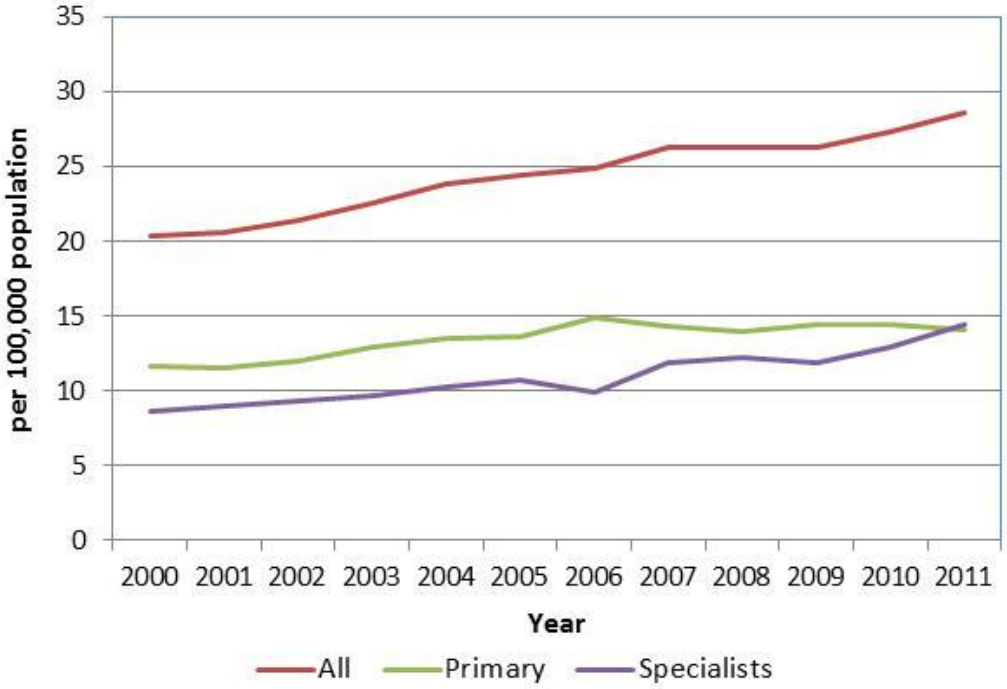


Figure 9.2. Trend of allopathic physicians (MD) per 100,000 population by specialties in Arizona from 2000 to 2010.

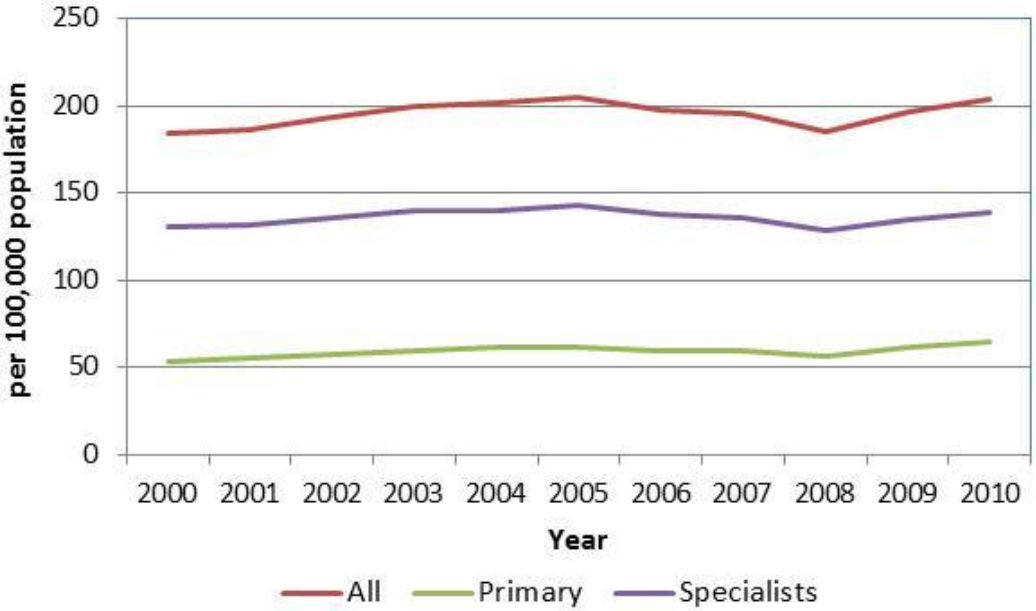
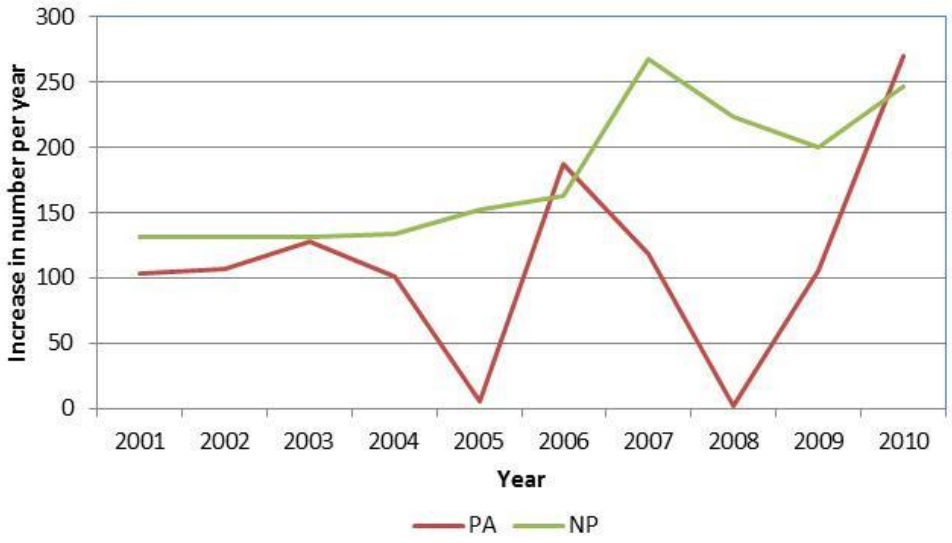


Figure 9.3. Rate of increase per year for physician assistants and nurse practitioners in Arizona from 2001 to 2010.



This expected disconnect between workforce supply and demand may be more severe in rural areas; especially La Paz, Apache, Greenlee, Santa Cruz, and Pinal counties (Table 9.4). Increasing the number of rural health professionals may require recruitment of students from rural areas, expansion of academic curriculum on rural health, increasing the number of practice rotation and medical residency programs in rural health facilities, expanding health professional loan payment programs, expanding the J-1 Visa program that targets recruitment for rural areas, and creating incentives for physician recruitment.

Future workforce studies are needed to allow informed policy refinements of the Patient Protection and Affordable Care Act, training and recruitment of rural health workforce, healthcare policies of the State of Arizona, and health facility expansions (e.g., federal qualified community health centers and their satellites, rural health clinics, and hospitals).

Arizona workforce studies can be improved by improving the amount and quality of information that licensing boards collect. For example collecting information on the amount of time (FTE) professionals spend on direct patient care and the locations of service. The dentist analysis (Section 5) describes the under estimation of the rural workforce that results when only one practice location is reported.

A possible way to improve workforce studies is by allowing the Arizona licensing boards to retain all of their revenues from licensing fees and data sales as was recently done in New Mexico.[16] This legislation enabled the licensing boards to invest in improvements that provided necessary workforce data for New Mexico's Health Care Work Force Data Collection, Analysis and Policy Act [17].

Table 9.4. Rankings of professional coverage per population for 2010 by Arizona counties.

Professions	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
Physicians, all	14	10	2	7	9	11	12	3	4	8	1	15	13	5	6
Physicians, primary care specialties	15	11	1	5	4	12	9	3	10	7	2	14	13	6	8
Physicians, other specialties	14	9	2	7	12	10	13	3	4	8	1	15	11	5	6
Physicians, obstetrics and gynecology specialties	14	13	1	3	6	15	10	4	5	9	2	12	8	7	11
Physicians, psychiatric specialties	6	9	2	13	14	3	15	4	7	11	1	12	8	5	10
Physician assistants	8	14	3	9	2	1	11	5	4	6	12	13	15	10	7
Certified registered nurse anesthetists	13	9	1	7	2	15	8	5	11	4	10	12	3	6	14
Nurse practitioners	12	6	1	13	7	15	14	4	8	5	2	9	10	3	11
Certified nurse midwives	1	11	3	11	6	11	11	9	7	2	4	10	11	8	5
Clinical nurse specialists	8	6	7	8	8	8	8	2	4	8	1	5	8	3	8
Registered nurses	12	9	1	7	5	13	15	4	6	10	2	8	14	3	11
Licensed practical nurses	15	4	14	2	8	13	9	5	6	12	1	3	10	7	11
Certified nurse assistants	10	8	5	2	1	3	15	14	11	4	12	13	7	6	9
Dentists, all*	12	9	1	6	3	13	15	2	8	7	4	10	14	5	11
Dentists, generalists*	13	9	1	6	2	12	15	3	8	7	4	10	14	5	11
Dentists, specialists*	12	6	1	11	4	13	13	2	10	8	3	7	13	5	9
Dental hygienists	13	10	1	9	5	14	14	4	8	7	2	6	12	3	11
Pharmacists	13	11	3	7	5	15	14	2	6	8	1	10	12	4	9
Pharmacy technicians	13	8	9	7	3	15	14	1	5	10	4	2	11	6	12
Psychologists	13	7	1	8	5	14	14	3	11	9	2	10	6	4	12
Emergency medical technicians	15	7	1	2	6	4	10	14	5	8	11	13	9	3	12
Coarse ranking from sum of all professional rankings	14	9	1	7	5	13	15	3	6	8	2	11	12	4	10

* Ranking based on 2009 data.

SECTION 10: APPENDICES

Appendix A. Data Sources and Methods

Data Sources

Data sources used in this report are as follows:

- Arizona Department of Health Services (ADHS) datasets from 2000 to 2011 that comprised board data on allopathic (MD) and osteopathic (DO) physicians, physician assistants, nurse practitioners, midwives, registered nurses, dentists, and emergency medical technicians. The origin of this data was from the following licensing boards: Arizona Medical Board; Arizona State Board of Nursing; Arizona State Board of Dental Examiners; and ADHS's Emergency Medical Technicians certification data. Modifications of the data by ADHS were undocumented.
- Arizona Medical Board data of past and current allopathic physicians as of February 2008 dataset, October 2010 dataset, and July 2011 dataset.
- Arizona Board of Osteopathic Examiners in Medicine and Surgery data of past and current osteopathc physicians as of July 2011 dataset and April 2012 dataset.
- Arizona State Board of Nursing data on current and past nurses (advanced practice registered nurses, registered nurses, licensed practical nurses, and certified nursing assistants) as of October 2008 dataset and November 2011 dataset.
- Arizona State Board of Dental Examiners of current and past dentists and dental hygienists as of September 2008 dataset and September 2011 dataset.
- Arizona State Board of Pharmacy of past and current pharmacists and pharmacist technicians as of May 2009 dataset and July 2011 dataset.
- Arizona Board of Psychologist Examiners data on current and past psychologists as of May 2012 dataset.
- The US Census for county-level populations and inter-census, annual population estimates.
- Nielsen Claritas, a marketing research company, for zip code-level population estimates. These estimates do not necessarily match the US Census estimates exactly at the state-level.
- University of Washington's Rural Urban Commuting Area (RUCA) classifications by zip codes (http://depts.washington.edu/uwruca/)

Methods

Care needs to be exercised when comparing estimates of workforce coverage from different studies due to issues related to differences in data sources and quality, classification of professions, licensing requirements, estimates of full-time equivalent work (FTE) from number of active licenses, and productivity of workers. The licensing board data used in this study (except for the dentist data) allocates only one practice location even though many healthcare professionals provide regular services at several locations. The result is that rural workforce is underestimated as explained and illustrated in Section 5 on dentists. This study provides good information on workforce trends over time however the actual number (FTE) of health care professionals that spend on direct patient care is overestimated.

The data used in this study consisted of Arizona Department of Health Services' (ADHS) health profession datasets from 2000 to 2010 that comprised licensing board data on allopathic

(MD) and osteopathic (DO) physicians, physician assistants, nurse practitioners, midwives, registered nurses, dentists, and emergency medical technicians. The origin of these data was from the following licensing boards: Arizona Medical Board; Arizona Board of Osteopathic Medicine; Arizona State Board of Nursing; Arizona State Board of Dental Examiners; and ADHS's Emergency Medical Technicians certification data. Data on currently and previously licensed nurses (advanced practice registered nurses, registered nurses, licensed practical nurses, and certified nursing assistants) were provided by the Arizona State Board of Nursing. Data on dentists were provided by the Arizona State Board of Dental Examiners. Data on past and current pharmacists and pharmacist technicians were provided by the Arizona State Board of Pharmacy. The 2008 and 2011 American Medical Association (AMA) physician datasets provided medical school and residency locations along with other information; US Census data were used for county-level populations and inter-census, annual population estimates.

Accurate health care workforce analysis for rural areas requires higher quality data than urban areas because of the small numbers of professionals working in the rural communities and the small populations in these communities (Figure A.1). Random or systematic data errors can severely distort the results and resulting recommendations. Aggregating the data by different geographies can help identify needs for different communities and underserved populations.

The summary data was reported by county and by Rural-Urban Commuting Areas (RUCA) that were based on postal zip codes to compare differences in the levels of community rurality in the state. RUCAs are based on US Census tract data and provide a standard, nationwide classification of ruralness. RUCA's were converted to zip code geographies by the University of Washington (http://depts.washington.edu/uwruca/). The four classes of RUCAs that were used are: urban areas (e.g., Phoenix), large rural towns (e.g., Payson), small rural towns (e.g., Chinle), and isolated small rural towns (e.g., Ashfork and Tombstone) (Table A.1). This four-category classification is commonly used for health related projects. It divides urban and rural areas approximately the same way as the US Office of Management and Budget's metro classification. Population estimates by zip codes were provided by the US Census and Nielsen-Claritas, a marketing research company.

Missing county and postal zip code data for residence or business locations of professionals were deductively imputed based on street address and/or city data, and practitioners name and the use of a geographic information system and internet website search applications. Unclear determinations were assigned to the more urban locations to minimize relative error.

Workforce summaries are presented as total counts and relative counts of currently licensed or certified professionals. These values likely over estimates the number of practicing, full-time equivalent (FTE), direct patient care professionals. The relative counts of professionals are presented as number of professionals per 100,000 population. The reference populations used were the population likely served; specifically the general population or the population of females of child bearing age from 15 to 44 years. Since US Census and Nielsen Claritas population estimates are not necessarily the same, the relative counts of practitioners at the state-level are likely to be slightly different between County Ruralness and RUCA estimates. The algorithms used for practice-type classifications are available upon request.

Health professional licensing boards provide the source of most of the data used in healthcare workforce analysis. Much of these data were based on self-reporting and provide incomplete information regarding the amount and location

of work conducted by each profession. Having an active license in a particular state does not necessarily mean that the person is actively working, or working in the state that they are licensed. Also, the study avoided double counting individuals with multiple different licenses and specialties by aggregating multiple records for an individual by their license numbers, name and address, and reporting them based on their most likely, active profession.

For example, the nurse licensing boards report separately each type of license a person may have. Some registered nurses (RNs) have active listings as licensed practical nurses (LPNs) or advanced practice nurses (APs). The Arizona State Board of Nursing licenses and reports those licensed RNs with additional training as a group called advance practice nurses (APNs). APNs include clinical nurse specialists (CNSs), certified registered nurse anesthetists (CRNAs), certified nurse midwives (CNMs), school nurses (SNs), and nurse practitioners (NPs). Nurse practitioners include nine sub-specialties, each reported separately. Reporting the number of actively licensed RNs as the number of RNs in the workforce is misleading since this number will also include the licensed APNs who will most likely be working as APNs.

Healthcare professionals were assigned the year or years of practice if they had a valid, active licensed on 31 December of the respective year. There were numerous missing records of individual professionals in the Arizona Department of Health Services datasets from 2000 to 2010, possibly due to late license renewals. Individuals with missing years between reported years were imputed as active during the missing years. This produced smoother trends and provided a better estimate of reality. Multiple datasets were combined using license numbers, names, and addresses of professionals.

Physicians: The datasets for allopathic (MD) and osteopathic (DO) physicians were combined with Arizona Medical Board and Arizona Board of Osteopathic Examiners in Medicine and Surgery data that was acquired. The more recent data was used to impute allopathic physicians or information about them that was missing in the licensing board dataset. The classifications of practice type were based on the first of three possible self-identified type of practice that was reported to the licensing board by each physician. The predominate type of practice that was reported for each physician between 2000 and 2010 was used to classify them as primary-care or non-primary care. The main document classifies and reports obstetrics/gynecology and psychiatry as non-primary care.

Physician Assistants: The datasets for physician assistants was provided by ADHS and the Arizona Medical Board.

Nurses: The Arizona Department of Health Services (ADHS) datasets of currently licensed nurses from 2000 to 2010 were combined with Arizona State Board of Nursing data on current and past nurses. Advance practice registered nurses in the datasets were identified as acute care nurse practitioners, adult nurse practitioners, family nurse practitioners, gerontological nurse practitioners, neonatal nurse practitioners, pediatric nurse practitioners, psychiatric nurse practitioners, mental health nurse practitioners, women's health nurse practitioners, certified nurse midwives, clinical nurse specialists, certified registered nurse anesthetists, and school nurses. We reported and analyzed certified nurse midwives, clinical nurse specialists, certified registered nurse anesthetists separately, school nurses were grouped with registered nurses, and all other advance practice registered nurses were grouped as nurse practitioners. Registered nurses, licensed practical nurses, and certified nursing assistants were reported and analyzed separately. The 2001 ADHS registered nurse data was missing and was imputed from data of subsequent years. The 2003 ADHS nurse practitioner data set included a large number of license practical

nurses that were identified by license numbers. The datasets of all nurse types were combined based on multiple levels of licensure, their license numbers, names, and location to avoid double counting. The highest level of licensure was reported, for example all nurse practitioners are also registered nurses but in this reporting and analysis they were not included with registered nurses to avoid double counting. The most likely highest paid type of advanced practice specialty that was reported for each advanced practice registered nurse was used to classify each advanced practice nurse.

Dentists: The datasets for dentists from Arizona Department of Health Services provided all the locations of practice reported by each dentist and had a pseudo Full-Time-Equivalent (FTE) value assigned that was proportional to the number of practice locations reported. For example if a dentist worked in only one location then a FTE of 1.0 was assigned, if two location were reported then each location was assigned 0.5 FTE, in three locations then 0.33 FTE, etc. The workforce counts and relative counts are reported by these pseudo-FTEs. If the dentist reported a specialty then they were classified as a specialist; the others were classified as general denstists.

Pharmacist: The Arizona State Board of Pharmacy provided datasets on pharmacists that were licensed in Arizona from 1931 to 2011. The latest reported practice location was imputed for previous years that they had active licenses in Arizona.

Pharmacy Technicians: Data from the Arizona State Board of Pharmacy included data on pharmacist technicians that were licensed from 2004 to 2011. Estimated count for years prior to 2004 was not included due to the unknown number of technicians who stopped practicing and would result in underestimates of the workforce prior to 2004.

Psychologists: Data from the Arizona Board of Psychologist Examiners included past and currently licensed psychologists as of May 2012. This allowed estimated workforce trends using psychologists last reported location.

Emergency Medical Technicians: The datasets for emergency medical technicians (EMT) from Arizona Department of Health Services (ADHS) from 2000 to 2010 did not consistantly include names and certification numbers that might have allowed identification and reporting of missing EMTs. Imputation was done for missing county and zip code data as explained above.

Figure A.1. Maps of Arizona counties based on surface-area and population.

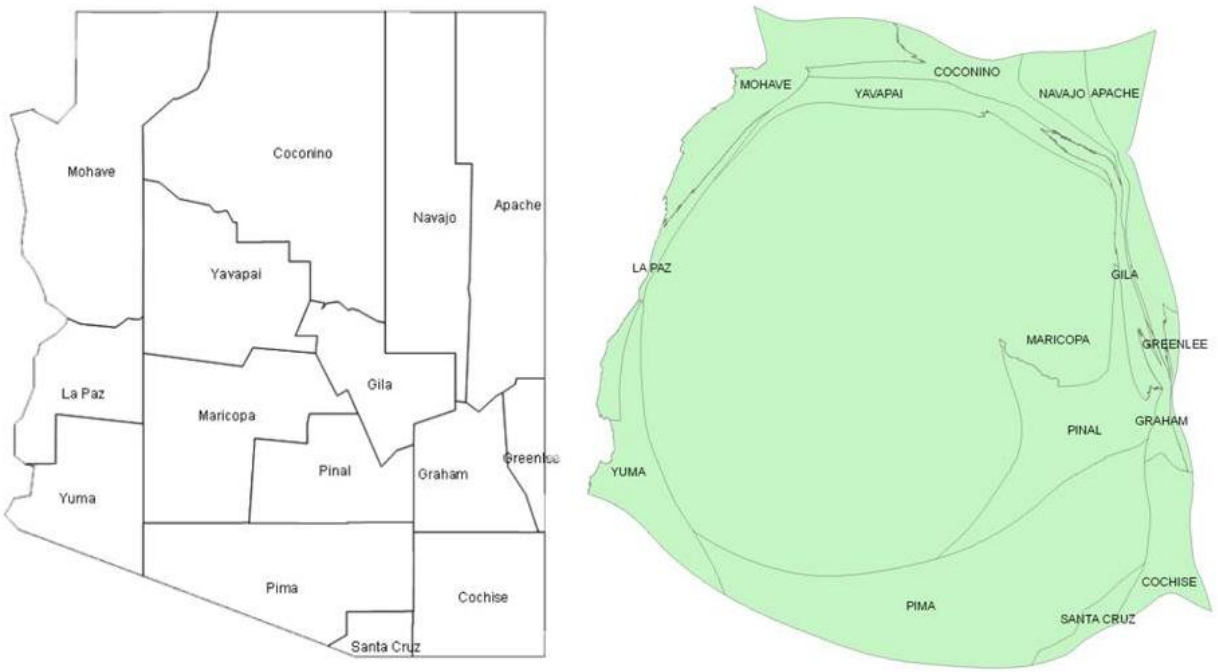


Table A.1. List of town and cities in Arizona and their ruralness classifications.

Town-City	County	Zip Code-RUCA
Ajo	Pima	Small rural town
Ak-Chin Village	Pinal	Urban
Amado	Santa Cruz	Urban
Apache Junction	Pinal	Urban
Arizona City	Pinal	Small rural town
Arizona Village	Mohave	Small rural town
Ash Fork	Yavapai	Isolated small rural town
Avondale	Maricopa	Urban
Avra Valley	Pima	Urban
Bagdad	Yavapai	Isolated small rural town
Benson	Cochise	Small rural town
Big Park	Yavapai	Small rural town
Bisbee	Cochise	Small rural town
Bitter Springs	Coconino	Small rural town
Black Canyon City	Yavapai	Urban
Blackwater	Pinal	Isolated small rural town
Bluewater	La Paz	Small rural town
Bouse	La Paz	Small rural town
Buckeye	Maricopa	Urban
Bullhead City	Mohave	Small rural town
Burnside	Apache	Small rural town
Cameron	Coconino	Small rural town
Camp Verde	Yavapai	Isolated small rural town
Canyon Day	Gila	Small rural town
Carefree	Maricopa	Urban
Casa Grande	Pinal	Large rural town
Casas Adobes	Pima	Urban
Catalina	Pima	Urban
Catalina Foothills	Pima	Urban
Cave Creek	Maricopa	Urban
Chandler	Maricopa	Urban
Chilchinbito	Navajo	Small rural town
Chinle	Apache	Small rural town
Chino Valley	Yavapai	Urban
Chuichu	Pinal	Large rural town
Cibecue	Navajo	Small rural town
Cibola	La Paz	Urban
Cienega Springs	La Paz	Small rural town
Clarkdale	Yavapai	Large rural town
Claypool	Gila	Large rural town
Clifton	Greenlee	Small rural town

Town-City	County	Zip Code-RUCA
Colorado City	Mohave	Small rural town
Congress	Yavapai	Urban
Coolidge	Pinal	Small rural town
Cordes Lakes	Yavapai	Urban
Cornville	Yavapai	Small rural town
Corona de Tucson	Pima	Urban
Cottonwood	Yavapai	Large rural town
Dennehotso	Apache	Small rural town
Desert Hills	Mohave	Large rural town
Dewey-Humbolt	Yavapai	Urban
Dilkon	Navajo	Small rural town
Dolan Springs	Mohave	Large rural town
Douglas	Cochise	Large rural town
Drexel Heights	Pima	Urban
Dudleyville	Pinal	Isolated small rural town
Duncan	Greenlee	Isolated small rural town
Eagar	Apache	Small rural town
East Fork	Navajo	Small rural town
East Sahuarita	Pima	Urban
Ehrenberg	La Paz	Large rural town
El Mirage	Maricopa	Urban
Elgin	Santa Cruz	Isolated small rural town
Eloy	Pinal	Small rural town
First Mesa	Navajo	Isolated small rural town
Flagstaff	Coconino	Urban
Florence	Pinal	Large rural town
Flowing Wells	Pima	Urban
Fort Defiance	Apache	Small rural town
Fortuna Foothills	Yuma	Urban
Fountain Hills	Maricopa	Urban
Fredonia	Coconino	Isolated small rural town
Gadsden	Yuma	Urban
Ganado	Apache	Small rural town
Gila Bend	Maricopa	Urban
Gilbert	Maricopa	Urban
Gisela	Gila	Large rural town
Glendale	Maricopa	Urban
Globe	Gila	Large rural town
Gold Canyon	Pinal	Urban
Golden Valley	Mohave	Large rural town
Goodyear	Maricopa	Urban

Town-City	County	Zip Code-RUCA
Grand Canyon Village	Coconino	Isolated small rural town
Greasewood	Navajo	Small rural town
Green Valley	Pima	Urban
Guadalupe	Maricopa	Urban
Hayden	Gila	Isolated small rural town
Holbrook	Navajo	Small rural town
Hotevilla-Bacavi	Navajo	Isolated small rural town
Houck	Apache	Small rural town
Huachuca City	Cochise	Large rural town
Jeddito	Navajo	Isolated small rural town
Jerome	Yavapai	Large rural town
Kachina Village	Coconino	Urban
Kaibab	Mohave	Small rural town
Kaibito	Coconino	Small rural town
Kayenta	Navajo	Small rural town
Keams Canyon	Navajo	Isolated small rural town
Kearny	Pinal	Isolated small rural town
Kingman	Mohave	Large rural town
Kykotsmovi Village	Navajo	Isolated small rural town
Lake Havasu City	Mohave	Large rural town
Lake Montezuma	Yavapai	Isolated small rural town
LeChee	Coconino	Small rural town
Leupp	Coconino	Urban
Litchfield Park	Maricopa	Urban
Littletown	Pima	Urban
Lukachukai	Apache	Isolated small rural town
Mammoth	Pinal	Urban
Many Farms	Apache	Small rural town
Marana	Pima	Urban
Maricopa	Pinal	Urban
Mayer	Yavapai	Urban
McNary	Apache	Small rural town
Mesa	Maricopa	Urban
Mesquite Creek	Mohave	Small rural town
Miami	Gila	Large rural town
Moenkopi	Coconino	Small rural town
Mohave Valley	Mohave	Small rural town
Mojave Ranch Estates	Mohave	Small rural town
Morenci	Greenlee	Small rural town
Mountainaire	Coconino	Urban
Munds Park	Coconino	Small rural town
Naco	Cochise	Small rural town
Nazlini	Apache	Small rural town

Town-City	County	Zip Code-RUCA
New River	Maricopa	Urban
Nogales	Santa Cruz	Large rural town
Oracle	Pinal	Urban
Oro Valley	Pima	Urban
Page	Coconino	Small rural town
Paradise Valley	Maricopa	Urban
Parker	La Paz	Small rural town
Parks	Coconino	Isolated small rural town
Patagonia	Santa Cruz	Isolated small rural town
Paulden	Yavapai	Urban
Payson	Gila	Large rural town
Peach Springs	Mohave	Large rural town
Peeples Valley	Yavapai	Urban
Peoria	Maricopa	Urban
Peridot	Gila	Small rural town
Phoenix	Maricopa	Urban
Picture Rocks	Pima	Urban
Pima	Graham	Large rural town
Pine	Gila	Large rural town
Pinetop-Lakeside	Navajo	Small rural town
Pinon	Navajo	Isolated small rural town
Pirtleville	Cochise	Large rural town
Pisinemo	Pima	Isolated small rural town
Poston	La Paz	Small rural town
Prescott	Yavapai	Urban
Prescott Valley	Yavapai	Urban
Quartzsite	La Paz	Small rural town
Queen Creek	Maricopa	Urban
Queen Valley	Pinal	Urban
Red Mesa	Apache	Isolated small rural town
Rio Verde	Maricopa	Urban
Rock Point	Apache	Isolated small rural town
Rough Rock	Apache	Small rural town
Round Rock	Apache	Small rural town
Sacaton	Pinal	Isolated small rural town
Safford	Graham	Large rural town
Sahuarita	Pima	Urban
Salome	La Paz	Isolated small rural town
San Carlos	Gila	Small rural town
San Luis	Yuma	Urban
San Luis	Pima	Isolated small rural town
San Manuel	Pinal	Small rural town
Santa Rosa	Pima	Isolated small rural town

Town-City	County	Zip Code-RUCA
Sawmill	Apache	Small rural town
Scottsdale	Maricopa	Urban
Second Mesa	Navajo	Isolated small rural town
Sedona	Coconino	Small rural town
Seligman	Yavapai	Isolated small rural town
Sells	Pima	Isolated small rural town
Shonto	Navajo	Small rural town
Show Low	Navajo	Small rural town
Shungopavi	Navajo	Isolated small rural town
Sierra Vista	Cochise	Large rural town
Snowflake	Navajo	Small rural town
Somerton	Yuma	Urban
Sonoita	Santa Cruz	Isolated small rural town
South Tucson	Pima	Urban
Spring Valley	Yavapai	Urban
Springerville	Apache	Small rural town
Stanfield	Pinal	Urban
Star Valley	Gila	Large rural town
Steamboat	Apache	Small rural town
Stotonic	Pinal	Isolated small rural town
Strawberry	Gila	Large rural town
Summit	Pima	Urban
Sun City	Maricopa	Urban
Sun City West	Maricopa	Urban
Sun Lakes	Maricopa	Urban
Sun Valley	Navajo	Small rural town
Superior	Pinal	Urban
Surprise	Maricopa	Urban
Swift Trail Junction	Graham	Large rural town
Tacna	Yuma	Urban
Tanque Verde	Pima	Urban
Taylor	Navajo	Small rural town
Teec Nos Pos	Apache	Isolated small rural town
Tempe	Maricopa	Urban

Town-City	County	Zip Code-RUCA
Thatcher	Graham	Large rural town
Three Points	Pima	Urban
Tolleson	Maricopa	Urban
Tombstone	Cochise	Isolated small rural town
Tonalea	Coconino	Small rural town
Tonto Basin	Gila	Large rural town
Top-of-the-World	Gila	Large rural town
Tortolita	Pima	Urban
Tsaile	Apache	Isolated small rural town
Tuba City	Coconino	Small rural town
Tubac	Santa Cruz	Isolated small rural town
Tucson	Pima	Urban
Tucson Estates	Pima	Urban
Tusayan	Coconino	Isolated small rural town
Vail	Pima	Urban
Wellton	Yuma	Urban
Wenden	La Paz	Isolated small rural town
Whetstone	Cochise	Large rural town
Whiteriver	Navajo	Small rural town
Wickenburg	Maricopa	Urban
Wilhoit	Yavapai	Urban
Willcox	Cochise	Small rural town
Williams	Coconino	Isolated small rural town
Williamson	Yavapai	Urban
Willow Valley	Mohave	Small rural town
Window Rock	Apache	Small rural town
Winkelman	Gila	Isolated small rural town
Winslow	Navajo	Small rural town
Winslow West	Coconino	Urban
Yarnell	Yavapai	Urban
Young	Gila	Large rural town
Youngtown	Maricopa	Urban
Yuma	Yuma	Urban

Appendix B. County Workforce Profiles

Apache County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Allopathic Physicians (MDs)					
Primary Care					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	13	12	13	14	8%
Isolated small rural town	2	2	1	1	-50%
Non-Primary Care					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	12	11	18	20	67%
Isolated small rural town	0	0	0	0	---
Obstetrics/Gynecology					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	3	3	3	2	-33%
Isolated small rural town	0	0	0	0	---
Psychiatrists					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	2	2	4	4	100%
Isolated small rural town	0	0	0	0	---
Osteopathic Physicians (DOs)					
Primary Care					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	3	4	3	4	33%
Isolated small rural town	0	1	1	1	---
Non-Primary Care					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	3	2	1	2	-33%
Isolated small rural town	0	0	0	0	---
Obstetrics/Gynecology					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	2	1	1	1	-50%
Isolated small rural town	0	0	0	0	---
Psychiatrists					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---

Apache County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Physician Assistants					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	9	9	10	17	89%
Isolated small rural town	1	1	1	1	0%
Advance Practice Nurses (AP)					
Certified Registered Nurse Anesthetists (CRNA)					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	1	1	1	1	0%
Isolated small rural town	0	0	0	0	
Nurse Practitioners (NP)					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	10	12	12	15	50%
Isolated small rural town	0	0	1	1	
Certified Nurse Midwives (CNM)					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	5	5	6	5	0%
Isolated small rural town	0	0	0	0	---
Clinical Nurse Specialists (CNS)					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Registered Nurses (RN)					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	242	241	227	237	-2%
Isolated small rural town	43	42	40	38	-12%
Licensed Practical Nurse (LPN)					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	38	41	33	35	-8%
Isolated small rural town	6	5	5	5	-17%
Certified Nurse Assistants (CNA)					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	211	243	255	242	15%
Isolated small rural town	42	45	50	54	29%

Apache County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Dentists					
General dentists					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	14.0	13.2	12.8	12	-14%
Isolated small rural town	0.0	0.0	0.0	0	---
Specialist dentists					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	3.5	3.5	2.0	0	-100%
Isolated small rural town	0.0	0.0	0.0	0	---
Dental Hygienists					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	5	6	9	9	80%
Isolated small rural town	0	0	1	1	---
Pharmacists					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	5	5	9	11	120%
Isolated small rural town	3	2	2	2	-33%
Pharmacy Technicians					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	28	37	37	37	32%
Isolated small rural town	0	0	1	3	---
Psychologists					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	1	1	1	1	0%
Isolated small rural town	0	0	0	0	
Emergency Medical Technicians					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	95	94	107	103	8%
Isolated small rural town	22	22	23	22	0%

Cochise County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Allopathic Physicians (MDs)					
Primary Care					
Urban	na	na	na	na	na
Large rural town	37	33	34	35	-5%
Small rural town	10	10	12	12	20%
Isolated small rural town	4	3	3	3	-25%
Non-Primary Care					
Urban	na	na	na	na	na
Large rural town	58	56	54	62	7%
Small rural town	12	11	5	4	-67%
Isolated small rural town	1	1	2	1	0%
Obstetrics/Gynecology					
Urban	na	na	na	na	na
Large rural town	6	6	5	5	-17%
Small rural town	1	1	0	0	-100%
Isolated small rural town	0	0	0	0	---
Psychiatrists					
Urban	na	na	na	na	na
Large rural town	4	4	2	4	0%
Small rural town	2	2	0	0	-100%
Isolated small rural town	0	0	1	0	---
Osteopathic Physicians (DOs)					
Primary Care					
Urban	na	na	na	na	na
Large rural town	11	10	13	13	18%
Small rural town	1	1	1	1	0%
Isolated small rural town	0	0	1	1	---
Non-Primary Care					
Urban	na	na	na	na	na
Large rural town	11	10	8	5	-55%
Small rural town	0	0	0	0	---
Isolated small rural town	1	1	0	0	-100%
Obstetrics/Gynecology					
Urban	na	na	na	na	na
Large rural town	2	2	1	1	-50%
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Psychiatrists					
Urban	na	na	na	na	na
Large rural town	1	1	1	1	0%
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---

Cochise County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Physician Assistants					
Urban	na	na	na	na	na
Large rural town	12	12	16	19	58%
Small rural town	5	5	2	2	-60%
Isolated small rural town	0	0	0	0	---
Advance Practice Nurses (AP)					
Certified Registered Nurse Anesthetists (CRNA)					
Urban	na	na	na	na	na
Large rural town	5	5	3	3	-40%
Small rural town	1	1	1	1	0%
Isolated small rural town	0	0	0	0	---
Nurse Practitioners (NP)					
Urban	na	na	na	na	na
Large rural town	25	35	36	37	48%
Small rural town	10	10	13	14	40%
Isolated small rural town	3	5	5	5	67%
Certified Nurse Midwives (CNM)					
Urban	na	na	na	na	na
Large rural town	0	0	0	0	---
Small rural town	0	0	1	0	---
Isolated small rural town	0	0	0	0	---
Clinical Nurse Specialists (CNS)					
Urban	na	na	na	na	na
Large rural town	1	1	1	1	0%
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Registered Nurses (RN)					
Urban	na	na	na	na	na
Large rural town	593	589	577	613	3%
Small rural town	230	234	216	224	-3%
Isolated small rural town	37	39	37	39	5%
Licensed Practical Nurse (LPN)					
Urban	na	na	na	na	na
Large rural town	161	163	147	151	-6%
Small rural town	36	38	29	35	-3%
Isolated small rural town	12	11	10	9	-25%
Certified Nurse Assistants (CNA)					
Urban	na	na	na	na	na
Large rural town	344	368	409	393	14%
Small rural town	140	150	160	153	9%
Isolated small rural town	21	20	23	25	19%

Cochise County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Dentists					
General dentists					
Urban	na	na	na	na	na
Large rural town	32.5	33.0	32.6	32	-2%
Small rural town	5.7	3.7	3.7	6	6%
Isolated small rural town	1.0	1.0	1.0	0	-100%
Specialist dentists					
Urban	na	na	na	na	na
Large rural town	10.0	10.1	9.5	4	-60%
Small rural town	0.0	0.0	0.0	0	---
Isolated small rural town	0.0	0.0	0.5	0	---
Dental Hygienists					
Urban	na	na	na	na	na
Large rural town	22	22	22	22	0%
Small rural town	6	7	8	8	33%
Isolated small rural town	1	1	1	1	0%
Pharmacists					
Urban	na	na	na	na	na
Large rural town	42	36	33	35	-17%
Small rural town	9	10	11	11	22%
Isolated small rural town	1	1	1	1	0%
Pharmacy Technicians					
Urban	na	na	na	na	na
Large rural town	67	66	75	75	12%
Small rural town	18	23	22	22	22%
Isolated small rural town	1	3	4	6	500%
Psychologists					
Urban	na	na	na	na	na
Large rural town	7	8	9	10	43%
Small rural town	2	2	2	3	50%
Isolated small rural town	1	1	1	1	0%
Emergency Medical Technicians					
Urban	na	na	na	na	na
Large rural town	293	297	346	320	9%
Small rural town	82.5	85	107	114	38%
Isolated small rural town	52	48	55	44	-15%

Coconino County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Allopathic Physicians (MDs)					
Primary Care					
Urban	61	61	70	79	30%
Large rural town	0	0	2	0	---
Small rural town	36	34	33	32	-11%
Isolated small rural town	8	8	6	7	-13%
Non-Primary Care					
Urban	173	168	177	174	1%
Large rural town	0	0	0	0	---
Small rural town	36	37	33	38	6%
Isolated small rural town	1	0	1	0	-100%
Obstetrics/Gynecology					
Urban	15	15	16	16	7%
Large rural town	0	0	0	0	---
Small rural town	6	7	4	5	-17%
Isolated small rural town	0	0	0	0	---
Psychiatrists					
Urban	16	15	17	16	0%
Large rural town	0	0	0	0	---
Small rural town	4	3	4	4	0%
Isolated small rural town	0	0	0	0	---
Osteopathic Physicians (DOs)					
Primary Care					
Urban	10	11	12	10	0%
Large rural town	0	0	0	0	---
Small rural town	5	5	3	4	-20%
Isolated small rural town	0	2	2	2	---
Non-Primary Care					
Urban	10	10	9	10	0%
Large rural town	0	0	0	0	---
Small rural town	1	1	6	8	700%
Isolated small rural town	0	0	0	0	---
Obstetrics/Gynecology					
Urban	1	1	1	0	-100%
Large rural town	0	0	0	0	---
Small rural town	0	0	2	2	---
Isolated small rural town	0	0	0	0	---
Psychiatrists					
Urban	2	2	2	2	0%
Large rural town	0	0	0	0	---
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---

Coconino County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Physician Assistants					
Urban	26	26	27	30	15%
Large rural town	0	0	0	0	---
Small rural town	14	14	12	17	21%
Isolated small rural town	4	4	3	4	0%
Advance Practice Nurses (AP)					
Certified Registered Nurse Anesthetists (CRNA)					
Urban	6	9	9	11	83%
Large rural town	0	0	0	0	---
Small rural town	5	5	4	4	-20%
Isolated small rural town	0	0	0	0	---
Nurse Practitioners (NP)					
Urban	74	82	82	84	14%
Large rural town	0	0	0	0	---
Small rural town	11	11	11	12	9%
Isolated small rural town	3	3	3	3	0%
Certified Nurse Midwives (CNM)					
Urban	5	5	4	5	0%
Large rural town	0	0	0	0	---
Small rural town	2	2	3	3	50%
Isolated small rural town	0	0	0	0	---
Clinical Nurse Specialists (CNS)					
Urban	0	0	1	1	---
Large rural town	0	0	0	0	---
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Registered Nurses (RN)					
Urban	1,156	1,196	1,115	1,186	3%
Large rural town	5	5	6	6	20%
Small rural town	253	263	242	242	-4%
Isolated small rural town	70	73	66	69	-1%
Licensed Practical Nurse (LPN)					
Urban	58	52	51	50	-14%
Large rural town	0	0	0	0	---
Small rural town	24	23	19	19	-21%
Isolated small rural town	10	10	9	10	0%
Certified Nurse Assistants (CNA)					
Urban	466	503	545	563	21%
Large rural town	1	1	0	0	-100%
Small rural town	189	188	189	206	9%
Isolated small rural town	15	23	23	24	60%

Coconino County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Dentists					
General dentists					
Urban	50.2	52.8	51.7	60	20%
Large rural town	0.0	0.0	0.0	0	---
Small rural town	22.5	24.7	24.5	24	7%
Isolated small rural town	3.2	1.9	1.9	0	-100%
Specialist dentists					
Urban	16.1	15.7	15.7	17.0	6%
Large rural town	0.0	0.0	0.0	0.0	---
Small rural town	5.1	5.4	5.4	2.0	-61%
Isolated small rural town	0.0	0.0	0.0	0.0	---
Dental Hygienists					
Urban	78	82	82	90	15%
Large rural town	0	0	0	0	---
Small rural town	19	19	12	13	-32%
Isolated small rural town	2	2	1	1	-50%
Pharmacists					
Urban	79	79	83	94	19%
Large rural town	0	0	0	0	---
Small rural town	11	11	10	10	-9%
Isolated small rural town	4	5	4	4	0%
Pharmacy Technicians					
Urban	68	75	74	78	15%
Large rural town	0	0	0	0	---
Small rural town	13	18	19	22	69%
Isolated small rural town	7	5	3	3	-57%
Psychologists					
Urban	65	72	67	70	8%
Large rural town	0	0	0	0	---
Small rural town	5	8	4	5	0%
Isolated small rural town	0	1	1	1	---
Emergency Medical Technicians					
Urban	510.5	504	567	504	-1%
Large rural town	3	4	3	3	0%
Small rural town	125.5	123	139	127	1%
Isolated small rural town	59.5	49	75	61	3%

Gila County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Allopathic Physicians (MDs)					
Primary Care					
Urban	na	na	na	na	na
Large rural town	28	28	27	28	0%
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Non-Primary Care					
Urban	na	na	na	na	na
Large rural town	31	31	28	29	-6%
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	1	0	---
Obstetrics/Gynecology					
Urban	na	na	na	na	na
Large rural town	4	4	6	5	25%
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Psychiatrists					
Urban	na	na	na	na	na
Large rural town	1	1	0	0	-100%
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Osteopathic Physicians (DOs)					
Primary Care					
Urban	na	na	na	na	na
Large rural town	9	13	12	12	33%
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Non-Primary Care					
Urban	na	na	na	na	na
Large rural town	6	7	6	6	0%
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Obstetrics/Gynecology					
Urban	na	na	na	na	na
Large rural town	0	1	1	0	---
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Psychiatrists					
Urban	na	na	na	na	na
Large rural town	0	1	0	1	---
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---

Gila County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Physician Assistants					
Urban	na	na	na	na	na
Large rural town	10	10	7	12	20%
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Advance Practice Nurses (AP)					
Certified Registered Nurse Anesthetists (CRNA)					
Urban	na	na	na	na	na
Large rural town	5	5	4	3	-40%
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Nurse Practitioners (NP)					
Urban	na	na	na	na	na
Large rural town	10	10	10	11	10%
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Certified Nurse Midwives (CNM)					
Urban	na	na	na	na	na
Large rural town	0	0	0	0	---
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Clinical Nurse Specialists (CNS)					
Urban	na	na	na	na	na
Large rural town	0	0	0	0	---
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Registered Nurses (RN)					
Urban	na	na	na	na	na
Large rural town	375	384	368	380	1%
Small rural town	0	0	0	0	---
Isolated small rural town	4	2	2	2	-50%
Licensed Practical Nurse (LPN)					
Urban	na	na	na	na	na
Large rural town	108	101	83	81	-25%
Small rural town	2	2	2	2	0%
Isolated small rural town	2	2	2	2	0%
Certified Nurse Assistants (CNA)					
Urban	na	na	na	na	na
Large rural town	349	366	389	407	17%
Small rural town	20	19	21	20	0%
Isolated small rural town	7	6	4	6	-14%

Gila County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Dentists					
General dentists					
Urban	na	na	na	na	na
Large rural town	19.5	20.2	22.2	18	-8%
Small rural town	0.0	0.0	0.0	0	---
Isolated small rural town	0.0	0.0	0.0	0	---
Specialist dentists					
Urban	na	na	na	na	na
Large rural town	1.7	1.5	2.2	1	-40%
Small rural town	0.0	0.0	0.0	0	---
Isolated small rural town	0.0	0.0	0.0	0	---
Dental Hygienists					
Urban	na	na	na	na	na
Large rural town	16	15	17	16	0%
Small rural town	0	0	0	0	---
Isolated small rural town	1	1	1	1	0%
Pharmacists					
Urban	na	na	na	na	na
Large rural town	32	33	30	31	-3%
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	1	1	---
Pharmacy Technicians					
Urban	na	na	na	na	na
Large rural town	41	52	48	46	12%
Small rural town	0	0	0	0	---
Isolated small rural town	1	2	1	1	0%
Psychologists					
Urban	na	na	na	na	na
Large rural town	4	4	4	5	25%
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Emergency Medical Technicians					
Urban	na	na	na	na	na
Large rural town	249.5	252	269	252	1%
Small rural town	7.5	7	7	7	-7%
Isolated small rural town	7.5	6	5	5	-33%

Graham County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Allopathic Physicians (MDs)					
Primary Care					
Urban	na	na	na	na	na
Large rural town	16	16	17	17	6%
Small rural town	4	4	6	5	25%
Isolated small rural town	na	na	na	na	na
Non-Primary Care					
Urban	na	na	na	na	na
Large rural town	5	5	4	6	20%
Small rural town	1	1	3	3	200%
Isolated small rural town	na	na	na	na	na
Obstetrics/Gynecology					
Urban	na	na	na	na	na
Large rural town	2	2	1	2	0%
Small rural town	0	0	1	1	---
Isolated small rural town	na	na	na	na	na
Psychiatrists					
Urban	na	na	na	na	na
Large rural town	0	0	0	0	---
Small rural town	0	0	0	0	---
Isolated small rural town	na	na	na	na	na
Osteopathic Physicians (DOs)					
Primary Care					
Urban	na	na	na	na	na
Large rural town	4	5	4	4	0%
Small rural town	4	4	3	3	-25%
Isolated small rural town	na	na	na	na	na
Non-Primary Care					
Urban	na	na	na	na	na
Large rural town	0	0	0	2	---
Small rural town	2	2	2	2	0%
Isolated small rural town	na	na	na	na	na
Obstetrics/Gynecology					
Urban	na	na	na	na	na
Large rural town	0	0	0	0	---
Small rural town	1	1	1	1	0%
Isolated small rural town	na	na	na	na	na
Psychiatrists					
Urban	na	na	na	na	na
Large rural town	0	0	0	0	---
Small rural town	0	0	0	0	---
Isolated small rural town	na	na	na	na	na

Graham County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Physician Assistants					
Urban	na	na	na	na	na
Large rural town	13	13	15	15	15%
Small rural town	1	1	1	2	100%
Isolated small rural town	na	na	na	na	na
Advance Practice Nurses (AP)					
Certified Registered Nurse Anesthetists (CRNA)					
Urban	na	na	na	na	na
Large rural town	4	4	4	4	0%
Small rural town	0	0	0	0	---
Isolated small rural town	na	na	na	na	na
Nurse Practitioners (NP)					
Urban	na	na	na	na	na
Large rural town	7	7	8	10	43%
Small rural town	2	3	3	3	50%
Isolated small rural town	na	na	na	na	na
Certified Nurse Midwives (CNM)					
Urban	na	na	na	na	na
Large rural town	1	1	1	1	0%
Small rural town	0	0	0	0	---
Isolated small rural town	na	na	na	na	na
Clinical Nurse Specialists (CNS)					
Urban	na	na	na	na	na
Large rural town	0	0	0	0	---
Small rural town	0	0	0	0	---
Isolated small rural town	na	na	na	na	na
Registered Nurses (RN)					
Urban	na	na	na	na	na
Large rural town	200	213	234	259	30%
Small rural town	50	46	41	41	-18%
Isolated small rural town	na	na	na	na	na
Licensed Practical Nurse (LPN)					
Urban	na	na	na	na	na
Large rural town	30	32	25	21	-30%
Small rural town	18	18	17	18	0%
Isolated small rural town	na	na	na	na	na
Certified Nurse Assistants (CNA)					
Urban	na	na	na	na	na
Large rural town	252	279	320	370	47%
Small rural town	95	104	102	98	3%
Isolated small rural town	na	na	na	na	na

Graham County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Dentists					
General dentists					
Urban	na	na	na	na	na
Large rural town	15.4	13.8	15.8	16	4%
Small rural town	3.3	5.5	4.5	2	-40%
Isolated small rural town	na	na	na	na	na
Specialist dentists					
Urban	na	na	na	na	na
Large rural town	3.2	3.2	3.1	1	-68%
Small rural town	0.0	0.0	0.0	0	---
Isolated small rural town	na	na	na	na	na
Dental Hygienists					
Urban	na	na	na	na	na
Large rural town	12	14	15	14	17%
Small rural town	0	0	1	2	---
Isolated small rural town	na	na	na	na	na
Pharmacists					
Urban	na	na	na	na	na
Large rural town	16	19	18	19	19%
Small rural town	2	2	5	5	150%
Isolated small rural town	na	na	na	na	na
Pharmacy Technicians					
Urban	na	na	na	na	na
Large rural town	36	34	40	43	19%
Small rural town	11	10	9	10	-9%
Isolated small rural town	na	na	na	na	na
Psychologists					
Urban	na	na	na	na	na
Large rural town	3	3	3	3	0%
Small rural town	2	2	2	3	50%
Isolated small rural town	na	na	na	na	na
Emergency Medical Technicians					
Urban	na	na	na	na	na
Large rural town	73.5	78	93	96	31%
Small rural town	42.5	46	48	40	-6%
Isolated small rural town	na	na	na	na	na

Greenlee County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Allopathic Physicians (MDs)					
Primary Care					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	4	4	4	4	0%
Isolated small rural town	0	0	0	0	---
Non-Primary Care					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	3	3	3	3	0%
Isolated small rural town	1	1	1	1	0%
Obstetrics/Gynecology					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Psychiatrists					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	1	1	1	1	0%
Isolated small rural town	0	0	0	0	---
Osteopathic Physicians (DOs)					
Primary Care					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Non-Primary Care					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Obstetrics/Gynecology					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Psychiatrists					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---

Greenlee County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Physician Assistants					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	4	4	3	4	0%
Isolated small rural town	0	0	0	0	---
Advance Practice Nurses (AP)					
Certified Registered Nurse Anesthetists (CRNA)					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Nurse Practitioners (NP)					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Certified Nurse Midwives (CNM)					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Clinical Nurse Specialists (CNS)					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Registered Nurses (RN)					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	18	19	22	26	44%
Isolated small rural town	5	6	6	6	20%
Licensed Practical Nurse (LPN)					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	4	6	3	1	-75%
Isolated small rural town	8	7	5	5	-38%
Certified Nurse Assistants (CNA)					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	36	30	37	45	25%
Isolated small rural town	7	9	14	18	157%

Greenlee County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Dentists					
General dentists					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	1.5	1.5	1.7	2	33%
Isolated small rural town	0.0	0.0	0.0	0	---
Specialist dentists					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	0.0	0.0	0.0	0.0	---
Isolated small rural town	0.0	0.0	0.0	0.0	---
Dental Hygienists					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Pharmacists					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Pharmacy Technicians					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	1	1	2	1	0%
Isolated small rural town	0	0	1	1	---
Psychologists					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Emergency Medical Technicians					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	22.5	20	23	25	11%
Isolated small rural town	6	7	8	8	33%

La Paz County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Allopathic Physicians (MDs)					
Primary Care					
Urban	na	na	na	na	na
Large rural town	1	0	0	0	-100%
Small rural town	8	8	10	9	13%
Isolated small rural town	0	0	0	0	---
Non-Primary Care					
Urban	na	na	na	na	na
Large rural town	0	0	0	0	---
Small rural town	3	3	3	5	67%
Isolated small rural town	0	0	0	0	---
Obstetrics/Gynecology					
Urban	na	na	na	na	na
Large rural town	0	0	0	0	---
Small rural town	1	1	0	1	0%
Isolated small rural town	0	0	0	0	---
Psychiatrists					
Urban	na	na	na	na	na
Large rural town	0	0	0	0	---
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Osteopathic Physicians (DOs)					
Primary Care					
Urban	na	na	na	na	na
Large rural town	0	0	0	0	---
Small rural town	3	3	3	3	0%
Isolated small rural town	0	0	0	0	---
Non-Primary Care					
Urban	na	na	na	na	na
Large rural town	0	0	0	0	---
Small rural town	3	2	2	2	-33%
Isolated small rural town	0	0	0	0	---
Obstetrics/Gynecology					
Urban	na	na	na	na	na
Large rural town	0	0	0	0	---
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Psychiatrists					
Urban	na	na	na	na	na
Large rural town	0	0	0	0	---
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---

La Paz County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Physician Assistants					
Urban	na	na	na	na	na
Large rural town	0	0	0	0	---
Small rural town	2	2	2	3	50%
Isolated small rural town	0	0	0	1	---
Advance Practice Nurses (AP)					
Certified Registered Nurse Anesthetists (CRNA)					
Urban	na	na	na	na	na
Large rural town	0	0	0	0	---
Small rural town	1	1	1	1	0%
Isolated small rural town	0	0	0	0	---
Nurse Practitioners (NP)					
Urban	na	na	na	na	na
Large rural town	0	0	0	0	---
Small rural town	2	2	2	2	0%
Isolated small rural town	1	1	1	1	0%
Certified Nurse Midwives (CNM)					
Urban	na	na	na	na	na
Large rural town	0	0	0	0	---
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Clinical Nurse Specialists (CNS)					
Urban	na	na	na	na	na
Large rural town	0	0	0	0	---
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Registered Nurses (RN)					
Urban	na	na	na	na	na
Large rural town	2	2	2	3	50%
Small rural town	55	55	49	53	-4%
Isolated small rural town	3	3	2	2	-33%
Licensed Practical Nurse (LPN)					
Urban	na	na	na	na	na
Large rural town	0	1	1	2	---
Small rural town	17	17	17	18	6%
Isolated small rural town	2	2	1	1	-50%
Certified Nurse Assistants (CNA)					
Urban	na	na	na	na	na
Large rural town	0	0	0	0	---
Small rural town	28	27	29	29	4%
Isolated small rural town	0	0	0	1	---

La Paz County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Dentists					
General dentists					
Urban	na	na	na	na	na
Large rural town	0.0	0.0	0.0	0	---
Small rural town	2.5	2.3	2.3	1	-60%
Isolated small rural town	0.0	0.0	0.0	0	---
Specialist dentists					
Urban	na	na	na	na	na
Large rural town	0.0	0.0	0.0	0	---
Small rural town	0.5	0.0	0.0	0	-100%
Isolated small rural town	0.0	0.0	0.0	0	---
Dental Hygienists					
Urban	na	na	na	na	na
Large rural town	0	0	0	0	---
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Pharmacists					
Urban	na	na	na	na	na
Large rural town	0	0	0	0	---
Small rural town	1	2	3	3	200%
Isolated small rural town	0	0	0	0	---
Pharmacy Technicians					
Urban	na	na	na	na	na
Large rural town	0	0	0	0	---
Small rural town	5	7	8	11	120%
Isolated small rural town	0	0	0	0	---
Psychologists					
Urban	na	na	na	na	na
Large rural town	0	0	0	0	---
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Emergency Medical Technicians					
Urban	na	na	na	na	na
Large rural town	2	2	3	3	50%
Small rural town	42.5	44	41	43	1%
Isolated small rural town	11	10	13	16	45%

Maricopa County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Allopathic Physicians (MDs)					
Primary Care					
Urban	2,311	2,246	2,444	2,577	12%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	1	1	1	1	0%
Non-Primary Care					
Urban	5,528	5,336	5,704	5,914	7%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	2	2	0	0	-100%
Obstetrics/Gynecology					
Urban	451	432	468	463	3%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---
Psychiatrists					
Urban	403	388	402	430	7%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---
Osteopathic Physicians (DOs)					
Primary Care					
Urban	617	615	632	648	5%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---
Non-Primary Care					
Urban	522	549	540	588	13%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0	1	1	0	---
Obstetrics/Gynecology					
Urban	48	52	56	59	23%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---
Psychiatrists					
Urban	40	39	38	43	8%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---

Maricopa County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Physician Assistants					
Urban	1,005	1,008	1,078	1,257	25%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---
Advance Practice Nurses (AP)					
Certified Registered Nurse Anesthetists (CRNA)					
Urban	181	194	201	219	21%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	1	1	1	1	0%
Nurse Practitioners (NP)					
Urban	1,354	1,491	1,600	1,767	31%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	1	1	1	1	0%
Certified Nurse Midwives (CNM)					
Urban	62	64	64	65	5%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---
Clinical Nurse Specialists (CNS)					
Urban	67	70	78	83	24%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---
Registered Nurses (RN)					
Urban	32,957	34,365	33,034	34,491	5%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	7	6	5	5	-29%
Licensed Practical Nurse (LPN)					
Urban	5,632	5,749	5,128	5,280	-6%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---
Certified Nurse Assistants (CNA)					
Urban	11,305	11,967	12,917	13,468	19%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	1	0	0	0	-100%

Maricopa County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Dentists					
General dentists					
Urban	1,882.1	1,936.1	1,974.5	1,982	5%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0.0	0.0	0.0	0	---
Specialist dentists					
Urban	462.6	464.2	480.8	488.0	5%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0.0	0.0	0.0	0.0	---
Dental Hygienists					
Urban	1,820	1,921	1,966	2,036	12%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	1	1	1	1	0%
Pharmacists					
Urban	3,626	3,664	3,872	4,049	12%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	2	2	2	2	0%
Pharmacy Technicians					
Urban	4,718	5,419	5,701	5,937	26%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---
Psychologists					
Urban	813	927	868	934	15%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---
Emergency Medical Technicians					
Urban	7,672	7,691	8,659	8,254	8%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0.5	0	0	0	-100%

Mohave County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Allopathic Physicians (MDs)					
Primary Care					
Urban	na	na	na	na	na
Large rural town	43	40	44	59	37%
Small rural town	26	27	29	30	15%
Isolated small rural town	na	na	na	na	na
Non-Primary Care					
Urban	na	na	na	na	na
Large rural town	108	105	107	124	15%
Small rural town	64	62	69	81	27%
Isolated small rural town	na	na	na	na	na
Obstetrics/Gynecology					
Urban	na	na	na	na	na
Large rural town	8	7	8	9	13%
Small rural town	8	8	6	5	-38%
Isolated small rural town	na	na	na	na	na
Psychiatrists					
Urban	na	na	na	na	na
Large rural town	9	9	8	9	0%
Small rural town	3	3	3	3	0%
Isolated small rural town	na	na	na	na	na
Osteopathic Physicians (DOs)					
Primary Care					
Urban	na	na	na	na	na
Large rural town	21	20	21	22	5%
Small rural town	3	3	2	5	67%
Isolated small rural town	na	na	na	na	na
Non-Primary Care					
Urban	na	na	na	na	na
Large rural town	31	37	40	45	45%
Small rural town	14	16	17	15	7%
Isolated small rural town	na	na	na	na	na
Obstetrics/Gynecology					
Urban	na	na	na	na	na
Large rural town	3	3	3	3	0%
Small rural town	2	2	2	2	0%
Isolated small rural town	na	na	na	na	na
Psychiatrists					
Urban	na	na	na	na	na
Large rural town	0	0	0	0	---
Small rural town	0	0	0	0	---
Isolated small rural town	na	na	na	na	na

Mohave County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Physician Assistants					
Urban	na	na	na	na	na
Large rural town	36	35	32	42	17%
Small rural town	20	21	25	28	40%
Isolated small rural town	na	na	na	na	na
Advance Practice Nurses (AP)					
Certified Registered Nurse Anesthetists (CRNA)					
Urban	na	na	na	na	na
Large rural town	3	3	3	3	0%
Small rural town	1	1	1	1	0%
Isolated small rural town	na	na	na	na	na
Nurse Practitioners (NP)					
Urban	na	na	na	na	na
Large rural town	37	40	46	49	32%
Small rural town	7	9	9	9	29%
Isolated small rural town	na	na	na	na	na
Certified Nurse Midwives (CNM)					
Urban	na	na	na	na	na
Large rural town	2	2	2	2	0%
Small rural town	1	1	2	2	100%
Isolated small rural town	na	na	na	na	na
Clinical Nurse Specialists (CNS)					
Urban	na	na	na	na	na
Large rural town	0	1	1	1	---
Small rural town	1	1	1	1	0%
Isolated small rural town	na	na	na	na	na
Registered Nurses (RN)					
Urban	na	na	na	na	na
Large rural town	961	1007	942	1008	5%
Small rural town	478	497	438	468	-2%
Isolated small rural town	na	na	na	na	na
Licensed Practical Nurse (LPN)					
Urban	na	na	na	na	na
Large rural town	205	218	175	194	-5%
Small rural town	59	61	53	54	-8%
Isolated small rural town	na	na	na	na	na
Certified Nurse Assistants (CNA)					
Urban	na	na	na	na	na
Large rural town	564	548	553	539	-4%
Small rural town	243	239	230	243	0%
Isolated small rural town	na	na	na	na	na

Mohave County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Dentists					
General dentists					
Urban	na	na	na	na	na
Large rural town	41.1	44.9	44.3	43	5%
Small rural town	25.8	25.8	27.0	21	-19%
Isolated small rural town	na	na	na	na	na
Specialist dentists					
Urban	na	na	na	na	na
Large rural town	4.0	4.8	6.1	5	24%
Small rural town	3.1	3.0	3.0	3	-2%
Isolated small rural town	na	na	na	na	na
Dental Hygienists					
Urban	na	na	na	na	na
Large rural town	39	46	45	46	18%
Small rural town	21	25	26	27	29%
Isolated small rural town	na	na	na	na	na
Pharmacists					
Urban	na	na	na	na	na
Large rural town	74	78	88	92	24%
Small rural town	26	25	28	30	15%
Isolated small rural town	na	na	na	na	na
Pharmacy Technicians					
Urban	na	na	na	na	na
Large rural town	95	117	129	131	38%
Small rural town	49	64	66	68	39%
Isolated small rural town	na	na	na	na	na
Psychologists					
Urban	na	na	na	na	na
Large rural town	4	4	5	5	25%
Small rural town	4	4	4	4	0%
Isolated small rural town	na	na	na	na	na
Emergency Medical Technicians					
Urban	na	na	na	na	na
Large rural town	385.5	403	446	438	14%
Small rural town	274.5	297	341	326	19%
Isolated small rural town	na	na	na	na	na

Navajo County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Allopathic Physicians (MDs)					
Primary Care					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	53	50	55	53	0%
Isolated small rural town	1	1	3	4	300%
Non-Primary Care					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	44	44	51	55	25%
Isolated small rural town	0	0	1	0	---
Obstetrics/Gynecology					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	5	5	5	6	20%
Isolated small rural town	0	0	0	0	---
Psychiatrists					
Urban					
Large rural town					
Small rural town	2	2	4	3	50%
Isolated small rural town	0	0	1	0	---
Osteopathic Physicians (DOs)					
Primary Care					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	19	17	17	14	-26%
Isolated small rural town	0	0	1	1	---
Non-Primary Care					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	7	6	8	8	14%
Isolated small rural town	0	0	0	0	---
Obstetrics/Gynecology					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	2	2	2	2	0%
Isolated small rural town	0	0	0	0	---
Psychiatrists					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---

Navajo County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Physician Assistants					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	20	20	21	30	50%
Isolated small rural town	0	0	0	0	---
Advance Practice Nurses (AP)					
Certified Registered Nurse Anesthetists (CRNA)					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	5	5	6	8	60%
Isolated small rural town	0	0	0	0	---
Nurse Practitioners (NP)					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	32	37	39	38	19%
Isolated small rural town	6	6	8	8	33%
Certified Nurse Midwives (CNM)					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	5	5	5	6	20%
Isolated small rural town	1	1	1	1	0%
Clinical Nurse Specialists (CNS)					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	0	0	0	0	---
Isolated small rural town	0	1	0	0	---
Registered Nurses (RN)					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	594	595	565	595	0%
Isolated small rural town	66	68	58	59	-11%
Licensed Practical Nurse (LPN)					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	90	97	80	79	-12%
Isolated small rural town	14	10	9	8	-43%
Certified Nurse Assistants (CNA)					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	417	495	561	581	39%
Isolated small rural town	89	102	105	99	11%

Navajo County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Dentists					
General dentists					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	35.5	36.4	37.8	35	-1%
Isolated small rural town	1.1	1.7	1.7	2	75%
Specialist dentists					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	7.9	7.3	6.5	4	-49%
Isolated small rural town	0.0	0.0	0.0	0	---
Dental Hygienists					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	33	33	34	35	6%
Isolated small rural town	2	3	5	5	150%
Pharmacists					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	38	43	44	45	18%
Isolated small rural town	2	2	2	2	0%
Pharmacy Technicians					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	47	67	75	70	49%
Isolated small rural town	3	2	4	3	0%
Psychologists					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	6	6	6	8	33%
Isolated small rural town	1	1	1	1	0%
Emergency Medical Technicians					
Urban	na	na	na	na	na
Large rural town	na	na	na	na	na
Small rural town	277.5	283	318	329	19%
Isolated small rural town	47.5	45	49	44	-7%

Pima County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Allopathic Physicians (MDs)					
Primary Care					
Urban	695	673	743	829	19%
Large rural town	na	na	na	na	na
Small rural town	0	0	0	0	---
Isolated small rural town	9	10	10	10	11%
Non-Primary Care					
Urban	1,839	1,765	1,841	1,898	3%
Large rural town	na	na	na	na	na
Small rural town	0	0	0	0	---
Isolated small rural town	4	4	5	4	0%
Obstetrics/Gynecology					
Urban	127	122	124	129	2%
Large rural town	na	na	na	na	na
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Psychiatrists					
Urban	179	163	164	173	-3%
Large rural town	na	na	na	na	na
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Osteopathic Physicians (DOs)					
Primary Care					
Urban	112	107	125	120	7%
Large rural town	na	na	na	na	na
Small rural town	2	2	2	2	0%
Isolated small rural town	0	0	0	0	---
Non-Primary Care					
Urban	90	86	78	93	3%
Large rural town	na	na	na	na	na
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Obstetrics/Gynecology					
Urban	3	3	3	5	67%
Large rural town	na	na	na	na	na
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Psychiatrists					
Urban	8	9	10	13	63%
Large rural town	na	na	na	na	na
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---

Pima County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Physician Assistants					
Urban	140	138	156	179	28%
Large rural town	na	na	na	na	na
Small rural town	1	1	1	1	0%
Isolated small rural town	0	0	0	0	---
Advance Practice Nurses (AP)					
Certified Registered Nurse Anesthetists (CRNA)					
Urban	22	24	21	27	23%
Large rural town	na	na	na	na	na
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Nurse Practitioners (NP)					
Urban	469	516	569	618	32%
Large rural town	na	na	na	na	na
Small rural town	0	0	0	0	---
Isolated small rural town	1	1	2	2	100%
Certified Nurse Midwives (CNM)					
Urban	49	46	38	38	-22%
Large rural town	na	na	na	na	na
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Clinical Nurse Specialists (CNS)					
Urban	29	29	28	28	-3%
Large rural town	na	na	na	na	na
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Registered Nurses (RN)					
Urban	9,842	10,225	9,671	9,967	1%
Large rural town	na	na	na	na	na
Small rural town	10	9	8	9	-10%
Isolated small rural town	14	14	10	10	-29%
Licensed Practical Nurse (LPN)					
Urban	1,835	1,834	1,622	1,687	-8%
Large rural town	na	na	na	na	na
Small rural town	3	3	3	3	0%
Isolated small rural town	13	13	13	14	8%
Certified Nurse Assistants (CNA)					
Urban	3,276	3,416	3,518	3,465	6%
Large rural town	na	na	na	na	na
Small rural town	5	5	5	3	-40%
Isolated small rural town	20	22	21	21	5%

Pima County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Dentists					
General dentists					
Urban	420.1	436.0	452.6	438	4%
Large rural town	na	na	na	na	na
Small rural town	2.0	1.5	2.0	2	0%
Isolated small rural town	0.0	0.0	0.5	0	---
Specialist dentists					
Urban	98.4	95.0	93.0	91	-8%
Large rural town	na	na	na	na	na
Small rural town	0.0	0.0	0.0	0	---
Isolated small rural town	0.0	0.0	0.0	0	---
Dental Hygienists					
Urban	502	523	536	559	11%
Large rural town	na	na	na	na	na
Small rural town	0	0	1	1	---
Isolated small rural town	0	0	0	0	---
Pharmacists					
Urban	968	1,016	1,045	1,087	12%
Large rural town	na	na	na	na	na
Small rural town	2	1	1	1	-50%
Isolated small rural town	0	0	0	0	---
Pharmacy Technicians					
Urban	963	1,151	1,202	1,194	24%
Large rural town	na	na	na	na	na
Small rural town	3	3	2	2	-33%
Isolated small rural town	2	2	1	1	-50%
Psychologists					
Urban	318	389	316	338	6%
Large rural town	na	na	na	na	na
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Emergency Medical Technicians					
Urban	2,616	2,692	3,026	2,859	9%
Large rural town	na	na	na	na	na
Small rural town	38	38	50	44	16%
Isolated small rural town	21	20	22	22	5%

Pinal County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Allopathic Physicians (MDs)					
Primary Care					
Urban	35	33	31	35	0%
Large rural town	38	37	43	51	34%
Small rural town	6	5	5	5	-17%
Isolated small rural town	14	14	17	16	14%
Non-Primary Care					
Urban	17	16	12	20	18%
Large rural town	59	58	61	60	2%
Small rural town	0	0	0	1	---
Isolated small rural town	4	4	3	5	25%
Obstetrics/Gynecology					
Urban	2	1	3	10	400%
Large rural town	8	8	8	8	0%
Small rural town	0	0	0	0	---
Isolated small rural town	1	1	1	1	0%
Psychiatrists					
Urban	3	3	4	3	0%
Large rural town	3	3	5	5	67%
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Osteopathic Physicians (DOs)					
Primary Care					
Urban	8	7	6	6	-25%
Large rural town	9	6	8	10	11%
Small rural town	2	2	2	1	-50%
Isolated small rural town	1	1	1	0	-100%
Non-Primary Care					
Urban	0	2	0	1	---
Large rural town	4	4	3	5	25%
Small rural town	0	0	0	0	---
Isolated small rural town	1	2	2	2	100%
Obstetrics/Gynecology					
Urban	0	0	0	1	---
Large rural town	1	1	1	1	0%
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Psychiatrists					
Urban	0	0	0	0	---
Large rural town	0	0	0	0	---
Small rural town	0	0	0	0	---
Isolated small rural town	1	2	2	2	100%

Pinal County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Physician Assistants					
Urban	21	21	25	23	10%
Large rural town	24	25	36	39	63%
Small rural town	3	3	4	4	33%
Isolated small rural town	4	4	4	5	25%
Advance Practice Nurses (AP)					
Certified Registered Nurse Anesthetists (CRNA)					
Urban	3	3	3	6	100%
Large rural town	1	1	0	0	-100%
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Nurse Practitioners (NP)					
Urban	52	55	62	73	40%
Large rural town	19	20	22	22	16%
Small rural town	3	3	3	3	0%
Isolated small rural town	1	1	1	1	0%
Certified Nurse Midwives (CNM)					
Urban	2	3	3	3	50%
Large rural town	0	0	0	0	---
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Clinical Nurse Specialists (CNS)					
Urban	2	2	3	3	50%
Large rural town	1	1	1	1	0%
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Registered Nurses (RN)					
Urban	1,586	1,718	1,698	1,782	12%
Large rural town	576	611	592	633	10%
Small rural town	111	117	124	131	18%
Isolated small rural town	28	29	23	24	-14%
Licensed Practical Nurse (LPN)					
Urban	393	430	408	417	6%
Large rural town	135	137	124	123	-9%
Small rural town	41	44	34	33	-20%
Isolated small rural town	10	10	9	9	-10%
Certified Nurse Assistants (CNA)					
Urban	758	828	900	949	25%
Large rural town	265	281	287	285	8%
Small rural town	94	81	76	80	-15%
Isolated small rural town	33	38	38	42	27%

Pinal County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Dentists					
General dentists					
Urban	46.0	49.3	53.9	58	26%
Large rural town	20.0	28.3	34.3	20	0%
Small rural town	3.5	5.0	5.4	1	-71%
Isolated small rural town	5.0	3.5	3.0	1	-80%
Specialist dentists					
Urban	9.1	11.9	13.7	5	-45%
Large rural town	4.9	5.3	5.3	3	-39%
Small rural town	0.0	0.5	0.5	0	---
Isolated small rural town	0.8	1.3	2.1	0	-100%
Dental Hygienists					
Urban	99	106	109	116	17%
Large rural town	26	28	27	29	12%
Small rural town	1	3	6	7	600%
Isolated small rural town	2	2	1	1	-50%
Pharmacists					
Urban	110	102	107	117	6%
Large rural town	27	28	24	25	-7%
Small rural town	5	5	4	4	-20%
Isolated small rural town	1	2	2	2	100%
Pharmacy Technicians					
Urban	315	364	416	426	35%
Large rural town	87	105	108	106	22%
Small rural town	25	27	25	23	-8%
Isolated small rural town	3	3	4	5	67%
Psychologists					
Urban	14	18	14	14	0%
Large rural town	4	5	5	6	50%
Small rural town	3	3	4	4	33%
Isolated small rural town	1	1	1	1	0%
Emergency Medical Technicians					
Urban	504	552	637	637	26%
Large rural town	191.5	205	229	222	16%
Small rural town	58	61	62	56	-3%
Isolated small rural town	35.5	36	41	41	15%

Santa Cruz County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Allopathic Physicians (MDs)					
Primary Care					
Urban	0	0	0	0	---
Large rural town	14	14	13	18	29%
Small rural town	na	na	na	na	na
Isolated small rural town	4	3	4	4	0%
Non-Primary Care					
Urban	0	0	0	0	---
Large rural town	12	12	12	13	8%
Small rural town	na	na	na	na	na
Isolated small rural town	5	5	5	4	-20%
Obstetrics/Gynecology					
Urban	0	0	0	0	---
Large rural town	5	5	4	5	0%
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---
Psychiatrists					
Urban	0	0	0	0	---
Large rural town	0	0	1	1	---
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	2	2	---
Osteopathic Physicians (DOs)					
Primary Care					
Urban	0	0	0	0	---
Large rural town	1	0	0	0	-100%
Small rural town	na	na	na	na	na
Isolated small rural town	1	1	1	1	0%
Non-Primary Care					
Urban	0	0	0	0	---
Large rural town	0	0	0	0	---
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---
Obstetrics/Gynecology					
Urban	0	0	0	0	---
Large rural town	0	0	0	0	---
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---
Psychiatrists					
Urban	0	0	0	0	---
Large rural town	0	0	0	0	---
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---

Santa Cruz County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Physician Assistants					
Urban	0	0	0	0	---
Large rural town	1	1	0	0	-100%
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---
Advance Practice Nurses (AP)					
Certified Registered Nurse Anesthetists (CRNA)					
Urban	0	0	0	0	---
Large rural town	2	2	2	3	50%
Small rural town	na	na	na	na	na
Isolated small rural town	1	1	1	1	0%
Nurse Practitioners (NP)					
Urban	0	0	0	0	---
Large rural town	5	5	6	6	20%
Small rural town	na	na	na	na	na
Isolated small rural town	5	5	5	5	0%
Certified Nurse Midwives (CNM)					
Urban	0	0	0	0	---
Large rural town	0	0	0	0	---
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---
Clinical Nurse Specialists (CNS)					
Urban	0	0	0	0	---
Large rural town	0	0	0	0	---
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---
Registered Nurses (RN)					
Urban	12	12	14	15	25%
Large rural town	93	93	83	86	-8%
Small rural town	na	na	na	na	na
Isolated small rural town	40	39	36	38	-5%
Licensed Practical Nurse (LPN)					
Urban	5	5	4	4	-20%
Large rural town	40	40	34	35	-13%
Small rural town	na	na	na	na	na
Isolated small rural town	8	9	7	8	0%
Certified Nurse Assistants (CNA)					
Urban	17	13	18	20	18%
Large rural town	163	180	208	208	28%
Small rural town	na	na	na	na	na
Isolated small rural town	9	6	8	8	-11%

Santa Cruz County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Dentists					
General dentists					
Urban	0.0	0.0	0.0	0	---
Large rural town	9.0	8.0	7.5	7	-22%
Small rural town	na	na	na	na	na
Isolated small rural town	0.4	0.4	0.8	0	-100%
Specialist dentists					
Urban	0.0	0.0	0.0	0	---
Large rural town	0.0	0.0	0.0	0	---
Small rural town	na	na	na	na	na
Isolated small rural town	0.0	0.0	0.0	1	---
Dental Hygienists					
Urban	0	0	0	0	---
Large rural town	4	4	5	5	25%
Small rural town	na	na	na	na	na
Isolated small rural town	3	3	2	2	-33%
Pharmacists					
Urban	2	2	2	2	0%
Large rural town	5	5	6	5	0%
Small rural town	na	na	na	na	na
Isolated small rural town	8	8	8	7	-13%
Pharmacy Technicians					
Urban	5	5	6	6	20%
Large rural town	19	25	24	25	32%
Small rural town	na	na	na	na	na
Isolated small rural town	3	2	1	0	-100%
Psychologists					
Urban	0	0	0	0	---
Large rural town	2	2	2	2	0%
Small rural town	na	na	na	na	na
Isolated small rural town	4	4	4	5	25%
Emergency Medical Technicians					
Urban	18.5	16	12	12	-35%
Large rural town	97	99	114	104	7%
Small rural town	na	na	na	na	na
Isolated small rural town	45.5	45	51	42	-8%

Yavapai County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Allopathic Physicians (MDs)					
Primary Care					
Urban	79	78	80	87	10%
Large rural town	19	19	22	26	37%
Small rural town	0	0	0	1	---
Isolated small rural town	1	1	1	3	200%
Non-Primary Care					
Urban	154	151	154	160	4%
Large rural town	44	44	47	50	14%
Small rural town	4	4	5	4	0%
Isolated small rural town	1	0	1	1	0%
Obstetrics/Gynecology					
Urban	14	14	12	12	-14%
Large rural town	4	4	4	4	0%
Small rural town	1	1	1	1	0%
Isolated small rural town	0	0	0	0	---
Psychiatrists					
Urban	17	17	14	16	-6%
Large rural town	3	3	4	5	67%
Small rural town	0	0	1	0	---
Isolated small rural town	0	0	0	0	---
Osteopathic Physicians (DOs)					
Primary Care					
Urban	15	17	16	23	53%
Large rural town	8	7	9	10	25%
Small rural town	1	2	1	1	0%
Isolated small rural town	2	2	1	2	0%
Non-Primary Care					
Urban	19	21	22	24	26%
Large rural town	7	9	7	7	0%
Small rural town	1	0	0	0	-100%
Isolated small rural town	0	0	0	0	---
Obstetrics/Gynecology					
Urban	0	0	0	0	---
Large rural town	0	0	0	1	---
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Psychiatrists					
Urban	0	0	0	0	---
Large rural town	1	2	1	0	-100%
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---

Yavapai County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Physician Assistants					
Urban	27	27	26	29	7%
Large rural town	9	9	9	12	33%
Small rural town	0	0	1	1	---
Isolated small rural town	3	3	2	2	-33%
Advance Practice Nurses (AP)					
Certified Registered Nurse Anesthetists (CRNA)					
Urban	1	1	1	1	0%
Large rural town	9	10	9	9	0%
Small rural town	0	0	0	1	---
Isolated small rural town	2	2	1	1	-50%
Nurse Practitioners (NP)					
Urban	70	72	76	79	13%
Large rural town	11	11	14	15	36%
Small rural town	8	8	8	8	0%
Isolated small rural town	7	7	8	9	29%
Certified Nurse Midwives (CNM)					
Urban	3	3	2	2	-33%
Large rural town	0	0	1	1	---
Small rural town	0	0	0	0	---
Isolated small rural town	0	0	0	0	---
Clinical Nurse Specialists (CNS)					
Urban	2	2	2	2	0%
Large rural town	0	0	0	0	---
Small rural town	0	0	1	1	---
Isolated small rural town	0	0	0	0	---
Registered Nurses (RN)					
Urban	1,547	1,581	1,504	1,564	1%
Large rural town	312	326	284	285	-9%
Small rural town	149	152	132	135	-9%
Isolated small rural town	113	115	108	108	-4%
Licensed Practical Nurse (LPN)					
Urban	230	218	186	179	-22%
Large rural town	33	29	25	26	-21%
Small rural town	15	18	15	16	7%
Isolated small rural town	33	30	27	28	-15%
Certified Nurse Assistants (CNA)					
Urban	625	627	669	677	8%
Large rural town	187	190	207	209	12%
Small rural town	51	53	64	63	24%
Isolated small rural town	119	136	134	128	8%

Yavapai County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Dentists					
General dentists					
Urban	69.6	66.1	68.9	72	4%
Large rural town	9.8	9.8	9.0	9	-8%
Small rural town	5.0	4.5	6.0	7	40%
Isolated small rural town	7.5	9.5	8.7	4	-47%
Specialist dentists					
Urban	12.2	14.2	14.5	13	7%
Large rural town	2.5	2.5	2.5	3	20%
Small rural town	0.0	0.0	0.0	0	---
Isolated small rural town	0.0	0.0	0.1	0	---
Dental Hygienists					
Urban	84	86	85	89	6%
Large rural town	8	9	12	13	63%
Small rural town	1	2	9	8	700%
Isolated small rural town	6	6	5	7	17%
Pharmacists					
Urban	109	104	116	115	6%
Large rural town	19	19	17	16	-16%
Small rural town	13	14	16	17	31%
Isolated small rural town	4	6	8	8	100%
Pharmacy Technicians					
Urban	127	143	151	146	15%
Large rural town	29	36	35	35	21%
Small rural town	4	4	4	2	-50%
Isolated small rural town	9	15	15	17	89%
Psychologists					
Urban	33	48	33	37	12%
Large rural town	2	2	2	2	0%
Small rural town	5	5	5	5	0%
Isolated small rural town	1	1	1	1	0%
Emergency Medical Technicians					
Urban	561	565	661	617	10%
Large rural town	106	113	126	135	27%
Small rural town	46.5	43	49	44	-5%
Isolated small rural town	78	83	95	95	22%

Yuma County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Allopathic Physicians (MDs)					
Primary Care					
Urban	85	83	98	116	36%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---
Non-Primary Care					
Urban	147	140	144	160	9%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---
Obstetrics/Gynecology					
Urban	13	13	15	15	15%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---
Psychiatrists					
Urban	7	7	7	7	0%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---
Osteopathic Physicians (DOs)					
Primary Care					
Urban	14	15	13	11	-21%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---
Non-Primary Care					
Urban	7	5	6	8	14%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---
Obstetrics/Gynecology					
Urban	0	0	0	0	---
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---
Psychiatrists					
Urban	0	1	1	0	---
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---

Yuma County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Physician Assistants					
Urban	40	40	44	53	33%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	1	---
Advance Practice Nurses (AP)					
Certified Registered Nurse Anesthetists (CRNA)					
Urban	0	1	1	1	---
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---
Nurse Practitioners (NP)					
Urban	40	41	44	46	15%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---
Certified Nurse Midwives (CNM)					
Urban	6	6	5	6	0%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---
Clinical Nurse Specialists (CNS)					
Urban	0	0	0	0	---
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---
Registered Nurses (RN)					
Urban	1,061	1,105	1,050	1,093	3%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	3	3	4	4	33%
Licensed Practical Nurse (LPN)					
Urban	192	200	178	184	-4%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---
Certified Nurse Assistants (CNA)					
Urban	739	808	822	820	11%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	2	2	---

Yuma County

County workforce changes from 2007 to 2010 by Rural-Urban Commuting Areas	Number of Active Licensed Professionals				Change from 2007 to 2010
	2007	2008	2009	2010	
Dentists					
General dentists					
Urban	47.2	47.6	44.6	32	-32%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0.0	0.0	0.0	0	---
Specialist dentists					
Urban	9.5	9.5	9.6	10	5%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0.0	0.0	0.0	0	---
Dental Hygienists					
Urban	24	27	33	34	42%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	1	1	---
Pharmacists					
Urban	63	68	72	80	27%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---
Pharmacy Technicians					
Urban	102	123	126	123	21%
Large rural town					
Small rural town					
Isolated small rural town	0	0	0	0	---
Psychologists					
Urban	4	5	6	7	75%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	0	0	0	0	---
Emergency Medical Technicians					
Urban	468	484	544	503	7%
Large rural town	na	na	na	na	na
Small rural town	na	na	na	na	na
Isolated small rural town	2.5	2	2	2	-20%

Appendix C. References

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[3] A.R.S. 36-2171. (2004).

[4] Rural-Urban Commuting Area Codes, Rural Health Research Center, University of Washington. http://depts.washington.edu/uwruca/

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[7] Frontier Frequently Asked Questions, Rural Assistance Center http://www.raconline.org/topics/frontier/frontierfaq.php

[8] Health Resources and Services Administration Office of Rural Health Policy (2003). Program Summaries: Rural Health Outreach Grant, Rural Health Network Development Planning Grant, Medicare Rural Flexibility Hospital Grant, and Small Rural Hospital Improvement Grant.

[9] With the inclusion of sacred areas of Zuni tribal land there are 22 federally recognized American Indian tribal lands in Arizona.

[10] US Census. Table H-8.Median Household Income by State http://www.census.gov/hhes/www/income/data/historical/household/

[11] State Coincident Indexes by the Federal Reserve Bank of Philadelphia. "Coincident indexes combine four state-level indicators to summarize current economic conditions in a single statistic. The four state-level variables in each coincident index are nonfarm payroll employment, average hours worked in manufacturing, the unemployment rate, and wage and salary disbursements deflated by the consumer price index (U.S. city average). The trend for each state's index is set to the trend of its gross domestic product (GDP), so long-term growth in the state's index matches long-term growth in its GDP." http://www.philadelphiafed.org/research-and-data/regional-economy/indexes/coincident/

[12] *http://www.ers.usda.gov/StateFacts/az.HTM , http://www.bls.gov/ ,** http://www.census.gov/ , http://www.statehealthfacts.org/ and http://bber.unm.edu/

[13] 638 refers to an agreement which states that tribes can operate a facility under a P.L. 93-638 self-determination contract (Title I) or self-governance compact (Title III). Currently, there is one tribal nation in Arizona – the Gila River Indian Community – which operates a 638 facility, and the Navajo Nation has three 638 pilot sites.

[14] ADHS. 2009 Tuberculosis Surveillance Report. http://www.azdhs.gov/phs/oids/tuberculosis/pdf/2009_TuberculosisSurveillanceReport.pdf .

[15] The New York Center for Health Workforce Studies (2006). The United States Workforce Profile, Health Resources and Services Administration, DHHS. pp. 1-159.

[16] New Mexico House Bill 221, 49th legislature. http://www.nmlegis.gov/Sessions/10%20Regular/bills/house/HB0221.html

[17] SB 14 Health Care Work Force Data Collection, Analysis and Policy Act http://www.nmlegis.gov/sessions/11%20regular/final/SB0014.pdf, ftp://www.nmlegis.gov/bills/house/HB0019.pdf

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The University of Arizona

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1834 E. Mabel Street
Tucson, AZ 85721
(520) 626-4030
www.azahec.org

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MEL AND ENID ZUCKERMAN COLLEGE OF PUBLIC HEALTH
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