

State-Level Projections of Supply and Demand for Behavioral Health Occupations: 2016-2030

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OVERVIEW

This brief presents state-level projections of U.S. supply and demand for behavioral health occupations in 2030, with 2016 data serving as baseline. These projections supplement the national projections presented in other briefs and factsheets prepared by the Health Resources and Services Administration (HRSA). The occupations modeled in this brief include psychiatrists, psychiatric nurse practitioners (NPs), psychiatric physician assistants (PAs), psychologists,¹ addiction counselors, mental health counselors, school counselors, social workers,² and marriage and family therapists.³ Projections are further reported for adult and pediatric psychiatrists separately.

The state-level projections presented here were developed using the same Health Workforce Simulation Model (HWSM) used to produce HRSA's national projections. HWSM is an integrated microsimulation model that estimates current and future supply and demand for health workers in multiple professions and care settings.⁴ While the nuances of modeling workforce supply and demand differ for individual health occupations, the basic framework remains the same across provider types. For supply modeling, the major components (beyond common labor-market factors like unemployment) include: characteristics of the existing workforce in a given occupation; new entrants to the workforce (e.g., newly trained workers); and workforce participation decisions (e.g., patterns in retirement and hours worked). For patient demand modeling, the HWSM usually assumes that demand equals supply in the base year (2016),⁵ and that the major components of patient demand include population demographics; health care use patterns; and demand for health care services (translated into requirements for full-time equivalents or FTEs). Exceptions to this assumption is discussed later.

In terms of limitations, this HWSM assumes that over the period studied, current national patterns of labor supply and service demand remain unchanged within each demographic group. Thus, changes in health care utilization patterns may affect projected demand in future years. Similarly, advances in

¹ The previous modeling work, [National Projections of Supply and Demand for Selected Behavioral Health Practitioners: 2013-2025](#), included psychologists trained at both the master's level and the doctoral level, whereas this updated study includes only psychologists trained at the doctoral level. This change in modeling assumptions is based on feedback from the American Psychological Association (APA) that most states require a doctoral degree to practice as a psychologist (with psychologists trained at the master's level generally practicing as counselors).

² Due to data limitations, this study models supply and demand for all social workers trained at the master's level or higher—a broader scope than just mental health and substance abuse social workers alone. All states require mental health and substance abuse social workers to be licensed—which requires a master's degree in social work, two years or 3,000 hours of supervised clinical experience, and passage of a licensing exam. Also, almost all social workers at this education level are providing services to support individuals and families with social and psychological issues.

³ Due to data limitations, state level estimates were not provided for psychiatric aides and technicians.

⁴ This model uses a microsimulation approach where supply is projected based on the simulation of career choices of individual health workers. Demand for health care services is simulated for a representative sample of the current and future U.S. population based on each person's demographic and socioeconomic characteristics, health behavior, and health risk factors that affect health care utilization patterns. For more information on data and methods, please see: <https://bhw.hrsa.gov/sites/default/files/bhw/nchwa/projections/hwsm-technical-report-to-dea.pdf>

⁵ Ono T, Lafortune G, Schoenstein M. "Health workforce planning in OECD countries: a review of 26 projection models from 18 countries." OECD Health Working Papers, No. 62. France: OECD Publishing; 2013: 8-11.

medicine and technology and shifts in health care delivery models (e.g., team-based care, telemedicine) may also affect the efficiency of service delivery, and consequently, how provider supply is best assessed. These projections do not account for the geographic distribution of providers, which can impact access to care. HRSA will consider incorporating such factors into its future workforce projections as the evidence base evolves.

The projections presented here simulate two workforce scenarios. Under **Scenario One**, the baseline demand for each behavioral health occupation, with the exception of psychiatrists, was assumed to be in equilibrium with 2016 provider supply, consistent with standard workforce research methodology. Equilibrium is defined to be the point at which the workforce supply is equal to the demand for services. For psychiatrists, baseline demand was assumed to exceed 2016 supply by approximately 5,500 psychiatrists needed to de-designate HRSA's Mental Health Professional Shortage Areas (HPSAs)⁶.

Scenario Two adjusted current and projected demand based on estimates of unmet need from recent studies. HRSA recognizes the challenges with estimating demand and unmet need for behavioral health services. A detailed description of the modeling approach, data and assumptions for projecting future workforce supply and demand for behavioral health providers, and a detailed explanation of how unmet need was estimated in our workforce model can be found in our technical documentation.⁷

All projection models are sensitive to assumptions and the findings must be interpreted in light of those assumptions. As noted above, underlying model assumptions in HWSM are that health care delivery in the future (projected until 2030) will not change substantially from the way care was delivered in the base year (2016); and current rates of workforce participation and retirement will continue similarly into the future. Changes in any of these factors may significantly impact both the supply and demand projections for all types of Behavioral Health workforce included in this brief. Thus, it is important to note that the numbers presented here represent a planning tool for workforce development and should not be looked upon as exact numbers.

The findings in this brief are organized by occupation. Data tables are presented with behavioral health provider supply, demand, and adequacy of supply across states for 2016 and for 2030. Both demand scenario one (the baseline scenario) and scenario two (the unmet need scenarios) are included.

⁶ Bureau of Health Workforce. Designated Health Professional Shortage Areas Statistics [Internet]. Rockville, Maryland: Health Resources and Services Administration (HRSA), U.S. Department of Health & Human Services; 2018. Available from: https://ersrs.hrsa.gov/ReportServer?/HGDW_Reports/BCD_HPSA/BCD_HPSA_SCR50_Qtr_Smry&rs:Format=PDF

⁷ U.S. Department of Health and Human Services, Health Resources and Services Administration, National Center for Health Workforce Analysis. Technical Documentation for HRSA's Health Workforce Simulation Model. Rockville, MD: U.S. Department of Health and Human Services, 2018. Available from: <https://bhw.hrsa.gov/sites/default/files/bhw/nchwa/projections/hwsm-technical-report-to-dea.pdf>.

RESULTS

1. PSYCHIATRISTS

Psychiatrists are the primary caregivers in mental health, with an estimated 39,180 psychiatrists providing mental health services to adults (age 18 and over) and 6,210 providing care to children and adolescents (age <18) in 2016. Psychiatrists assess and treat mental illnesses through a combination of psychotherapy, psychoanalysis, hospitalization, and medication.⁸ To become a psychiatrist requires completion of a four-year residency program after medical school. Some psychiatrists also complete additional specialized fellowship training in such sub-specialties as child and adolescent psychiatry, geriatric psychiatry and forensic (legal) psychiatry.

Tables 1 and 2 contain state-level estimates of all psychiatrists at the base year (2016) and the projected year (2030), respectively.⁹ Tables 3 and 4 present similar estimates for adult psychiatrists, and Tables 5 and 6 for child and adolescent psychiatrists. Table columns include psychiatrist supply, demand (scenario one and two), and adequacy of supply (scenario one and two).

The projections are made relative to 2016 and reflect an assumption of a shortage of 5,500 FTE psychiatrists in scenario one and a shortage of 9,050 FTE psychiatrists in scenario two, taking unmet need into consideration.

State-Level Findings for All Psychiatrists

There is substantial state-level variation between projected supply and demand for psychiatrists in 2016 and 2030.

Base year (2016)

- Looking at each state's 2016 psychiatrist supply minus its 2016 demand reveals both shortages and surpluses at the state level.
- In scenario one, a total of 37 states had an estimated shortage of psychiatrists, with 3 states having shortages of more than 700 FTEs (Texas, Florida, and Michigan). New York had a surplus of 2,240 FTEs, followed by Massachusetts (930 FTEs) and California (720 FTEs).
- In scenario two, a total of 40 states had estimated shortages of psychiatrists, with 5 states having shortages of 700 FTEs and over (Texas, Florida, Michigan, Ohio, and Indiana). New York had a surplus of more than 2,010 FTEs, followed by Massachusetts (840 FTEs).

Projected year (2030)

- Projected differences between each state's 2030 supply and its 2030 demand, in both scenarios one and two, range from a shortage of over 1,600 FTE psychiatrists in Texas to a surplus of over 900 FTE psychiatrists in New York. Eight states are projected to have a surplus of psychiatrists in 2030.

⁸ American Psychiatric Association. What Is Psychiatry? [Internet]. 2018. Available from: <https://www.psychiatry.org/patients-families/what-is-psychiatry>

⁹ We used the AMA Masterfile for psychiatrist supply.

Table 1: Total Psychiatrist Supply and Demand, 2016 by State

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
Northeast	12,900	9,380	10,010	3,520	2,890
Connecticut	960	600	640	360	320
Maine	240	240	250	0	(10)
Massachusetts	2,130	1,200	1,290	930	840
New Hampshire	230	220	230	10	0
New Jersey	1,360	1,300	1,390	60	(30)
New York	5,460	3,220	3,450	2,240	2,010
Pennsylvania	2,040	2,270	2,420	(230)	(380)
Rhode Island	320	200	210	120	110
Vermont	160	130	130	30	30
Midwest	7,700	11,470	12,250	(3,770)	(4,550)
Illinois	1,620	2,090	2,240	(470)	(620)
Indiana	520	1,150	1,220	(630)	(700)
Iowa	280	520	550	(240)	(270)
Kansas	280	430	460	(150)	(180)
Michigan	1,130	1,900	2,020	(770)	(890)
Minnesota	680	870	930	(190)	(250)
Missouri	730	1,020	1,090	(290)	(360)
Nebraska	180	260	280	(80)	(100)
North Dakota	90	100	120	(10)	(30)
Ohio	1,430	2,080	2,220	(650)	(790)
South Dakota	90	120	130	(30)	(40)
Wisconsin	670	930	990	(260)	(320)
South	13,840	18,520	19,830	(4,680)	(5,990)
Alabama	400	870	930	(470)	(530)
Arkansas	290	560	600	(270)	(310)
Delaware	120	160	170	(40)	(50)
Distr. of Columbia	400	110	120	290	280
Florida	2,100	2,900	3,100	(800)	(1,000)
Georgia	1,070	1,460	1,560	(390)	(490)
Kentucky	440	1,010	1,080	(570)	(640)
Louisiana	510	800	860	(290)	(350)
Maryland	1,350	870	930	480	420
Mississippi	210	470	510	(260)	(300)
North Carolina	1,410	1,620	1,730	(210)	(320)
Oklahoma	360	630	680	(270)	(320)
South Carolina	570	790	830	(220)	(260)
Tennessee	660	1,210	1,300	(550)	(640)
Texas	2,540	3,450	3,710	(910)	(1,170)
Virginia	1,200	1,150	1,230	50	(30)
West Virginia	210	460	490	(250)	(280)

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
West	10,950	11,520	12,350	(570)	(1,400)
Alaska	110	110	110	0	0
Arizona	770	1,120	1,200	(350)	(430)
California	6,400	5,680	6,100	720	300
Colorado	760	850	910	(90)	(150)
Hawaii	310	160	170	150	140
Idaho	120	250	260	(130)	(140)
Montana	100	170	180	(70)	(80)
Nevada	220	410	450	(190)	(230)
New Mexico	300	340	370	(40)	(70)
Oregon	650	760	820	(110)	(170)
Utah	270	400	430	(130)	(160)
Washington	890	1,190	1,270	(300)	(380)
Wyoming	50	80	80	(30)	(30)
US	45,390	50,890	54,440	(5,500)	(9,050)

Table 2: Total Psychiatrist Supply and Demand, 2030 by State

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
Northeast	10,440	9,180	9,810	1,260	630
Connecticut	830	580	620	250	210
Maine	200	200	210	0	(10)
Massachusetts	1,600	1,200	1,280	400	320
New Hampshire	150	190	220	(40)	(70)
New Jersey	1,270	1,330	1,430	(60)	(160)
New York	4,390	3,190	3,400	1,200	990
Pennsylvania	1,600	2,180	2,330	(580)	(730)
Rhode Island	260	190	200	70	60
Vermont	140	120	120	20	20
Midwest	6,180	10,910	11,680	(4,730)	(5,500)
Illinois	1,260	2,040	2,180	(780)	(920)
Indiana	490	1,100	1,170	(610)	(680)
Iowa	230	450	480	(220)	(250)
Kansas	250	420	450	(170)	(200)
Michigan	940	1,750	1,880	(810)	(940)
Minnesota	640	860	920	(220)	(280)
Missouri	570	1,000	1,070	(430)	(500)
Nebraska	160	260	280	(100)	(120)
North Dakota	50	100	110	(50)	(60)
Ohio	1,060	1,890	2,020	(830)	(960)
South Dakota	50	120	130	(70)	(80)
Wisconsin	480	920	990	(440)	(510)

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
South	12,540	20,090	21,510	(7,550)	(8,970)
Alabama	300	830	880	(530)	(580)
Arkansas	230	550	580	(320)	(350)
Delaware	110	160	170	(50)	(60)
Distr. of Columbia	340	120	130	220	210
Florida	2,020	3,270	3,500	(1,250)	(1,480)
Georgia	1,080	1,610	1,730	(530)	(650)
Kentucky	300	980	1,050	(680)	(750)
Louisiana	420	830	890	(410)	(470)
Maryland	1,050	900	970	150	80
Mississippi	120	460	500	(340)	(380)
North Carolina	1,360	1,760	1,880	(400)	(520)
Oklahoma	290	670	700	(380)	(410)
South Carolina	580	860	920	(280)	(340)
Tennessee	530	1,230	1,310	(700)	(780)
Texas	2,580	4,230	4,540	(1,650)	(1,960)
Virginia	990	1,230	1,320	(240)	(330)
West Virginia	240	400	440	(160)	(200)
West	10,480	13,140	14,070	(2,660)	(3,590)
Alaska	80	110	120	(30)	(40)
Arizona	850	1,390	1,490	(540)	(640)
California	6,060	6,540	7,000	(480)	(940)
Colorado	790	990	1,060	(200)	(270)
Hawaii	330	190	210	140	120
Idaho	110	270	290	(160)	(180)
Montana	70	160	180	(90)	(110)
Nevada	310	480	510	(170)	(200)
New Mexico	250	400	420	(150)	(170)
Oregon	600	800	840	(200)	(240)
Utah	180	460	500	(280)	(320)
Washington	820	1,270	1,370	(450)	(550)
Wyoming	30	80	80	(50)	(50)
US	39,640	53,320	57,070	(13,680)	(17,430)

State- Level Findings for Adult Psychiatrists

The majority of all psychiatrists are adult psychiatrists. Similar patterns to all psychiatrists are observed of state-level variation between projected supply and demand in 2016 and 2030.

The projections are made relative to 2016 and reflect an assumption of a shortage of 4,820 FTE adult psychiatrists in scenario one and a shortage of 7,810 FTE adult psychiatrists in scenario two, taking unmet need into consideration.

Base year (2016)

- Looking at each state's 2016 adult psychiatrist supply minus its 2016 demand reveals both shortages and surpluses at the state level.
- In scenario one, a total of 38 states had an estimated shortage of adult psychiatrists, with 4 states having shortages of more than 600 FTEs (Texas, Florida, Michigan, and Ohio). New York had the largest surplus (1,840 FTEs), followed by Massachusetts (770 FTEs) and California (680 FTEs).
- In scenario two, a total of 40 states had an estimated shortage of adult psychiatrists, with 4 states having shortages of more than 600 FTEs (Texas, Florida, Michigan, and Ohio). New York had the largest surplus (1,640 FTEs), followed by Massachusetts (690 FTEs).

Projected year (2030)

- In both scenarios, forty-four states are projected to have a shortage of psychiatrists.
- In scenario one, projected differences between each state's 2030 supply and its 2030 demand range from a shortage of 1,780 FTE adult psychiatrists in Texas to a surplus of 350 FTE psychiatrists in New York.
- In scenario two, the range is from a shortage of 2,030 FTE adult psychiatrists in Texas to a surplus of 160 FTE psychiatrists in New York.

Table 3: Adult Psychiatrist Supply and Demand, 2016 by State

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
Northeast	11,120	8,280	8,840	2,840	2,280
Connecticut	810	520	560	290	250
Maine	200	210	220	(10)	(20)
Massachusetts	1,850	1,080	1,160	770	690
New Hampshire	200	190	200	10	0
New Jersey	1,180	1,120	1,200	60	(20)
New York	4,720	2,880	3,080	1,840	1,640
Pennsylvania	1,760	1,990	2,120	(230)	(360)
Rhode Island	260	180	190	80	70
Vermont	140	110	110	30	30

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
Midwest	6,660	9,930	10,600	(3,270)	(3,940)
Illinois	1,430	1,810	1,940	(380)	(510)
Indiana	470	980	1,040	(510)	(570)
Iowa	240	440	470	(200)	(230)
Kansas	250	360	390	(110)	(140)
Michigan	990	1,660	1,770	(670)	(780)
Minnesota	580	750	800	(170)	(220)
Missouri	630	870	930	(240)	(300)
Nebraska	150	220	230	(70)	(80)
North Dakota	70	90	100	(20)	(30)
Ohio	1,200	1,840	1,960	(640)	(760)
South Dakota	80	100	110	(20)	(30)
Wisconsin	570	810	860	(240)	(290)
South	11,880	15,840	16,920	(3,960)	(5,040)
Alabama	340	740	790	(400)	(450)
Arkansas	250	480	510	(230)	(260)
Delaware	110	140	150	(30)	(40)
Distr. of Columbia	340	100	110	240	230
Florida	1,830	2,520	2,690	(690)	(860)
Georgia	940	1,220	1,300	(280)	(360)
Kentucky	380	890	950	(510)	(570)
Louisiana	450	680	730	(230)	(280)
Maryland	1,150	750	800	400	350
Mississippi	180	400	430	(220)	(250)
North Carolina	1,200	1,380	1,470	(180)	(270)
Oklahoma	320	530	570	(210)	(250)
South Carolina	480	690	730	(210)	(250)
Tennessee	580	1,050	1,120	(470)	(540)
Texas	2,090	2,870	3,070	(780)	(980)
Virginia	1,050	990	1,060	60	(10)
West Virginia	190	410	440	(220)	(250)
West	9,520	9,950	10,630	(430)	(1,110)
Alaska	90	90	90	0	0
Arizona	670	980	1,050	(310)	(380)
California	5,600	4,920	5,260	680	340
Colorado	640	730	780	(90)	(140)
Hawaii	260	140	150	120	110
Idaho	100	200	210	(100)	(110)
Montana	90	140	150	(50)	(60)
Nevada	190	360	390	(170)	(200)
New Mexico	260	300	320	(40)	(60)
Oregon	570	670	720	(100)	(150)
Utah	220	320	340	(100)	(120)
Washington	790	1,030	1,100	(240)	(310)
Wyoming	40	70	70	(30)	(30)
US	39,180	44,000	46,990	(4,820)	(7,810)

Table 4: Adult Psychiatrist Supply and Demand, 2030 by State

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
Northeast	7,490	8,140	8,680	(650)	(1,190)
Connecticut	580	520	550	60	30
Maine	130	180	190	(50)	(60)
Massachusetts	1,170	1,090	1,160	80	10
New Hampshire	110	170	190	(60)	(80)
New Jersey	880	1,160	1,240	(280)	(360)
New York	3,180	2,830	3,020	350	160
Pennsylvania	1,160	1,920	2,050	(760)	(890)
Rhode Island	180	170	180	10	0
Vermont	100	100	100	0	0
Midwest	4,560	9,510	10,150	(4,950)	(5,590)
Illinois	940	1,790	1,910	(850)	(970)
Indiana	360	940	1,000	(580)	(640)
Iowa	170	380	410	(210)	(240)
Kansas	190	360	380	(170)	(190)
Michigan	680	1,540	1,650	(860)	(970)
Minnesota	460	750	800	(290)	(340)
Missouri	430	860	920	(430)	(490)
Nebraska	110	220	230	(110)	(120)
North Dakota	40	90	90	(50)	(50)
Ohio	780	1,680	1,790	(900)	(1,010)
South Dakota	40	100	110	(60)	(70)
Wisconsin	360	800	860	(440)	(500)
South	8,970	17,330	18,510	(8,360)	(9,540)
Alabama	220	720	760	(500)	(540)
Arkansas	170	470	500	(300)	(330)
Delaware	80	140	150	(60)	(70)
Distr. of Columbia	240	110	120	130	120
Florida	1,410	2,860	3,050	(1,450)	(1,640)
Georgia	780	1,360	1,460	(580)	(680)
Kentucky	220	870	930	(650)	(710)
Louisiana	320	710	760	(390)	(440)
Maryland	760	790	850	(30)	(90)
Mississippi	90	400	430	(310)	(340)
North Carolina	970	1,510	1,610	(540)	(640)
Oklahoma	230	570	600	(340)	(370)
South Carolina	410	760	810	(350)	(400)
Tennessee	380	1,070	1,140	(690)	(760)
Texas	1,780	3,560	3,810	(1,780)	(2,030)
Virginia	730	1,070	1,140	(340)	(410)
West Virginia	180	360	390	(180)	(210)

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
West	7,460	11,490	12,290	(4,030)	(4,830)
Alaska	50	90	100	(40)	(50)
Arizona	590	1,230	1,320	(640)	(730)
California	4,370	5,750	6,150	(1,380)	(1,780)
Colorado	540	860	920	(320)	(380)
Hawaii	220	170	180	50	40
Idaho	80	220	240	(140)	(160)
Montana	50	140	150	(90)	(100)
Nevada	210	420	450	(210)	(240)
New Mexico	180	350	370	(170)	(190)
Oregon	430	710	750	(280)	(320)
Utah	120	370	400	(250)	(280)
Washington	600	1,110	1,190	(510)	(590)
Wyoming	20	70	70	(50)	(50)
US	28,480	46,470	49,630	(17,990)	(21,150)

State-Level Findings for Pediatric Psychiatrists

Pediatric psychiatrists represents less than one seventh of all psychiatrists. Different patterns are observed compared to adult psychiatrists.

The projections are made relative to 2016 and reflect an assumption of a shortage of 680 FTE pediatric psychiatrists in scenario one and a shortage of 1,240 FTE pediatric psychiatrists in scenario two, taking unmet need into consideration.

Base year (2016)

- Looking at each state's 2016 pediatric psychiatrist supply minus its 2016 demand reveals both shortages and surpluses at the state level.
- In scenario one, a total of 33 states had an estimated shortage of pediatric psychiatrists, with 5 states having the largest shortages between 130 FTEs and 100 FTEs (Texas, Indiana, Florida, Georgia, and Michigan). Two states with surpluses of over 100 FTEs are New York (400 FTEs) and Massachusetts (160 FTEs).
- In scenario two, a total of 38 states had an estimated shortage of pediatric psychiatrists. Projected differences range from a shortage of 190 FTEs in Texas to a surplus of 900 FTEs in New York.

Projected year (2030)

- In scenario one, a total of 12 states had an estimated shortage of pediatric psychiatrists, with the largest shortage of 40 FTEs. Two states with surpluses of over 400 FTEs are California (900 FTEs) and New York (850 FTEs).
- In scenario two, a total of 17 states had an estimated shortage of pediatric psychiatrists, with the largest shortage of 40 FTEs. Two states with surpluses of over 400 FTEs are California (840 FTEs) and New York (830 FTEs).

Table 5: Pediatric Psychiatrist Supply and Demand, 2016 by State

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
Northeast	1,780	1,100	1,170	680	610
Connecticut	150	80	80	70	70
Maine	40	30	30	10	10
Massachusetts	280	120	130	160	150
New Hampshire	30	30	30	0	0
New Jersey	180	180	190	0	(10)
New York	740	340	370	400	370
Pennsylvania	280	280	300	0	(20)
Rhode Island	60	20	20	40	40
Vermont	20	20	20	0	0

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
Midwest	1,040	1,540	1,650	(500)	(610)
Illinois	190	280	300	(90)	(110)
Indiana	50	170	180	(120)	(130)
Iowa	40	80	80	(40)	(40)
Kansas	30	70	70	(40)	(40)
Michigan	140	240	250	(100)	(110)
Minnesota	100	120	130	(20)	(30)
Missouri	100	150	160	(50)	(60)
Nebraska	30	40	50	(10)	(20)
North Dakota	20	10	20	10	0
Ohio	230	240	260	(10)	(30)
South Dakota	10	20	20	(10)	(10)
Wisconsin	100	120	130	(20)	(30)
South	1,960	2,680	2,910	(720)	(950)
Alabama	60	130	140	(70)	(80)
Arkansas	40	80	90	(40)	(50)
Delaware	10	20	20	(10)	(10)
Distr. of Columbia	60	10	10	50	50
Florida	270	380	410	(110)	(140)
Georgia	130	240	260	(110)	(130)
Kentucky	60	120	130	(60)	(70)
Louisiana	60	120	130	(60)	(70)
Maryland	200	120	130	80	70
Mississippi	30	70	80	(40)	(50)
North Carolina	210	240	260	(30)	(50)
Oklahoma	40	100	110	(60)	(70)
South Carolina	90	100	100	(10)	(10)
Tennessee	80	160	180	(80)	(100)
Texas	450	580	640	(130)	(190)
Virginia	150	160	170	(10)	(20)
West Virginia	20	50	50	(30)	(30)
West	1,430	1,570	1,720	(140)	(290)
Alaska	20	20	20	0	0
Arizona	100	140	150	(40)	(50)
California	800	760	840	40	(40)
Colorado	120	120	130	0	(10)
Hawaii	50	20	20	30	30
Idaho	20	50	50	(30)	(30)
Montana	10	30	30	(20)	(20)
Nevada	30	50	60	(20)	(30)
New Mexico	40	40	50	0	(10)
Oregon	80	90	100	(10)	(20)
Utah	50	80	90	(30)	(40)
Washington	100	160	170	(60)	(70)
Wyoming	10	10	10	0	0
US	6,210	6,890	7,450	(680)	(1,240)

Table 6: Pediatric Psychiatrist Supply and Demand, 2030 by State

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
Northeast	2,950	1,040	1,130	1,910	1,820
Connecticut	250	60	70	190	180
Maine	70	20	20	50	50
Massachusetts	430	110	120	320	310
New Hampshire	40	20	30	20	10
New Jersey	390	170	190	220	200
New York	1,210	360	380	850	830
Pennsylvania	440	260	280	180	160
Rhode Island	80	20	20	60	60
Vermont	40	20	20	20	20
Midwest	1,620	1,400	1,530	220	90
Illinois	320	250	270	70	50
Indiana	130	160	170	(30)	(40)
Iowa	60	70	70	(10)	(10)
Kansas	60	60	70	0	(10)
Michigan	260	210	230	50	30
Minnesota	180	110	120	70	60
Missouri	140	140	150	0	(10)
Nebraska	50	40	50	10	0
North Dakota	10	10	20	0	(10)
Ohio	280	210	230	70	50
South Dakota	10	20	20	(10)	(10)
Wisconsin	120	120	130	0	(10)
South	3,570	2,760	3,000	810	570
Alabama	80	110	120	(30)	(40)
Arkansas	60	80	80	(20)	(20)
Delaware	30	20	20	10	10
Distr. of Columbia	100	10	10	90	90
Florida	610	410	450	200	160
Georgia	300	250	270	50	30
Kentucky	80	110	120	(30)	(40)
Louisiana	100	120	130	(20)	(30)
Maryland	290	110	120	180	170
Mississippi	30	60	70	(30)	(40)
North Carolina	390	250	270	140	120
Oklahoma	60	100	100	(40)	(40)
South Carolina	170	100	110	70	60
Tennessee	150	160	170	(10)	(20)
Texas	800	670	730	130	70
Virginia	260	160	180	100	80
West Virginia	60	40	50	20	10

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
West	3,020	1,650	1,780	1,370	1,240
Alaska	30	20	20	10	10
Arizona	260	160	170	100	90
California	1,690	790	850	900	840
Colorado	250	130	140	120	110
Hawaii	110	20	30	90	80
Idaho	30	50	50	(20)	(20)
Montana	20	20	30	0	(10)
Nevada	100	60	60	40	40
New Mexico	70	50	50	20	20
Oregon	170	90	90	80	80
Utah	60	90	100	(30)	(40)
Washington	220	160	180	60	40
Wyoming	10	10	10	0	0
US	11,160	6,850	7,440	4,310	3,720

2. PSYCHIATRIC NURSE PRACTITIONERS

Psychiatric nurse practitioners earn masters or doctoral degrees in psychiatric-mental health nursing and apply the nursing process to assess, diagnose, and treat individuals or families with psychiatric disorders and identify risk factors for such disorders.¹⁰ An estimated 10,250 psychiatric NPs were in practice in 2016.¹¹ They conduct individual, group, or family counseling sessions; prescribe psychotropic medications; and manage patient treatment and results. Psychiatric nurses often work under the supervision of psychiatrists. Tables 7 and 8 contain state-level estimates of psychiatric NPs at the base year (2016) and the projected year (2030), respectively.

The projections are made relative to 2016 and reflect an assumption of equilibrium in scenario one and 20% shortage in scenario two, taking unmet need into consideration.

State- Level Findings

Base year (2016)

- In scenario one, a total of 20 states had an estimated shortage of psychiatric NPs. The estimates range between a shortage of 360 FTE psychiatric NPs in California and a surplus of 200 FTEs in Massachusetts.
- In scenario two, a total of 37 states had an estimated shortage of psychiatric NPs. Projected differences range from a shortage of 560 FTE psychiatric NPs in California and a surplus of 100 FTEs in Massachusetts.

Projected year (2030)

- In scenario one, only three states had an estimated shortage of psychiatric NPs, with largest shortage in California (260 FTEs). The largest surplus is 410 FTEs in Tennessee.
- In scenario two, eight states had an estimated shortage of psychiatric NPs, with largest shortage in California (540 FTEs). The largest surplus is 350 FTEs in Tennessee.

¹⁰ American Psychiatric Nurses Association. Psychiatric-Mental Health Nurses [Internet]. 2018. Available from: <https://www.apna.org/i4a/pages/index.cfm?pageID=3292>

¹¹ The estimate is based on American Association of Nurse Practitioners (AANP) NP fact sheet for psychiatric/mental health NPs, <https://www.aanp.org/images/documents/about-nps/npfacts.pdf>.

Table 7: Psychiatric Nurse Practitioner Supply and Demand, 2016 by State¹²

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
Northeast	2,190	1,930	2,320	260	(130)
Connecticut	130	120	140	10	(10)
Maine	60	50	60	10	0
Massachusetts	440	240	290	200	150
New Hampshire	90	50	60	40	30
New Jersey	210	280	330	(70)	(120)
New York	770	640	770	130	0
Pennsylvania	430	490	590	(60)	(160)
Rhode Island	30	40	50	(10)	(20)
Vermont	30	20	30	10	0
Midwest	2,140	2,400	2,900	(260)	(760)
Illinois	300	420	500	(120)	(200)
Indiana	210	230	280	(20)	(70)
Iowa	80	110	140	(30)	(60)
Kansas	120	100	120	20	0
Michigan	260	350	420	(90)	(160)
Minnesota	230	200	240	30	(10)
Missouri	260	220	270	40	(10)
Nebraska	50	70	80	(20)	(30)
North Dakota	30	30	40	0	(10)
Ohio	380	430	520	(50)	(140)
South Dakota	20	30	40	(10)	(20)
Wisconsin	200	210	250	(10)	(50)
South	4,020	3,700	4,440	320	(420)
Alabama	170	170	200	0	(30)
Arkansas	60	110	130	(50)	(70)
Delaware	30	30	40	0	(10)
Distr. of Columbia	20	20	30	0	(10)
Florida	650	620	750	30	(100)
Georgia	320	280	340	40	(20)
Kentucky	210	180	210	30	0
Louisiana	160	150	190	10	(30)
Maryland	230	180	220	50	10
Mississippi	170	100	120	70	50
North Carolina	300	320	380	(20)	(80)
Oklahoma	60	130	150	(70)	(90)
South Carolina	120	150	180	(30)	(60)
Tennessee	410	230	270	180	140
Texas	700	700	840	0	(140)
Virginia	330	250	300	80	30
West Virginia	80	80	90	0	(10)

¹² Due to the limitation of data availability, the state-level estimates of psychiatric NPs in the base year (2016) were approximated based on the distribution of NPs across states.

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
West	1,900	2,220	2,650	(320)	(750)
Alaska	20	20	30	0	(10)
Arizona	210	200	240	10	(30)
California	730	1,090	1,290	(360)	(560)
Colorado	160	160	190	0	(30)
Hawaii	20	40	50	(20)	(30)
Idaho	50	50	60	0	(10)
Montana	50	40	50	10	0
Nevada	40	80	90	(40)	(50)
New Mexico	70	60	70	10	0
Oregon	200	140	170	60	30
Utah	60	80	100	(20)	(40)
Washington	280	240	290	40	(10)
Wyoming	10	20	20	(10)	(10)
US	10,250	10,250	12,310	-	(2,060)

Table 8: Psychiatric Nurse Practitioner Supply and Demand, 2030 by State¹³

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
Northeast	3,110	2,110	2,520	1,000	590
Connecticut	220	130	160	90	60
Maine	100	50	60	50	40
Massachusetts	550	270	320	280	230
New Hampshire	130	50	60	80	70
New Jersey	370	320	380	50	(10)
New York	1,020	680	810	340	210
Pennsylvania	590	540	650	50	(60)
Rhode Island	80	40	50	40	30
Vermont	50	30	30	20	20
Midwest	3,560	2,620	3,160	940	400
Illinois	620	470	570	150	50
Indiana	370	250	300	120	70
Iowa	170	110	140	60	30
Kansas	200	120	140	80	60
Michigan	450	360	440	90	10
Minnesota	350	230	270	120	80
Missouri	370	250	300	120	70
Nebraska	110	70	80	40	30
North Dakota	60	30	40	30	20
Ohio	540	440	530	100	10
South Dakota	40	40	50	0	(10)
Wisconsin	280	250	300	30	(20)

¹³ Due to the limitation of data availability, the state-level estimates of psychiatric NPs in the base year (2016) were approximated based on the distribution of NPs across states.

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
South	6,990	4,510	5,410	2,480	1,580
Alabama	330	180	220	150	110
Arkansas	150	110	130	40	20
Delaware	90	40	50	50	40
Distr. of Columbia	70	30	30	40	40
Florida	1,110	760	920	350	190
Georgia	510	350	420	160	90
Kentucky	380	190	230	190	150
Louisiana	210	180	210	30	0
Maryland	390	220	270	170	120
Mississippi	220	120	140	100	80
North Carolina	540	390	460	150	80
Oklahoma	140	150	180	(10)	(40)
South Carolina	300	190	230	110	70
Tennessee	680	270	330	410	350
Texas	1,170	950	1,140	220	30
Virginia	610	300	360	310	250
West Virginia	90	80	90	10	0
West	3,280	2,860	3,410	420	(130)
Alaska	40	30	30	10	10
Arizona	420	280	330	140	90
California	1,130	1,390	1,670	(260)	(540)
Colorado	370	210	250	160	120
Hawaii	90	50	60	40	30
Idaho	120	70	80	50	40
Montana	40	50	50	(10)	(10)
Nevada	150	100	120	50	30
New Mexico	90	80	90	10	0
Oregon	260	170	200	90	60
Utah	150	100	130	50	20
Washington	400	310	370	90	30
Wyoming	20	20	30	0	(10)
US	16,940	12,100	14,500	4,840	2,440

3. PSYCHIATRIC PHYSICIAN ASSISTANTS

Psychiatric physician assistants perform psychiatric evaluations and assessments, order and interpret diagnostic studies, establish and manage treatment plans, and order referrals as needed.¹⁴ Roughly 1,400 PAs were practicing as a mental health provider in 2016—often working in behavioral health facilities and psychiatric units of rural and public hospitals where psychiatrists are in short supply.

¹⁵Typically, training consists of a year in the classroom, followed by a year of clinical rotations. After passing a national certification exam, physician assistants practice under a supervising physician. Tables 9 and 10 contain state-level estimates of psychiatric PAs at the base year (2016) and the projected year (2030), respectively.

The projections are made relative to 2016 and reflect an assumption of equilibrium in scenario one and 20% shortage in scenario two, taking unmet need into consideration.

State- Level Findings

Base year (2016)

- Looking at each state's 2016 psychiatric physician assistants supply minus its 2016 demand reveals very small shortages and surpluses at the state level – between a shortage of 30 FTEs and a surplus of 30 FTEs across both scenarios.

Projected year (2030)

- In scenario one, only two states had an estimated shortage of psychiatric PAs, with small shortage amounts. The largest surplus is 120 FTEs in Florida.
- In scenario two, eight states had an estimated shortage of psychiatric PAs, with small shortage amounts. The largest surplus is 100 FTEs in Florida.

¹⁴ PhysicianAssistantEDU.org. Mental Health Physician Assistant [Internet]. 2018. Available from: <https://www.physicianassistantedu.org/psychiatry-mental-health/>

¹⁵ The estimate is based on National Commission on Certification of Physician Assistants (NCCPA) Statistical Profile of Certified Physician Assistants for psychiatric/mental health PAs, <https://prodcmssstoragea.blob.core.windows.net/uploads/files/2016StatisticalProfileofCertifiedPhysicianAssistantsbyState.pdf>

Table 9: Psychiatric Physician Assistant Supply and Demand, 2016 by State¹⁶

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
Northeast	310	260	310	50	0
Connecticut	10	20	20	(10)	(10)
Maine	<10	10	10	(10)	(10)
Massachusetts	40	30	40	10	0
New Hampshire	10	10	10	0	0
New Jersey	30	30	40	0	(10)
New York	130	100	110	30	20
Pennsylvania	90	60	70	30	20
Rhode Island	<10	<10	10	0	(10)
Vermont	<10	<10	<10	0	0
Midwest	310	320	390	(10)	(80)
Illinois	40	50	60	(10)	(20)
Indiana	30	30	40	0	(10)
Iowa	20	20	20	0	0
Kansas	<10	10	20	(10)	(20)
Michigan	70	60	60	10	10
Minnesota	20	20	30	0	(10)
Missouri	20	30	40	(10)	(20)
Nebraska	10	10	10	0	0
North Dakota	10	<10	<10	10	10
Ohio	40	60	70	(20)	(30)
South Dakota	10	<10	10	10	0
Wisconsin	40	30	30	10	10
South	490	510	610	(20)	(120)
Alabama	10	20	30	(10)	(20)
Arkansas	<10	20	20	(20)	(20)
Delaware	<10	<10	<10	0	0
Distr. of Columbia	<10	<10	<10	0	0
Florida	110	100	100	10	10
Georgia	50	40	50	10	0
Kentucky	20	30	30	(10)	(10)
Louisiana	10	20	30	(10)	(20)
Maryland	40	20	30	20	10
Mississippi	<10	10	20	(10)	(20)
North Carolina	60	40	50	20	10
Oklahoma	10	20	20	(10)	(10)
South Carolina	20	20	30	0	(10)
Tennessee	20	30	40	(10)	(20)
Texas	100	100	110	0	(10)
Virginia	30	30	40	0	(10)
West Virginia	10	10	10	0	0

¹⁶ Due to the limitation of data availability, the state-level estimates of psychiatric PAs in the base year (2016) were approximated based on the distribution of PAs across states.

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
West	290	310	350	(20)	(60)
Alaska	10	<10	<10	10	10
Arizona	30	30	30	0	0
California	140	150	170	(10)	(30)
Colorado	30	20	30	10	0
Hawaii	<10	10	10	(10)	(10)
Idaho	10	10	10	0	0
Montana	10	10	10	0	0
Nevada	10	10	10	0	0
New Mexico	10	10	10	0	0
Oregon	10	20	20	(10)	(10)
Utah	10	10	10	0	0
Washington	20	30	40	(10)	(20)
Wyoming	<10	<10	<10	0	0
US	1,400	1,400	1,660	-	(260)

Table 10: Psychiatric Physician Assistant Supply and Demand, 2030 by State¹⁷

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
Northeast	500	260	330	240	170
Connecticut	30	20	20	10	10
Maine	10	10	10	0	0
Massachusetts	60	30	40	30	20
New Hampshire	20	10	10	10	10
New Jersey	60	40	50	20	10
New York	170	90	110	80	60
Pennsylvania	130	60	80	70	50
Rhode Island	10	<10	10	10	0
Vermont	10	<10	<10	10	10
Midwest	450	320	410	130	40
Illinois	80	60	70	20	10
Indiana	60	30	40	30	20
Iowa	10	10	20	0	(10)
Kansas	10	10	20	0	(10)
Michigan	90	50	60	40	30
Minnesota	40	30	30	10	10
Missouri	50	30	40	20	10
Nebraska	10	10	10	0	0
North Dakota	<10	<10	<10	0	0
Ohio	50	60	70	(10)	(20)
South Dakota	10	<10	10	10	0
Wisconsin	40	30	40	10	0

¹⁷ Due to the limitation of data availability, the state-level estimates of psychiatric PAs in the base year (2016) were approximated based on the distribution of PAs across states.

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
South	980	590	720	390	260
Alabama	30	20	30	10	0
Arkansas	10	20	20	(10)	(10)
Delaware	10	<10	10	10	0
Distr. of Columbia	10	<10	<10	10	10
Florida	220	100	120	120	100
Georgia	100	50	60	50	40
Kentucky	30	30	40	0	(10)
Louisiana	20	20	30	0	(10)
Maryland	60	30	30	30	30
Mississippi	10	10	20	0	(10)
North Carolina	100	50	60	50	40
Oklahoma	20	20	30	0	(10)
South Carolina	60	30	30	30	30
Tennessee	50	40	40	10	10
Texas	160	120	140	40	20
Virginia	80	40	50	40	30
West Virginia	10	10	10	0	0
West	630	360	460	270	170
Alaska	10	<10	10	10	0
Arizona	70	40	50	30	20
California	270	170	210	100	60
Colorado	70	30	30	40	40
Hawaii	10	10	10	0	0
Idaho	20	10	10	10	10
Montana	10	10	10	0	0
Nevada	30	10	20	20	10
New Mexico	20	10	10	10	10
Oregon	40	20	30	20	10
Utah	20	10	20	10	0
Washington	60	40	50	20	10
Wyoming	<10	<10	<10	0	0
US	2,560	1,530	1,920	1,030	640

4. CLINICAL, COUNSELING, AND SCHOOL PSYCHOLOGISTS

A licensed psychologist¹⁸ traditionally treats patients with mental and emotional problems, but they also serve as scientists researching the phenomenon of human behavior.¹⁹ Close to 93,000 psychologists trained at the doctoral level were in practice in 2016.²⁰ Psychologists focus on behaviors that affect the mental and emotional health and mental functioning of healthy people. A doctoral degree is typically required for most clinical, counseling, and research psychologists. Although licensing laws for psychologists vary by state and type of position, most states require some form of licensure or certification and all states require psychologists who practice independently to be licensed.

Tables 11 and 12 contain state-level estimates of psychologists at the base year (2016) and the projected year (2030), respectively.

The projections are made relative to 2016 and reflect an assumption of equilibrium in scenario one and 20% shortage in scenario two, taking unmet need into consideration.

State- Level Findings

There is substantial state-level variation between projected supply and demand for psychologists in 2016 and 2030.

Base year (2016)

- Looking at each state's 2016 psychologist supply minus its 2016 demand reveals both shortages and surpluses at the state level.
- In scenario one, a total of 27 states had an estimated shortage of psychologists, with 2 states having shortages of more than 1,000 FTEs (Texas with 2,070 FTEs and Florida with 1,120 FTEs). New York had a surplus of 3,860 FTEs, followed by Massachusetts (2,330 FTEs).
- In scenario two, a total of 36 states with estimated shortages of psychologists, with 11 states having shortages of more than 1,000 FTEs. The estimates range from a shortage of 3,510 FTE psychologists in Texas to a surplus of 2,730 FTE psychologists in New York.

Projected year (2030)

- In scenario one, a total of 23 states had an estimated shortage of psychologists, with 2 states having shortages of more than 1,000 FTEs (Texas with 2,630 FTEs and California with 1,140 FTEs). Massachusetts had the largest surplus of 2,500 FTEs.

¹⁸ HRSA's 2016 report referred to the psychologist population as "Clinical, Counseling, and School Psychologists." In this report, we simply refer to psychologists, but it includes any doctoral level psychologist practicing in a position that requires training of a behavioral health provider—including psychologists providing direct patient care and those in non-patient care activities such as administration, research and teaching.

¹⁹ US Bureau of Labor Statistics. Occupational Outlook Handbook: Psychologists [Internet]. 2018. Available from: <https://www.bls.gov/ooh/life-physical-and-social-science/psychologists.htm>

²⁰ For psychologists, we obtained from the American Psychological Association (APA) a de-duplicated count of licensed psychologists in each state, which we used to estimate active supply using APA survey data on labor force participation patterns.

- In scenario two, a total of 31 states with estimated shortages of psychologists, with 8 states having shortages of more than 1,000 FTEs. The estimates range from a shortage of 4,410 FTE psychologists in Texas to a surplus of 2,080 FTE psychologists in Massachusetts.

Table 11: Psychologist Supply and Demand, 2016 by State

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
Northeast	25,900	16,620	19,950	9,280	5,950
Connecticut	1,670	1,070	1,290	600	380
Maine	530	400	480	130	50
Massachusetts	4,430	2,100	2,520	2,330	1,910
New Hampshire	550	400	480	150	70
New Jersey	3,300	2,480	2,970	820	330
New York	9,520	5,660	6,790	3,860	2,730
Pennsylvania	4,800	3,980	4,780	820	20
Rhode Island	580	330	400	250	180
Vermont	520	200	240	320	280
Midwest	18,120	20,570	24,680	(2,450)	(6,560)
Illinois	4,110	3,800	4,560	310	(450)
Indiana	1,280	2,060	2,480	(780)	(1,200)
Iowa	480	940	1,130	(460)	(650)
Kansas	670	830	990	(160)	(320)
Michigan	2,390	3,160	3,790	(770)	(1,400)
Minnesota	2,220	1,650	1,980	570	240
Missouri	1,520	1,850	2,220	(330)	(700)
Nebraska	540	530	640	10	(100)
North Dakota	200	210	250	(10)	(50)
Ohio	3,050	3,580	4,300	(530)	(1,250)
South Dakota	170	240	280	(70)	(110)
Wisconsin	1,490	1,720	2,060	(230)	(570)
South	27,210	34,510	41,400	(7,300)	(14,190)
Alabama	690	1,490	1,790	(800)	(1,100)
Arkansas	450	940	1,120	(490)	(670)
Delaware	300	280	340	20	(40)
Distr. of Columbia	950	190	230	760	720
Florida	4,350	5,470	6,560	(1,120)	(2,210)
Georgia	2,060	2,880	3,450	(820)	(1,390)
Kentucky	900	1,540	1,850	(640)	(950)
Louisiana	580	1,440	1,720	(860)	(1,140)
Maryland	2,540	1,680	2,010	860	530
Mississippi	350	870	1,050	(520)	(700)
North Carolina	3,230	2,950	3,540	280	(310)
Oklahoma	510	1,140	1,360	(630)	(850)
South Carolina	600	1,470	1,770	(870)	(1,170)
Tennessee	1,160	2,060	2,470	(900)	(1,310)
Texas	5,110	7,180	8,620	(2,070)	(3,510)
Virginia	2,970	2,270	2,730	700	240
West Virginia	460	660	790	(200)	(330)

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
West	21,760	21,290	25,550	470	(3,790)
Alaska	170	190	230	(20)	(60)
Arizona	1,450	1,990	2,380	(540)	(930)
California	11,150	10,610	12,740	540	(1,590)
Colorado	2,360	1,600	1,920	760	440
Hawaii	610	310	370	300	240
Idaho	240	480	580	(240)	(340)
Montana	240	300	360	(60)	(120)
Nevada	400	790	950	(390)	(550)
New Mexico	610	580	700	30	(90)
Oregon	1,430	1,270	1,520	160	(90)
Utah	770	870	1,050	(100)	(280)
Washington	2,160	2,140	2,560	20	(400)
Wyoming	170	160	190	10	(20)
US	92,990	92,990	111,580	-	(18,590)

Table 12: Psychologist Supply and Demand, 2030 by State

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
Northeast	23,320	16,540	19,850	6,780	3,470
Connecticut	1,740	1,030	1,240	710	500
Maine	560	350	420	210	140
Massachusetts	4,600	2,100	2,520	2,500	2,080
New Hampshire	720	370	450	350	270
New Jersey	2,200	2,570	3,080	(370)	(880)
New York	7,220	5,710	6,850	1,510	370
Pennsylvania	5,090	3,900	4,680	1,190	410
Rhode Island	700	320	380	380	320
Vermont	490	190	230	300	260
Midwest	19,590	19,970	23,970	(380)	(4,380)
Illinois	4,430	3,740	4,490	690	(60)
Indiana	1,650	2,030	2,440	(380)	(790)
Iowa	610	830	1,000	(220)	(390)
Kansas	830	820	990	10	(160)
Michigan	2,350	2,980	3,570	(630)	(1,220)
Minnesota	2,560	1,650	1,980	910	580
Missouri	2,030	1,870	2,240	160	(210)
Nebraska	550	530	640	20	(90)
North Dakota	240	200	240	40	0
Ohio	2,600	3,340	4,010	(740)	(1,410)
South Dakota	190	240	290	(50)	(100)
Wisconsin	1,550	1,740	2,080	(190)	(530)

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
South	36,150	38,320	46,000	(2,170)	(9,850)
Alabama	850	1,460	1,750	(610)	(900)
Arkansas	730	930	1,110	(200)	(380)
Delaware	530	290	350	240	180
Distr. of Columbia	1,730	210	260	1,520	1,470
Florida	6,170	6,320	7,590	(150)	(1,420)
Georgia	2,620	3,240	3,890	(620)	(1,270)
Kentucky	1,340	1,540	1,840	(200)	(500)
Louisiana	750	1,520	1,830	(770)	(1,080)
Maryland	3,300	1,760	2,110	1,540	1,190
Mississippi	600	860	1,030	(260)	(430)
North Carolina	3,650	3,240	3,880	410	(230)
Oklahoma	600	1,190	1,430	(590)	(830)
South Carolina	800	1,640	1,970	(840)	(1,170)
Tennessee	1,710	2,160	2,600	(450)	(890)
Texas	6,260	8,890	10,670	(2,630)	(4,410)
Virginia	3,940	2,470	2,970	1,470	970
West Virginia	570	600	720	(30)	(150)
West	25,560	24,260	29,100	1,300	(3,540)
Alaska	220	210	250	10	(30)
Arizona	2,240	2,480	2,970	(240)	(730)
California	10,890	12,030	14,440	(1,140)	(3,550)
Colorado	3,080	1,890	2,260	1,190	820
Hawaii	940	370	450	570	490
Idaho	360	530	630	(170)	(270)
Montana	380	300	360	80	20
Nevada	510	930	1,110	(420)	(600)
New Mexico	970	660	790	310	180
Oregon	1,940	1,330	1,600	610	340
Utah	1,150	1,030	1,230	120	(80)
Washington	2,600	2,340	2,810	260	(210)
Wyoming	280	160	200	120	80
US	104,620	99,090	118,920	5,530	(14,300)

5. ADDICTION COUNSELORS

Substance abuse and behavioral disorder counselors (addiction counselors) advise people who suffer from alcoholism, drug addiction, eating disorders, or other behavioral problems. They provide treatment and support to help patients recover from addiction or modify problem behavior.²¹ Educational requirements vary depending on the setting, type of work, state regulations, and level of responsibility. This study includes addiction counselors trained at all education levels—including associate, bachelor's, or masters or higher degree—and includes counselors performing functions that require licensure as well as functions that only require certification. In 2016, an estimated 87,690 counselors worked in mental health centers, prisons, probation or parole agencies, juvenile detention facilities, halfway houses, detox centers, employee assistance programs, and other settings.²² Tables 13 and 14 contain state-level estimates of addiction counselors at the base year (2016) and the projected year (2030), respectively.

The projections are made relative to 2016 and reflect an assumption of equilibrium in scenario one and 20% shortage in scenario two, taking unmet need into consideration.

State- Level Findings

There is substantial state-level variation between projected supply and demand for addiction counselors in 2016 and 2030.

Base year (2016)

- Looking at each state's 2016 supply of addiction counselors minus its 2016 demand reveals both shortages and surpluses at the state level.
- In scenario one, a total of 28 states had an estimated shortage of addiction counselors, with 1 state having shortages of more than 2,000 FTEs (Texas with 2,150 FTEs). Pennsylvania had the largest surplus of 2,690 FTEs, followed by Massachusetts (2,390 FTEs).
- In scenario two, a total of 38 states with estimated shortages of addiction counselors, with 2 states having shortages of more than 2,000 FTEs (California with 3,940 FTEs and Texas with 3,300 FTEs). The states with the largest surplus of addiction counselors include Pennsylvania (1,910 FTEs) and Massachusetts (1,900 FTEs).

Projected year (2030)

- In scenario one, a total of 36 states had an estimated shortage of addiction counselors, with 2 states having shortages of more than 2,000 FTEs (California with 3,520 FTEs and Texas with 2,280 FTEs). Pennsylvania had the largest surplus of 910 FTEs.
- In scenario two, a total of 45 states with estimated shortages of addiction counselors, with 3 states having shortages of more than 2,000 FTEs. The estimates range from a shortage of 6,310 FTE addiction counselors in California to a surplus of 190 FTE addiction counselors in Arizona.

²¹ U.S. Bureau of Labor Statistics. Occupational Outlook Handbook: Community and Social Service Occupations [Internet]. 2018. Available from: <https://www.bls.gov/ooh/community-and-social-service/home.htm>

²² We used the Bureau of Labor Statistics (BLS) Occupational Employment Statistics (OES) for total number of addiction counselors.

Table 13: Addiction Counselor Supply and Demand, 2016 by State

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
Northeast	25,400	16,620	19,930	8,780	5,470
Connecticut	2,570	1,220	1,460	1,350	1,110
Maine	440	420	510	20	(70)
Massachusetts	4,860	2,470	2,960	2,390	1,900
New Hampshire	220	430	510	(210)	(290)
New Jersey	2,760	1,980	2,370	780	390
New York	7,420	5,560	6,670	1,860	750
Pennsylvania	6,590	3,900	4,680	2,690	1,910
Rhode Island	210	400	480	(190)	(270)
Vermont	330	240	290	90	40
Midwest	17,700	20,510	24,590	(2,810)	(6,890)
Illinois	3,250	3,570	4,280	(320)	(1,030)
Indiana	860	1,770	2,130	(910)	(1,270)
Iowa	1,210	970	1,160	240	50
Kansas	930	800	960	130	(30)
Michigan	1,770	2,810	3,370	(1,040)	(1,600)
Minnesota	2,290	1,720	2,060	570	230
Missouri	1,750	1,870	2,250	(120)	(500)
Nebraska	550	620	740	(70)	(190)
North Dakota	280	300	350	(20)	(70)
Ohio	2,610	3,640	4,370	(1,030)	(1,760)
South Dakota	490	350	420	140	70
Wisconsin	1,710	2,090	2,500	(380)	(790)
South	23,860	29,570	35,510	(5,710)	(11,650)
Alabama	780	1,180	1,410	(400)	(630)
Arkansas	630	750	900	(120)	(270)
Delaware	270	280	340	(10)	(70)
Distr. of Columbia	170	230	280	(60)	(110)
Florida	4,210	5,160	6,190	(950)	(1,980)
Georgia	950	2,060	2,470	(1,110)	(1,520)
Kentucky	1,200	1,380	1,660	(180)	(460)
Louisiana	640	1,350	1,620	(710)	(980)
Maryland	2,510	1,710	2,050	800	460
Mississippi	600	750	900	(150)	(300)
North Carolina	1,730	2,390	2,870	(660)	(1,140)
Oklahoma	1,150	1,000	1,200	150	(50)
South Carolina	780	1,320	1,590	(540)	(810)
Tennessee	1,550	1,670	2,010	(120)	(460)
Texas	3,590	5,740	6,890	(2,150)	(3,300)
Virginia	2,730	2,110	2,540	620	190
West Virginia	370	490	590	(120)	(220)

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
West	20,730	20,990	25,230	(260)	(4,500)
Alaska	310	260	320	50	(10)
Arizona	2,800	1,770	2,130	1,030	670
California	8,540	10,400	12,480	(1,860)	(3,940)
Colorado	1,480	1,590	1,910	(110)	(430)
Hawaii	370	330	400	40	(30)
Idaho	340	470	560	(130)	(220)
Montana	420	410	500	10	(80)
Nevada	440	680	820	(240)	(380)
New Mexico	660	640	770	20	(110)
Oregon	1,700	1,470	1,760	230	(60)
Utah	850	570	690	280	160
Washington	2,630	2,210	2,660	420	(30)
Wyoming	190	190	230	0	(40)
US	87,690	87,690	105,260	-	(17,570)

Table 14: Addiction Counselor Supply and Demand, 2030 by State

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
Northeast	21,050	18,680	22,420	2,370	(1,370)
Connecticut	1,810	1,380	1,660	430	150
Maine	310	440	530	(130)	(220)
Massachusetts	3,460	2,860	3,430	600	30
New Hampshire	440	510	610	(70)	(170)
New Jersey	2,350	2,350	2,820	0	(470)
New York	6,780	6,000	7,200	780	(420)
Pennsylvania	5,360	4,450	5,340	910	20
Rhode Island	260	440	520	(180)	(260)
Vermont	280	250	310	30	(30)
Midwest	18,880	23,070	27,700	(4,190)	(8,820)
Illinois	4,140	4,090	4,910	50	(770)
Indiana	1,450	2,020	2,420	(570)	(970)
Iowa	1,280	990	1,190	290	90
Kansas	1,060	940	1,130	120	(70)
Michigan	1,880	3,060	3,670	(1,180)	(1,790)
Minnesota	2,090	2,030	2,440	60	(350)
Missouri	1,340	2,200	2,640	(860)	(1,300)
Nebraska	630	620	750	10	(120)
North Dakota	250	340	410	(90)	(160)
Ohio	2,810	3,830	4,600	(1,020)	(1,790)
South Dakota	350	420	500	(70)	(150)
Wisconsin	1,600	2,530	3,040	(930)	(1,440)

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
South	29,680	36,980	44,370	(7,300)	(14,690)
Alabama	810	1,330	1,590	(520)	(780)
Arkansas	730	810	970	(80)	(240)
Delaware	320	340	410	(20)	(90)
Distr. of Columbia	220	280	330	(60)	(110)
Florida	5,760	6,480	7,780	(720)	(2,020)
Georgia	1,660	2,580	3,090	(920)	(1,430)
Kentucky	1,230	1,570	1,880	(340)	(650)
Louisiana	1,480	1,610	1,930	(130)	(450)
Maryland	2,030	2,120	2,550	(90)	(520)
Mississippi	720	880	1,050	(160)	(330)
North Carolina	2,030	2,970	3,570	(940)	(1,540)
Oklahoma	1,020	1,160	1,400	(140)	(380)
South Carolina	1,110	1,650	1,980	(540)	(870)
Tennessee	1,680	2,090	2,510	(410)	(830)
Texas	5,740	8,020	9,630	(2,280)	(3,890)
Virginia	2,680	2,590	3,100	90	(420)
West Virginia	460	500	600	(40)	(140)
West	23,300	27,780	33,360	(4,480)	(10,060)
Alaska	240	320	380	(80)	(140)
Arizona	3,140	2,460	2,950	680	190
California	10,440	13,960	16,750	(3,520)	(6,310)
Colorado	1,910	2,150	2,580	(240)	(670)
Hawaii	430	430	520	0	(90)
Idaho	440	590	710	(150)	(270)
Montana	380	500	600	(120)	(220)
Nevada	600	870	1,050	(270)	(450)
New Mexico	500	820	990	(320)	(490)
Oregon	1,620	1,770	2,130	(150)	(510)
Utah	940	770	920	170	20
Washington	2,490	2,910	3,500	(420)	(1,010)
Wyoming	170	230	280	(60)	(110)
US	92,910	106,510	127,850	(13,600)	(34,940)

6. MENTAL HEALTH COUNSELORS

Mental health counselors work with individuals and groups to deal with anxiety, depression, grief, low self-esteem, stress, suicidal impulses, other mental and emotional health issues, and relationship problems.²³ All states mandate licensure—which requires a master’s degree in counseling, 2,000 to 4,000 hours of supervised clinical experience, passing a state-recognized exam, and completing annual continuing education classes. An estimated 140,400 mental health counselors were in practice in 2016.²⁴ Tables 15 and 16 contain state-level estimates of mental health counselors at the base year (2016) and the projected year (2030), respectively.

The projections are made relative to 2016 and reflect an assumption of equilibrium in scenario one and 20% shortage in scenario two, taking unmet need into consideration.

State- Level Findings

There is substantial state-level variation between projected supply and demand for mental health counselors in 2016 and 2030.

Base year (2016)

- Looking at each state’s 2016 supply of mental health counselors minus its 2016 demand reveals both shortages and surpluses at the state level.
- In scenario one, a total of 28 states had an estimated shortage of mental health counselors, with 2 states having shortages of more than 2,000 FTEs (Texas with 5,620 FTEs and Florida with 4,940 FTEs). Pennsylvania had the largest surplus of 6,900 FTEs, followed by Virginia (5,670 FTEs), Massachusetts (3,730 FTEs), and Colorado (2,840 FTEs).
- In scenario two, a total of 33 states with estimated shortages of mental health counselors, with 7 states having shortages of more than 2,000 FTEs. The estimates range from a shortage of 7,710 FTE mental health counselors in Texas to a surplus of 5,630 FTE mental health counselors in Pennsylvania.

Projected year (2030)

- In scenario one, a total of 32 states had an estimated shortage of mental health counselors, with 2 states having shortages of more than 2,000 FTEs (Texas with 4,660 FTEs and Florida with 3,400 FTEs). Pennsylvania had the largest surplus of 3,810 FTEs, followed by Virginia (3,670 FTEs).
- In scenario two, a total of 40 states with estimated shortages of mental health counselors, with 7 states having shortages of more than 2,000 FTEs. The estimates range from a shortage of 7,520 FTE mental health counselors in Texas to a surplus of 2,810 FTE mental health counselors in Virginia.

²³ U.S. Bureau of Labor Statistics. Occupational Outlook Handbook: Community and Social Service Occupations [Internet]. 2018. Available from: <https://www.bls.gov/ooh/community-and-social-service/home.htm>

²⁴ We used National Board for Certified Counselors (NBCC) data for the number of mental health counselors.

Table 15: Mental Health Counselor Supply and Demand, 2016 by State

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
Northeast	36,450	25,640	30,770	10,810	5,680
Connecticut	2,140	1,630	1,950	510	190
Maine	310	660	790	(350)	(480)
Massachusetts	6,870	3,140	3,770	3,730	3,110
New Hampshire	1,000	630	760	370	240
New Jersey	4,830	3,830	4,600	1,000	230
New York	7,080	8,560	10,260	(1,480)	(3,180)
Pennsylvania	13,250	6,350	7,620	6,900	5,630
Rhode Island	290	530	640	(240)	(350)
Vermont	680	310	380	370	300
Midwest	27,910	31,730	38,080	(3,820)	(10,170)
Illinois	5,210	5,650	6,780	(440)	(1,570)
Indiana	2,190	3,030	3,640	(840)	(1,450)
Iowa	1,460	1,490	1,790	(30)	(330)
Kansas	610	1,360	1,630	(750)	(1,020)
Michigan	2,600	4,480	5,370	(1,880)	(2,780)
Minnesota	4,110	2,630	3,160	1,480	950
Missouri	2,860	2,930	3,510	(70)	(650)
Nebraska	950	920	1,100	30	(150)
North Dakota	70	390	470	(320)	(400)
Ohio	4,890	5,580	6,700	(690)	(1,810)
South Dakota	470	440	530	30	(60)
Wisconsin	2,490	2,830	3,400	(340)	(910)
South	41,730	51,830	62,190	(10,040)	(20,410)
Alabama	950	2,250	2,700	(1,300)	(1,750)
Arkansas	760	1,360	1,640	(600)	(880)
Delaware	460	440	530	20	(70)
Distr. of Columbia	930	280	330	650	600
Florida	3,950	8,900	10,670	(4,940)	(6,720)
Georgia	2,620	4,100	4,920	(1,480)	(2,300)
Kentucky	2,130	2,220	2,660	(90)	(530)
Louisiana	2,350	2,060	2,470	290	(120)
Maryland	2,460	2,590	3,110	(130)	(650)
Mississippi	940	1,380	1,660	(440)	(720)
North Carolina	3,950	4,350	5,220	(400)	(1,270)
Oklahoma	2,330	1,760	2,110	570	220
South Carolina	760	2,130	2,550	(1,370)	(1,790)
Tennessee	2,410	3,010	3,620	(600)	(1,210)
Texas	4,810	10,430	12,520	(5,620)	(7,710)
Virginia	9,250	3,580	4,300	5,670	4,950
West Virginia	670	940	1,130	(270)	(460)

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
West	34,310	31,260	37,500	3,050	(3,190)
Alaska	710	310	380	400	330
Arizona	1,120	2,860	3,430	(1,740)	(2,310)
California	15,080	15,370	18,430	(290)	(3,350)
Colorado	5,100	2,260	2,710	2,840	2,390
Hawaii	300	590	710	(290)	(410)
Idaho	1,020	730	880	290	140
Montana	970	530	640	440	330
Nevada	680	1,140	1,370	(460)	(690)
New Mexico	1,080	850	1,020	230	60
Oregon	2,790	1,890	2,270	900	520
Utah	1,170	1,170	1,400	0	(230)
Washington	3,950	3,290	3,940	660	10
Wyoming	340	270	320	70	20
US	140,400	140,400	168,490	-	(28,090)

Table 16: Mental Health Counselor Supply and Demand, 2030 by State

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
Northeast	36,430	28,080	33,700	8,350	2,730
Connecticut	2,370	1,780	2,140	590	230
Maine	390	670	800	(280)	(410)
Massachusetts	5,730	3,510	4,210	2,220	1,520
New Hampshire	1,010	720	860	290	150
New Jersey	5,140	4,430	5,320	710	(180)
New York	9,790	9,080	10,900	710	(1,110)
Pennsylvania	10,810	7,000	8,400	3,810	2,410
Rhode Island	630	560	680	70	(50)
Vermont	560	330	390	230	170
Midwest	28,290	34,650	41,570	(6,360)	(13,280)
Illinois	6,010	6,290	7,550	(280)	(1,540)
Indiana	2,300	3,340	4,010	(1,040)	(1,710)
Iowa	1,460	1,490	1,790	(30)	(330)
Kansas	870	1,540	1,840	(670)	(970)
Michigan	2,890	4,730	5,670	(1,840)	(2,780)
Minnesota	3,610	3,010	3,620	600	(10)
Missouri	2,600	3,330	4,000	(730)	(1,400)
Nebraska	750	930	1,110	(180)	(360)
North Dakota	180	430	520	(250)	(340)
Ohio	4,850	5,730	6,870	(880)	(2,020)
South Dakota	580	520	620	60	(40)
Wisconsin	2,190	3,310	3,970	(1,120)	(1,780)

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
South	53,780	63,190	75,840	(9,410)	(22,060)
Alabama	1,540	2,450	2,940	(910)	(1,400)
Arkansas	860	1,450	1,730	(590)	(870)
Delaware	570	510	620	60	(50)
Distr. of Columbia	840	330	390	510	450
Florida	7,600	11,000	13,200	(3,400)	(5,600)
Georgia	3,570	5,010	6,020	(1,440)	(2,450)
Kentucky	2,240	2,440	2,930	(200)	(690)
Louisiana	2,110	2,390	2,870	(280)	(760)
Maryland	3,440	3,090	3,700	350	(260)
Mississippi	1,120	1,550	1,860	(430)	(740)
North Carolina	4,860	5,260	6,310	(400)	(1,450)
Oklahoma	1,690	2,010	2,410	(320)	(720)
South Carolina	1,810	2,590	3,110	(780)	(1,300)
Tennessee	3,090	3,630	4,360	(540)	(1,270)
Texas	9,620	14,280	17,140	(4,660)	(7,520)
Virginia	7,930	4,260	5,120	3,670	2,810
West Virginia	890	940	1,130	(50)	(240)
West	40,820	40,270	48,350	550	(7,530)
Alaska	760	370	450	390	310
Arizona	2,660	3,910	4,700	(1,250)	(2,040)
California	19,400	20,010	24,010	(610)	(4,610)
Colorado	4,590	2,990	3,580	1,600	1,010
Hawaii	710	760	910	(50)	(200)
Idaho	1,010	900	1,080	110	(70)
Montana	750	620	750	130	0
Nevada	1,100	1,440	1,730	(340)	(630)
New Mexico	720	1,070	1,290	(350)	(570)
Oregon	3,260	2,210	2,650	1,050	610
Utah	1,410	1,520	1,830	(110)	(420)
Washington	4,150	4,160	5,000	(10)	(850)
Wyoming	300	310	370	(10)	(70)
US	159,320	166,190	199,460	(6,870)	(40,140)

7. SCHOOL COUNSELORS

Educational, guidance, school, and vocational counselors (school counselors) work with students through individual and group counseling sessions to help students address academic, emotional, or social problems, but also provide services beyond behavioral health to include vocational guidance.²⁵ These counselors are certified or licensed professionals who possess a master's degree or higher in school counseling, or a substantial equivalent, meet state certification/licensure standards and abide by the laws of the states in which they are employed. Counselors are required to complete a practicum and internship supervised by a certified school counselor in a school setting. An estimated 108,130 school counselors were in practice in 2016.²⁶ Tables 17 and 18 contain state-level estimates of school counselors at the base year (2016) and the projected year (2030), respectively.

The projections are made relative to 2016 and reflect an assumption of equilibrium in scenario one and 20% shortage in scenario two, taking unmet need into consideration.

State- Level Findings

There is substantial state-level variation between projected supply and demand for school counselors in 2016 and 2030.

Base year (2016)

- Looking at each state's 2016 supply of school counselors minus its 2016 demand reveals both shortages and surpluses at the state level.
- In scenario one, a total of 15 states had an estimated shortage of school counselors, with 1 state having shortages of more than 2,000 FTEs (California with 4,620 FTEs). Texas had the largest surplus of 2,010 FTEs.
- In scenario two, a total of 28 states with estimated shortages of school counselors, with 2 states having shortages of more than 2,000 FTEs. The estimates range from a shortage of 7,270 FTE school counselors in California to a surplus of 380 FTE school counselors in Tennessee.

Projected year (2030)

- Due to faster growth in supply than in demand, the projected supply of school counselors is larger than demand in most states.
- In scenario one, all states have a surplus, where the largest surpluses include 9,200 FTEs in Texas, 7,590 FTEs in Illinois, and 7,580 in California.
- In scenario two, all states except Nevada (60 FTEs in shortage) have a surplus, where the largest surpluses include 6,780 FTEs in Illinois, 6,700 in Texas, 4,770 in California, and 4,650 in New York.

²⁵ American School Counselor Association. The Role of the Professional School Counselor [Internet]. ASCA; 2018. Available from: <https://www.schoolcounselor.org/administrators/role-of-the-school-counselor>

²⁶ We used the National Center for Education Statistics (NCES) data for the number of school counselors.

Table 17: School Counselor Supply and Demand, 2016 by State

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
Northeast	18,910	17,590	21,090	1,320	(2,180)
Connecticut	1,280	1,150	1,380	130	(100)
Maine	640	390	470	250	170
Massachusetts	2,460	2,080	2,490	380	(30)
New Hampshire	850	400	480	450	370
New Jersey	3,830	2,950	3,530	880	300
New York	4,560	6,130	7,360	(1,570)	(2,800)
Pennsylvania	4,450	3,990	4,780	460	(330)
Rhode Island	380	320	380	60	0
Vermont	460	180	220	280	240
Midwest	20,990	22,880	27,490	(1,890)	(6,500)
Illinois	3,300	4,320	5,180	(1,020)	(1,880)
Indiana	1,960	2,320	2,780	(360)	(820)
Iowa	1,300	1,050	1,270	250	30
Kansas	1,100	1,030	1,240	70	(140)
Michigan	2,040	3,260	3,910	(1,220)	(1,870)
Minnesota	1,290	1,880	2,260	(590)	(970)
Missouri	2,720	2,050	2,460	670	260
Nebraska	910	680	820	230	90
North Dakota	360	240	290	120	70
Ohio	3,790	3,850	4,620	(60)	(830)
South Dakota	320	300	370	20	(50)
Wisconsin	1,900	1,900	2,290	0	(390)
South	47,760	41,570	49,910	6,190	(2,150)
Alabama	1,750	1,630	1,960	120	(210)
Arkansas	1,390	1,040	1,240	350	150
Delaware	300	300	360	0	(60)
Distr. of Columbia	240	160	200	80	40
Florida	5,770	6,190	7,430	(420)	(1,660)
Georgia	3,800	3,700	4,440	100	(640)
Kentucky	1,560	1,480	1,780	80	(220)
Louisiana	1,530	1,620	1,950	(90)	(420)
Maryland	2,460	1,980	2,380	480	80
Mississippi	1,170	1,070	1,280	100	(110)
North Carolina	4,180	3,410	4,100	770	80
Oklahoma	1,680	1,390	1,670	290	10
South Carolina	2,100	1,630	1,960	470	140
Tennessee	3,030	2,210	2,650	820	380
Texas	12,470	10,460	12,550	2,010	(80)
Virginia	3,550	2,740	3,290	810	260
West Virginia	780	560	670	220	110

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
West	20,470	26,090	31,280	(5,620)	(10,810)
Alaska	330	270	320	60	10
Arizona	1,220	2,390	2,860	(1,170)	(1,640)
California	8,660	13,280	15,930	(4,620)	(7,270)
Colorado	2,420	1,860	2,230	560	190
Hawaii	630	440	530	190	100
Idaho	440	640	770	(200)	(330)
Montana	460	340	400	120	60
Nevada	930	990	1,180	(60)	(250)
New Mexico	760	730	870	30	(110)
Oregon	1,040	1,280	1,540	(240)	(500)
Utah	960	1,300	1,560	(340)	(600)
Washington	2,210	2,370	2,850	(160)	(640)
Wyoming	410	200	240	210	170
US	108,130	108,130	129,770	-	(21,640)

Table 18: School Counselor Supply and Demand, 2030 by State

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
Northeast	38,750	17,080	20,500	21,670	18,250
Connecticut	2,600	970	1,170	1,630	1,430
Maine	1,070	330	400	740	670
Massachusetts	5,420	1,950	2,330	3,470	3,090
New Hampshire	1,250	340	410	910	840
New Jersey	7,270	2,910	3,500	4,360	3,770
New York	12,290	6,370	7,640	5,920	4,650
Pennsylvania	7,590	3,770	4,520	3,820	3,070
Rhode Island	560	280	340	280	220
Vermont	700	160	190	540	510
Midwest	42,910	21,540	25,870	21,370	17,040
Illinois	11,610	4,020	4,830	7,590	6,780
Indiana	3,420	2,220	2,670	1,200	750
Iowa	1,710	910	1,090	800	620
Kansas	1,690	980	1,180	710	510
Michigan	5,170	3,000	3,600	2,170	1,570
Minnesota	2,780	1,790	2,150	990	630
Missouri	4,610	2,010	2,410	2,600	2,200
Nebraska	1,300	720	860	580	440
North Dakota	420	240	290	180	130
Ohio	6,140	3,490	4,190	2,650	1,950
South Dakota	440	300	360	140	80
Wisconsin	3,620	1,860	2,240	1,760	1,380

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
South	86,000	44,980	53,950	41,020	32,050
Alabama	3,290	1,510	1,810	1,780	1,480
Arkansas	2,660	1,000	1,190	1,660	1,470
Delaware	650	300	360	350	290
Distr. of Columbia	470	200	240	270	230
Florida	12,310	7,050	8,460	5,260	3,850
Georgia	6,560	4,040	4,850	2,520	1,710
Kentucky	3,130	1,420	1,700	1,710	1,430
Louisiana	2,700	1,670	2,000	1,030	700
Maryland	3,050	1,920	2,300	1,130	750
Mississippi	1,900	950	1,140	950	760
North Carolina	7,040	3,570	4,280	3,470	2,760
Oklahoma	3,150	1,410	1,690	1,740	1,460
South Carolina	4,500	1,730	2,070	2,770	2,430
Tennessee	5,440	2,280	2,740	3,160	2,700
Texas	21,730	12,530	15,030	9,200	6,700
Virginia	5,680	2,900	3,480	2,780	2,200
West Virginia	1,740	500	610	1,240	1,130
West	49,450	28,220	33,870	21,230	15,580
Alaska	420	310	370	110	50
Arizona	4,860	2,790	3,350	2,070	1,510
California	21,650	14,070	16,880	7,580	4,770
Colorado	4,320	2,120	2,540	2,200	1,780
Hawaii	930	540	650	390	280
Idaho	1,810	660	800	1,150	1,010
Montana	840	340	410	500	430
Nevada	1,290	1,120	1,350	170	(60)
New Mexico	1,580	770	920	810	660
Oregon	2,560	1,280	1,540	1,280	1,020
Utah	2,500	1,510	1,810	990	690
Washington	6,270	2,510	3,010	3,760	3,260
Wyoming	420	200	240	220	180
US	217,110	111,820	134,190	105,290	82,920

8. SOCIAL WORKERS

Mental health and substance use disorder clinical social workers are licensed professionals qualified to diagnose and treat individuals with mental, emotional, or substance use disorder problems; conduct psychotherapy independently; and be reimbursed by third-party payers.²⁷ They are also qualified to provide forensic reports in legal cases, determine whether a patient is a danger to self or others requiring involuntary treatment, and make bio-psychosocial assessments of the mental health of patients. These social workers do not prescribe psychotropic medication, but work closely with physicians and nurse practitioners when medication is needed in combination with psychotherapy services. All states require clinical social workers to be licensed—which requires a master’s degree in social work, two years or 3,000 hours of supervised clinical experience, and passage of a licensing exam. Due to data limitations, this study models supply and demand for all social workers trained at the master’s level or higher—a broader scope than just mental health and substance abuse social workers alone. An estimated 232,900 social workers were in practice in 2016.²⁸ Tables 19 and 20 contain state-level estimates of social workers with a graduate degree at the base year (2016) and the projected year (2030), respectively.

The projections are made relative to 2016 and reflect an assumption of equilibrium in scenario one and 20% shortage in scenario two, taking unmet need into consideration.

State- Level Findings

There is substantial state-level variation between projected supply and demand for social workers in 2016 and 2030.

Base year (2016)

- Looking at each state’s 2016 supply of social workers minus its 2016 demand reveals both shortages and surpluses at the state level.
- In scenario one, a total of 32 states had an estimated shortage of social workers, with 3 states having shortages of more than 2,000 FTEs (Texas with 8,080 FTEs, Florida with 4,700 FTEs and Georgia with 2,810 FTEs). Seven states had more than 2,000 FTEs surplus including New York with 12,860 FTEs, and Massachusetts with 4,220 FTEs.
- In scenario two, a total of 38 states with estimated shortages of social workers, with 10 states having shortages of more than 2,000 FTEs. The estimates range from a shortage of 11,770 FTE social workers in Texas to a surplus of 10,050 FTE social workers in New York.

Projected year (2030)

- Due to faster growth in supply than in demand, the projected supply of social workers is larger than demand in most states.
- In scenario one, all states except Arkansas (640 FTEs in shortage) have a surplus, with the largest surpluses include 36,030 FTEs in New York and 31,440 in California.

²⁷ U.S. Bureau of Labor Statistics. Occupational Outlook Handbook: Community and Social Service Occupations [Internet]. 2018. Available from: <https://www.bls.gov/ooh/community-and-social-service/home.htm>

²⁸ We used the Bureau of Labor Statistics (BLS) Occupational Employment Statistics (OES) for total number of social workers.

- In scenario two, all states except Arkansas (1,110 FTEs in shortage) have a surplus, with the largest surpluses in New York (33,100 FTEs) and in California (24,930).

Table 19: Social Worker Supply and Demand, 2016 by State

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
Northeast	65,070	41,330	49,610	23,740	15,460
Connecticut	4,760	2,590	3,110	2,170	1,650
Maine	1,330	1,000	1,200	330	130
Massachusetts	9,270	5,050	6,060	4,220	3,210
New Hampshire	1,080	970	1,160	110	(80)
New Jersey	9,050	6,270	7,530	2,780	1,520
New York	26,900	14,040	16,850	12,860	10,050
Pennsylvania	10,490	10,100	12,120	390	(1,630)
Rhode Island	1,330	830	1,000	500	330
Vermont	860	480	580	380	280
Midwest	52,290	51,130	61,360	1,160	(9,070)
Illinois	12,950	9,360	11,230	3,590	1,720
Indiana	3,580	5,030	6,030	(1,450)	(2,450)
Iowa	1,540	2,340	2,810	(800)	(1,270)
Kansas	2,120	2,150	2,580	(30)	(460)
Michigan	10,280	7,680	9,210	2,600	1,070
Minnesota	4,860	4,060	4,870	800	(10)
Missouri	3,890	4,640	5,570	(750)	(1,680)
Nebraska	1,040	1,380	1,660	(340)	(620)
North Dakota	150	560	670	(410)	(520)
Ohio	7,760	8,940	10,730	(1,180)	(2,970)
South Dakota	320	650	790	(330)	(470)
Wisconsin	3,800	4,340	5,210	(540)	(1,410)
South	67,500	88,180	105,810	(20,680)	(38,310)
Alabama	2,100	3,820	4,580	(1,720)	(2,480)
Arkansas	870	2,270	2,720	(1,400)	(1,850)
Delaware	570	710	860	(140)	(290)
Distr. of Columbia	860	500	600	360	260
Florida	10,110	14,810	17,780	(4,700)	(7,670)
Georgia	4,490	7,300	8,770	(2,810)	(4,280)
Kentucky	2,870	3,540	4,240	(670)	(1,370)
Louisiana	3,330	3,590	4,300	(260)	(970)
Maryland	8,120	4,370	5,240	3,750	2,880
Mississippi	1,280	2,260	2,710	(980)	(1,430)
North Carolina	7,140	7,520	9,020	(380)	(1,880)
Oklahoma	1,850	2,870	3,440	(1,020)	(1,590)
South Carolina	2,680	3,690	4,430	(1,010)	(1,750)
Tennessee	3,360	5,090	6,110	(1,730)	(2,750)
Texas	10,400	18,480	22,170	(8,080)	(11,770)
Virginia	6,560	5,820	6,990	740	(430)
West Virginia	910	1,540	1,850	(630)	(940)

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
West	48,040	52,260	62,680	(4,220)	(14,640)
Alaska	390	470	570	(80)	(180)
Arizona	3,500	4,910	5,890	(1,410)	(2,390)
California	26,130	26,110	31,330	20	(5,200)
Colorado	3,810	3,700	4,440	110	(630)
Hawaii	1,260	890	1,060	370	200
Idaho	660	1,210	1,450	(550)	(790)
Montana	290	750	900	(460)	(610)
Nevada	1,190	1,990	2,380	(800)	(1,190)
New Mexico	1,830	1,430	1,710	400	120
Oregon	2,980	3,070	3,680	(90)	(700)
Utah	1,480	2,010	2,410	(530)	(930)
Washington	4,300	5,310	6,370	(1,010)	(2,070)
Wyoming	220	410	490	(190)	(270)
US	232,900	232,900	279,460	-	(46,560)

Table 20: Social Worker Supply and Demand, 2030 by State

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
Northeast	127,880	43,910	52,710	83,970	75,170
Connecticut	9,000	2,710	3,250	6,290	5,750
Maine	2,060	960	1,160	1,100	900
Massachusetts	17,170	5,430	6,510	11,740	10,660
New Hampshire	2,130	1,040	1,250	1,090	880
New Jersey	21,280	7,010	8,420	14,270	12,860
New York	50,670	14,640	17,570	36,030	33,100
Pennsylvania	21,660	10,780	12,940	10,880	8,720
Rhode Island	2,650	860	1,030	1,790	1,620
Vermont	1,260	480	580	780	680
Midwest	105,610	53,600	64,310	52,010	41,300
Illinois	27,460	9,970	11,970	17,490	15,490
Indiana	7,610	5,320	6,390	2,290	1,220
Iowa	2,740	2,240	2,680	500	60
Kansas	3,950	2,300	2,760	1,650	1,190
Michigan	18,590	7,810	9,370	10,780	9,220
Minnesota	8,350	4,430	5,320	3,920	3,030
Missouri	7,750	5,060	6,080	2,690	1,670
Nebraska	1,950	1,420	1,700	530	250
North Dakota	1,130	590	700	540	430
Ohio	16,910	8,890	10,660	8,020	6,250
South Dakota	1,290	730	870	560	420
Wisconsin	7,880	4,840	5,810	3,040	2,070

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
South	165,300	104,650	125,600	60,650	39,700
Alabama	4,660	4,000	4,800	660	(140)
Arkansas	1,700	2,340	2,810	(640)	(1,110)
Delaware	1,540	810	980	730	560
Distr. of Columbia	1,960	580	700	1,380	1,260
Florida	25,410	18,040	21,650	7,370	3,760
Georgia	11,180	8,680	10,410	2,500	770
Kentucky	7,600	3,760	4,510	3,840	3,090
Louisiana	6,380	4,050	4,860	2,330	1,520
Maryland	17,470	4,940	5,930	12,530	11,540
Mississippi	3,820	2,410	2,890	1,410	930
North Carolina	16,810	8,770	10,520	8,040	6,290
Oklahoma	4,050	3,180	3,820	870	230
South Carolina	6,660	4,360	5,230	2,300	1,430
Tennessee	8,090	5,920	7,110	2,170	980
Texas	30,170	24,590	29,510	5,580	660
Virginia	15,170	6,750	8,100	8,420	7,070
West Virginia	2,630	1,470	1,770	1,160	860
West	121,660	64,630	77,550	57,030	44,110
Alaska	1,300	550	660	750	640
Arizona	9,660	6,510	7,810	3,150	1,850
California	63,980	32,540	39,050	31,440	24,930
Colorado	10,860	4,700	5,640	6,160	5,220
Hawaii	2,500	1,120	1,340	1,380	1,160
Idaho	2,710	1,420	1,700	1,290	1,010
Montana	1,410	830	1,000	580	410
Nevada	3,570	2,440	2,930	1,130	640
New Mexico	2,630	1,730	2,070	900	560
Oregon	7,720	3,430	4,120	4,290	3,600
Utah	4,810	2,530	3,040	2,280	1,770
Washington	9,700	6,380	7,650	3,320	2,050
Wyoming	810	450	540	360	270
US	520,450	266,790	320,170	253,660	200,280

9. MARRIAGE & FAMILY THERAPISTS

Marriage and family therapists (MFTs) diagnose and treat mental and emotional disorders—whether cognitive, affective, or behavioral—within the context of marriage and family systems.²⁹ They address issues such as low self-esteem, stress, substance abuse, eating disorders, and chronic illness that contribute to marital or family distress. All states require a license to practice. Licensure requires a master's degree in marriage and family therapy and two years of supervised clinical experience. MFTs must pass a state-recognized exam and complete annual continuing education classes. They are employed in mental health centers, substance abuse treatment centers, hospitals, colleges, private practices, and employee assistance programs. An estimated 52,860 MFTs were in practice in 2016.³⁰ Tables 21 and 22 contain state-level estimates of marriage & family therapists at the base year (2016) and the projected year (2030), respectively.

The projections are made relative to 2016 and reflect an assumption of equilibrium in scenario one and 20% shortage in scenario two, taking unmet need into consideration.

State- Level Findings

There is substantial state-level variation between projected supply and demand for marriage and family therapists in 2016 and 2030.

Base year (2016)

- Looking at each state's 2016 supply of marriage and family therapists minus its 2016 demand reveals both shortages and surpluses at the state level.
- In scenario one, a total of 24 states had an estimated shortage of marriage and family therapists, with 2 states having shortages of more than 500 FTEs (Texas with 770 FTEs and Florida with 580 FTEs). One state had more than 500 FTEs surplus (New York with 970 FTEs).
- In scenario two, a total of 34 states with estimated shortages of marriage and family therapists, with 7 states having shortages of more than 500 FTEs. The estimates range from a shortage of 1,590 FTE marriage and family therapists in Texas to a surplus of 340 FTEs in New York.

Projected year (2030)

- In scenario one, a total of 10 states had an estimated shortage of marriage and family therapists, with the largest shortage in Wisconsin (210 FTEs). The states with the largest surpluses include New York (2,160 FTEs) and California (1,670 FTEs).
- In scenario two, a total of 21 states had estimated shortages of marriage and family therapists, with the largest shortage in Texas (1,020 FTEs), followed by Florida (640 FTEs). The states with the largest surpluses include New York (1,490 FTEs) and Virginia (670 FTEs).

²⁹ American Association for Marriage and Family Therapy. About Marriage and Family Therapists [Internet]. AAMFT; 2018. Available from: https://www.aamft.org/About_AAMFT/About_Marriage_and_Family_Therapists.aspx

³⁰ We used Substance Abuse and Mental Health Services Administration's (SAMHSA) Behavioral Health, United States (2012) report, with total de-duplicated marriage and family therapist licenses by state—using 2011 data and HWSM to simulate supply to a starting supply in 2016.

Table 21: Marriage & Family Therapist Supply and Demand, 2016 by State

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
Northeast	11,700	9,500	11,410	2,200	290
Connecticut	860	610	730	250	130
Maine	290	240	290	50	0
Massachusetts	1,630	1,170	1,410	460	220
New Hampshire	350	230	280	120	70
New Jersey	1,480	1,450	1,740	30	(260)
New York	4,190	3,220	3,850	970	340
Pennsylvania	2,510	2,280	2,740	230	(230)
Rhode Island	250	190	230	60	20
Vermont	140	110	140	30	0
Midwest	9,990	11,690	14,010	(1,700)	(4,020)
Illinois	1,820	2,110	2,530	(290)	(710)
Indiana	830	1,130	1,350	(300)	(520)
Iowa	560	550	660	10	(100)
Kansas	390	500	600	(110)	(210)
Michigan	1,270	1,680	2,020	(410)	(750)
Minnesota	1,180	970	1,160	210	20
Missouri	880	1,060	1,280	(180)	(400)
Nebraska	300	330	400	(30)	(100)
North Dakota	70	140	160	(70)	(90)
Ohio	1,740	2,030	2,430	(290)	(690)
South Dakota	180	160	190	20	(10)
Wisconsin	770	1,030	1,230	(260)	(460)
South	18,110	19,550	23,470	(1,440)	(5,360)
Alabama	660	820	990	(160)	(330)
Arkansas	420	500	600	(80)	(180)
Delaware	220	160	190	60	30
Distr. of Columbia	150	100	120	50	30
Florida	2,740	3,320	3,980	(580)	(1,240)
Georgia	1,470	1,580	1,900	(110)	(430)
Kentucky	670	810	970	(140)	(300)
Louisiana	720	760	920	(40)	(200)
Maryland	1,270	980	1,170	290	100
Mississippi	370	500	600	(130)	(230)
North Carolina	1,510	1,640	1,970	(130)	(460)
Oklahoma	700	660	790	40	(90)
South Carolina	740	800	960	(60)	(220)
Tennessee	1,040	1,120	1,350	(80)	(310)
Texas	3,330	4,100	4,920	(770)	(1,590)
Virginia	1,790	1,360	1,630	430	160
West Virginia	310	340	410	(30)	(100)

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
West	13,060	12,120	14,540	940	(1,480)
Alaska	180	120	150	60	30
Arizona	1,280	1,110	1,330	170	(50)
California	6,070	6,010	7,210	60	(1,140)
Colorado	1,060	880	1,060	180	0
Hawaii	320	230	280	90	40
Idaho	270	280	330	(10)	(60)
Montana	220	190	230	30	(10)
Nevada	350	450	540	(100)	(190)
New Mexico	350	330	390	20	(40)
Oregon	910	710	850	200	60
Utah	450	470	560	(20)	(110)
Washington	1,490	1,240	1,490	250	0
Wyoming	110	100	120	10	(10)
US	52,860	52,860	63,430	-	(10,570)

Table 22: Marriage & Family Therapist Supply and Demand, 2030 by State

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
Northeast	15,340	10,070	12,100	5,270	3,240
Connecticut	1,140	640	770	500	370
Maine	280	230	280	50	0
Massachusetts	2,080	1,260	1,510	820	570
New Hampshire	410	250	300	160	110
New Jersey	2,040	1,620	1,940	420	100
New York	5,500	3,340	4,010	2,160	1,490
Pennsylvania	3,310	2,420	2,910	890	400
Rhode Island	350	200	240	150	110
Vermont	230	110	140	120	90
Midwest	12,700	12,230	14,660	470	(1,960)
Illinois	2,680	2,250	2,700	430	(20)
Indiana	1,060	1,190	1,430	(130)	(370)
Iowa	670	530	630	140	40
Kansas	500	540	640	(40)	(140)
Michigan	1,590	1,700	2,040	(110)	(450)
Minnesota	1,380	1,060	1,270	320	110
Missouri	1,040	1,160	1,390	(120)	(350)
Nebraska	300	340	400	(40)	(100)
North Dakota	100	140	170	(40)	(70)
Ohio	2,210	2,010	2,410	200	(200)
South Dakota	240	170	210	70	30
Wisconsin	930	1,140	1,370	(210)	(440)

Region and State	Supply	Demand		Adequacy of Supply	
		Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)	Scenario One (assumes equilibrium)	Scenario Two (Unmet needs)
South	26,410	23,170	27,790	3,240	(1,380)
Alabama	920	860	1,030	60	(110)
Arkansas	500	520	620	(20)	(120)
Delaware	330	180	220	150	110
Distr. of Columbia	250	120	140	130	110
Florida	4,190	4,020	4,830	170	(640)
Georgia	1,940	1,880	2,250	60	(310)
Kentucky	900	860	1,030	40	(130)
Louisiana	910	860	1,030	50	(120)
Maryland	1,730	1,110	1,330	620	400
Mississippi	530	530	640	0	(110)
North Carolina	2,420	1,910	2,290	510	130
Oklahoma	700	730	880	(30)	(180)
South Carolina	1,120	940	1,130	180	(10)
Tennessee	1,410	1,290	1,550	120	(140)
Texas	5,530	5,460	6,550	70	(1,020)
Virginia	2,550	1,570	1,880	980	670
West Virginia	480	330	390	150	90
West	19,820	15,040	18,070	4,780	1,750
Alaska	260	140	170	120	90
Arizona	2,110	1,480	1,770	630	340
California	9,200	7,530	9,040	1,670	160
Colorado	1,800	1,120	1,350	680	450
Hawaii	440	290	350	150	90
Idaho	430	330	390	100	40
Montana	280	210	260	70	20
Nevada	670	550	670	120	0
New Mexico	360	400	480	(40)	(120)
Oregon	1,340	800	960	540	380
Utah	800	590	710	210	90
Washington	2,000	1,490	1,790	510	210
Wyoming	130	110	130	20	0
US	74,270	60,510	72,620	13,760	1,650

STRENGTHS AND LIMITATIONS

The main strengths of this study are the use of recent data for modeling supply and demand, and the use of a sophisticated microsimulation model (HWSM) that takes into consideration changing demographics of the behavioral health workforce and key supply inputs for modeling supply and the characteristics of the current and future population for modeling demand. In addition, the study team collaborated with professional associations that represent behavioral health occupations to identify the best data sources for modeling supply, to solicit input on key issues and trends that have implications for workforce supply and demand, and to obtain feedback on preliminary workforce projections. The findings and conclusions in this report do not necessarily reflect the views of these professional associations or the views of association representatives who participated in this study.

Like all models, HWSM operates under limitations and uncertainties pertaining to data inputs and modeling assumptions.

One limitation for many occupations is that we used national data sources to estimate provider supply in 2016 rather than state licensure files which were unavailable. While this limitation might not affect the national supply projections, starting year estimates of supply for states could differ from what states report.

A second limitation is the limited supply-related information for some behavioral health occupations. For example, in the ACS (the source for estimating hours worked and retirement patterns) one cannot explicitly identify NPs and PAs providing behavioral health services. Therefore, we used information on broader occupation categories for model inputs. For example, we used hours worked and retirement patterns for total NPs and total PAs to model workforce patterns for psychiatric NPs and PAs, respectively. There is also a lack of published research on how workforce participation (occupation selection, geographic practice location, and patient care hours worked) for behavioral health occupations changes in response to economic factors and other external events (e.g., policy changes).

A third limitation is that while there appears to be widespread agreement that current supply of many behavioral health occupations is insufficient, precise estimates of current shortage are unavailable. This limitation reflects both data and conceptual challenges about what exactly constitutes a shortfall. We address this issue using alternative demand projection scenarios regarding assumptions about current shortfall. The status quo scenario extrapolates the current national average level care for all occupations except psychiatry—where we use the estimate that in 2016 an estimated 5,506 additional providers would be required to remove the mental health profession shortage designations (raising supply to a minimum level in affected geographic areas, communities, and facilities). This scenario models what future demand for behavioral health providers would be to maintain current levels of care. An alternative scenario modeled an estimated 20% increase in demand for providers to help address current levels of unmet need. Under this scenario the demand for behavioral health services and providers is shifted upwards by 20%.

A fourth limitation is that while the population file underlying HWSM contains information on demographics, socioeconomic characteristics, disease prevalence, and lifestyle decisions, HWSM does not explicitly contain data on patients' mental health status or substance use disorder status (e.g., level of alcohol use and illicit drug use). This reflects data challenges—that variables available in files used to

create the population file (e.g., Behavioral Risk Factor Surveillance System) are not comparable with variables in the Medical Expenditure Panel Survey for developing prediction equations of the relationship between patient characteristics and use of different types of health and counseling services. To validate and calibrate the model we compared projected model output for demand for behavioral health providers to external data reflecting state-level variation in measures of mental health and substance use. HWSM estimates of state-level demand for mental health providers are strongly correlated ($R=0.66$) with state-level variation in self-reported prevalence of depression/anxiety disorder. This is because the HWSM population file contains information that is highly correlated with prevalence of mental health needs (i.e., demographics, socioeconomic characteristics, disease presence, and lifestyle behavior). However, state-level projections for addiction counselors show little correlation with state-level estimates of substance use disorder among adults.³¹ Therefore, we developed multiplicative scalars for each state which we applied to the addiction counselor demand projections. These scalars were created by dividing the prevalence of substance use disorder in each state by the national average. Hence, if a state had 10% higher or 10% lower prevalence relative to the national average, the scalar would be 1.1 and 0.9, respectively. While these scalars changed the state-level projections, they had only a negligible effect on national projections.

A fifth limitation is that data gaps and uncertainties exist regarding how psychiatric care use and delivery patterns will evolve over time. Although the implementation of the Affordable Care Act (ACA) has likely increased the number of individuals accessing behavioral health services, it is less clear to what extent the legal requirements that make coverage of these services mandatory as part of the core benefits in ACA will be enforced in the future, to say nothing of the future of ACA itself. Therefore, although estimates of demand growth from increased coverage are modeled, due to current uncertainties and lack of available data to measure expected ACA induced effects on staffing patterns and the roles of different health professions, HWSM does not currently incorporate projected demand associated with these factors.

³¹ Theresa Nguyen, Michele Hellebuyck, Madeline Halpern, and Danielle Fritze. The State of Mental Health In American 2018 [Internet]. 2017. Available from: <http://www.mentalhealthamerica.net/sites/default/files/2018%20The%20State%20of%20MH%20in%20America%20-%20FINAL.pdf>