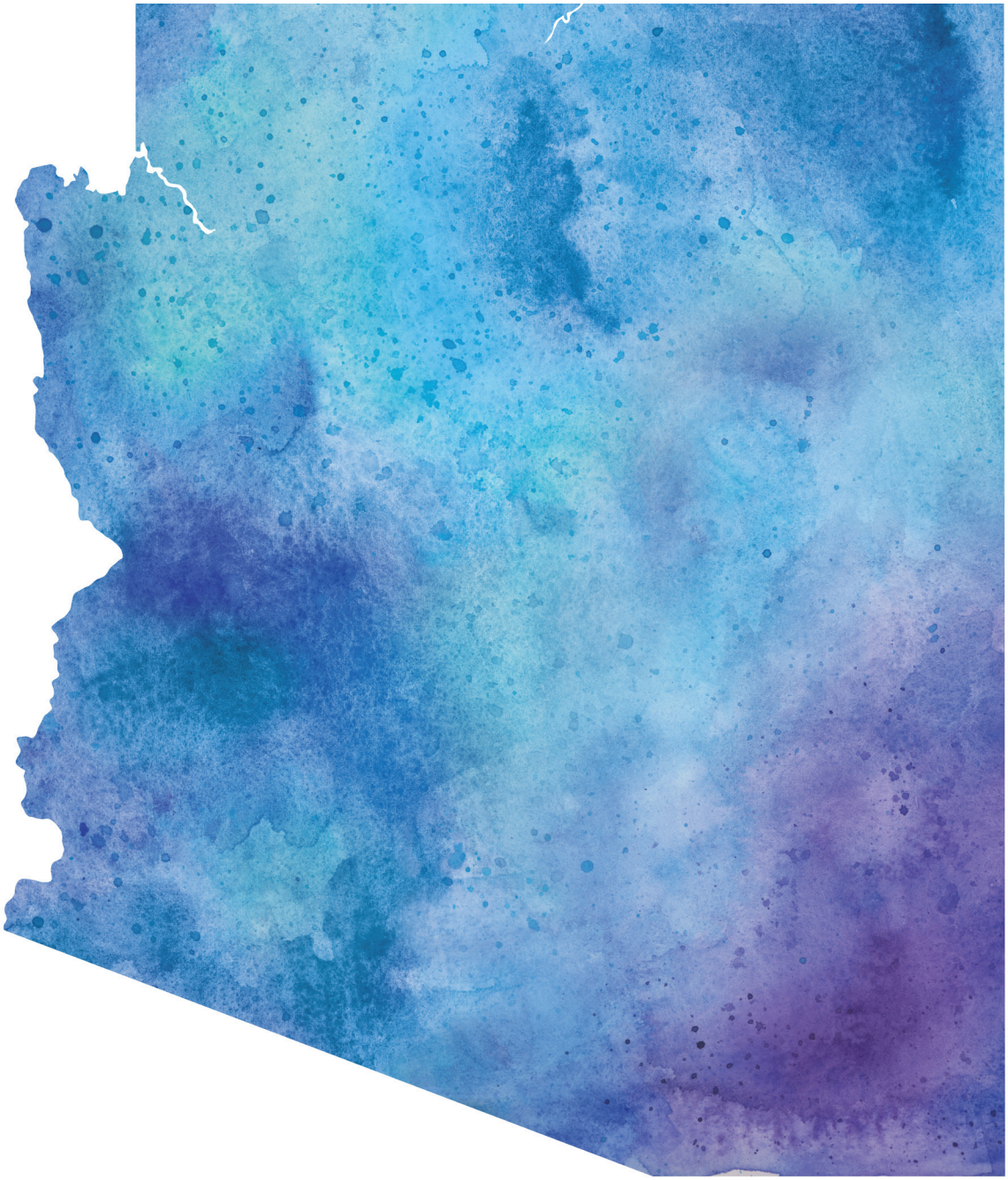
The Arizona Behavioral Health Workforce

NOVEMBER 2020



THE UNIVERSITY OF ARIZONA
MEL & ENID ZUCKERMAN COLLEGE OF PUBLIC HEALTH
Center for Rural Health

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Contents

Executive Summary 4

Introduction 6

Overview of Behavioral Health 6

- Social Determinants of Behavioral Health Disparities 6
  - Social Determinants of Behavioral Health in Childhood 7
  - Social Determinants of Behavioral Health in Adulthood 7
- Behavioral Health Data 8
  - Rural – Urban Behavioral Health 8
  - Behavioral Health in Arizona 9
- Access to Behavioral Health Care 11
  - Coverage and costs 11
  - Services and system 12
  - Timeliness 13
  - Behavioral Health Workforce 13

Rural and Non-Rural Differences in Availability of Behavioral Healthcare Providers 14

- Psychiatrists 15
- Psychologists and Behavior Analysts 16
- Social Workers, Marriage and Family Therapists, Counselors, and Substance Abuse Counselors 16

Federally Designated Behavioral Health Workforce Shortage Areas 18

Behavioral Health Workforce Results 19

- Arizona Demographic Overview 19
- Providers by State and County 20
- Providers by Rural Location 21
- Prescribers and Non-Prescribing Providers 24

Improving Behavioral Health and Health Care Access 27

Conclusion 28

References 29

Appendix A 35

Appendix B 36

Appendix C 37

Appendix D 38

The Arizona Behavioral Health Workforce

Background

- Behavioral health is a broad term that encompasses mental health, substance use disorders, and co-occurring disorders (the presence of both mental health and substance use disorders).
- Common behavioral health disorders include depression, anxiety, and alcohol and drug dependency.

Behavioral Health in Arizona

- 19.24% of adults experienced mental illness in the prior year.
- 4.43% of adults had serious thoughts of suicide in the prior year.
- 7.36% of adults experienced a substance use disorder in the prior year.
- 5.70% of adults experienced an alcohol use disorder in the prior year.

40% of Arizonans live in a mental health care professional shortage area.

61% of Arizonan adults experience mental illness but do not receive treatment.

BEHAVIORAL HEALTH

Behavioral health is a "state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community." People with behavioral health problems can live "satisfying, meaningful, contributing life..."

PROMOTING BEHAVIORAL HEALTH

Protective factors to promote behavioral health include education, stable employment, economic stability, secure housing, higher socio-economic status, family support, positive peer relationships, social engagement, and physical activity.

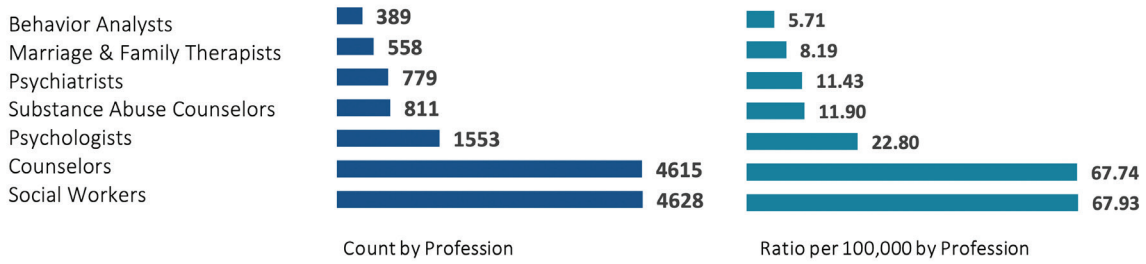
The Workforce

The behavioral health workforce includes "all workers involved in treatment or prevention of mental health and/or substance use disorders."

Psychiatrists*
Psychologists*
Advanced Practice Psychiatric Nurses
Marriage and Family Therapists*
Certified Prevention Specialists
Addiction Counselors*
Psychiatric Nurse Practitioners
Psychiatric Physician Assistants
Mental Health/Professional Counselors*
Clinical, Counseling, School Psychologists
School Counselors
Social Workers*
Psychiatric Rehabilitation Specialists
Case Managers
Psychiatric Aides and Technicians
Homeless Outreach Specialists
Parent Aides
Peer Support Specialists
Recovery Coaches

***included in this report**

Arizona Behavioral Health Workforce 2019



Rural Disparities

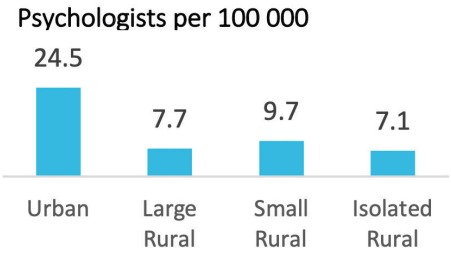
- Rural barriers to behavioral health care include longer travel distances to providers, lack of behavioral health workforce, and stigma.
- Rural populations are more likely to have higher uninsured rates and higher levels of poverty compared to non-rural populations, increasing the likelihood that cost is also a barrier to behavioral health care.

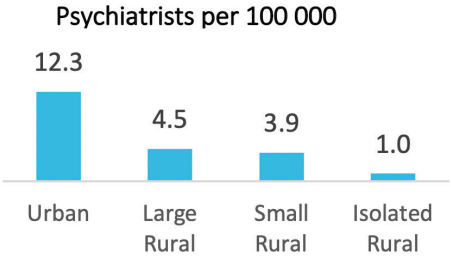
90% of Arizonans live in urban areas and **95.7%** of behavioral health providers are located in urban areas.

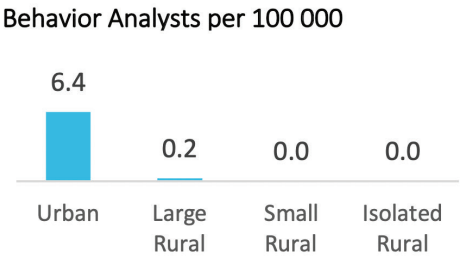
10% of Arizonans live in large (micropolitan), small, and isolated small rural areas and **4.3%** of behavioral health providers are located in these areas.

Rural Workforce

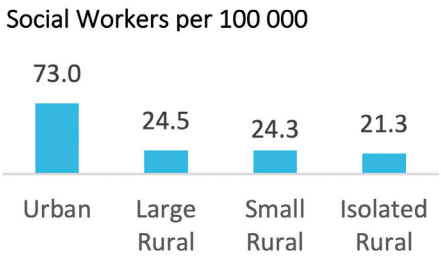
	Total	Psychiatrists	Psychologists	Behavior Analysts
Arizona	**13,333**	**779**	**1,553**	**389**
Urban	12,762	752	1,495	388
Large Rural	348	18	31	1
Small Rural	163	8	20	0
Isolated Rural	60	1	7	0

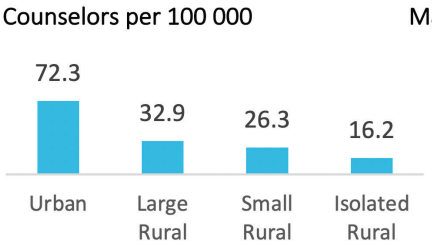


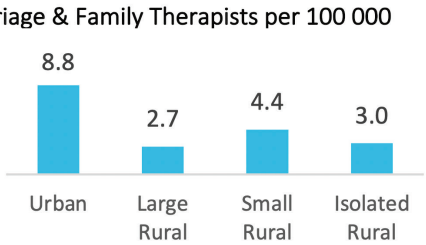


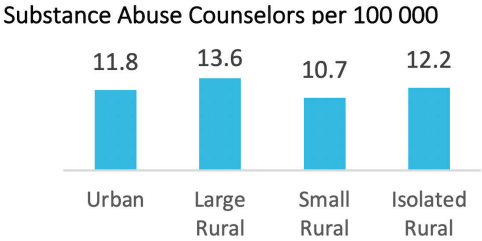


	Social Workers	Counselors	Marriage & Family Therapists	Substance Abuse Counselors
Arizona	**4,628**	**4,615**	**558**	**811**
Urban	4,458	4,412	535	722
Large Rural	99	133	11	55
Small Rural	50	54	9	22
Isolated Rural	21	16	3	12









Introduction

The Arizona Behavioral Health Workforce Report is intended to inform Arizona health workforce policies to support a well-distributed and accessible behavioral health workforce. It has two aims: (1) describe behavioral health and access to behavioral healthcare in Arizona, and (2) use workforce data to describe rural and non-rural differences in the distribution of Arizona behavioral healthcare providers. For the first aim, we describe behavioral health needs, coverage, and access. For the second, we present an analysis of Arizona's behavioral health workforce using provider per population ratios by Rural Urban Commuting Area (RUCA) categories. The workforce analysis begins on page 13.

Overview of Behavioral Health

Behavioral health is included in common definitions of health, including the World Health Organization's (WHO) view that health is a "complete state of physical, mental and social well-being and not merely the absence of disease." The WHO defines mental health as a "state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community." People with mental health disorders can live "satisfying, meaningful, contributing life within the constraints of painful, distressing, or debilitating symptoms" (World Health Organization, 2014).

There are multiple definitions of health including definitions that consider behavioral health to be a balance between an individual and their environment. The Substance Abuse and Mental Health Services Administration (SAMHSA) states "Among many American Indian and Alaska Native cultures, substance use and mental illness are not defined as diseases, diagnoses, or moral maladies, nor are they viewed as physical or character flaws. Instead, they are seen as symptoms of imbalance in the individual's relationship with the world. Thus, healing and treatment approaches must be inclusive of all aspects of life—spiritual, emotional, physical, social, behavioral, and cognitive." (SAMHSA, 2018a).

For this report, behavioral health is a broad term that encompasses mental health, substance use disorders, and co-occurring disorders (the presence of both mental health and substance use disorders) (Centers for Medicare and Medicaid Services, 2019). Common behavioral health disorders include depression, anxiety, and alcohol and drug dependency (World Health Organization, 2014). We use the term behavioral health in this report to encompass both mental health/mental illness and substance use disorders. When this report cites other research or survey data the original terms used in that research will be used.

Social Determinants of Behavioral Health Disparities

Mental health and substance use disorders contribute to the disease burden in the US and are among the leading causes of death (Kamal, 2017; Kilbourne et al., 2018). Prevention, early identification, screening, and access to high-quality treatment are public health priorities to promote behavioral health and reduce the impact behavioral health illness can have on individuals and society. Behavioral health is influenced by the social, physical, and economic environments where people grow up, live, and work. These environments are shaped by social and structural factors that may result in unequal and unfair

distribution of resources and opportunities based on social group characteristics like race, ethnicity, and gender (World Health Organization, 2014). This inequality can lead to disadvantages that begin at birth and unfold over a lifetime, influencing adverse childhood experience, stress, and economic security. The Arizona State Health Assessment from the Arizona Department of Health (ADHS) emphasizes a life-course approach, a focus on health equity, and states "Social, economic, and physical conditions in our communities impact the health and wellbeing of all Arizona residents." (ADHS, 2019, p. 14).

Social Determinants of Behavioral Health in Childhood

Adverse Childhood Experiences (ACES) occur when children experience poverty, instability, neglect, abuse, and other negative conditions. Early childhood stress can "affect biological stress regulatory systems, neural mechanisms by which stress responses are regulated in the brain, and the expression of genes related to stress responses" (World Health Organization, 2014, p.18). Frequent and prolonged exposure to stressful experiences can have lasting physical health consequences (World Health Organization, 2014). Exposure to ACEs increases likelihood of poor physical and mental health outcomes later in life (McLaughlin, 2017). "ACEs are linked to chronic health problems, mental illness, and substance misuse in adulthood [and can] negatively impact education and job opportunities"(Centers for Disease Control and Prevention, 2020).

ACES are unequally distributed by social (non-biological) factors like race and income. Black, Hispanic, and poor children experience higher rates of adverse experiences compared to white and wealthier children (Sacks & Murphey, 2018; Slopen et al., 2016). Poverty is equally associated with children experiencing four or more ACEs in urban and rural areas (Crouch, Radcliff, Probst, Bennett, & McKinney, 2020). Arizona ranks 50 of 50 states in the percentage (30%) of children (ages 0 to 17) with at least two ACES. The three most prevalent ACES for children were parental divorce or separation, difficulty with food or housing, and lived with someone who had drug or alcohol problems (ADHS, 2019).

Social Determinants of Behavioral Health in Adulthood

Economic security influences adult behavioral health. Economic security includes employment, stable employment, and employment conditions (e.g., perceptions of autonomy). Low income and financial difficulty may lead to poor housing conditions, lack of neighborhood safety, and unstable access to food, all of which are associated with poor behavioral health and disproportionately affect minority groups and people of color. These conditions can also produce a feedback loop through which behavioral health conditions "can adversely influence how individuals navigate societal norms and structures, affecting educational performance, employment capacity, and/or contact with the criminal justice system. These risk factors can then impede future earnings, create barriers to socioeconomic improvement, and increase mental health disorder risk." (Alegría, NeMoyer, Bagué, Wang, & Alvarez, 2018, p.5)

Protective factors can promote behavioral health at all phases during the life-course. These protective factors include education, stable employment, secure housing, higher socio-economic status, positive parenting, positive peer relationships, family support, social engagement, and physical activity (World Health Organization, 2014). Protective factors for adults include financial and economic stability, community safety, and positive family and social relationships (Alegría et al., 2018; Brown, Donate, Laske, & Duncan, 2013; McLeod, 2013; Muntaner, Ng, Vanroelen, Christ, & Eaton, 2013).

Behavioral Health Data

In 2017, the National Survey on Drug Use and Health (NSDUH) found that 46.6 million or 18.9% of Americans adults aged 18 or over experienced a mental illness in the prior year. Of those, 11.2 million adults, have been diagnosed with a serious mental illness. Of the 46.6 million adults who experience mental illness in the prior year, 42.6% received mental health services. Women and younger adults have a higher prevalence of mental illness than men and older adults (SAMHSA, 2018a). Over eight million adults (3.4% of all Americans) experience a co-occurring mental illness and a substance use disorder (SAMHSA, 2018a). This exerts an extraordinary human and financial impact on individuals, families, and communities. In 2014, mental health expenditures reached $179 billion and forecast to total $280 billion in 2020 (Andrilla, Patterson, Garberson, Coulthard, & Larson, 2018; SAMHSA, 2018a). Below, we describe rural and urban differences nationally and compare them to Arizona prevalence rates.

Rural – Urban Behavioral Health

Rural and urban prevalence rates for behavioral health disorders are similar across non-metro, large metro, and small metro areas[1], 19.1%, 18.2%, 20.1%, respectively. The prevalence of serious mental illness in the prior year among adults was 5.2% in non-metro areas compared to 4.0% in large metro, and 5.1% in small metro. The percentage of co-occurring substance use disorder and any mental illness for adults in the prior years was 3.0% for non-metro compared to 3.4% for large metro and 3.8% for small metro areas (SAMHSA, 2018b).

In non-metro areas, 45% of people who reported any mental illness received mental health services in the past year compared to 40.1% in large metro and 45.9% in small metro areas. Unmet need for mental health services among adults with any mental illness in the past year was 21.1% in non-metro areas compared to 24.2% in large metro and 24.1% in small metro areas. In non-metro areas, 7.4% reported at least one Major Depressive Episode (MDE) in the prior year compared to 6.6% in large metro and 7.8% in small metro. Of those reporting an MDE, 68.8% in non-metro areas received treatment compared to 64.7% in large metro areas and 69.7% in small metro areas (SAMHSA, 2018b).

Despite similarities in prevalence rates, differences exist by health risk and across social groups. Suicide rates are higher in rural compared to urban areas. Although rates are increasing in both areas, the increase was greater for rural than urban areas. Between 2001 and 2015, the rural suicide rate increased 27% compared to a 13% urban rate increase (Gale, Janis, Coburn, & Rochford, 2019, p.3). Rates of substance misuse are also similar between urban and rural areas, however rural areas have higher rates of HIV and Hepatitis C infections, and opioid overdose deaths (Gale et al., 2019). Rural women experience greater rates of depression and prior substance misuse in the last month compared to urban women and

[1] The NSDUH report uses the county level Rural Urban Continuum Codes (RUCCs). Large metro counties have a total population of over one million. Small metro counties have a population of fewer than one million. Non-metro county designation is based on population size and adjacency to a metro area. "(a) the size of the population in urbanized areas within the county (i.e., a population of 20,000 or more in urbanized areas, a population of at least 2,500 but fewer than 20,000 in urbanized areas, or a population of fewer than 2,500 in urbanized areas); and (b) whether these counties were adjacent or not adjacent to a metropolitan area." They can be described as urbanized, less urbanized and completely rural. See NSDUH methodology.

older rural-living adults experienced "higher rates of depression, suicidality, and alcohol misuse than do their urban peers." (Gale et al., 2019, p.7).

Past year illicit substance use for people ages 12 and older was 15.8% in non-metro counties and 19.9% and 18.9% in large and small metro counties, respectively. This trend holds for lifetime and monthly misuse of marijuana, cocaine, hallucinogen, and stimulants. Prevalence of opioid misuse in the prior year was 4.1% in non-metro, 4.1% in large metro, and 4.5% in small metro areas. The trend reverses, however, with a higher percentage of individuals reporting methamphetamine misuse in non-metro areas (SAMHSA, 2018b).

Behavioral Health in Arizona

Arizona prevalence rates for behavioral health conditions and substance use rank between 16th and 25th lowest among other states. These data are from the 2017 NSDUH survey and are described in Tables 2 and 3. Suicide was the 8th leading cause of death in Arizona, but increases to 4th when measuring by Years of Potential Life Lost (ADHS, 2019). In 2017, suicide was the second leading cause of death for people between the ages of 15 to 19 and 20 to 44 years old (ADHS, 2019).

Table 2. Arizona Substance Use Percentage Estimates (18 years or older)

	Percent (CI)	State Rank*	US Percent (CI)
Substance Use Disorder in the Past Year	7.36 (6.10, 8.85)	18	7.67 (7.46, 7.89)
Alcohol Use Disorder in the Past Year	5.70 (4.62,7.03)	25	5.74 (5.55, 5.94)
Needing but Not Receiving Treatment for Alcohol Use at a Specialty Facility in the Past Year	5.46 (4.42,6.74)	22	5.48 (5.30, 5.67)
Needing but Not Receiving Treatment for Substance Use at a Specialty Facility in the Past Year	6.96 (5.78, 8.35)	25	7.11 (6.90,7.32)
Needing but Not Receiving Treatment for Illicit Drug Use at a Specialty Facility in the Past Year	2.34 (1.81, 3.01)	13	2.54 (2.42, 2.66)
*1= Lowest and 50=Highest **Source**: SAMHSA, NSDUH, 2017 & 2018			

Table 3. Arizona Mental Illness Percentage Estimates (18 years or older)

	Percent (CI)	State Rank*	US Percent (CI)
Any Mental Illness in the Past Year	19.24 (17.00, 21.71)	21	19.00 (18.63, 19.38)
Serious Mental Illness in the Past Year	4.80 (3.87,5.93)	22	4.55 (4.38, 4.73)
Received Mental Health Services in the Past Year**	14.86 (12.8, 17.2)	16	14.91 (14.57,15.26)
Had Serious Thoughts of Suicide in the Past Year	4.43 (3.56,5.51)	16	4.34 (4.18, 4.51)
Major Depressive Episode in the Past Year	7.16 (5.97, 8.56)	19	7.14 (6.92, 7.36)
*1= Lowest and 50=Highest **Does not include treatment for drug or alcohol misuse or abuse **Source**: SAMHSA, NSDUH, 2017 & 2018			

At the state level, the Behavioral Risk Factor and Surveillance System (BRFSS) measures Frequent Mental Distress. The BRFSS found that 12.3% of Arizonans reported experiencing 14 or more days of not good mental health in the last 30 days. The percentage was slightly higher for women (12.5%) compared to men (11.0%) and for people who were out of work or reporting lower income (Arizona Department of

Health Services, 2017). Selected substance use and mortality from overdose and suicide by county are presented in Tables 4 and 5 below.

Table 4. Arizona Substance Use per 100 000, 2017

	Alcohol Use	Opium Use	Amphetamine Use
Arizona	**873.0**	**279.3**	**303.9**
Apache	1,742.60	61.2	104.6
Cochise	531	180.8	183.9
Coconino	1,027	41.8	59
Gila	1,512.70	497.1	525.5
Graham	1,909.40	343.5	387.8
Greenlee	555.6	250	277.8
La Paz	920.5	109	345.2
Maricopa	764.2	276.8	309.5
Mohave	1,075.20	208.6	331.9
Navajo	2,298.60	118	209.3
Pima	1,024.60	362.4	231.5
Pinal	757.2	227.3	254.9
Santa Cruz	519.2	189.1	27
Yavapai	1,235.50	490.4	641.1
Yuma	753	180.5	564.6
Source: ADHS Community Profiles Dashboard			

Table 5. Arizona Mortality per 100 000, 2017

	Intentional Self-Harm (Suicide)	Drug-Induced Deaths
Arizona	**18.0**	**23.2**
Apache	34	9.8
Cochise	26.6	23.6
Coconino	27	22.8
Gila	39.2	49.9
Graham	27.3	20.1
Greenlee	18.4	8
La Paz	47.6	42.5
Maricopa	15	21.9
Mohave	29.9	31.1
Navajo	44.8	20.5
Pima	19.3	26.4
Pinal	14.8	14.4
Santa Cruz	5	16.8
Yavapai	30.6	27.6
Yuma	10.2	15.8
Source: ADHS Community Profiles Dashboard		

Access to Behavioral Health Care

The Agency for Healthcare Research and Quality (AHRQ) defines access to health care as "the timely use of personal health services to achieve the best health outcomes" (Agency for Healthcare Research and Quality, 2016, p.3). The components of access include coverage, services, timeliness and workforce capacity and are similar to conditions outlined for behavioral health care access: accessibility, availability, acceptability, affordability, and stigma (Gale et al., 2019).

Coverage	Health insurance coverage "facilitates entry into the health care system." People without coverage are "less likely to receive health care and more likely to have poor health status."
Services	Adults with a usual source of care are more likely to receive "recommended screening and prevention services."
Timeliness	The ability of the health care system (e.g., hospitals, clinics, providers) to provide care when a need is identified.
Workforce	The health workforce should be composed of "capable, qualified, culturally competent providers."

Coverage and costs

One in five Americans (21%) in 2016 reported that there was a time when they or a family member thought they might need mental health care but did not receive it. The primary reasons related to cost, lack of health insurance coverage, embarrassment, fear, or a lack of awareness about where to go. In 2015, only a third (34%) of adults experiencing psychological distress reported seeing or talking to a mental health professional in the prior 30-days (Kamal, 2017). People with mental health disorders are more likely to be uninsured and experience financial barriers that prevent access to care; out-of-pocket expenses exceed 20% of family annual income for 14% of working age patients with a mental disorder (Rowan, McAlpine, & Blewett, 2013).

In the 2016 BRFSS, 13.6% of Arizonans reported they could not afford needed health care. This is higher than national average of 12.1% but represents a decrease in Arizona from its 2012 percentage of 19.8%. Twenty-three percent of people in the unable to work category reported not being able to see a doctor because of cost (Arizona Department of Health Services, 2017) .

The State of Mental Health in America Report measures access to care across states and ranks states on a scale from 1 to 51 where 1 indicates better conditions and 51 indicates worse conditions (Reinert, Nguyn, & Fritz, 2019). Table 6 provides an overview of Arizona's data.

Table 6. Access to Care and State Ranking

	Arizona	National	Arizona Ranking*
Uninsured adults with mental illness	7.1	10.3	15
Adults with mental illness who do not receive treatment	61.3	57.2	**43**
Unable to see a doctor due to costs	29.8	29.4	**31**
Young people with major depression who do not receive treatment	60.2	59	**34**
Young people with severe depression who receive some consistent treatment	33.2	28.2	**16**
Children covered by private insurance that did not cover mental or emotional problems	8.1	11.7	**44**
*1= Lowest (better) and 50=Highest (worse) **Source:** State of Mental Health in America 2020			

Services and system

In the US, health care delivery has historically separated behavioral health from other health services. Health care reimbursement prioritizes volume of services over quality of outcomes. Private health insurance through Employer Sponsored Health Insurance (ESHI) has gaps in coverage of behavioral and other health services for many Americans. Reimbursement rewards complex procedural interventions over primary and preventive care. Fragmentation of services and fee-for-service payment methodologies negatively affect access to behavioral health care (Agha, Frandsen, & Rebitzer, 2019; Enthoven & Fuchs, 2006; Stange, 2009).

The Arizona Health Care Cost Containment System (AHCCCS) is the state Medicaid and Children's Health Insurance Program (CHIP is called KidsCare in Arizona) agency that covers more than two million of Arizona's 7.2 million total population (29%). In 2019, about 30% (601,692 of the 1.8 million enrolled that year) used behavioral health services as measured by at least one behavioral health care related visit. In 2019, AHCCCS served 66,149 members in the Serious Mental illness (SMI) category and 350,604 in the General Mental Health/Substance Abuse (GMH/SA) eligibilities categories (AHCCCS, 2019a).

In 2018, AHCCCS transitioned to Arizona Complete Care (ACC), an integrated medical and behavioral health services model, and shifted away from the "carve-out" approach that administered behavioral health care services separately through Regional Behavioral Health Authorities (RHBAs). This integration included most AHCCCS enrollees. However, some populations (e.g., Tribal enrollees) continue to be served by the RHBAs that provide crisis and some grant funded services. The integrated approach aims to eliminate fragmentation between physical and behavioral health services for Medicaid enrollees (AHCCCS, ND; Shafer & Hart, 2010).

Arizona Complete Care uses Managed Care Organizations (MCOs) to deliver physical and behavioral health services to its members at a capitated rate. AHCCCS requires prior authorization for services, utilization review, and coordination for high needs/high costs members and adherence to access to care and quality care standards. AHCCCS tracks appointment availability metrics for each MCO and programs managed by the RHBAs such as crisis stabilization (AHCCCS, 2020a). AHCCCS covers services including: treatment, rehabilitation, medical and preventive services, support, crisis intervention, residential services, behavioral health day programs, and supportive housing services (AHCCCS, 2019b).

AHCCCS publishes quality performance reports that compare actual performance to Minimum Performance Standards (MPS). Two behavioral health care service performance measures included in this report are the 7-day and 30-day follow up after hospitalization for mental illness. The performance standards are 85% for 7-day and 95% for 30-day follow-up. As of the 2018-2019 contract year, the statewide aggregate measure for the GMH/SU population indicates the 7-day follow-up is 49.4% and 57.1% for 30-day follow-up. The state aggregate follow-up rate for the RHBA SMI contractors was 68.5% for 7-day follow-up and 85.6% for 30-day follow-up (AHCCCS, 2020b).

Timeliness

To access behavioral health services, insured individuals must: understand the type of health insurance plan they have, identify if they require prior authorization (which can require an additional doctor's visit), afford the co-pay and co-insurance for these visits, identify in-network providers based on their coverage plan, locate a provider in their area, and contact the provider to see if they are accepting new patients just to set an appointment (Centers for Medicare and Medicaid Services, 2019). These steps do not account for whether a person has the resources to take time-off from work, the means to travel to an appointment or whether the provider is able to provide culturally and linguistically appropriate services (National Council For Behavioral Health, 2018). AHCCCS administers the state crisis system and funds multiple organizations to provide crisis response services. RHBAs manage crisis stabilization services (AHCCCS, 2020c).

Behavioral Health Workforce

Broadly, the behavioral health workforce includes "all workers involved in treatment or prevention of mental health and/or substance use disorders." (Beck et al., 2016, p.3). This includes behavioral health professions defined by SAMHSA and HHS (SAMHSA, 20202) (U.S. Department of Health and Human Services, Health Resources and Services Administration, 2016). The broad description of the professionals that can be considered part of the behavioral health workforce includes the list below. Professions marked with an asterisk are included in this report.

- Psychiatrists*
- Psychologists*
- Advanced Practice Psychiatric Nurses
- Marriage and Family Therapists*
- Certified Prevention Specialists
- Addiction Counselors*
- Psychiatric Nurse Practitioners
- Psychiatric Physician Assistants
- Mental Health/Professional Counselors*
- Clinical, Counseling, School Psychologists
- School Counselors
- Social Workers*
- Psychiatric Rehabilitation Specialists
- Psychiatric Aides and Technicians
- Case Managers
- Homeless Outreach Specialists
- Parent Aides
- Peer Support Specialists
- Recovery Coaches

In Arizona for workforce shortage designation purposes the ADHS counts only psychiatrists providing outpatients services. Forty percent of Arizona's population, 2.85 million, live in a mental health care Health Professional Shortage Area (HPSA) (Health Resources and Services Administration, 2020). The

Mental Health America Report ranked Arizona 47 in terms of behavioral health workforce availability (Reinert et al., 2019).

In this report the workforce we include for analysis are psychiatrists, psychologists, behavior analysts, social workers, marriage and family therapists, counselors, and substance abuse counselors.

Rural and Non-Rural Differences in Availability of Behavioral Healthcare Providers

Access to care is a significant concern for public health stakeholders in rural areas (Hartley, 2004). Rural barriers to behavioral health care include longer travel distances to providers, lack of behavioral health workforce, and stigma. These barriers are compounded by the small behavioral health workforce in rural areas (Hough, Willging, Altschul, & Adelsheim, 2011). In a Medical Expenditure Panel Survey (MEPS) from 1996 to 1999, researchers found that "rural residents receive less mental health treatment of any kind, despite reports of poorer mental health." (Hauenstein et al., 2007, p.264).

Our report identifies Arizona's behavioral health workforce capacity and where workforce-related access barriers may exist using state licensure databases to identify the current behavioral health workforce distribution across the state. To measure workforce volume and distribution, we used publicly available data to examine whether differences exist between **rural** and **non-rural** Arizona in the **availability** of the **behavioral health workforce.** These terms as defined as follows:

Rural	A geographic area (zip-code) classified as rural in the Rural-Urban Continuum Area (RUCA) coding system.
Non-rural	A geographic area (zip-code) classified as non-rural in the RUCA coding system.
Availability	The total provider count and ratio of providers per population by RUCA area type.
Behavioral health workforce	Psychiatrists, psychologists, behavioral analysts, social workers, counselors, marriage and family therapists, and substance abuse counselors.

The following analysis intends to inform policy, program, and education interventions to improve access to high quality behavioral health care for all Arizonans. This analysis aims to answer two key questions:

1) What is the current number and provider to population ratio of behavioral health providers in Arizona, by county, by rural versus metropolitan areas?
2) Are there differences in the provider to population ratios by provider type?

This analysis includes professions that are licensed by the Arizona Medical Board, the Arizona Osteopathic Examiners Board (collectively the AMB), the Arizona Psychologist Examiners Board (AzPE), and the Arizona Board of Behavioral Health Examiners (AzBHE). Table 7 below summarizes the boards and their

respective licensed professionals. Appendix A contains a summary of statutes relating to each board and profession.

Table 7. Arizona Licensing Boards

Board	Licensed Professionals
Arizona Medical Board	Physicians (MD)
Arizona Board of Osteopathic Examiners	Physicians (DO)
Arizona Board of Psychologist Examiners	Psychologists and Behavior Analysts
Arizona Board of Behavioral Health Examiners	Social Workers (LBSW, LMSW, LCSW); Counselors (LAC, LPC); Marriage and Family Therapists (LAMFT, LMFT); and Substance Abuse Counselors (LSAT, LASAC, LISAC)

Psychiatrists

To count the psychiatrist physician workforce, we used data from the allopathic and osteopathic medical boards. In this report, "Arizona psychiatrists" means physicians licensed in Arizona as of January 2019, with an active license status, an Arizona address, a valid zip-code, and an estimated age of less than 81 years. The publicly available data do not include dates of birth. Therefore, we estimated age using the licensee's reported graduation year from their undergraduate medical education program (or license date if the graduation year was missing). The board data only confirms license status and does not currently indicate if a physician is actively engaged in direct patient care. The data also do not provide information on practice setting(s), board certification, or how many hours a physician works (i.e., full time equivalents [FTE], part time) in direct patient care, administration and other activities. Licenses (MD and DO) must be renewed every two years.

As of January 2019, there were 57,598 total records in the AMB data. After filtering on the criteria described above we identified 16,947 physicians. To identify psychiatrist physicians, we analyzed Area of Interest (AOI) fields included in the licensure data. The description of AOI coding is provided in Appendix B. This resulted in a sample of 779 psychiatrist physicians representing 4.6% of the licensed physicians in Arizona. This represents a ratio of 11.4 per 100,000 Arizonans. Data from 2018 based on the National Plan and Provider Enumeration System (NPPES) indicate the provider per population ratio of psychiatrists in the U.S. is 15.6 and in the Mountain Census division is 12.0 per 100 000 (Andrilla et al., 2018).

Table 8. Total and Ratio (per 100 000) of Psychiatrist Physicians

	Count	Ratio per 100 000
MD & DO	779	11.43
Source: Arizona Medical Boards, 2019		

Psychologists and Behavior Analysts

The AzBPE licenses psychologists and behavior analysts in Arizona. The mission of the board is to "protect the health, safety, and welfare of Arizona citizens by licensing and regulating the professions of Psychology and Behavioral Analysis" (Arizona Board of Psychologist Examiners, ND).

Data for this report was generated via a mailing list public record request to the AzBPE in January 2020. Licenses must be renewed every two years. This data provides the number of providers with active licenses in Arizona. This data does not describe their professional setting, full-time or part-time status, or area of focus. The business location zip-code from the mailing list was used to identify the geographic location of the workforce.

The original number of records in the mailing list was 2617. After a data selection process to select for Arizona practice location and to de-duplicate records the total individuals included in the report was 1942. Of the 1942 individuals in the AzBPE licensing data, 1553 were psychologists and 389 were behavior analysts. This is a ratio of 28.51 per 100 000 Arizonans. Data from 2018 based on the NPPES indicate the provider per population ratio of psychologists in the U.S. is 30.0 and in the Mountain Census division is 28.3 per 100 000 (Andrilla et al., 2018).

Table 9. Total and Ratio (per 10 000) of Psychologists and Behavioral Analysts

	Count	Ratio per 100 000)
Psychologists	1553	22.80
Behavior Analysts	389	5.71
Total	**1942**	**28.51**
Source: Arizona Board of Psychologist Examiners, 2020		

Social Workers, Marriage and Family Therapists, Counselors, and Substance Abuse Counselors

AzBHE licenses professionals in the fields of social work, counseling, marriage and family therapy, and substance abuse counseling. Its mission is "to establish and maintain standards of qualifications and performance for licensed behavioral health professionals in the fields of social work, marriage and family therapy, counseling, and substance abuse counseling and to regulate the practice of licensed behavioral health professionals for protection of the public." (Arizona state board of behavioral health examiners, ND). Licenses must be renewed every two years. The AzBHE licenses the following professionals:

- Social Workers
  - Licensed Baccalaureate or Master Social Worker (LBSW and LMSW)
  - Licensed Clinical Social Worker (LCSW)
- Marriage and Family Therapists
  - Licensed Associate Marriage and Family Therapist (LAMFT)
  - Licensed Marriage and Family Therapist (LMFT)
- Counselors
  - Licensed Associate Counselor (LAC)
  - Licensed Professional Counselor (LPC)

- Substance Abuse Counselors
    - Licensed Substance Abuse Technician (LSAT)
    - Licensed Associate Substance Abuse Counselor (LASAC)
    - Licensed Independent Substance Abuse Counselor (LISAC)

Data for this summary was generated via a mailing list public record request to the AzBHE in December 2019. This data provides the number of providers with active licenses in Arizona, it does not describe their professional setting, full-time or part-time status, or area of focus. The original data received included 12,331 records. Only providers with business addresses in Arizona were included in analysis. This may exclude some providers who are based in other states but licensed and provide services in Arizona.

In order to not overestimate the Arizona workforce we applied a data selection process to identify unique individuals and select one license type as the "primary" record for each individual. We also cross-checked against other board sources used in this report to ensure we were not including the same individual in multiple professions. This approach reduces the likelihood of overcounting individuals in the workforce. We identified 10,612 unique individuals in the AzBHE licensing data. Table 10 provides a count of each provider type. Overall this is a ratio of 155.76 per 100,000 Arizonans. The ratio of social workers is 67.93 per 100,000 compared to a 2016 national estimate using state licensure data of 136.18 (Salsberg et al., 2017).

Table 10. Total and Ratio (per 100,000) of Social Workers, Therapists, and Counselors

	Count	Ratio per 100 000
Social Workers	**4628**	**67.93**
Licensed Baccalaureate Social Worker (LBSW)	97	
Licensed Master Social Worker (LMSW)	2453	
Licensed Clinical Social Worker (LCSW)	2078	
Counselors	**4615**	**67.74**
Licensed Associate Counselor (LAC)	1644	
Licensed Professional Counselor (LPC)	2971	
Marriage and Family Therapy	**558**	**8.19**
Licensed Associate Marriage and Family Therapist (LAMFT)	194	
Licensed Marriage and Family Therapist (LMFT)	364	
Substance Abuse Counselors	**811**	**11.90**
Licensed Substance Abuse Technician (LSAT)	40	
Licensed Associate Substance Abuse Counselor (LASAC)	210	
Licensed Independent Substance Abuse Counselor (LISAC)	561	
Total	**10 612**	**155.76**
Source: Arizona Board of Behavioral Health Examiners, 2019		

National comparisons for counselors, therapists, and substance abuse counselors based on state licensure data could not be located. National estimates from HRSA use data from the Bureau of Labor Statistics (BLS). BLS data is not limited to the licensed workforce, professional license requirements differ between states, and BLS occupational categories may not align with state level definitions. Thus, the following comparisons should be interpreted with caution. Per the BLS the national ratio of social workers

is 210.08 per 100,000.[2] The national ratio of mental health counselors is 43.45 per 100,000.[3] The national ratio of marriage and family therapists[4] is 16.37 per 100 000. The national ratio of substance abuse counselors[5] is 28.76 per 100 000 (Health Resources and Services Administration, 2018). Appendix C contains a table of BLS estimates for the professions contained in this report.

There are limitations to the licensure board source data. They do not include data on active clinical practice (e.g., direct patient care) or if they are full-time or part-time. Practice location (i.e., zip-code) is also limited as providers can practice at multiple locations, and practice location addresses can change during the two-year license interval. The data sources do not contain information on board certification or other types of additional training or credentials. Thus, these counts are basic estimates of the provider workforce.

Federally Designated Behavioral Health Workforce Shortage Areas

The Arizona Primary Care Office within ADHS works with the US Department of Health Services, Health Resources and Services Administration to designate mental Health Professional Shortage Areas (HPSAs). For the HPSA designation, ADHS uses the count of the psychiatrist workforce and phone surveys of psychiatrists to get an accurate count of FTE (of outpatient psychiatrists) combined with other factors (e.g., poverty). The ADHS map (Figure 1) of mental health care shortage areas displays the geographic, geographic high needs, and low-income populations HPSAs. According to HRSA, Arizona only meets 40% of the mental health care needs of its population and needs 560 psychiatrists to remove the current shortage designations. There are a total of 201 mental health care HPSA designations that includes 52 geographic, 36 population, and 113 facility designations. Forty percent of the state population, 2.85 million, live in a mental health care HPSA area (Health Resources and Services Administration, 2020).

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[2] BLS Definition 21-1020 includes Child, Family and School Social Workers (21-1021), Healthcare Social Workers (21-1022), Mental Health and Substance Abuse Social Workers (21-1023), and All Other Social Workers (21-1024). Each has its own definition. https://www.bls.gov/oes/2016/may/oes_nat.htm#21-0000

[3] BLS definition 21-1014 Mental Health Counselors: Counsel with emphasis on prevention. Work with individuals and groups to promote optimum mental and emotional health. May help individuals deal with issues associated with addictions and substance abuse; family, parenting, and marital problems; stress management; self-esteem; and aging https://www.bls.gov/oes/2016/may/oes211014.htm

[4] BLS definition 21-1013 Marriage and Family Therapists: Diagnose and treat mental and emotional disorders, whether cognitive, affective, or behavioral, within the context of marriage and family systems. Apply psychotherapeutic and family systems theories and techniques in the delivery of services to individuals, couples, and families for the purpose of treating such diagnosed nervous and mental disorders https://www.bls.gov/oes/current/oes211013.htm#st

[5] BLS definition 21-1011 Substance Abuse and Behavioral Disorder Counselors: Counsel and advise individuals with alcohol, tobacco, drug, or other problems, such as gambling and eating disorders. May counsel individuals, families, or groups or engage in prevention programs https://www.bls.gov/oes/current/oes211018.htm#st

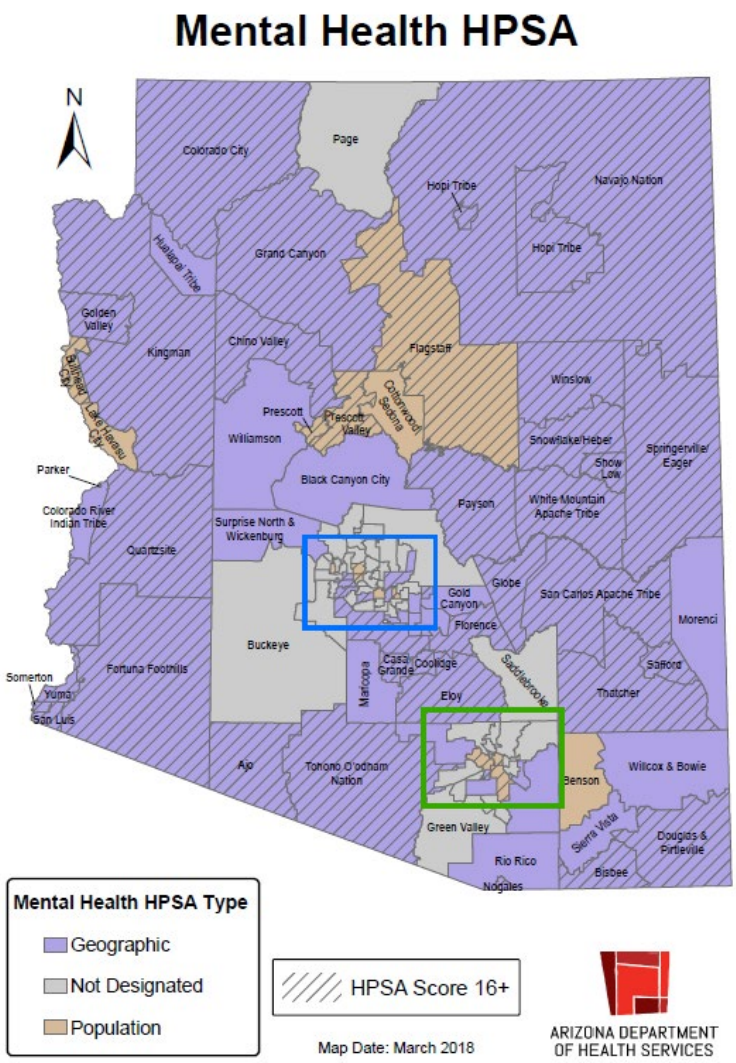

Figure 1. Arizona's Mental Health Care Shortage Areas

Behavioral Health Workforce Results

Arizona Demographic Overview

Arizona's population growth outpaced national growth in each of the last two ten-year census periods, and one of the top five states in percent population increase (US Census Bureau, 2019). Arizona's population increased 25% between 2000 and 2010 (vs. 10% for the US) and 12.2% between 2010 and 2018 (vs. 6.0% nationally) (Perry, 2001; U.S. Census Bureau, 2018).

Table 11. U.S. and Arizona Population Overview

	1990	2000	2010	2019
U.S.	248 710 000	281 421 906	308 758 105	328 239 523
Arizona	3 665 000	5 130 000	6 392 288	7 278 717
Arizona % of U.S.	1.5	1.8	2.1	2.2

Providers by State and County

The zip-code included in behavioral health providers' licensure data was utilized to identify the county location. As indicated in Table 12, there are significant disparities between counties. For example, five of Arizona's 15 counties, Gila, Graham, Greenlee, La Paz and Santa Cruz counties, have no psychiatrist workforce. The whole of Greenlee county has just one behavioral health professional.

Table 12. Total of Providers by County

	Psychiatrists	Psychologists	Behavioral Analysts	Social Workers	Counselors	Marriage & Family Therapists	Substance Abuse Counselors
Arizona	779	1553	389	4628	4615	558	811
Apache	3	2	0	16	4	5	10
Cochise	4	13	1	43	39	6	7
Coconino	24	79	8	106	117	10	18
Gila	0	5	0	8	14	2	0
Graham	0	7	0	5	11	1	2
Greenlee	0	0	0	1	0	0	0
La Paz	0	0	0	1	4	0	4
Maricopa	516	1050	331	3096	3087	403	443
Mohave	10	5	0	37	53	4	38
Navajo	5	4	0	37	54	9	12
Pima	174	300	44	928	824	76	152
Pinal	13	27	1	146	179	14	63
Santa Cruz	0	3	0	6	6	0	4
Yavapai	26	51	1	155	177	20	44
Yuma	4	7	3	43	46	8	14

The ratio of providers per population varies between counties. For psychiatrists, the ratio per population is 11.43 per 100,000. At the county level this ratio ranges from a low of 0 to a high of 17.70 in Coconino county. The state level ratio for psychologists is 22.80 per 100,000 and ranges from a low of 0 to a high of 58.25 in Coconino County. The state level ratio for behavior analysts is 5.71 per 100 000 and ranges from a low of 0 to a high of 7.94 in Maricopa county. The state level ratio for social workers is 67.93 per 100 000 and ranges from a low of 4.88 in La Paz county to a high of 78.16 in Coconino county. The ratio of licensed counselors at the state level is 67.74 and ranges from a low of 0 to a high of 86.27 in Coconino county. The ratio of marriage and family therapists at the state level is 8.19 per 100,000 and ranges from a low of 0 to a high of 9.66 in Maricopa county. Lastly, the state ratio of substance abuse counselors per 100,000 is 11.90 and ranges from 0 to a high of 19.63 in Yavapai county.

Table 13. Ratio of Providers per Population (100,000)

	Psychiatrists	Psychologists	Behavioral Analysts	Social Workers	Counselors	Marriage & Family Therapists	Substance Abuse Counselors
Arizona	11.43	22.80	5.71	67.93	67.74	8.19	11.90
Apache	4.07	2.72	0.00	21.73	5.43	6.79	13.58
Cochise	3.11	10.12	0.78	33.47	30.36	4.67	5.45
Coconino	17.70	58.25	5.90	78.16	86.27	7.37	13.27
Gila	0.00	10.36	0.00	16.58	29.02	4.15	0.00
Graham	0.00	17.80	0.00	12.71	27.97	2.54	5.08
Greenlee	0.00	0.00	0.00	10.67	0.00	0.00	0.00
La Paz	0.00	0.00	0.00	4.88	19.53	0.00	19.53
Maricopa	12.37	25.18	7.94	74.24	74.03	9.66	10.62
Mohave	4.91	2.45	0.00	18.15	26.00	1.96	18.64
Navajo	4.51	3.61	0.00	33.41	48.76	8.13	10.84
Pima	10.69	18.42	2.70	56.99	50.60	4.67	9.33
Pinal	3.26	6.78	0.25	36.65	44.94	3.51	15.82
Santa Cruz	0.00	6.42	0.00	12.83	12.83	0.00	8.55
Yavapai	11.60	22.76	0.45	69.16	78.97	8.92	19.63
Yuma	1.96	3.42	1.47	21.04	22.51	3.91	6.85

Providers by Rural Location

This analysis uses Rural-Urban Commuting Area (RUCA) codes to identify rural areas. Zip-codes from practice address of providers are mapped to RUCA codes to estimate the number and ratio of providers by urban-rural geography (Rural Health Research Center, No Date, n.d.). RUCA codes use U.S. Census Tract data and provide a standardized, national rurality classification. RUCA codes are useful in health research since they include measures of density as well as commuting flows, which may indicate where health resources are used (Hall, Kaufman, & Ricketts, 2006). The University of Washington provides a methodology that organizes 33 individual RUCA codes into 10 groups (see Table 14). To further condense these codes, this report uses the University of Washington's Urban, Large Rural City or Town, Small Rural Town, and Isolated Small Rural Town group nomenclature (see Table 15). Practice location zip-codes are mapped to RUCA codes using the zip-code to RUCA approximation provided by the USDA (USDA, 2016). Appendix D provides a table of the primary and secondary RUCA codes.

Table 14. Primary Rural-Urban Commuting Area Codes

Code	Classification Description
1	Metropolitan area core: primary flow within an urbanized area (UA)
2	Metropolitan area high commuting: primary flow 30% or more to a UA
3	Metropolitan area low commuting: primary flow 10% to 30% to a UA
4	Micropolitan area core: primary flow within an urban cluster of 10,000 to 49,999 (large UC)
5	Micropolitan high commuting: primary flow 30% or more to a large UC
6	Micropolitan low commuting: primary flow 10% to 30% to a large UC
7	Small town core: primary flow within an urban cluster of 2,500 to 9,999 (small UC)
8	Small town high commuting: primary flow 30% or more to a small UC
9	Small town low commuting: primary flow 10% to 30% to a small UC
10	Rural areas: primary flow to a tract outside a UA or UC

Ninety percent of the state population lives in Urban areas. The remaining 10% are spread over rural areas with 6% located in large rural city or towns. The population estimates are from the US Census Bureau American Community Survey 2017 (5-year estimates).

Table 15. Arizona Population by Rural-Urban Commuting Area Code Groups

Description	Population	Percent
Urban	6 104 119	90%
Large Rural City/Town (Micropolitan)	404 355	6%
Small Rural Town	205 506	3%
Isolated Small Rural Town	98 627	1%
Source: US Census American Community Survey, 2017 5-year Estimate		

Table 16 and Figure 2 show the counts of providers by type across the RUCA groups of urban, large rural, small rural, and isolated rural. The majority of all professions included in this report are located in urban areas. The percentage of each professions workforce in urban areas exceeds the population percentage (92%) of Arizonans in the area by 4-5% except for substance abuse counselors.

Table 16. Total Providers and Percent by RUCA

	Psychiatrists	Psychologists	Behavioral Analysts	Social Workers	Counselors	Marriage & Family Therapists	Substance Abuse Counselors
Arizona	779	1553	389	4628	4615	558	811
Urban	752 (96.5)	1495 (96.3)	388 (99.7)	4458 (96.3)	4412 (95.6)	535 (95.9)	722 (89.0)
Large Rural	18 (2.3)	31 (2.0)	1 (0.2)	99 (2.1)	133 (2.9)	11 (2.0)	55 (6.8)
Small Rural	8 (1.0)	20 (1.3)	0	50 (1.1)	54 (1.2)	9 (1.6)	22 (2.7)
Isolated Rural	1 (0.1)	7 (0.5)	0	21 (0.5)	16 (0.3)	3 (0.5)	12 (1.5)

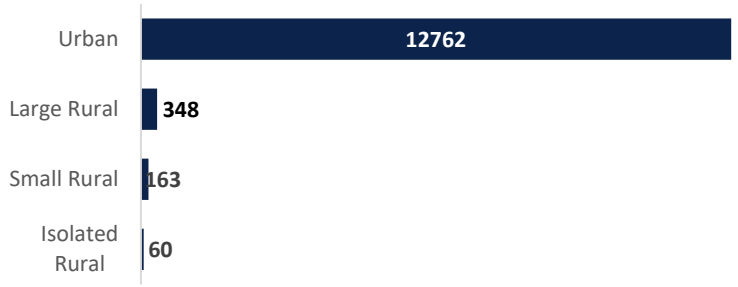

Figure 2. Count of All Behavioral Health Providers by RUCA

Analysis of behavioral health professionals by RUCA group (Table 17) also reveals differences in the behavioral health provider per population ratios for urban areas compared to rural areas. The ratio of providers is the greatest in the urban RUCA group across all provider types. The ratio of provider per population is sometimes 3 to 4 times greater in urban areas than the ratio of providers in large rural, small rural, and isolated rural towns. Substance abuse counselors are the only behavioral health professional group where this is not the case.

Table 17. Ratio of Providers per Population (100,000) by RUCA

	Psychiatrists	Psychologists	Behavioral Analysts	Social Workers	Counselors	Marriage & Family Therapists	Substance Abuse Counselors
Arizona	11.4	22.8	5.7	67.9	67.7	8.2	11.9
Urban	12.3	24.5	6.4	73.0	72.3	8.8	11.8
Large Rural	4.5	7.7	0.2	24.5	32.9	2.7	13.6
Small Rural	3.9	9.7	0.0	24.3	26.3	4.4	10.7
Isolated Rural	1.0	7.1	0.0	21.3	16.2	3.0	12.2

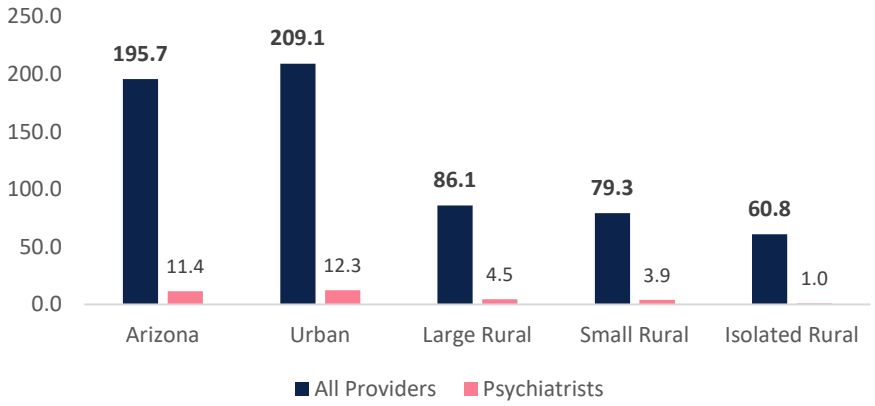

Figure 3. Ratio of All Behavioral Health Providers and Psychiatrist Providers per 100 000 by RUCA

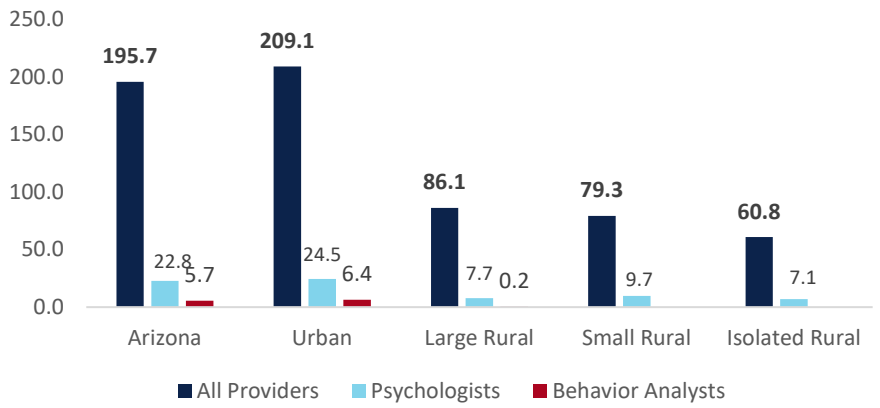

Figure 4. Ratio of All Behavioral Health Providers and Psychologist & Behavioral Analysts Providers per 100 000 by RUCA

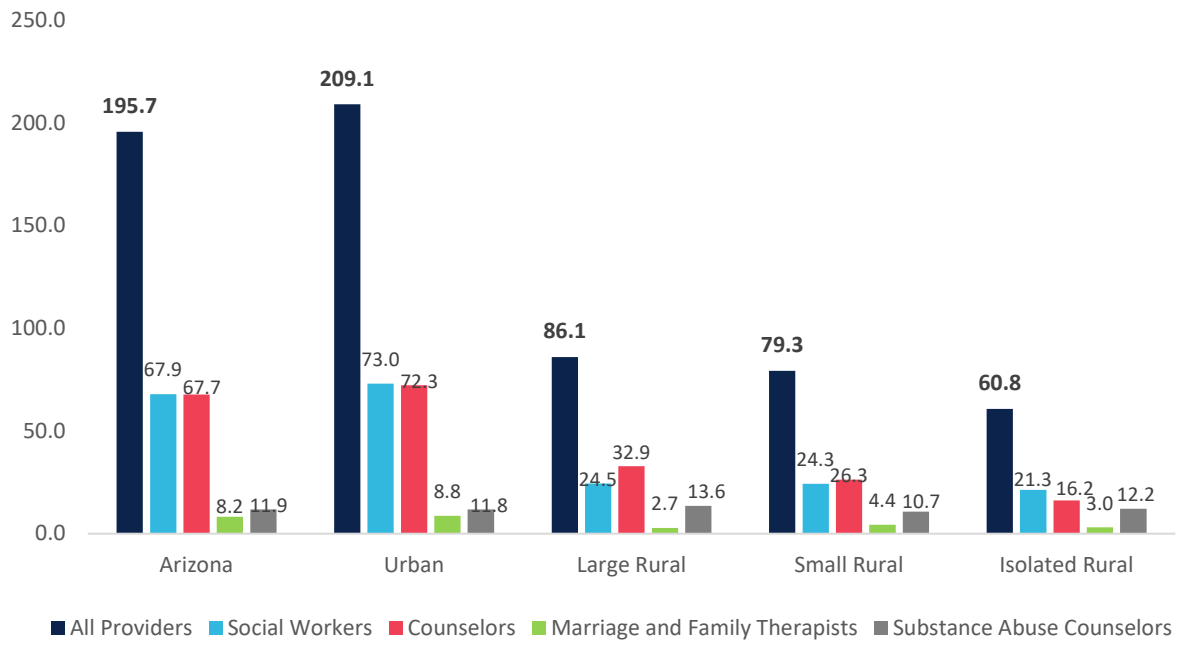

Figure 5. Ratio of All Behavioral Health Providers and Social Workers, Therapists, & Counselor Providers per 100 000 by RUCA

Prescribers and Non-Prescribing Providers

The availability of qualified and trained behavioral health providers that can prescribe medication is an important aspect of ensuring access to quality behavioral health care. Evidence-based treatment for common conditions like depression in adults recommends inclusion of both psycho-therapy and medication (American Psychological Association, Guideline Development Panel for Treatment of

Depressive Disorders, 2019). Medication Assisted Treatment (MAT) for Opioid Use Disorder also recommends inclusion of mental health services (SAMHSA, 2020b).

Many in the US receive treatment for behavioral health conditions via a primary care provider. Benefits to receiving behavioral health care from a primary care provider include affordability, convenience, and access to a trusted professional with whom the patient has an established relationship. In 2010, 20% of all primary care office visits were for a mental health concern. The quality of behavioral health care in a primary care setting may be limited by lack of specialized training, limited use of mental health screening tools, and difficulty making referrals to specialty care (Olfson, 2016).

Data from the National Ambulatory Medical Care Survey (NAMCS) 2012-2014 shows that mental health related visits to psychiatrists (693 per 10,000 adults) are greater than mental health visits to primary care providers (397 per 10,000 adults). In metropolitan areas, 63% of mental health visits were to psychiatrists compared to 26% to primary care providers but was reversed in rural areas where 29% of mental health visits were to psychiatrists and 54% were to primary care providers (Cherry, Albert, & McCaig, 2018). While the visits to psychiatrists per population is greater than to primary care providers, the volume of mental health care delivered by a primary care provider has increased (Olfson, 2016).

Barriers to accessing mental health care include stagnation in psychiatry and primary care residency training programs. Psychiatrists may be less likely to accept Medicaid as well as private health insurance (Olfson, 2016). A study published in the Journal of the American Medical Association (JAMA) based on 2010-2015 NAMCS data found that between 2010-2011 and 2014-2015, the percentage of psychiatrists accepting Medicaid patients fell from 47.9% to 35.4% (Wen, Wilk, Druss, & Cummings, 2019). This may be related to barriers to reimbursement and different reimbursement rates between payers (Dormond & Afayee, 2016; Mauch, Kautz, & Smith, 2008; Melek, Perlman, & Davenport, 2017).

Our analysis of prescribing providers does not include two groups of behavioral health providers in Arizona, psychiatric nurses and physician assistants, and thus underestimates prescribing provider supply. Mental health services and related prescriptions are increasingly provided in the primary care setting (Olfson, 2016).

Our analysis shows that there are differences by rurality in the availability of prescribing behavioral health providers (psychiatrists only); however as with non-prescribers (all other behavioral health providers included in this analysis) the majority are located in urban areas.

Table 18. Total Prescribing Providers by RUCA

	Prescribers	Non-Prescribers
Arizona	**779**	**12,554**
Urban	752	12,010
Large Rural	18	330
Small Rural	8	155
Isolated Rural	1	59

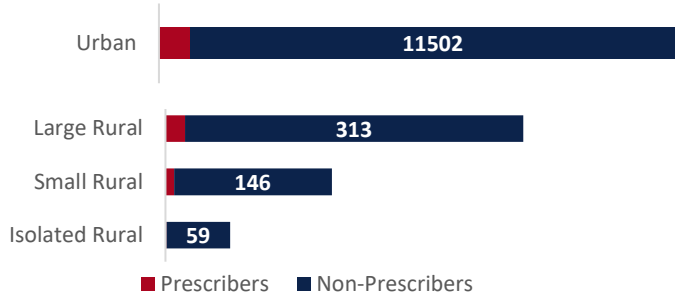

Figure 6. Count of Prescribers and Non-Prescribers by RUCA

Table 19. Percentage of Prescribing Providers by RUCA

	Prescribers	Non-Prescribers
Arizona	100	100
Urban	96.5	95.7
Large Rural	2.3	2.6
Small Rural	1.0	1.2
Isolated Rural	0.1	0.5

Table 20. Ratio of Prescribing Providers Per Population (100,000) by RUCA

	Prescribers	Non-Prescribers
Arizona	**11.4**	**184.3**
Urban	12.3	196.8
Large Rural	4.5	81.6
Small Rural	3.9	75.4
Isolated Rural	1.0	59.8

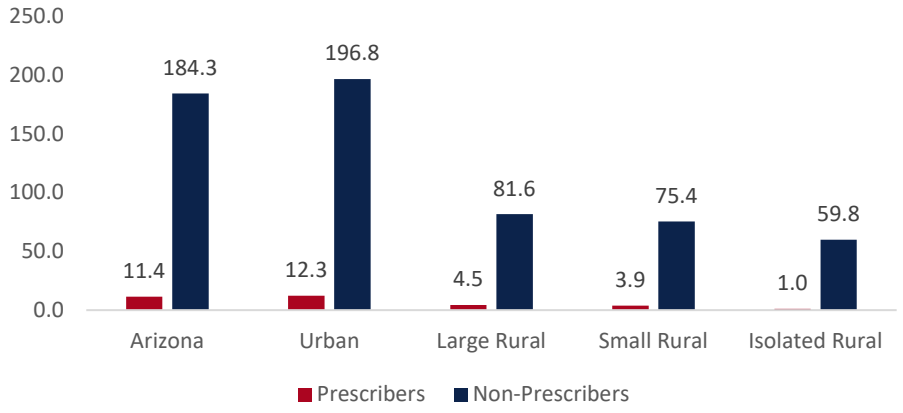

Figure 7. Ratio of Prescribers per 100 000 by RUCA

Improving Behavioral Health and Health Care Access

Policies that address the Social Determinants of Health using a population health framework can be implemented to prevent illness and promote behavioral health. This includes improving access to safe housing, stable employment, quality education, and supporting food security and safe communities. Using a population health framework to reduce the experiences of ACES among children includes strengthening family economic support, promoting protective social norms, and implementing early childhood health care and education, parenting education, and positive youth activities and mentorship (Merrick et al., 2019). These approaches can be used at the national, state, or local community level. Examples of programs delivered at the community level include the Nurse Family Partnership home-visiting program, positive youth development programs, and use of Community Health Workers to integrate social services and behavioral health care (Alegria et al., 2007; APHA, 2014; Evans & Bufka, 2020).

Program and policy interventions at the health care delivery system level are being implemented to address the disparities in the rural health workforce and availability of care (Pellitt, 2018) . Strategies to consider include:

- Providing loan repayment and forgiveness programs for practice in underserved areas
- Addressing reimbursement disparities
- Expanding the provider types that can bill to Medicare
- Expanding use of telemedicine services
- Increasing health insurance coverage
- Integrating behavioral health with other health services such as primary care
- Using payment models that incentivize integrated, team-based and coordinated care

The National Council for Behavioral Health policy agenda includes the following priorities (National Council for Behavioral Health, 2020).

1. Expand the Certified Community Behavioral Health Clinic model
2. Invest in expanding access to substance use treatment and recovery
3. Provide incentives for practice in underserved areas through loan repayment, telehealth, and reimbursement for services
4. Improve oversight and enforcement to ensure parity between behavioral and physical health insurance coverage
5. Expand mental health first aid training

Reducing stigma and increasing the availability of linguistically and culturally competent providers may also address barriers to accessing behavioral health care and improve engagement in services and outcomes (AACAP, 2019; McGregor, Belton, Henry, Wrenn, & Holden, 2019; SAMHSA, 2020a).

Arizona is the sixth largest state in total square miles, with 90% of the population living in urban areas (over six million) and the remaining ten percent (700,000) in rural areas. Thus, identifying strategies to to specifically address the rural behavioral health workforce disparity should take into account the

uniqueness of communities in rural Arizona. It would be inappropriate to categorially apply solutions across geographies and communities. There are also opportunities in rural Arizona that should be leveraged including the strength of community prevention coalitions and established Community Health Representatives and Community Health Worker organizations and programs.

Conclusion

Mental health and substance use disorders contribute to disease burden in the US and are among the leading causes of death (Kamal, 2017; Kilbourne et al., 2018). Prevention, early identification, screening, and access to high-quality treatment are public health priorities that promote behavioral health and reduce the impact behavioral health illness can have on individuals and society. Nearly one in five Americans in 2017 reported living with a mental health issue and less than half receive mental health services. In Arizona, 19.2% reported a mental illness in the last year and 7.4% reported a substance use disorder in the last year (SAMHSA, 2018b).

While the overall prevalence of behavioral health disorders is similar among urban and rural populations, there are areas of concern including higher rural rates of suicide and substance use disorder. Women and older adults living in rural areas may be more vulnerable to behavioral health issues than their urban counterparts (Gale et al., 2019). In Arizona, 12.3% of respondents reported frequent mental distress in the last 30 days (BRFSS). Women, people who were out of work, and people with low incomes also reported frequent mental distress in proportions greater than the total population (Arizona Department of Health Services, 2017)

In 2016, one in five Americans reported there was a time when they or a family member might need mental health services and did not get them (Kamal, 2017). Barriers to accessing behavioral health care include cost, stigma, lack of health insurance coverage, and lack of awareness about where to go. In rural areas, too few providers and confidentiality concerns may pose additional barriers to accessing behavioral health services. System fragmentation across providers and health insurance networks make navigating the complex behavioral health system difficult. Although legislation was enacted to achieve parity between physical and behavioral health insurance coverage (MHPAEA, ACA) barriers persist and unmet behavioral health needs remain.

Arizona meets just 40% of its current mental health care workforce needs (Health Resources and Services Administration, 2020). Arizona ranks 47th in in terms of behavioral health workforce availability and last of all states in the percentage (30%) of children (ages 0 to 17) with at least two ACES (Reinert et al., 2019). The behavioral health workforce as measured by provider per 100 000 population ratio is four to five percent higher than the percent of the population living in urban areas than in rural areas for all professions except substance abuse counselors. Psychiatrists mostly practice in urban areas (96.7%), also exceeding the percent of the population living in urban areas (92%) by almost five percent. The ability of Arizona's rural population to access high quality behavioral health services is particularly concerning.

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Appendix A

Psychiatrist Physicians

The Arizona Revised Statutes (§ 32-1401) define the practice of medicine as "the diagnosis, the treatment or the correction of or the attempt or the claim to be able to diagnose, treat or correct any and all human diseases, injuries, ailments, infirmities or deformities, physical or mental, real or imaginary, by any means, methods, devices or instrumentalities, except as the same may be among the acts or persons not affected by this chapter. The practice of medicine includes the practice of medicine alone or the practice of surgery alone, or both." The American Board of Psychiatry and Neurology defines psychiatry as "the evaluation and treatment of mental, addictive and emotional disorders such as schizophrenia and other psychotic disorders, mood disorders, anxiety disorders, substance-related disorders, sexual and gender-identity disorders and adjustment disorders." In this report, psychiatry includes the sub-specialties of Addiction Medicine, Addiction Psychiatry, Behavioral Neurology, Neuropsychiatry, Child and Adolescent Psychiatry, Geriatric Psychiatry, Hospice and Palliative Medicine, Pain Medicine, Psychiatry, Psychosomatic Medicine, and Sleep Medicine.

Psychologist and Behavior Analysts

The Arizona Revised Statutes (§ 32-3062) define the practice of psychology as "the psychological assessment, diagnosis, treatment or correction of mental, emotional, behavioral or psychologic abilities, illnesses or disorders…" Behavioral Analysis (A.R.S. § 32-3091) is the "design, implementation and evaluation of systematic environmental modifications by a behavior analyst to produce socially significant improvements in human behavior based on the principles of behavior identified through the experimental analysis of behavior. Behavior analysis does not include cognitive therapies or psychological testing, neuropsychology, psychotherapy, sex therapy, psychoanalysis, hypnotherapy and long-term counseling as treatment modalities."

Social Workers, Marriage and Family Therapists, Counselors, and Substance Abuse Counselors

The A.R.S. defines the practice of behavioral health as "the practice of marriage and family therapy, professional counseling, social work, and substance abuse counseling." (A.R.S. § 32-3251). Additional definitions specific to each field can also be located in A.R.S. title 32 chapter 33.

Appendix B

AOI 1 of Psychiatry OR any form of Psychiatry/Neurology (but not neurology on its own)

Followed by AOI 2:

- Addiction Medicine
- Addiction Psychiatry
- Behavioral Neurology
- Neuropsychiatry
- Child and Adolescent Psychiatry
- Geriatric Psychiatry
- General Preventive Medicine
- Hospice and Palliative Medicine
- Pain Medicine
- Psychiatry
- Psychosomatic Medicine
- Public health
- Sleep Medicine

Any of the following as AOI 1 if followed any parenthetical or other AOI indicating psychiatry or no other fields :

- Addiction Medicine
- Addiction Psychiatry
- Behavioral Neurology
- Neuropsychiatry
- Child and Adolescent Psychiatry
- Geriatric Psychiatry
- Hospice and Palliative Medicine
- Pain Medicine
- Psychiatry
- Psychosomatic Medicine
- Sleep Medicine

Appendix C

BLS estimates of the professions contained in this report.

C1. BLS Estimates May 2019		
	National	Arizona
Psychiatrists	25530	640
Clinical, Counseling, and School Psychologists	133270	2,600
Psychologists, All Other	14220	170
Marriage and Family Therapists	59050	1,000
Rehabilitation Counselors	109040	2,030
Substance Abuse, Behavioral Disorder, and Mental Health Counselors	283540	5,930
Counselors, All Other	25420	310
Child, Family, and School Social Workers	327,710	7,630
Healthcare Social Workers	174,890	2,970
Mental Health and Substance Abuse Social Workers	117,770	2,890
Social Workers, All Other	58,410	1,160
Source: https://www.bls.gov/oes/current/oes_nat.htm and https://www.bls.gov/oes/current/oes_az.htm		

Appendix D

Primary and Secondary RUCA codes.

Primary and Secondary RUCA Codes	
Code	Classification Description
1 Metropolitan area core: primary flow within an urbanized area (UA)	
1.0	No additional code
1.1	Secondary flow 30% to 50% to a larger UA
2 Metropolitan area high commuting: primary flow 30% or more to a UA	
2.0	No additional code
2.1	Secondary flow 30% to 50% to a larger UA
3 Metropolitan area low commuting: primary flow 10% to 30% to a UA	
3.0	No additional code
4 Micropolitan area core: primary flow within an urban cluster of 10,000 to 49,999 (large UC)	
4.0	No additional code
4.1	Secondary flow 30% to 50% to a UA
5 Micropolitan high commuting: primary flow 30% or more to a large UC	
5.0	No additional code
5.1	Secondary flow 30% to 50% to a UA
6 Micropolitan low commuting: primary flow 10% to 30% to a large UC	
6.0	No additional code
7 Small town core: primary flow within an urban cluster of 2,500 to 9,999 (small UC)	
7.0	No additional code
7.1	Secondary flow 30% to 50% to a UA
7.2	Secondary flow 30% to 50% to a UC
8 Small town high commuting: primary flow 30% or more to a small UC	
8.0	No additional code
8.1	Secondary flow 30% to 50% to a UA
8.2	Secondary flow 30% to 50% to a UC
9 Small town low commuting: primary flow 10% to 30% to a small UC	
9.0	No additional code
10 Rural areas: primary flow to a tract outside a UA or UC	
10.0	No additional code
10.1	Secondary flow 30% to 50% to a UA
10.2	Secondary flow 30% to 50% to a UC
10.3	Secondary flow 30% to 50% to a small UC

Source: USDA ERS. (2016). 2010 Rural-Urban Commuting Area (RUCA) Codes. Retrieved from: https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes/documentation/