

Health Care Workforce Trends and Inequities in Arizona

Joe Tabor, Assistant Professor
Center for Rural Health
College of Public Health
University of Arizona, Tucson
jatabor@u.arizona.edu



Arizona Rural Health Workforce Trend Analysis 2007 - 2010

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Joe Tabor, and Howard J. Eng
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By Candice Chen, Imam Xierali, Katie Piwnica-Worms, and Robert Phillips

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The Redistribution Of Graduate Medical Education Positions In 2005 Failed To Boost Primary Care Or Rural Training

Candice Chen (cpchen@gwu.edu) is a senior research fellow at the National Institute on Minority Health and Health Disparities, in Washington, D.C.

Imam Xierali is manager for public health and diversity initiatives at the Association of American Medical Colleges, in Washington, D.C.

Katie Piwnica-Worms is a third-year medical student at Jefferson Medical College, Thomas Jefferson University, in Philadelphia, Pennsylvania.

Robert Phillips is a vice president of research and policy for the American Board of Family Medicine, in Washington, D.C.

ABSTRACT Graduate medical education (GME), the system to train graduates of medical schools in their chosen specialties, costs the government nearly \$13 billion annually, yet there is little accountability in the system for addressing critical physician shortages in specific specialties and geographic areas. Medicare provides the bulk of GME funds, and the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 redistributed nearly 3,000 residency positions among the nation's hospitals, largely in an effort to train more residents in primary care and in rural areas. However, when we analyzed the outcomes of this recent effort, we found that out of 304 hospitals receiving additional positions, only 12 were rural, and they received fewer than 3 percent of all positions redistributed. Although primary care training had net positive growth after redistribution, the relative growth of nonprimary care training was twice as large and diverted would-be primary care physicians to subspecialty training. Thus, the two legislative and regulatory priorities for the redistribution were not met. Future legislation should reevaluate the formulas that determine GME payments and potentially delink them from the hospital prospective payment system. Furthermore, better health care workforce data and analysis are needed to link GME payments to health care workforce needs.

Challenges to Recruitment and Retention of Healthcare Workforce

Meeting the workforce needs for:

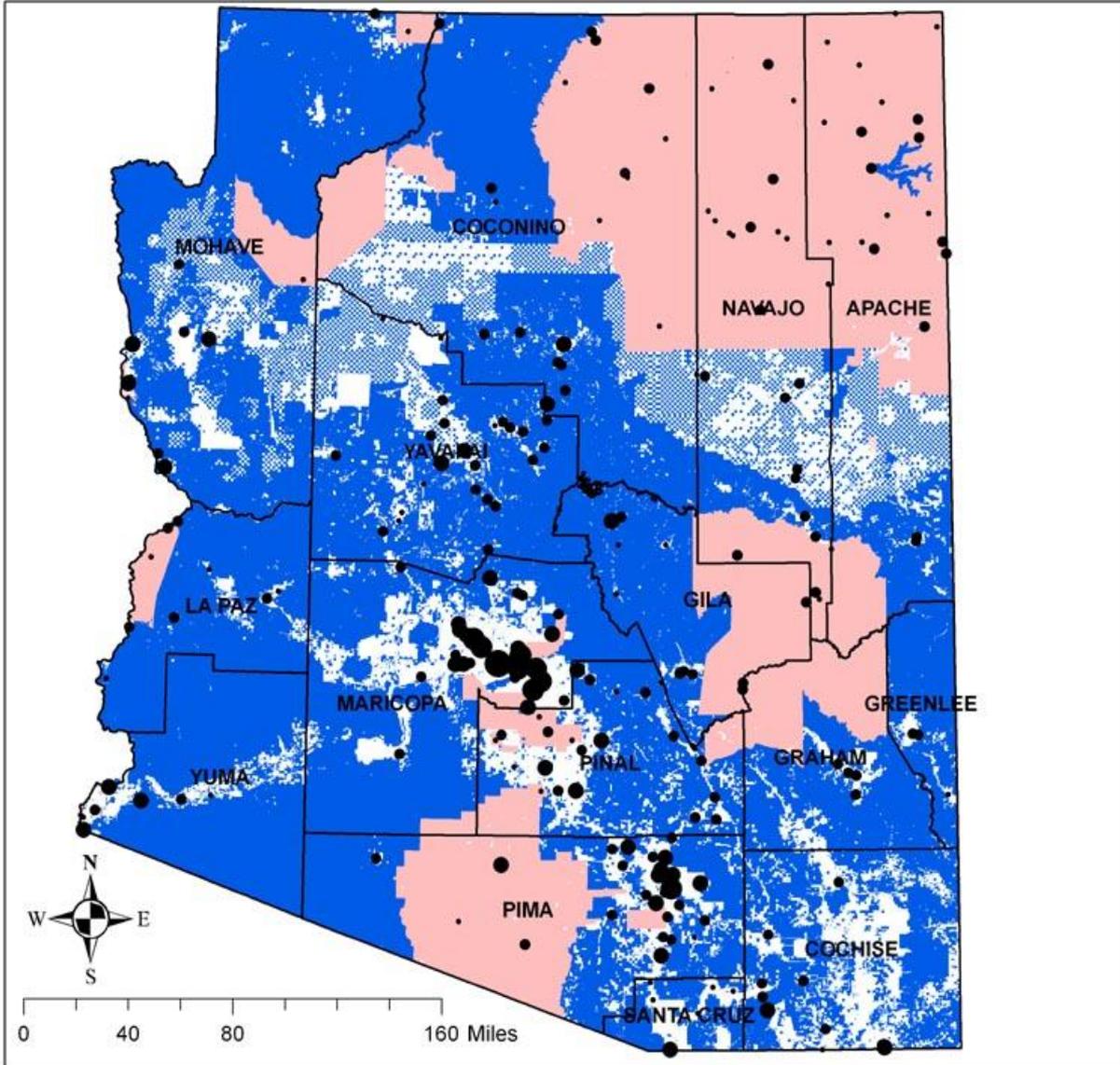
- growing population**
- improved access to care**
- geographically isolated**

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A Spatial and Temporal Perspective



Legend

Census 2000 populations

- 28 - 1000
- 1001 - 10,000
- 10,001 - 100,000
- 100,001 - 1,000,000
- 1,000,001 - 1,321,045

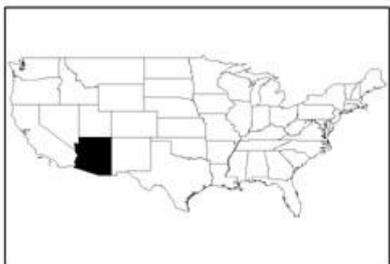
□ County boundaries

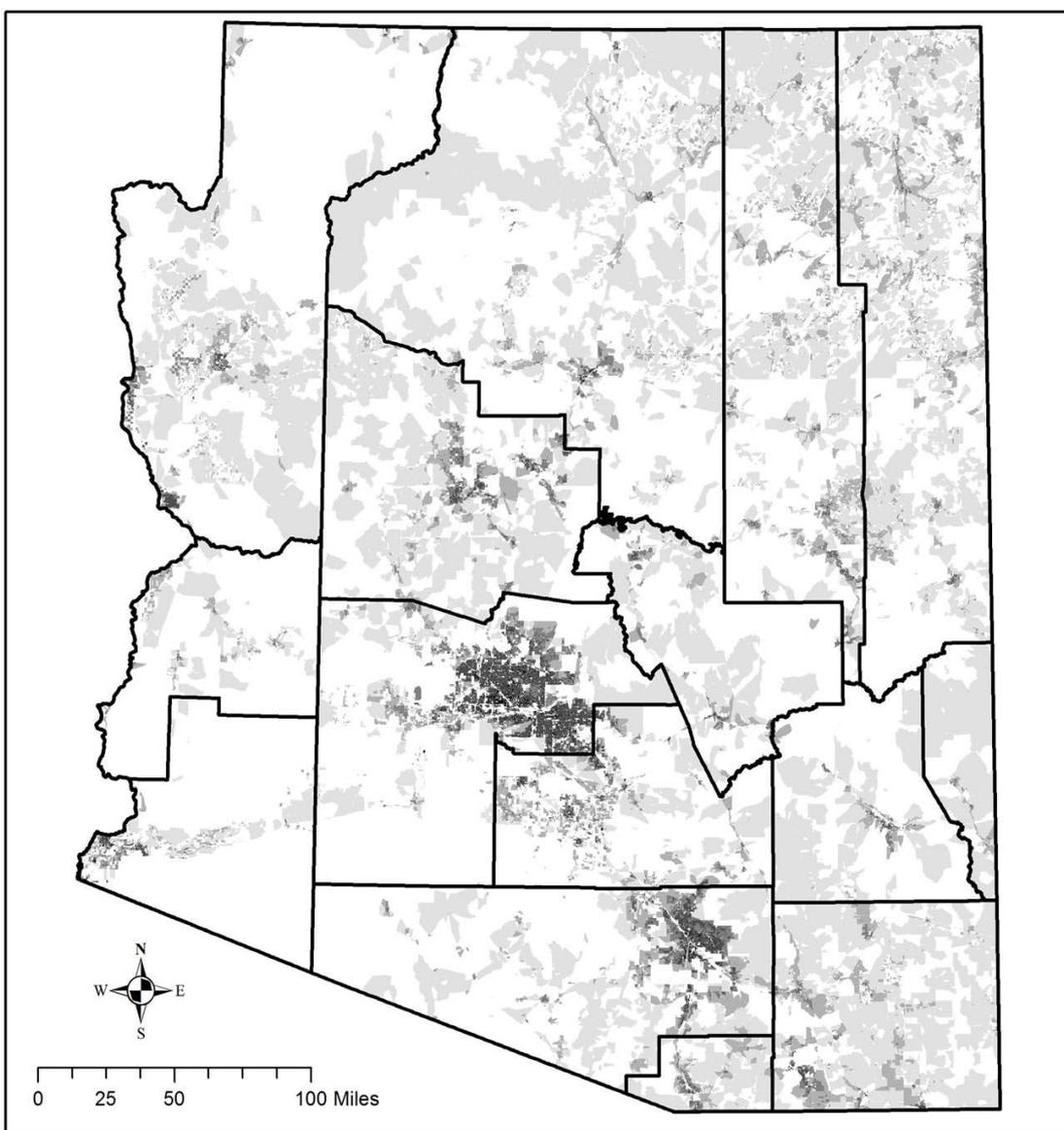
Land ownership

- Private land (17.6%)
- Indian reservations (27.6%)
- Public land (54.8%)

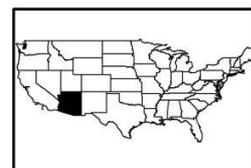
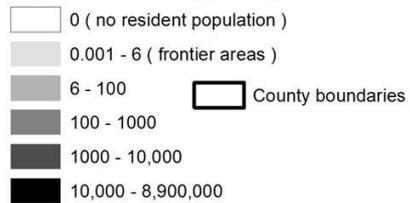
Federal land consists of Bureau of Land Management, Bureau of Reclamation, National Forest, military, National Parks, and National Wildlife Refuge lands.

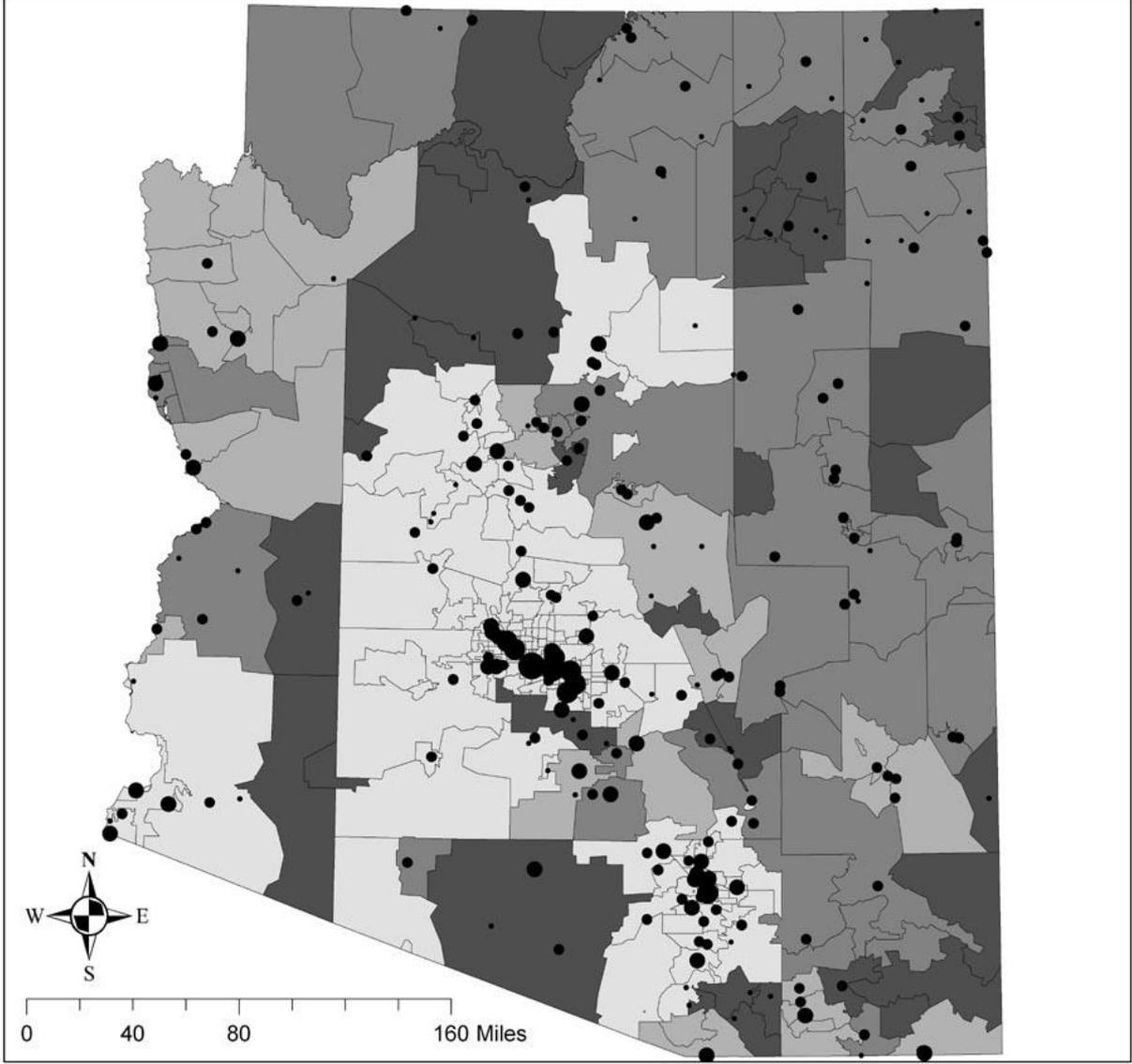
State & county land consist of county, game & fish, parks, recreation, and state trust lands.





Population density per square mile





Legend

Census 2000 populations

- 28 - 1000
- 1001 - 10,000
- 10,001 - 100,000
- 100,001 - 1,000,000
- 1,000,001 - 1,321,045

□ Zip code boundaries

RUCA classifications

- Urban
- Large rural town
- Small rural town
- Isolated small rural town

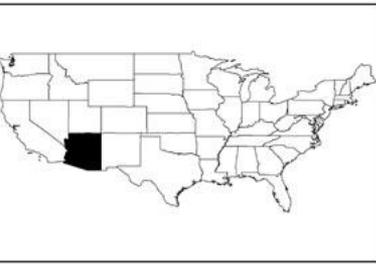
Rural Urban Commuting Area (RUCA) classifications:

Urban: 1.0, 1.1, 2.0, 2.1, 3.0, 4.1, 5.1, 7.1, 8.1, and 10.1.

Large rural/town (micropolitan): 4.0, 4.2, 5.0, 5.2, 6.0, and 6.1

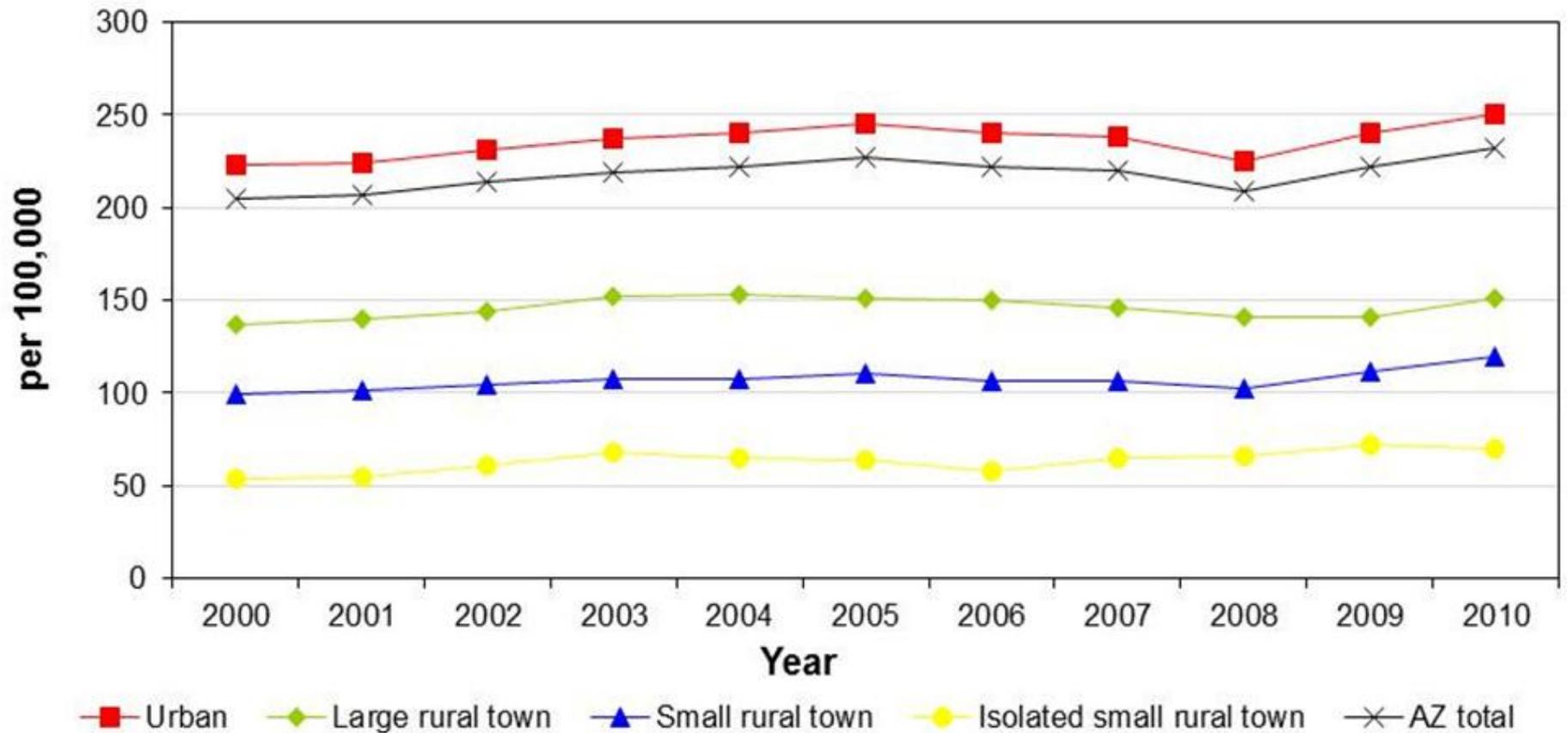
Small rural town: 7.0, 7.2, 7.3, 7.4, 8.0, 8.2, 8.3, 8.4, 9.0, 9.1, 9.2

Isolated Small Rural Town: 10.0, 10.2, 10.3, 10.4, 10.5, and 10.6

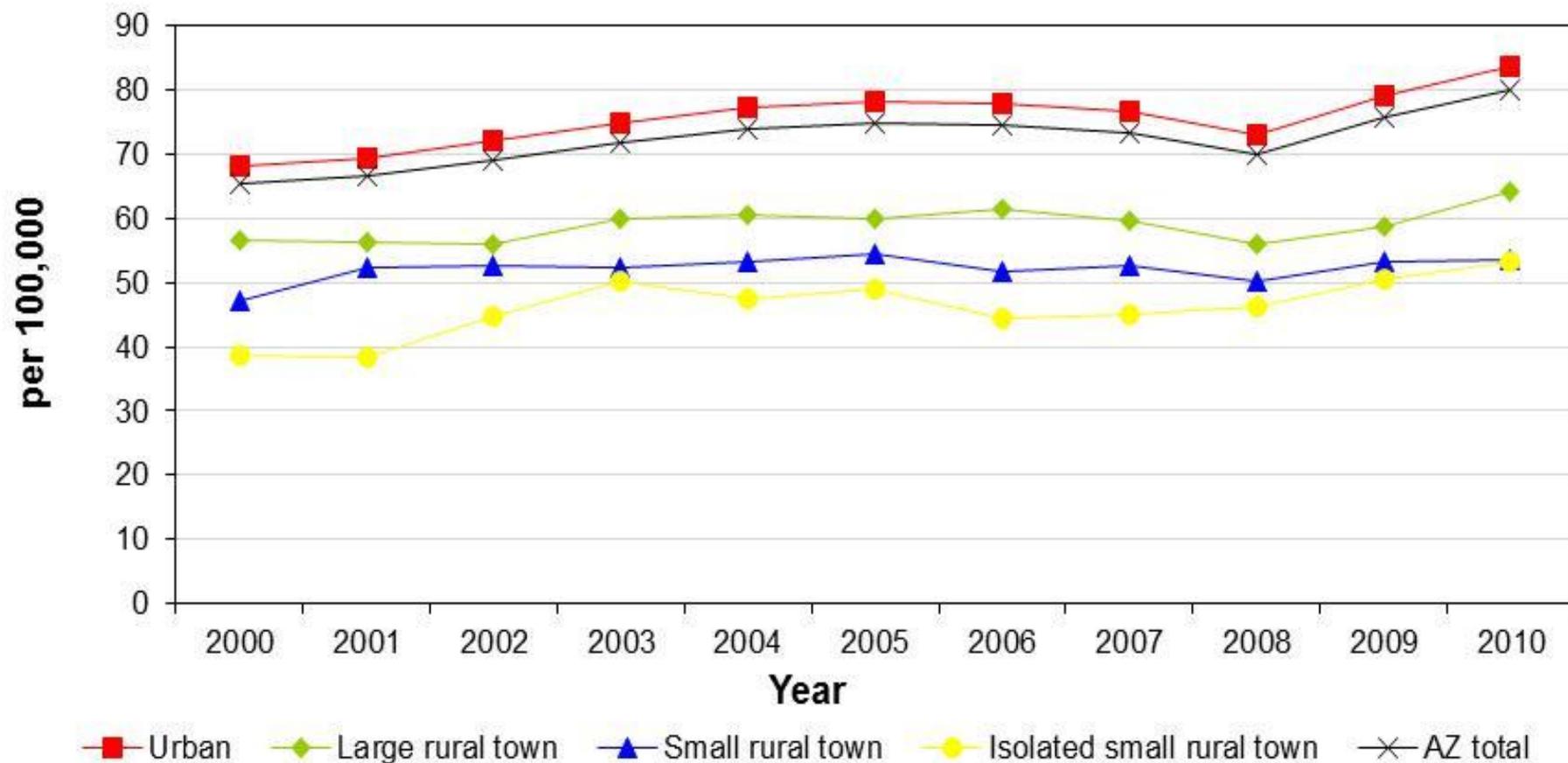


- **Physicians (MDs, DOs, primary care, other specialists)**
- **Physician Assistants**
- **Nurse Practitioners**
- **Certified Registered Nurse Anesthetists**
- **Certified Nurse Midwives**
- **Clinical Nurse Specialists**
- **Registered Nurses**
- **Licensed Practical Nurses**
- **Certified Nurse Assistants**
- **Dentists (general & specialists)**
- **Dental Hygienists**
- **Pharmacists**
- **Pharmacy Technicians**
- **Psychologists**
- **Emergency Medical Technicians**

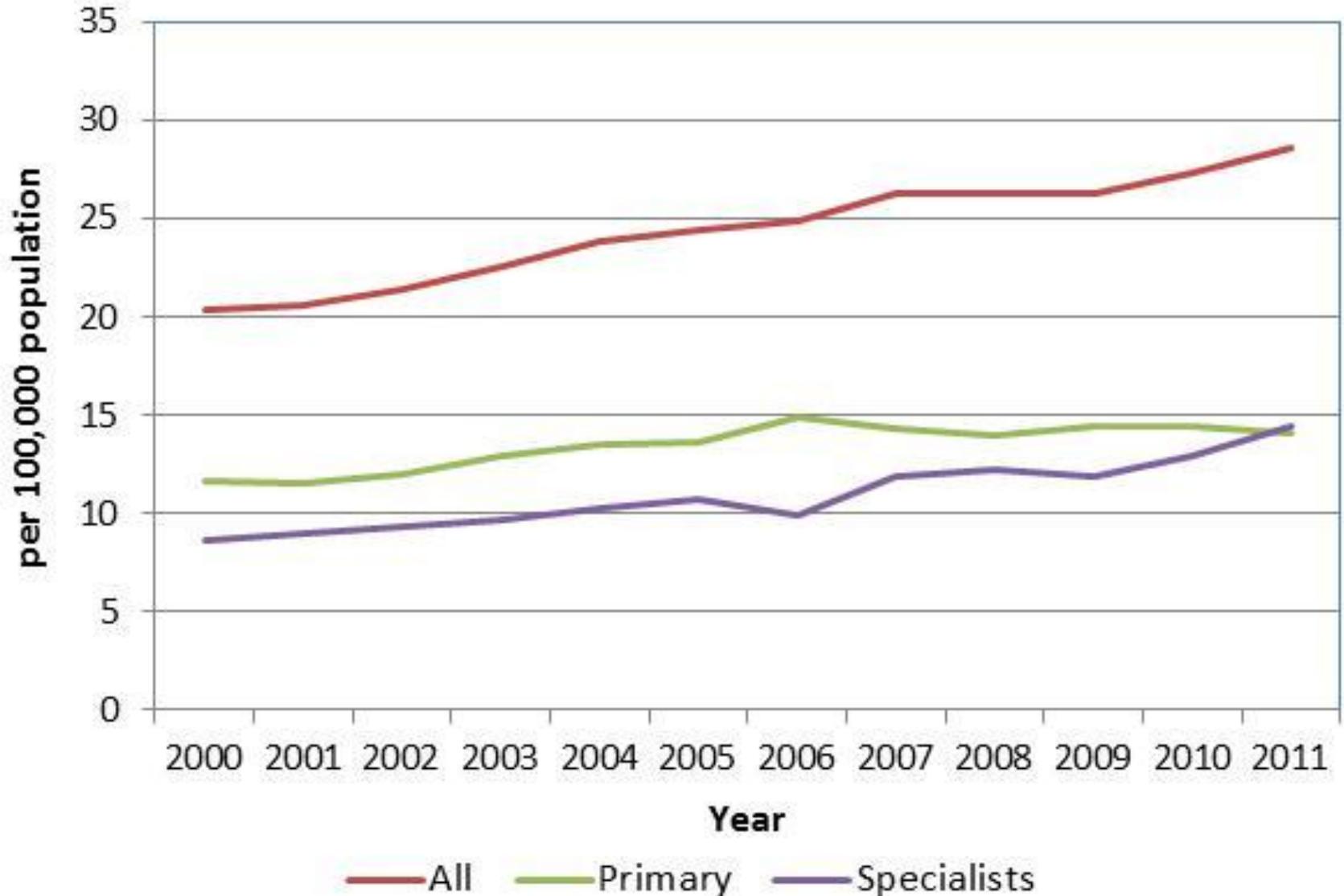
Trend of All physicians (MD and DO) per 100,000 Population in Arizona and by Four RUCA Classifications: 2000 to 2010.



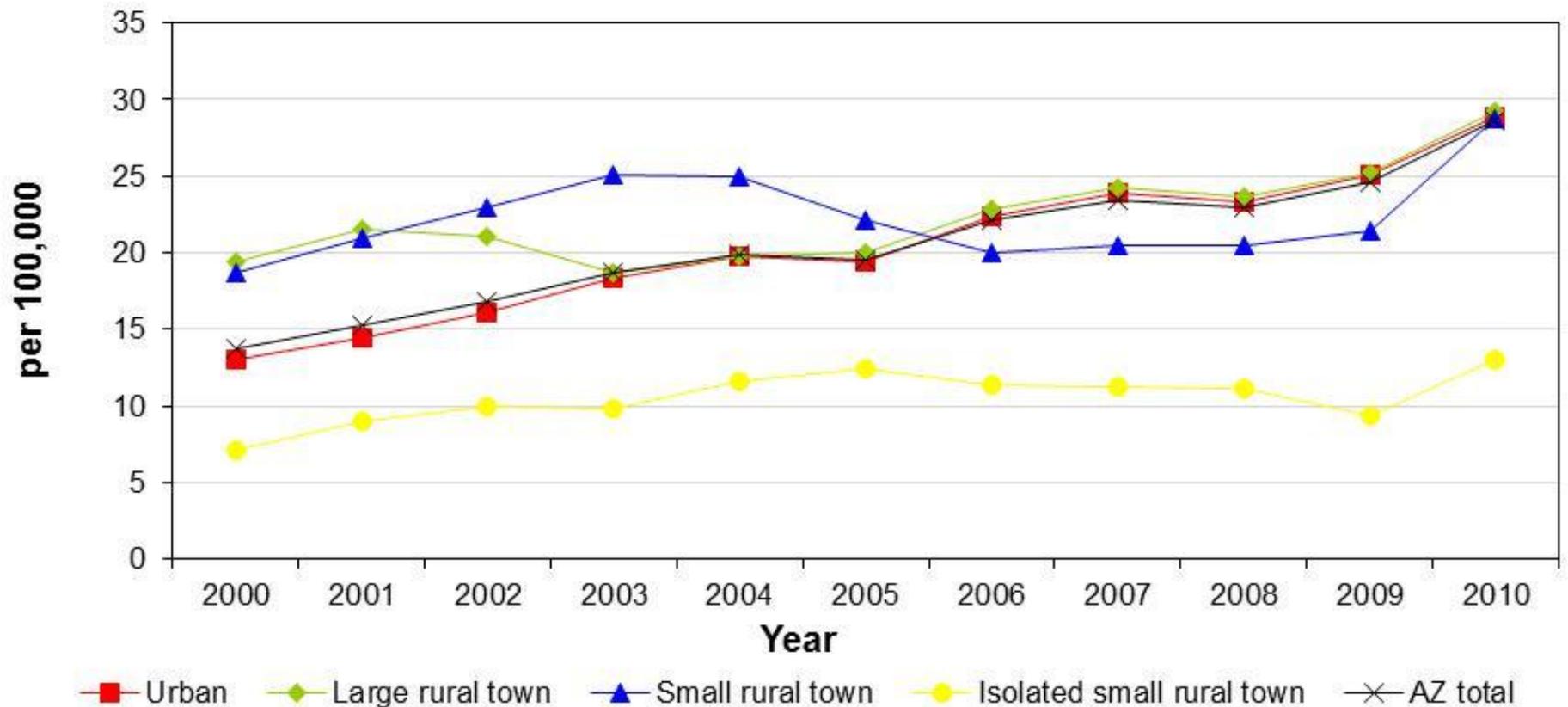
Trend of Primary Care Physicians (MDs and DOs) per 100,000 Population in Arizona and by Four RUCA Classifications: 2000 to 2010.



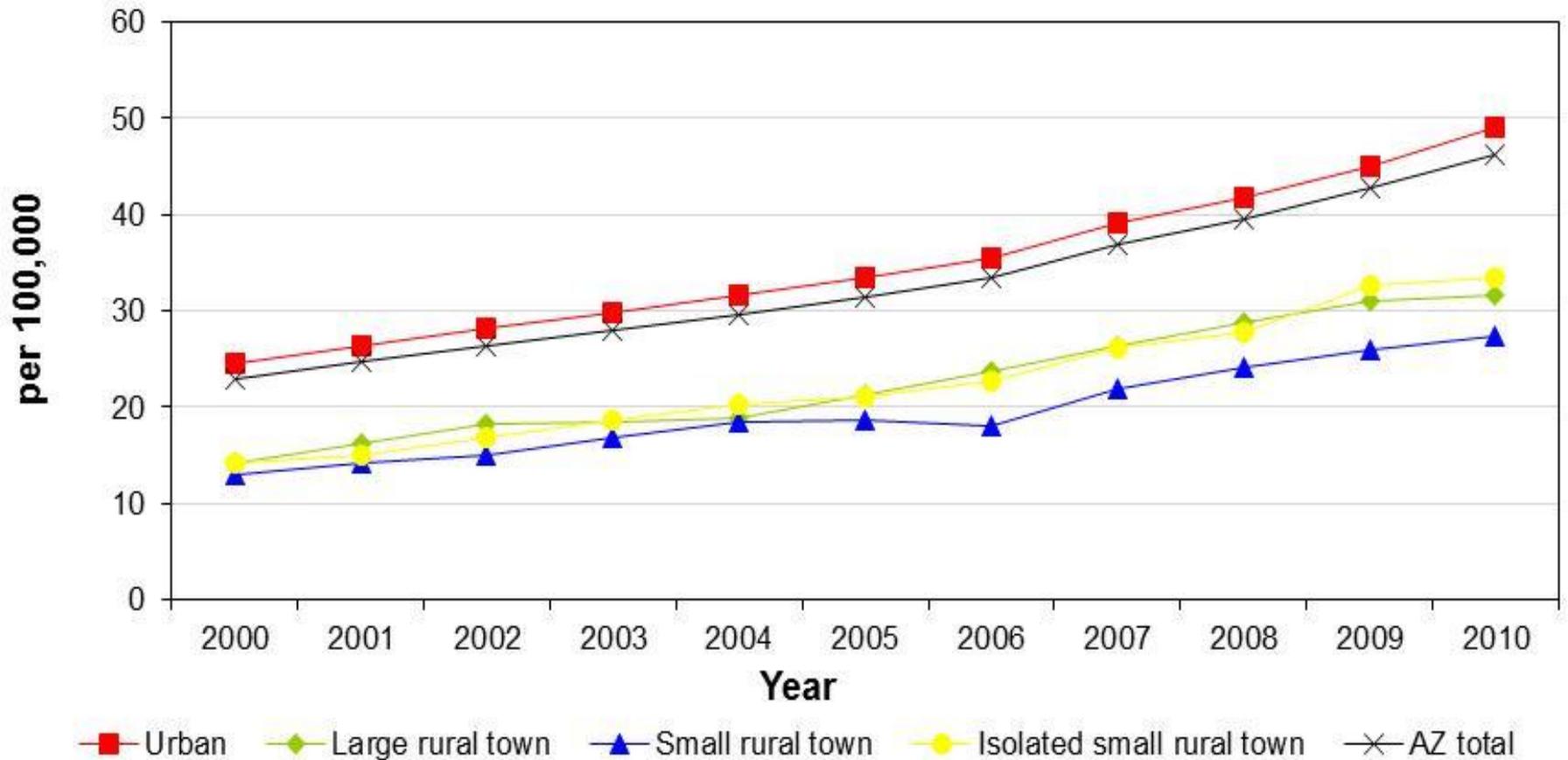
Trends for osteopathic physicians (DO) by specialties per 100,000 population in Arizona from 2000 to 2011



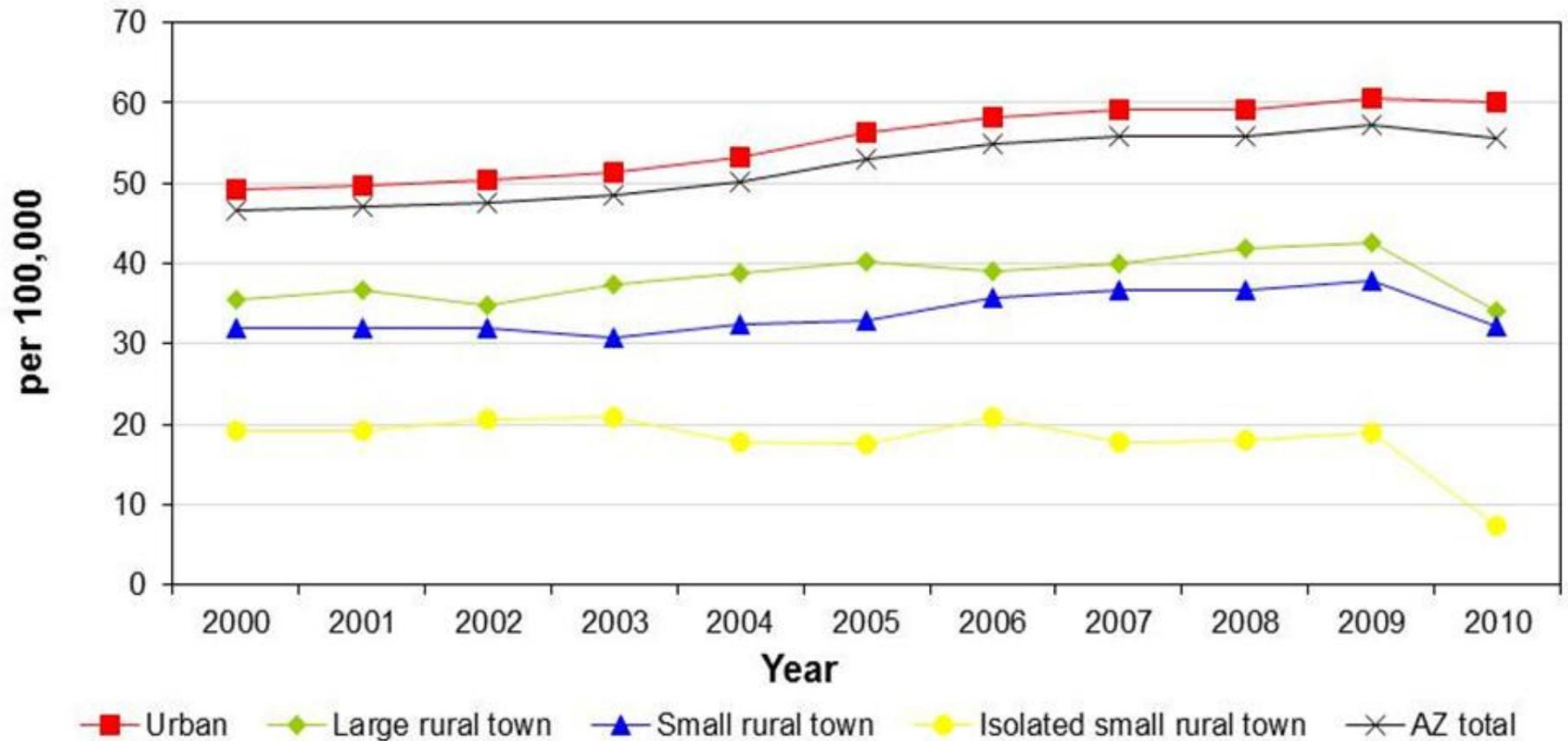
Trend of Physician Assistants (PAs) per 100,000 Population in Arizona and by Four Rural-Urban Classifications: 2000 to 2010.



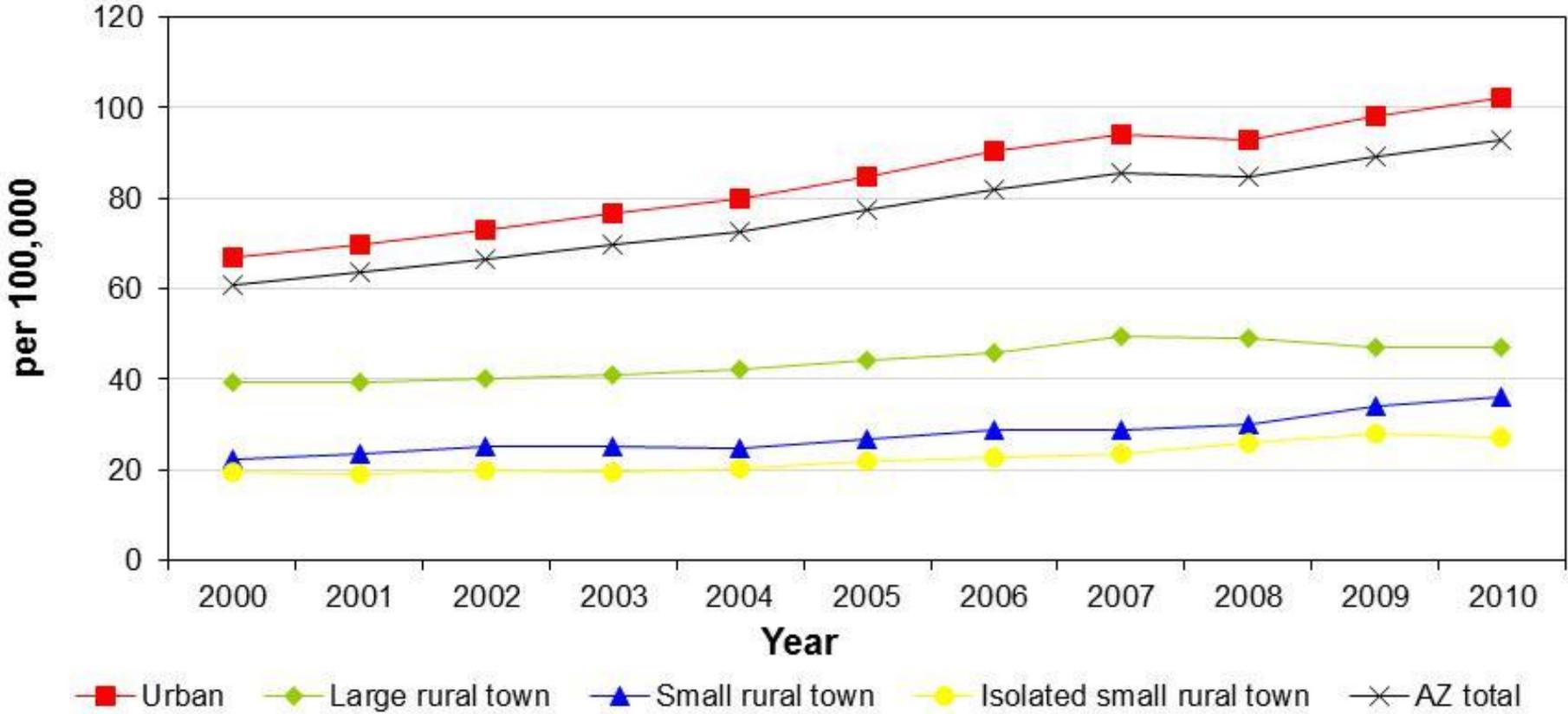
Trend of Nurse Practitioners (NPs) per 100,000 Population in Arizona and by Four Rural-Urban Classifications: 2000 to 2010.



Trend of Dentists per 100,000 Population in Arizona and by Four Rural-Urban Classifications: 2000 to 2010.

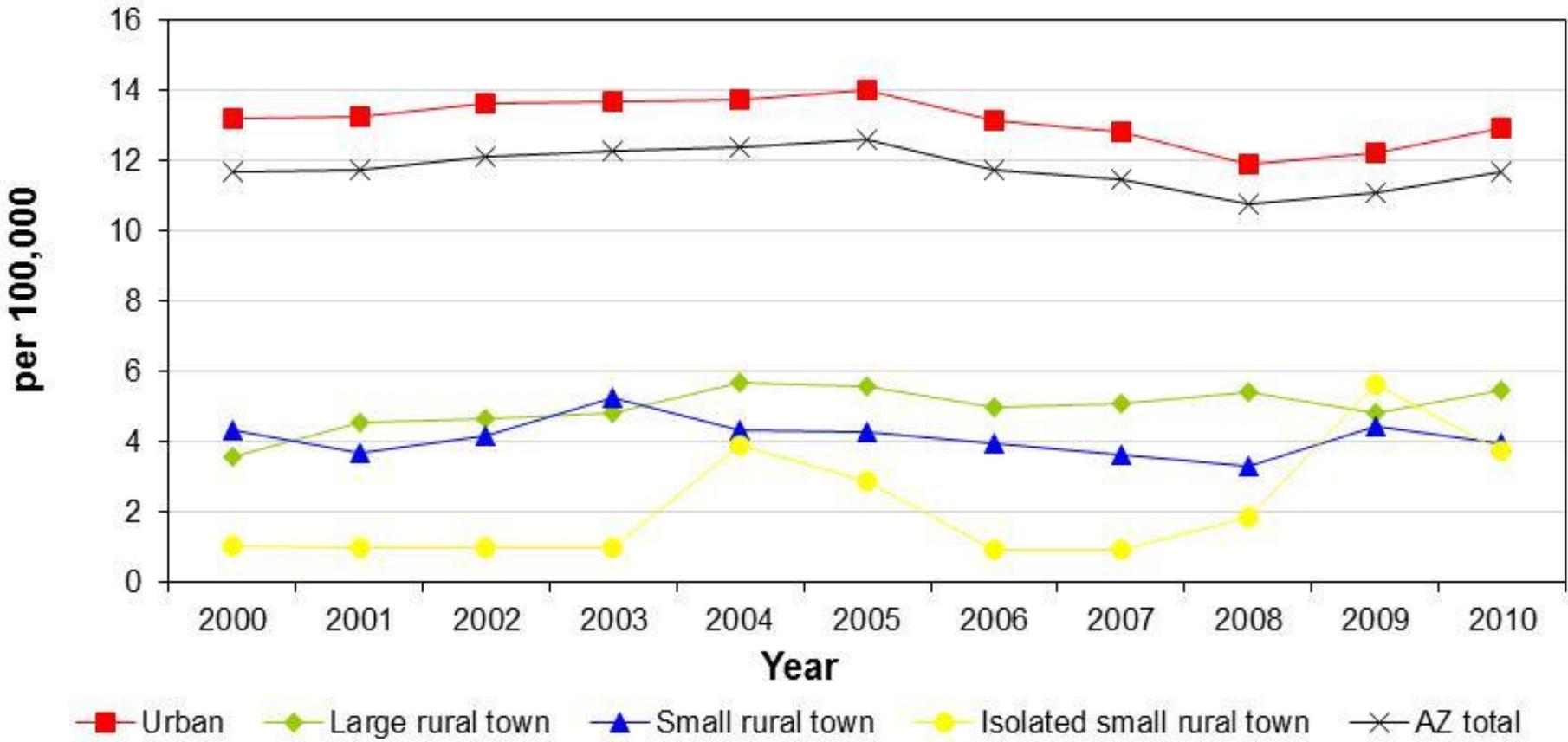


Trend of Pharmacists per 100,000 Population in Arizona and by Four Rural-Urban Classifications: 2000 to 2010.



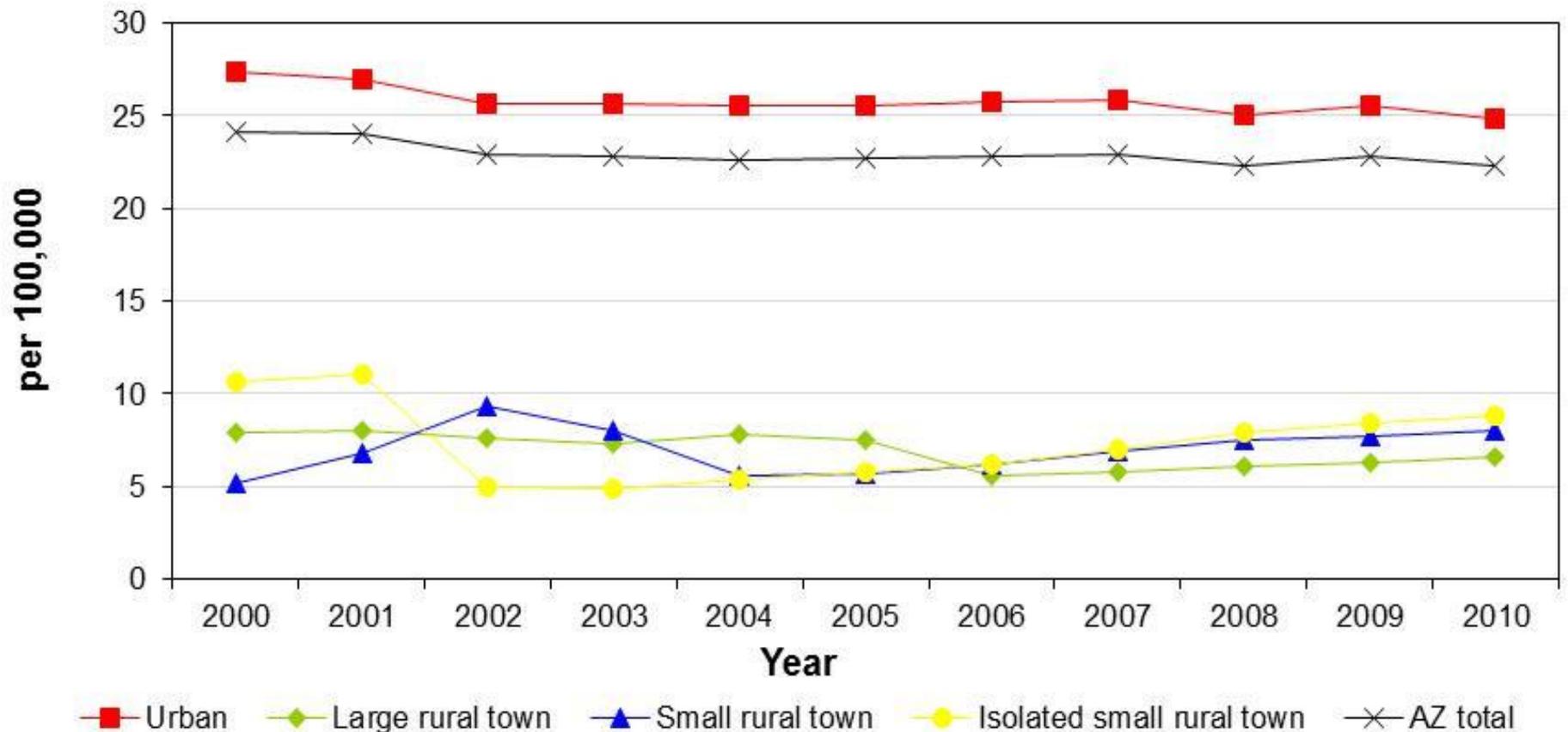
Source: Arizona Rural Health Workforce Trend Analysis: 2007-2010

Trend of Psychiatric Physicians (MDs and DOs) per 100,000 Population in Arizona and by Four Rural-Urban Classifications: 2000 to 2010.



Source: Arizona Rural Health Workforce Trend Analysis: 2007-2010

Trend of Psychologists (PhDs) per 100,000 Population in Arizona and by Four Rural-Urban Classifications: 2000 to 2010.



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	---

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

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