

July 2022

Idaho's Physician Workforce in 2021

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KEY FINDINGS

- In 2021 the estimated number of physicians providing direct patient care in Idaho was 3,180, 19% higher than the estimated number practicing in 2014.
- In 2021, there were an estimated 174 physicians per 100,000 population providing direct patient care in Idaho, including 64 primary care physicians per 100,000 population.
- The mean age of Idaho's practicing physicians was 52 years.
- Women comprised 28% of the state's physician workforce but 37% of the primary care, including about 45% of general pediatricians.
- Compared with urban areas, most rural areas of Idaho had fewer physicians per 100,000 population and many rural counties had higher percentages of physicians age 55 or older.
- Around 35% of Idaho's family medicine physician workforce completed a residency in Idaho and 47% completed a residency in one of the WWAMI states: Washington, Wyoming, Alaska, Montana and Idaho.
- The University of Washington School of Medicine was the medical school from which the highest percentage of Idaho's physicians graduated.

INTRODUCTION

The population of Idaho grew by about 15% between 2015 and 2021.^{1,2} At the same time, the state has an increasingly older population. In 2015, the population 65 years and older represented about 15% of Idaho's population, while in 2021

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that figure grew to be about 16%. These demographic factors will likely have significant effects on the state's health care delivery and payment systems. 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 report offers data on the size, distribution and education history of Idaho's physician workforce. It updates similar reports from 2014³ and 2016⁴ and addresses the following questions:

- How many physicians practice in Idaho overall and by specialty group?
- How are physicians distributed by county, and by urban versus rural areas?
- How many physicians practice in the state relative to the size of the population?
- Where did Idaho's physicians graduate from medical school and complete residencies?

To estimate the physician workforce providing direct patient care in Idaho, analyses used data from the American Medical Association (AMA) Physician Masterfile (see Methods, **Appendix A**).

NUMBER, DEMOGRAPHIC CHARACTERISTICS, AND DISTRIBUTION OF PHYSICIANS IN IDAHO

OVERALL SUPPLY AND DEMOGRAPHICS

Idaho's physician supply estimates grew 19% from 2,668 in 2014 to 3,180 in 2021.³ In 2021, the estimated number of physicians providing direct patient care was 174 per 100,000 population and 64 primary care physicians per 100,000 population (**Figure 1**). Idaho's estimated per 100,000 population of physicians providing direct patient care is smaller than the national per 100,000 population supply. Nationally, in 2021 there were 248 physicians per 100,000 providing direct patient care, and 94 primary care physicians per 100,000 population.⁵

Table 1 shows the number of physicians providing direct patient care in Idaho in 2021, total and by specialty group, as well as the number per 100,000 population, percent female, and mean age. The mean age overall and by specialty for most Idaho physicians was between 50 and 55 years and 41% of physicians overall were age 55 or older. Around a quarter of Idaho's overall physician workforce was female, and women comprised a third of the primary care specialties (including 45% of general pediatricians and 50% of obstetrician-gynecologists).

Figure 1: Idaho Compared with National Estimates[†] of Physicians* per 100,000 Population, 2021

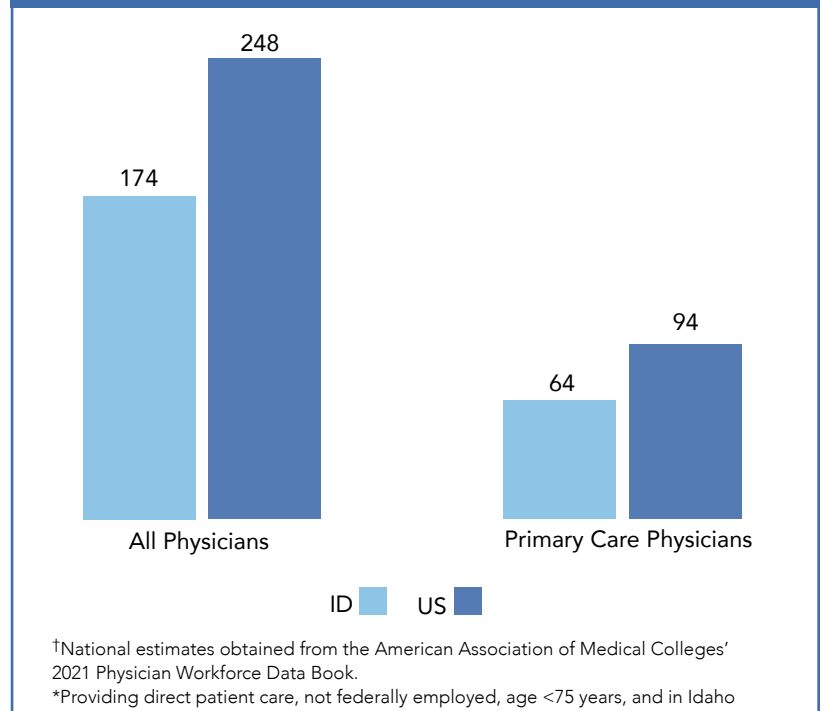
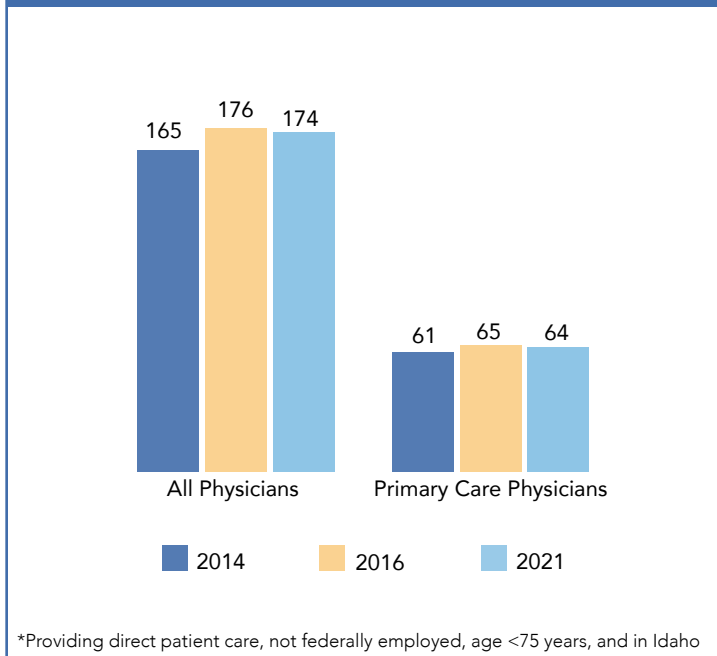


Table 1: Number, Gender and Age of Idaho Physicians in 2021

Physicians Providing Direct Patient Care	#	#/100,000 Population	% Female	Mean Age (years)	Mean Age (years)
Total	3,180	173.5	27.9	51.8	40.7
Primary care	1,180	64.4	37.1	50.2	35.2
Family medicine	766	41.8	33.8	50.3	36.2
General internal medicine	250	13.6	42.4	49.9	34.0
General pediatrics	164	9.0	44.5	50.5	32.3
Surgeons	376	20.5	32.4	53.0	46.3
General surgery	91	5.0	16.5	52.7	48.4
Obstetrics-gynecology	178	9.7	50.0	51.6	39.3
Other surgery	107	5.8	16.8	55.4	56.1
Psychiatrists	90	4.9	32.2	54.4	53.3
Other specialists	1,534	83.7	19.5	52.7	42.8

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

Figure 2: Idaho Physicians* per 100K Population in 2014, 2016, and 2021



Between 2014 and 2016, the size of the Idaho’s physician workforce grew from 165 physicians to 176 physicians per 100,000 population (Figure 2). And between 2016 and 2021, there was a slight decrease of physicians per 100,000 providing direct patient care from 176 to 174. The change in the estimated number of primary care physicians per 100,000 population was also very small between 2016 and 2021: 65 to 64 per 100,000 population.

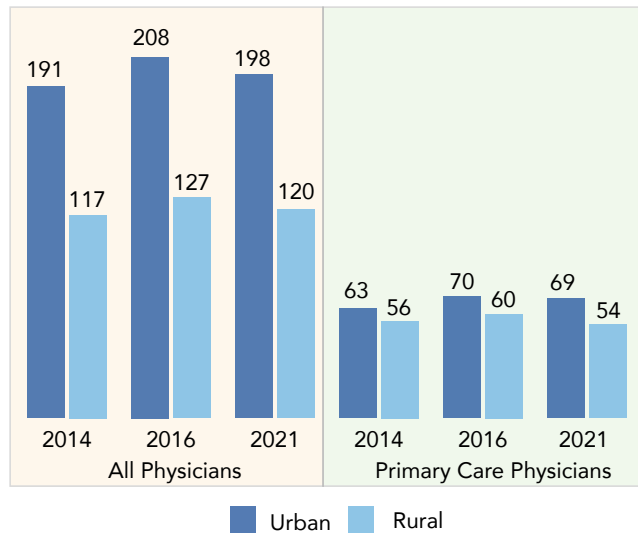
DISTRIBUTION

In 2021, fewer physicians provided direct patient care per 100,000 population in rural compared with urban areas of Idaho. In comparison, there was more rural-urban parity among practicing primary care physicians (Figure 3). There was a slight increase in the estimated number of overall physicians per 100,000 population in rural and urban areas from 2014 to 2021. The supply of primary care physicians in 2021 remained comparable with 2016 and 2014 in both rural and urban areas.

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. On a per 100,000 population basis there were higher densities of primary care physicians, especially family physicians, in small rural areas of Idaho than were found in urban areas. Isolated small rural areas, however, had significantly smaller supplies of physicians than were found in other areas of the state.

Figure 3: Idaho Physicians* in Urban and Rural Areas per 100K Population in 2014, 2016, and 2021



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

The number of all physicians and primary care physicians per 100,000 population in each Idaho county is shown in **Figure 4**. Greater concentrations of physicians were found

Around a quarter of Idaho’s overall physician workforce was female, and women comprised a third of the primary care specialties, including 45% of general pediatricians and 50% of obstetrician-gynecologists.

in the more urban counties; five Idaho counties (Adams, Camas, Clark, Custer, Lewis) had no practicing physicians at all. One county (Ada) had higher numbers of physicians overall per 100,000 population than the national average of 248, and as well one county (Valley) had higher per 100,000 population numbers of primary care physicians than the national average of 94. 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.

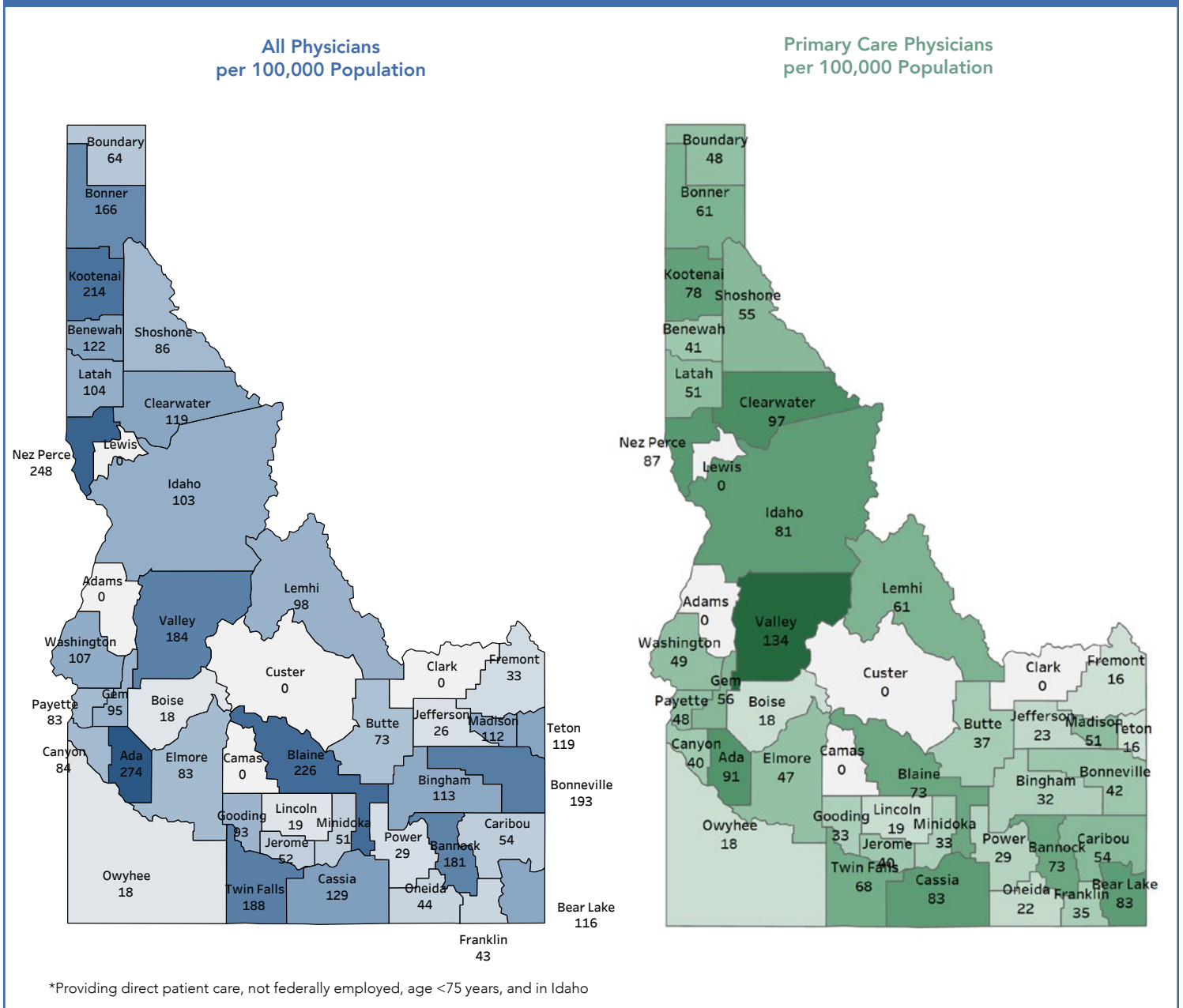
Table 2: Idaho Physicians* in Urban, Rural and Sub-Rural Areas in 2021**

	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	2,494	198.2	686	119.5	479	142.0	133	127.5	74	55.9
Primary care	871	69.2	309	53.8	199	59.0	65	62.3	45	34.0
Family medicine	527	41.9	239	41.6	139	41.2	57	54.6	43	32.5
General internal medicine	207	16.5	43	7.5	36	10.7	5	4.8	2	1.5
General pediatrics	137	10.9	27	4.7	24	7.1	3	2.9	0	0.0
Surgeons	300	23.8	76	13.2	52	15.4	14	13.4	10	7.5
General surgery	64	5.1	27	4.7	16	4.7	7	6.7	4	3.0
Obstetrics-gynecology	140	11.1	38	6.6	29	8.6	5	4.8	4	3.0
Other surgery	96	7.6	11	1.9	7	2.1	2	1.9	2	1.5
Psychiatrists	77	6.1	13	2.3	11	3.3	2	1.9	0	0.0
Other specialists	1,246	99.0	288	50.2	217	64.3	52	49.9	19	14.3

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

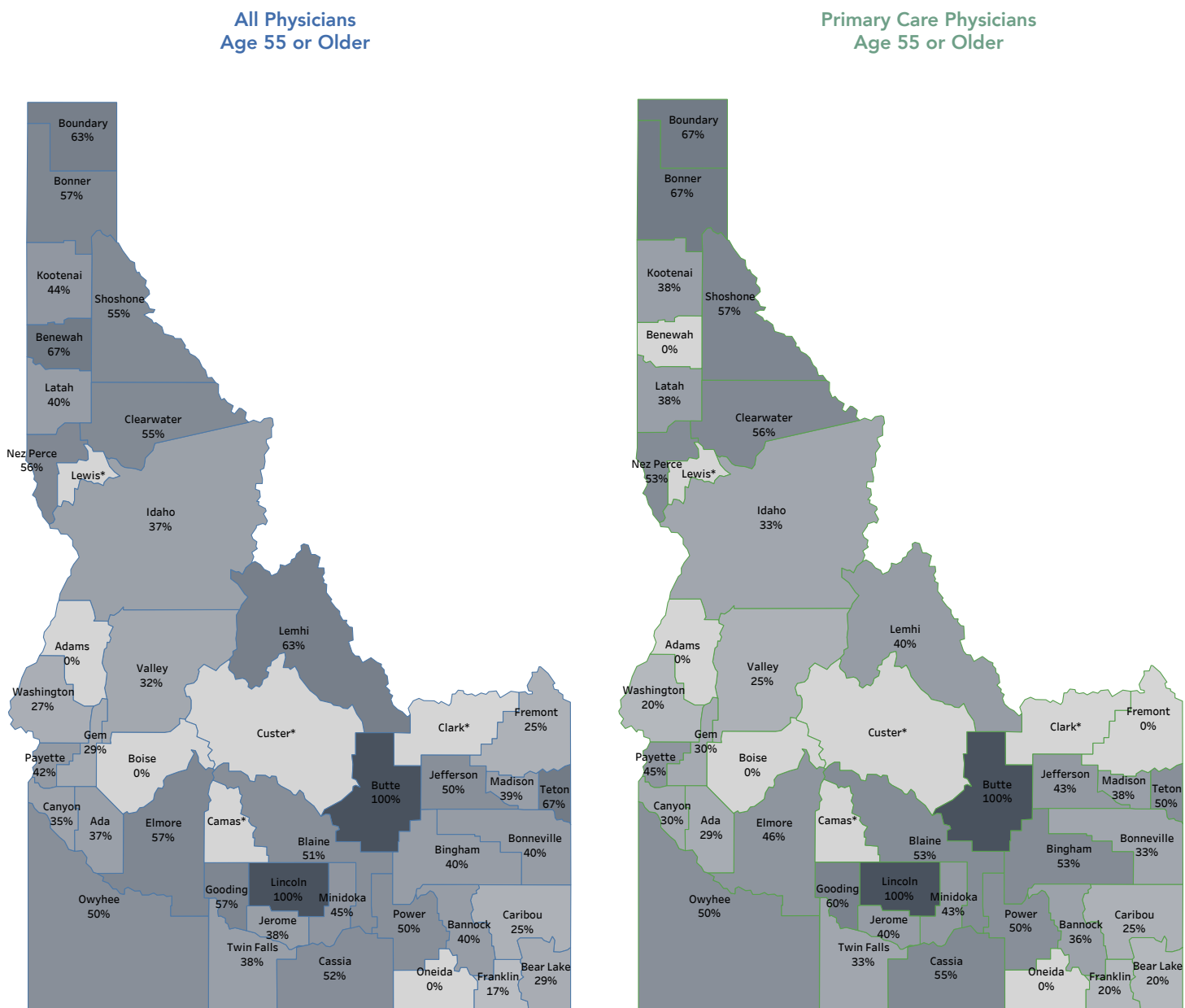
**Rural-urban determined using ZIP code RUCA taxonomy. Overall rural is a combination of the three rural subcategories

Figure 4: Idaho Physicians* per 100,000 Population in 2021, by County



As shown in **Figure 5** many of Idaho’s most rural counties had the highest percentages of physicians age 55 and older. More than 50% of all physicians providing direct patient care in 17 Idaho counties were age 55 or older in 2021. In two counties (Butte and Lincoln), 100 percent of physicians were age 55 or older. The percentages of primary care physicians age 55 or older were generally lower than for overall physicians, but still were high among the more rural counties and in two counties (Butte and Lincoln) all of the primary care physicians were age 55 or older.

Figure 5: Proportion of Idaho Physicians** 55 or Older in 2021, by County



*Counties with no practicing physicians

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

Greater concentrations of physicians were found in the more urban counties. Five Idaho counties had no practicing physicians at all.

Table 3: Top 5 Medical Schools from Which Idaho Physicians* Graduated

Medical Schools	State	#	Percent
University of Washington School of Medicine	WA	339	10.7
University of Utah School of Medicine	UT	218	6.9
Loma Linda University School of Medicine	CA	93	2.9
Des Moines University College of Osteopathic Medicine	IA	93	2.9
A.T. Still University of Health Sciences Kirksville	MO	86	2.7

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

Table 4: Top 5 States Where Idaho Physicians* Completed a Residency

State	#	% of Idaho Physicians who Completed a Residency in the State
CA	292	9.8
ID	268	9.0
WA	247	8.3
UT	202	6.8
TX	165	5.5

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

Table 5: Idaho Physicians* in 2021 Who Graduated from a Medical School in Washington and/or Completed a Residency in Idaho or in Any WWAMI State**

	Graduated from a Medical School in Washington***		Completed a Residency in Idaho****		Completed a Residency in a WWAMI State****	
	#	%	#	%	#	%
Total	358	11%	268	9%	555	19%
Primary care	167	14%	257	23%	415	37%
Family medicine	100	13%	253	35%	339	47%
General internal medicine	46	18%	4	2%	67	28%
General pediatrics	21	13%	0	0%	9	6%
Surgeons	34	9%	3	1%	26	7%
General surgery	8	9%	0	0%	10	12%
Obstetrics-gynecology	19	11%	3	2%	10	6%
Other surgery	7	7%	0	0%	6	6%
Psychiatrists	12	13%	0	0%	12	13%
Other specialists	145	9%	8	1%	102	7%

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

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

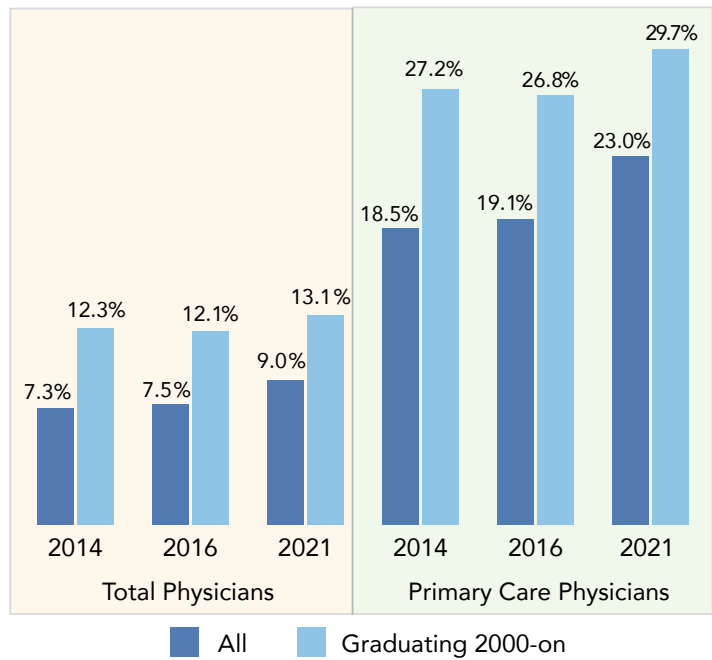
***Includes 19 graduates from Pacific Northwest University of Health Sciences and 339 from the University of Washington School of Medicine

**** Percentages are calculated based on physicians for whom residency state data were available. There were 198 records (6.2%) that were missing residency state and 0 were missing medical school information

EDUCATION AND TRAINING

The University of Washington School of Medicine was the medical school from which the highest percentage of Idaho’s physicians graduated (Table 3). About 10% of Idaho’s physicians completed a residency in California and smaller percentages completed residencies in Idaho, Washington, Utah and Texas (Table 4). As shown in Table 5, about 11% of Idaho’s overall practicing physician supply in 2021 graduated from the two medical schools in Washington (University of Washington and Pacific North West University) and 19% completed a residency in a WWAMI state, including Idaho. Among primary care physicians, 14% graduated from a Washington medical school, 23% completed a residency in Idaho and 37% completed a residency in a WWAMI state. Among physicians specializing in family medicine these percentages were higher: 47% of Idaho’s family medicine physicians completed a residency in a WWAMI state, including Idaho.

Figure 6: Percentages of Idaho Physicians* in 2014, 2016, and 2021 Who Completed a Residency in Idaho



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

Among physicians who graduated from medical school since 2000, the percentage of Idaho’s physicians who completed a residency in Idaho was higher than for the overall physician workforce (including those who graduated prior to 2000) and continued to increase in each of 2014, 2016, and 2021 (Figure 6).

COMPARISON OF WORKFORCE SUPPLY WITH POPULATION HEALTH MEASURES

The Robert Wood Johnson Foundation (RWJF) County Health Rankings use available data on population health factors and health outcomes to create county rankings within each state.⁶ These rankings are derived from data from a variety of national sources and include overall health outcomes which is comprised of length of life and quality of life measures. We compared Idaho’s physician workforce supply findings with the RWJF county health rankings for the combined overall health outcomes measure and listed the top ranked 15 Idaho counties in three categories (Table 6).

Table 6: Top 15 Counties in Idaho Ranked by Health Outcomes and Supply of Physicians* per 100,000 Population

County Rank**	Overall Health Outcomes***	Number of Overall Physicians*	Number of Primary Care Physicians*
1	Valley	Ada	Valley
2	Ada	Nez Perce	Clearwater
3	Blaine	Blaine	Ada
4	Latah	Kootenai	Nez Perce
5	Teton	Bonneville	Cassia
6	Madison	Twin Falls	Bear Lake
7	Kootenai	Valley	Idaho
8	Jefferson	Bannock	Kootenai
9	Fremont	Bonner	Bannock
10	Idaho	Cassia	Blaine
11	Caribou	Benewah	Twin Falls
12	Jerome	Teton	Lemhi
13	Bonner	Clearwater	Bonner
14	Franklin	Bear Lake	Gem
15	Canyon	Bingham	Shoshone

*Number of physicians per 100,000 population, providing direct patient care, not federally employed, age <75 years, and in Idaho

**Lower number reflects higher rank, i.e., better health measures, more physicians

***Overall health outcomes ranking obtained from the Robert Wood Johnson Foundation, which combines length and quality of life measures

There is not a clear overall relationship between the number of physicians per 100,000 population and the overall health outcomes based on county ranking. Only six out of fifteen counties (Ada, Blaine, Bonner, Kootenai, Teton, and Valley) that have the higher number of physicians per 100,000 population and six out of fifteen counties (Ada, Blaine, Bonner, Idaho, Kootenai, and Valley) with higher numbers of primary care physicians per 100,000 population also appeared in the 15 counties ranked the highest for health outcomes. Counties that had lower health outcomes ranks did not necessarily have lower number of physicians per 100,000 population.

The availability of physicians is one of multiple factors that contribute to population health. For example, having more providers, including non-physician medical providers such as physician assistants and nurse practitioners, and public health officials may be associated with delivering more of the healthcare services needed by a population, and/or more providers may be attracted to counties with healthier populations, and providers may be less easily recruited to counties with less healthy populations. While the data for the RWJF county rankings is the most recent available to the developers, some of the data components contributing to the measures may be several years old and therefore these findings should be interpreted as suggestive and not conclusive. In addition, rankings are simply relational measures and a ranking of 1 doesn't necessarily indicate "great" status, nor does a high number indicate "bad" status. Nonetheless, while there is not necessarily a direct correlation between population health rankings and physician supply, these comparisons may suggest areas where further study and possible action is needed.

SUMMARY AND POLICY IMPLICATIONS

Idaho's physician supply, on a per 100,000 population basis, is generally smaller than the national number. Differences in distribution are apparent between urban and rural areas of the state. While more physicians practice in urban areas, the numbers of primary care physicians per 100,000 population in large and small rural areas are surprisingly similar. Many fewer physicians, however, work in isolated small rural areas of Idaho. The physician supply numbers in this report should be viewed with the understanding that the source data from the AMA Physician Masterfile has limitations. Locum tenens physicians, newly recruited physicians, and physicians with addresses in other locations may not be reflected in the supply of some counties, for example. This analysis also excluded physicians that are 75 years or older, which could imply undercounting of effective physician supply in some areas. In addition, recent expansions of the use of telehealth and virtual visits reduced the need for providers and patients to be in close proximity, improving satisfaction and reducing costs for patients.⁷ While many providers adopted hybrid approaches to patient visits (with some in-person and some virtual) requiring that they remain near their practice sites, attention should be paid to how future telehealth use may be affecting the need for providers and patients to be located in the same geographic areas.

Additionally, early in the pandemic, COVID-19 was shown to adversely affect medical students' preparation effort and application to residency programs by causing significant disruptions in the education system.⁸ As a response, some organizations started making adjustments to the residency application process such as by relaxing the requirement of standardized letters of evaluation and limiting the maximum number of away rotations,⁹ which alleviated some of the challenges faced by medical graduates. Some medical schools also accelerated graduation of medical students and deployed them to care for patients to help ease the workforce shortage during the pandemic.¹⁰

Around 11% of Idaho's total physician supply graduated from the two medical schools in Washington, where Idaho participates in the WWAMI medical education program. Medical students from Idaho have been supported by the state to attend the WWAMI program since 1972. In 2021, the retention rate for Idaho graduates practicing in the WWAMI region was 61.4%.¹¹

As shown in these findings as well as in the 2016 and 2014 analyses, residency can 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.^{12,13} In 2020 Idaho ranked seventh among states for retaining physicians who complete a residency in-state, with a 55% retention rate in 2020.⁵ This high rate of retention contributed to the 35% of all physicians in family medicine specialties who

completed a residency in Idaho. The state has few physician residencies, however, so even with a high residency retention rate only about 9% of all practicing Idaho physicians (across all specialties) completed an in-state residency. While not easy to accomplish, the extent to which more residencies can be formed in locations and for specialties that serve the populations where shortages are greatest could help reduce disparities in the distribution of Idaho's physicians. This study also showed that high percentages of physicians who were more recent medical school graduates (since 2000) completed a residency in-state (13% of the total). Efforts specifically designed to retain these young physicians could be a useful health workforce development strategy for Idaho.

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FUNDING

This project is supported through Grant # U77HP03022 by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) as part of an award totaling \$740,000 with 0% financed with non-governmental sources. The contents are those of the authors and do not necessarily represent the official views of, nor an endorsement, by HRSA, HHS, or the U.S. Government. For more information, please visit [HRSA.gov](https://www.hrsa.gov).

ACKNOWLEDGMENTS

Grace A. Guenther, MPA, produced this report's maps, and Bev Marshall helped with the document design.

SUGGESTED CITATION

Dahal A, Skillman SM. *Idaho's Physician Workforce in 2021*. Seattle, WA: Center for Health Workforce Studies, University of Washington, July 2022.

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APPENDIX A: METHODS

The Idaho state physician supply data for this study came from the American Medical Association (AMA) Physician Masterfile, accessed in February, 2022. Changes in physician supply and characteristics for 2014, 2016 were assessed using prior studies that used data from 2014 and 2016 AMA Physician Masterfile.^{3,4} There were 4,677 total allopathic and osteopathic physicians with Idaho license records in the dataset. Those selected for these analyses were the 3,180 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 6% 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 "Primary care" (family medicine, general internal medicine and general pediatrics specialties), "Surgeons" (general surgery, obstetrics-gynecology, and other surgery), and "Other Specialists". Data for psychiatrists were analyzed and reported separately. Rural-urban status was determined using Rural Urban Commuting Area (RUCA) taxonomy¹⁴ and the population data came from a custom-prepared file of selected 2021 population data with ZIP codes cross-referenced to counties.¹⁵ All analyses were done using STATA version 16¹⁶ and maps were generated using Tableau data visualization tool.