



Tennessee Rural Partnership

Connecting Clinicians with Communities

Physician Supply and Distribution in Tennessee

Physicians—whether primary care clinicians or subspecialists—live and practice primarily in suburban and metropolitan areas. Although about 19 percent of the U.S. population lives in rural areas, just 11 percent of physicians practice in these areas.¹

Due to the large numbers of aging physicians, retirement decisions are expected to have the single greatest impact on supply. More than one-third of physicians will be 65 or older in the next decade, according to Association of American Medical Colleges.²

Statewide /Physician Population Distribution

- Tennessee has 95 counties and is divided into three Grand Divisions.
- State's population is 6,624,880.
- State's physician population is 17,001.
- State's primary care physician population is 7,813.
- The measurement of physician shortage used in this paper is 3000:1 which represents an industry standard of measurement showing the ratio of population to physicians.

Analysis by Grand Division - East Tennessee

- 34 counties with population of 2,393,238.
- 36% of state's population.
- 36% of the state's total physicians.
- 36% of the state's primary care physicians.
- Primary care physician shortage in 7 counties (Bledsoe, Grainger, Hancock, Meigs, Morgan, Rhea and Union).
- In 5 counties (Hancock, Loudon, Monroe, Roane and Union) 50% or more physicians are over 60 years of age.

¹"Background on the Pipeline to the Physician Workforce" Institute of Medicine. Graduate Medical Education That Meets the Nation's Health Needs. Washington, DC: The National Academies Press, 2014. 10.17226/18754.

²<http://www.beckershospitalreview.com/hospital-physician-relationships/aamc-increases-estimate-of-physician-shortage-8-things-to-know.htm>

**Table 1
East Tennessee**

<u>County</u>	<u>Division</u>	<u>Population</u>	<u>Total</u>		<u>#Primary</u>	<u>3000:1</u>	<u>Percentage</u>
			<u>Physicians</u>	<u>Primary</u>	<u>Care</u>	<u>Ratio</u>	<u>Primary</u>
				<u>Care</u>	<u>Needed for</u>		<u>Care Physicians</u>
				<u>Physicians</u>	<u>3,000:1</u>	<u>Shortage</u>	<u>Over 60</u>
					<u>Ratio</u>		
Anderson	East	75,528	161	68	25.2		45%
Bledsoe	East	13,931	3	3	4.6	X	33%
Blount	East	126,339	224	127	42		30%
Bradley	East	102,975	155	77	34		35%
Campbell	East	39,918	32	21	13		25%
Carter	East	56,886	52	27	19		27%
Claiborne	East	31,592	37	24	10.5		41%
Cocke	East	35,374	18	13	12		47%
Cumberland	East	57,985	95	47	19		30%
Grainger	East	22,864	3	3	7.6	X	0%
Greene	East	68,335	90	47	22.7		48%
Hamblen	East	63,036	111	58	21		28%
Hamilton	East	351,220	1355	567	117		28%
Hancock	East	6,657	2	1	2.2	X	100%
Hawkins	East	56,735	38	25	19		12%
Jefferson	East	52,677	41	25	17.5		25%
Johnson	East	17,859	11	9	6		33%
Knox	East	448,644	1966	850	150		25%
Loudon	East	50,771	65	32	17		50%
Marion	East	28,407	32	21	9.5		36%
McMinn	East	52,626	55	33	18		32%
Meigs	East	11,701	3	2	4	X	0%
Monroe	East	45,233	23	16	15		53%
Morgan	East	21,660	3	3	7	X	0%
Polk	East	16,730	13	8	5.6		38%
Rhea	East	32,641	12	8	11	X	44%
Roane	East	52,748	42	26	17.5		71%
Scott	East	21,987	13	12	7		42%
Sequatchie	East	14,704	15	11	5		25%
Sevier	East	95,110	71	44	31		46%
Sullivan	East	157,047	658	303	52		30%
Unicoi	East	17,963	15	7	6		44%

			<u>Total</u>	<u>#Primary</u>	<u>3000:1</u>	<u>Percentage</u>	
				<u>Care</u>		<u>Primary</u>	
				<u>Physicians</u>	<u>Needed for</u>	<u>Care Physicians</u>	
<u>County</u>	<u>Division</u>	<u>Population</u>	<u>Physicians</u>	<u>Physicians</u>	<u>3,000:1</u>	<u>Shortage</u>	<u>Over 60</u>
			<u>Total</u>	<u>Primary</u>	<u>Ratio</u>		
				<u>Care</u>			
				<u>Physicians</u>	<u>Ratio</u>		
Union	East	19,113	1	1	6.4	X	100%
Washington	East	126,242	736	350	42		20%
East Subtotal		2,393,238	6151	2869			

Analysis by Grand Division – Middle Tennessee

- 40 counties with population of 2,586,037.
- 39% of state's population.
- 40% of state's total physicians.
- 39% of state's primary care physicians.
- primary care physician shortage in 12 counties (Cannon, Clay, Grundy, Hickman, Jackson, Lewis, Macon, Marshall, Moore, Perry, Stewart and Van Buren).
- In 13 counties (Bedford, Fentress, Giles, Grundy, Hickman, Humphreys, Marshall, Perry, Smith, Stewart, Trousdale, Van Buren, and Wayne) 50% or more physicians are over 60 years of age.
- In 4 counties (Grundy, Stewart, Trousdale and Van Buren)100% of the physicians are over 60 years of age.

Table 2
Middle Tennessee

			<u>Total</u>	<u># Primary</u>	<u>3000:1</u>	<u>Percentage</u>	
				<u>Care</u>		<u>Primary</u>	
				<u>Physicians</u>	<u>Needed for</u>	<u>Care Physicians</u>	
<u>County</u>	<u>Division</u>	<u>Population</u>	<u>Physicians</u>	<u>Physicians</u>	<u>3,000:1</u>	<u>Shortage</u>	<u>Over 60</u>
			<u>Total</u>	<u>Primary</u>	<u>Ratio</u>		
				<u>Care</u>			
				<u>Physicians</u>	<u>Ratio</u>		
Bedford	Middle	46,627	37	23	16		57%
Cannon	Middle	13,757	4	3	4.5	X	0%
Cheatham	Middle	39,764	26	15	13		13%
Clay	Middle	7,765	7	3	2.6	X	0%
Coffee	Middle	53,623	99	38	17.8		23%
Davidson	Middle	668,347	3676	1467	223		23%
Dekalb	Middle	19,268	13	11	6.4		27%
Dickson	Middle	50,575	49	26	16.9		42%
Fentress	Middle	17,855	12	10	6		60%
Franklin	Middle	41,402	59	35	14		29%
Giles	Middle	28,853	27	19	9.6		79%

			<u>Total</u>	<u># Primary</u>	<u>3000:1</u>	<u>Percentage</u>	
				<u>Care</u>		<u>Primary</u>	
				<u>Physicians</u>			
			<u>Total</u>	<u>Primary</u>	<u>Needed for</u>	<u>Ratio</u>	<u>Care Physicians</u>
<u>County</u>	<u>Division</u>	<u>Population</u>	<u>Physicians</u>	<u>Care</u>	<u>3,000:1</u>	<u>Shortage</u>	<u>Over 60</u>
					<u>Ratio</u>		
Grundy	Middle	13,425	4	2	4.5	X	100%
Hickman	Middle	24,384	4	4	8	X	75%
Houston	Middle	8,267	3	3	2.8		33%
Humphreys	Middle	18,135	9	7	6		71%
Jackson	Middle	11,568	4	3	3.9	X	33%
Lawrence	Middle	42,274	26	18	14		39%
Lewis	Middle	11,906	4	2	3.9	X	0%
Lincoln	Middle	33,637	24	20	11		25%
Macon	Middle	23,003	5	5	7.7	X	40%
Marshall	Middle	31,269	14	8	10	X	50%
Maury	Middle	85,515	185	89	28.5		29%
Montgomery	Middle	189,961	232	117	63		26%
Moore	Middle	6,319	4	2	2.1	X	0%
Overton	Middle	22,028	25	17	7.3		29%
Perry	Middle	7,822	3	2	2.6	X	50%
Pickett	Middle	5,124	5	4	1.7		25%
Putnam	Middle	74,165	204	91	24.7		36%
Robertson	Middle	68,079	45	29	22		45%
Rutherford	Middle	288,906	390	217	96		24%
Smith	Middle	19,009	12	7	6.3		57%
Stewart	Middle	13,279	4	4	4.4	X	100%
Sumner	Middle	172,706	324	138	57		32%
Trousdale	Middle	8,002	6	3	2.7		100%
Van Buren	Middle	5,633	1	1	1.9	X	100%
Warren	Middle	39,969	39	21	13		38%
Wayne	Middle	16,913	8	7	5.6		71%
White	Middle	26,301	23	17	8.8		41%
Williamson	Middle	205,226	1073	449	68		17%
Wilson	Middle	125,376	156	74	42		35%
Middle Subtotal		2,586,037	6845	3011			

Analysis by Grand Division - West Tennessee

- 21 counties with population of 1,570,077.
- 24% of state's population.
- 23% of state's total physicians.
- 25% of state's primary care physicians.
- Primary care physician shortage in 8 counties (Benton, Chester, Fayette, Hardeman, Haywood, Lake and Lauderdale).
- In 11 counties (Crockett, Decatur, Hardeman, Hardin, Haywood, Henderson, Lake, Lauderdale, McNairy, Obion, and Weakley) 50% or more physicians are over 60 years of age
- In 2 counties (Crockett and Lake) 100% of the physicians are over 60 years of age.

**West Tennessee
Table 3**

County	Division	Population	Total		# Primary Care Needed for	3000:1 Ratio	Percentage Primary Care Physicians
			Physicians	Primary Care Physicians	3,000:1 Ratio	Shortage	Over 60
Benton	West	16,145	5	3	5.4	X	33%
Carroll	West	28,370	31	22	9.5		45%
Chester	West	17,379	6	5	5.8	X	20%
Crockett	West	14,668	3	2	4.9	X	100%
Decatur	West	11,666	6	5	3.9		80%
Dyer	West	37,935	46	25	12.6		24%
Fayette	West	39,011	17	9	13	X	22%
Gibson	West	49,472	35	25	16.5		32%
Hardeman	West	25,965	14	6	8.7	X	83%
Hardin	West	25,870	21	15	8.6		60%
Haywood	West	18,185	9	5	6	X	80%
Henderson	West	28,009	14	10	9.3		50%
Henry	West	32,204	48	27	10.8		30%
Lake	West	7,631	3	1	2.5	X	100%
Lauderdale	West	27,382	5	4	9	X	50%
Madison	West	98,178	484	229	33		21%
McNairy	West	26,267	19	13	8.8		77%
Obion	West	30,941	30	20	10		50%
Shelby	West	938,803	3138	1457	313		27%
Tipton	West	61,623	40	29	21		34%
Weakley	West	34,373	31	21	11		62%
West Subtotal		1,570,077	4005	1933			

Executive Summary

- Overall number of primary care physicians in the state is adequate utilizing a ration of 3000:1.
- 27 small and rural counties (28% of the state's total) fall below the adequate population to physician ratio of 3000:1.
- In 13 counties (Crockett, Grundy, Hancock, Hardeman, Haywood, Hickman, Lake, Lauderdale, Marshall, Perry, Stewart, Union, and Van Buren) with primary care physician shortages 50% or more of the physicians are over 60 years of age.
- In 7 of the counties (Crockett, Grundy, Hancock, Lake, Stewart, Union and Van Buren) with a physician shortage 100% of their primary physicians are over the age of 60.
- 12 of the 95 counties (Blount, Bradley, Davidson, Hamilton, Knox, Montgomery, Rutherford, Sullivan, Sumner, Washington, Williamson and Shelby) with a combined total of 60% of the state's population have 82% of the state's total physicians and 79% of the state's primary care physicians. These 12 counties also have the youngest physicians.
- In 29 counties 50% or more of the primary care physicians are over the age of 60.

While Tennessee has an adequate number of primary care physicians based upon a ratio of 3,000:1, these physicians are unevenly distributed with the largest concentration in urban areas. Tennessee will face challenges in ensuring primary care physicians in small and rural counties due to the increased demand of an aging population that will utilize more healthcare resources and the aging physician workforce. Counties already experiencing a primary care physician shortage will be severely impacted by the aging physician population as these physicians retire.

Data Source

The physician data in this report are from the Tennessee Rural Partnership Healthcare Information Portal (T-HIP) which utilizes enhanced licensure data provided by the National Center for the Analysis of Healthcare Data (NCAHD). The data are based upon licensure information supplied by physicians during the licensure application or reapplication process and may vary from the actual practice locations of physicians. Additionally, the selected ration of 3,000:1 for determining adequate primary care providers is a straight calculation of total primary care physicians in the disciplines of family medicine, general medicine, internal medicine, internal medicine/pediatrics, obstetrics and gynecology and pediatrics and to population and does not factor in any variances for the population served by pediatric or obstetrics and gynecology providers.