

Alaska Physician Workforce in 2014

KEY FINDINGS

- In 2014 there were 198 physicians per 100,000 population providing direct patient care in Alaska, including 77 generalist physicians per 100,000 population.
- The mean age of Alaska's practicing physicians was 52 years.
- Women comprised 37% of the state's physician workforce but 50% of the generalists (including 62% of general pediatricians).
- 21% of Alaska's family medicine/general practice physician workforce completed a residency in Alaska and 34% completed a residency in one of the WWAMI states: Washington, Wyoming, Alaska, Montana or Idaho.
- 11% of Alaska's physicians graduated from the University of Washington School of Medicine, a higher percentage than for any other medical school.

INTRODUCTION

The population of Alaska is growing and aging, and health care delivery and payment systems are undergoing major transformations. Important questions for healthcare policy and planning include whether there will be enough physicians in the right places and with the needed specialties to meet growing and changing demand. This Brief offers data on the size, distribution, and education history of Alaska's physician workforce, addressing the questions:

- *How many physicians practice in Alaska? (overall and by specialty group)*
- *How are physicians distributed by borough, and by urban versus rural areas?*
- *How many physicians practice statewide and by borough relative to the size of the population?*
- *What proportion of the physician workforce graduated from the University of Washington School of Medicine or completed a residency in Alaska or a WWAMI state?*

To estimate the physician workforce providing direct patient care in Alaska, we analyzed data from the American Medical Association (AMA) Physician Masterfile (see Methods, Appendix A).

NUMBER, DEMOGRAPHIC CHARACTERISTICS, AND DISTRIBUTION OF PHYSICIANS IN ALASKA

Of 1,744 physicians with Alaska licenses in 2014, 1,474 provided direct patient care.

OVERALL SUPPLY AND DEMOGRAPHICS

Alaska's per capita physician supply is lower than the national supply (Figure 1), although its generalist physician supply per capita is somewhat higher. In 2014, there were 1,744 physicians (234 per 100,000 population) with Alaska licenses and 1,474 (198 per 100,000 population) providing direct patient care in the state. Nationally, in 2012 there were 261 overall physicians per 100,000 population and 226 per 100,000 providing direct patient care.¹ HRSA estimated that in 2010 there were approximately 66 primary care physicians per 100,000 U.S. population;² four years later, in 2014, Alaska had 77 generalist physicians per 100,000 population.

The mean age overall and by specialty for most Alaska physicians was similar, between 50 and 56 years (Table 1). Forty-one percent were age 55 or older. Thirty-seven

Figure 1: Alaska compared with national estimates of physicians per 100,000 population

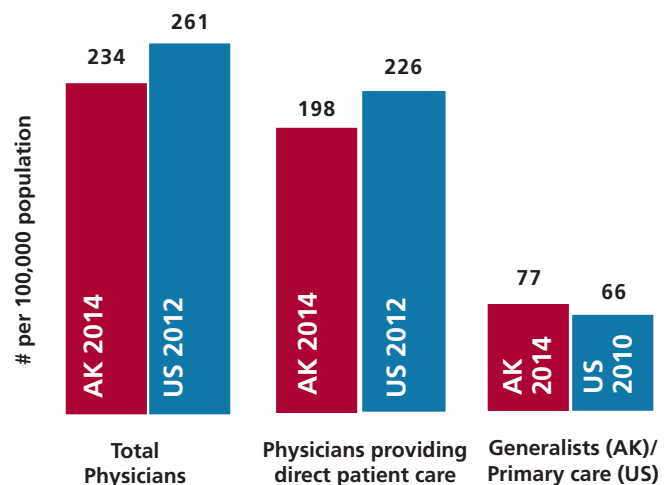


Table 1. Number, gender and age of Alaska physicians in 2014

Physicians providing direct patient care*	#	#/100,000 population	% Female	Mean Age (Years)	% Age 55 or Older
Total	1,474	198.2	37.1%	51.8	41.0%
Generalists	571	76.8	50.1%	51.0	38.4%
Family practice/general practice	375	50.4	49.3%	50.9	38.7%
General internal medicine	100	13.4	42.0%	52.4	43.0%
General pediatrics	96	12.9	61.5%	49.6	32.3%
Surgeons	172	23.1	42.4%	52.8	44.8%
General surgery	46	6.2	28.3%	51.6	41.3%
Obstetrics-gynecology	85	11.4	62.4%	51.8	41.2%
Other surgery	41	5.5	17.1%	56.1	56.1%
Psychiatrists	85	11.4	40.0%	54.2	55.3%
Other Specialists	646	86.9	23.8%	51.9	40.6%

*not federally employed, age <75 years, in Alaska

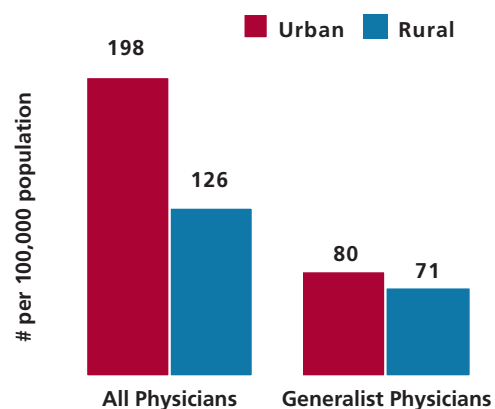
percent of Alaska's overall physician work force were women, who comprise half of the generalist specialties and 62% of obstetrician-gynecologists.

DISTRIBUTION

Fewer physicians provided direct patient care per 100,000 population in rural compared with urban areas of Alaska, although there was more rural-urban parity among practicing generalist physicians (Figure 2).

Table 2 details the rural-urban distribution of the state's physicians, overall and by specialty, and in addition shows their distribution among three sub-rural area types: large rural, small rural and isolated small rural. Figure 3 shows where rural and urban areas are located in Alaska. As expected, specialists congregated in urban areas where more specialty care services and larger hospitals are provided, and were almost entirely absent from isolated small rural areas.

Figure 2: Alaska physicians* in urban and rural areas (total and generalist specialties) per 100,000 population in 2014



*Providing direct patient care, not federally employed, age <75 years, and in Alaska

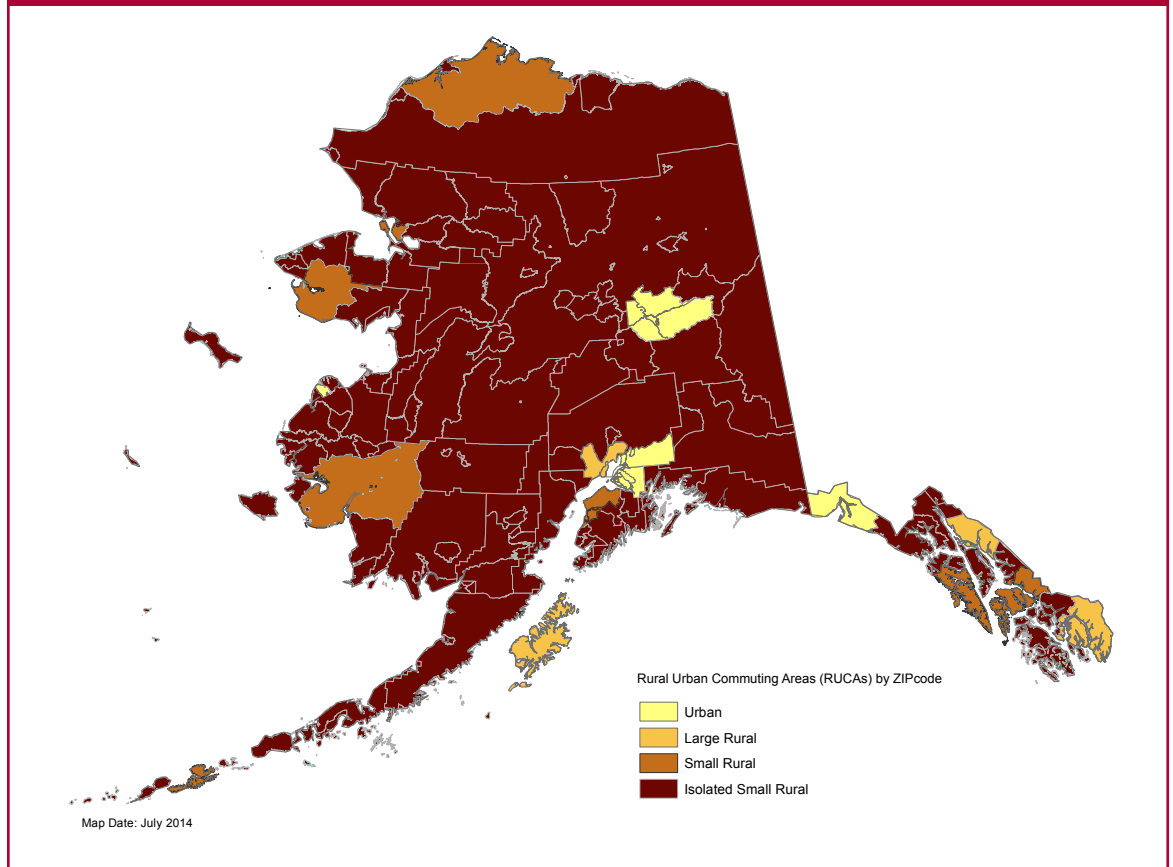
Table 2. Alaska physicians in urban, rural and sub-rural areas in 2014**

Physicians providing direct patient care*	Urban		Overall Rural		Large Rural		Small Rural		Isolated Small Rural	
	#	#/100,000 population	#	#/100,000 population	#	#/100,000 population	#	#/100,000 population	#	#/100,000 population
Total	1,156	235.1	318	126.2	124	190.5	130	152.8	64	62.8
Generalists	391	79.5	180	71.4	65	99.9	71	83.5	44	43.2
Family medicine/general practice	236	48.0	139	55.1	47	72.2	51	60.0	41	40.2
General internal medicine	79	16.1	21	8.3	10	15.4	10	11.8	1	1.0
General pediatrics	76	15.5	20	7.9	8	12.3	10	11.8	2	2.0
Surgeons	139	28.3	33	13.1	12	18.4	18	21.2	3	2.9
General surgery	32	6.5	14	5.6	5	7.7	6	7.1	3	2.9
Obstetrics-gynecology	70	14.2	15	6.0	4	6.1	11	12.9	0	0.0
Other surgery	37	7.5	4	1.6	3	4.6	1	1.2	0	0.0
Psychiatrists	68	13.8	17	6.7	11	16.9	4	4.7	2	2.0
Other Specialists	558	113.5	88	34.9	36	55.3	37	43.5	15	14.7

* Not federally employed, age <75 years, in Alaska

** Rural-urban determined using ZIP code RUCA taxonomy. Overall rural is a combination of the three rural subcategories.

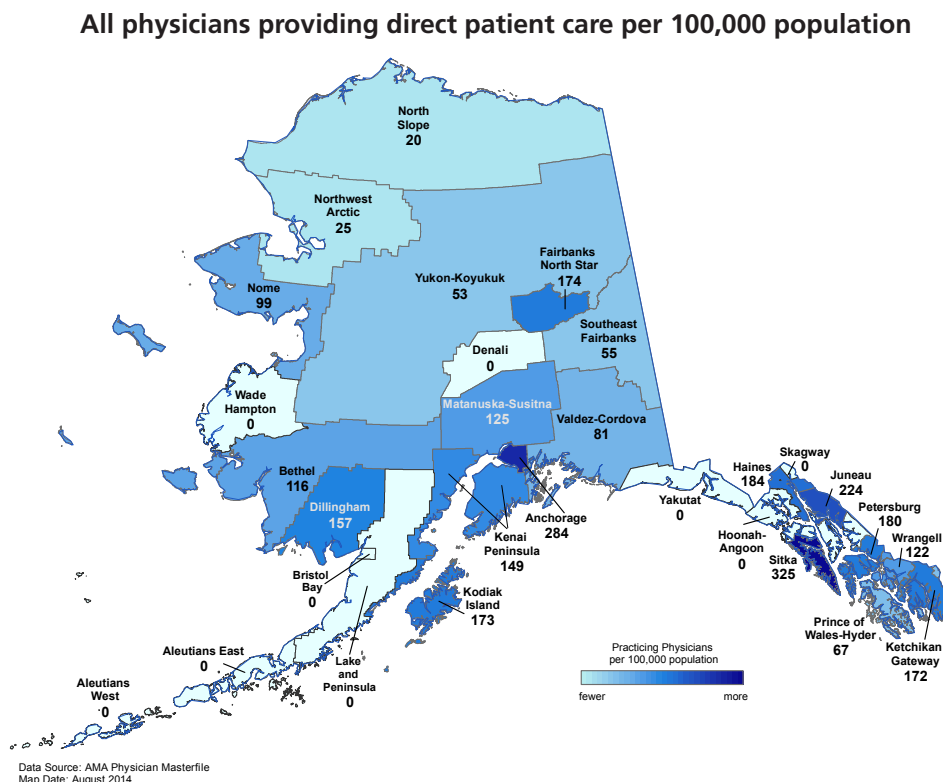
Figure 3. Location of urban and rural areas in Alaska



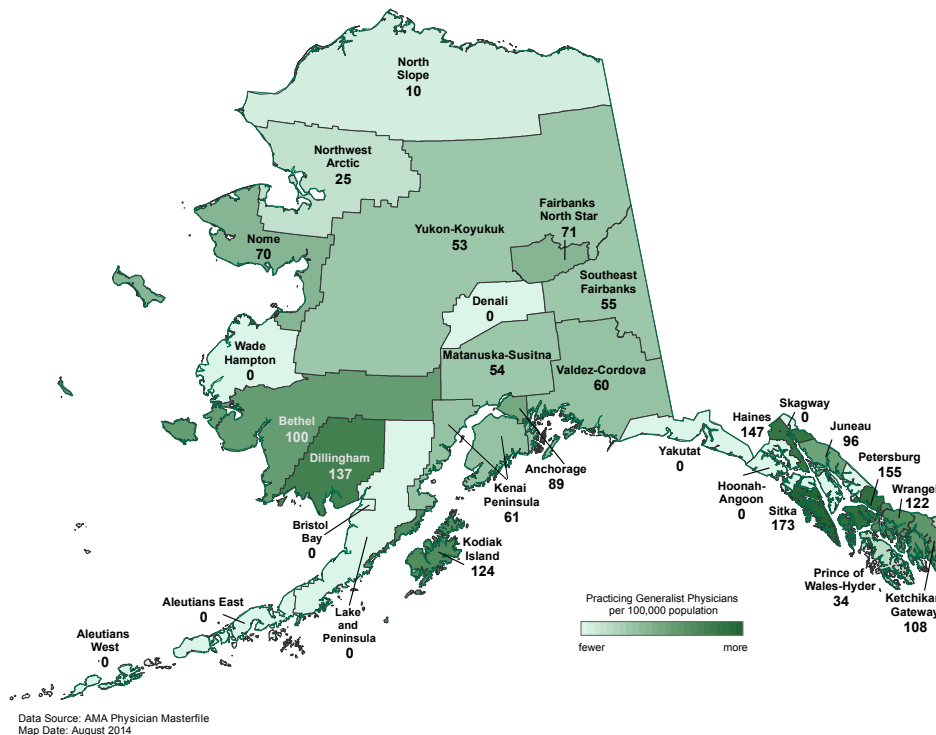
Greater concentrations of physicians were found in the more urban boroughs; nearly one-third of Alaska's boroughs had no practicing physicians.

Alaska is not organized into counties but instead has 19 boroughs and ten census areas. For this report we refer to all of these areas as boroughs. As Figure 4 shows, in 2014, nine of the 29 Alaska boroughs had no practicing physicians and another seven boroughs had fewer than 100 doctors per 100,000 population. Twenty-one boroughs, including Anchorage, had fewer than 100 practicing generalists per 100,000.

Figure 4: Alaska physicians per 100,000 population in 2014, by borough

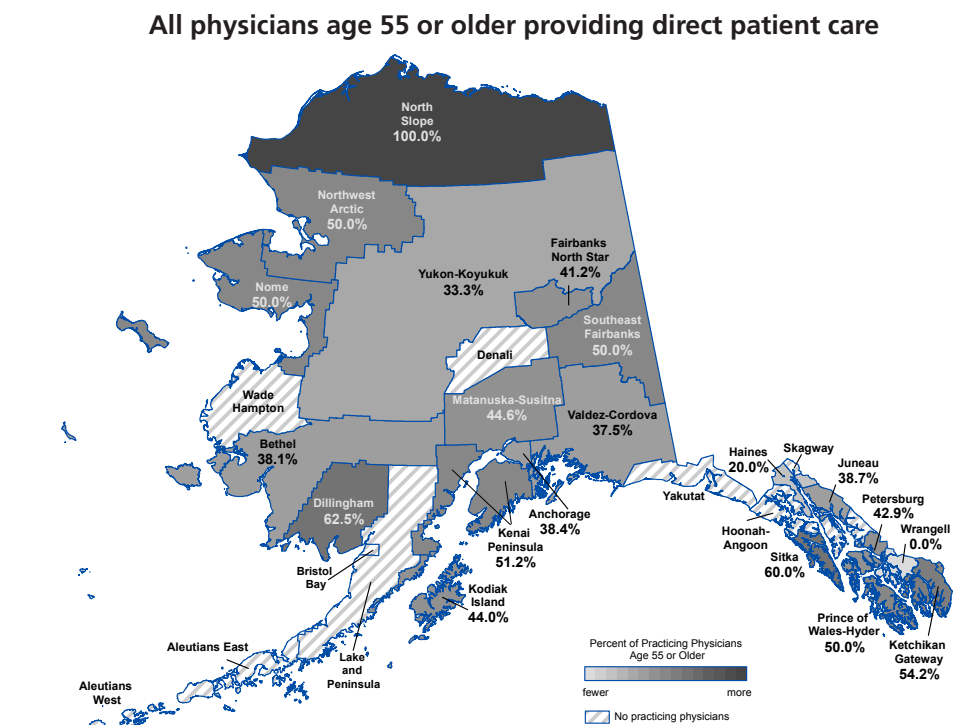


Alaska generalist physicians providing direct patient care per 100,000 population in 2014, by borough



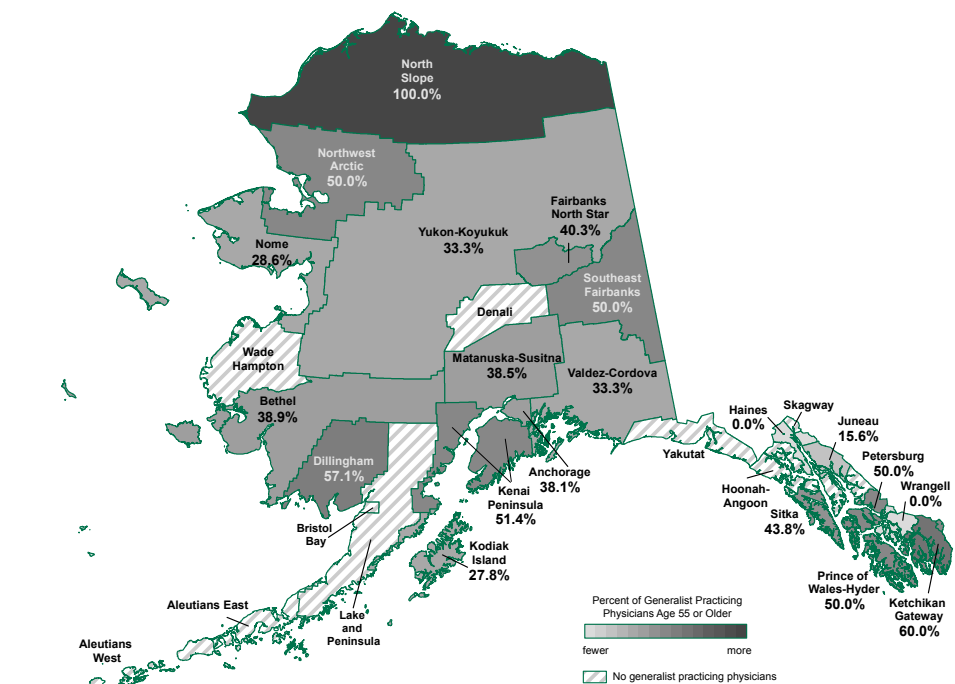
As shown in Figure 5 some of Alaska's rural boroughs have high percentages of physicians age 55 and older (e.g., Dillingham Census Area, Sitka City and Borough, North Slope Borough). However, in urban boroughs 45% of physicians were between 55 and 74 while across all rural boroughs 41% of physicians were in this older age group. More than 50% of all physicians providing direct patient care in five of 29 Alaska boroughs were age 55 or older in 2014. In North Slope Borough both of the physicians were over age 55. The percentage of generalist physicians age 55 or older (38%) were similar to overall physicians (41%).

Figure 5: Percentage of Alaska physicians age 55 or older in 2014, by borough



Data Source: AMA Physician Masterfile
Map Date: August 2014

Generalist physicians age 55 or older providing direct patient care



Data Source: AMA Physician Masterfile
Map Date: August 2014

Half or more of all physicians providing direct patient care in nine of 20 Alaska boroughs with at least one physician, were age 55 or older in 2014.

EDUCATION AND TRAINING

The University of Washington School of Medicine led the list of medical schools from which Alaska's physicians graduated (Table 3). Ten percent of Alaska's physicians completed a residency in California, smaller percentages completed residencies in Washington, Texas, Alaska and New York (Table 4).

11% of Alaska's physicians graduated from the University of Washington School of Medicine and 5% completed a residency in Alaska.

Table 3: Top 5 medical schools from which Alaska physicians graduated*

School	State	#	% of AK physicians who graduated from school
University of Washington School of Medicine	WA	165	11.2%
University of Minnesota Medical School	MN	45	3.1%
University of Colorado School of Medicine	CO	39	2.6%
Oregon Health and Sciences University School of Medicine	OR	38	2.6%
Uniformed Services University of the Health Sciences F. Edward Hébert School of Medicine	MD	27	1.8%

*among Alaska physicians in 2014 providing direct patient care, not federally employed, age <75 years

Table 4. Top 5 states where Alaska physicians completed a residency*

State	#	% of AK physicians who completed a residency in the state
CA	144	10.2%
WA	122	8.6%
TX	112	7.9%
AK	74	5.2%
NY	64	4.5%

*among Alaska physicians in 2014 providing direct patient care, not federally employed, age <75 years

As shown in Table 5, while 11% of Alaska's overall practicing physician supply in 2014 and 14% of all generalist physicians graduated from the University of Washington, 15% of all practicing physicians and 26% of generalist physicians completed a residency in a WWAMI state, including Alaska.

Table 5. Alaska physicians in 2014 who graduated from the University of Washington School of Medicine (UW SOM) and who completed a residency in Washington or in any WWAMI* state

Physicians providing direct patient care**	Graduated from UW SOM		Completed a residency in AK***		Completed a residency in a WWAMI state	
	#	%	#	%	#	%
Total	165	11.2%	74	5.2%	210	14.8%
Generalists	78	13.7%	74	13.6%	143	26.2%
Family medicine/general practice	54	14.4%	73	20.6%	121	34.2%
General internal medicine	9	9.0%	1	1.0%	11	11.2%
General pediatrics	15	15.6%	0	0.0%	11	11.8%
Surgeons	18	10.5%	0	0.0%	14	8.3%
General surgery	7	15.2%	0	0.0%	6	13.0%
Obstetrics-gynecology	9	10.6%	0	0.0%	4	4.8%
Other surgery	2	4.9%	0	0.0%	4	10.3%
Psychiatrists	9	10.6%	0	0.0%	6	7.1%
Other Specialists	60	9.3%	0	0.0%	47	7.6%

* WWAMI = Washington, Wyoming, Alaska, Montana, and Idaho

** Not federally employed, age <75 years, in Alaska

*** Percentages are calculated based on physicians for which residency state data were available. There were 105 records (3.9%) that were missing residency state (0 were missing medical school).

The percentage of physicians who completed a residency in Alaska is higher among those who graduated from medical school since 2000 (Figure 6). It is not clear if this indicates a trend toward higher rates of post-residency retention by the more recent physician cohorts compared with older cohorts, or if there is a pattern for some physicians to remain in the state for a few years after completing residencies before migrating to other locations.

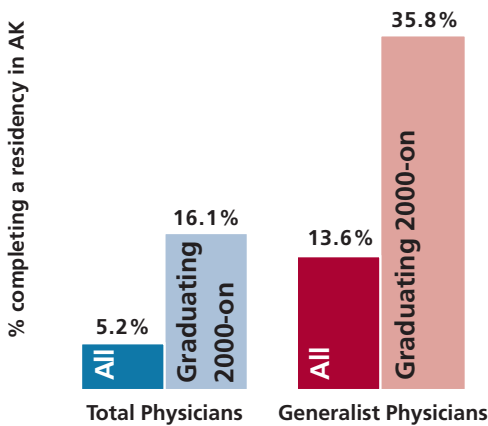
SUMMARY

In 2014 Alaska’s physician supply, on a per capita basis, was generally smaller than national averages. Slightly more generalist physicians were identified as practicing in urban areas (80 per 100,000 population) compared with rural areas (71 per 100,000 population). Relatively few physicians were identified as working in isolated small rural areas of Alaska (43 per 100,000 population). Attributing a single practice location to Alaska physicians may be somewhat misleading, however, because it is not uncommon for providers to travel to rural sites for short periods of practice, and/or to provide telemedicine to more remote sites while based in urban locations.

Medical students from Alaska have been supported by the state to attend the WWAMI program since 1971. These analyses of the AMA physician masterfile found about 11% of Alaska’s total practicing physician supply in 2014 graduated from the University of Washington School of Medicine, where Alaska contributes to the WWAMI Medical Education Program. Analyses by the Alaska Medical Society in 2015 found over 14% of Alaska’s practicing physicians graduated from University of Washington School of Medicine (unpublished source). These differences in estimates are likely attributable to the completeness of different data sources and exclusion criteria.

Residency is known to be highly associated with the location where a physician eventually chooses to practice and of the population he or she prefers to serve, and is therefore a useful recruitment tool.³ In 2012 Alaska ranked second among states for retaining physicians who complete a residency in-state, with a 68% retention rate.¹ The state, however, has only one residency program; the Alaska Family Medicine Residency, developed in the 1990s, with 12 residents per year. So even with a high residency retention rate only 5% of all practicing Alaska physicians completed an in-state residency. A new pediatric residency will start in 2015. While not an easy task, creating more residencies in locations and for specialties that serve the populations where shortages are greatest could be an effective tool to reduce disparities in the distribution of Alaska’s physicians. This study also showed that higher percentages of generalist physicians who were more recent medical school graduates (since 2000) completed a residency in-state (36% of the total). Efforts specifically designed to retain these young physicians could be a useful health workforce development strategy for Alaska.

Figure 6. Alaska physicians* in 2014 who completed a residency in Alaska



* not federally employed, age <75 years, in Alaska, and providing direct patient care

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APPENDIX A: METHODS

The Alaska state physician supply data for this study came from the American Medical Association (AMA) Physician Masterfile, accessed in April, 2014. There were 1,744 total allopathic and osteopathic physicians with Alaska license records in the dataset. Those selected for these analyses were the 1,474 with 1) an in-state practice address (or mail address, when practice was not available), 2) who were age 74 or younger, 3) provided direct patient care, and 4) were not a federal employee. Physicians were assigned specialties using the AMA dataset's "primary" and "secondary" specialty fields. The primary specialty was reassigned to the secondary specialty for about 5% of physicians when there was indication from the listed secondary specialty that the physician was likely to practice more specialized medicine than the primary specialty indicated. Physician specialties were grouped into "Generalists" (family medicine/general practice, general internal medicine and general pediatrics specialties), "Specialists" (general surgery, obstetrics-gynecology and other surgery), and "Other Specialists". Data for psychiatrists were analyzed and reported separately. State population data came from a custom-prepared file of selected 2014 population data with ZIP codes cross-referenced to boroughs.⁴ Rural-urban status was determined using Rural Urban Commuting Area (RUCA) taxonomy.⁵

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