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The Social Health of Nevada

Leading Indicators and Quality of Life in the Silver State

Behavioral and Mental Health in Nevada

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Introduction

The Nevada Division of Public and Behavioral Health is responsible for providing public and mental health services to people living in or visiting the State. The Division is organized into four branches: Community Services Branch, Regulatory and Planning Services Branch, Clinical Services Branch and Administrative Services Branch. The Clinical Services Branch provides statewide inpatient, outpatient, and community-based public and mental health services. State employees provide mental health services, and contract providers deliver substance use services. Mental health services are additionally organized by age and geography. Adults with mental disorders are treated statewide through the Division of Public and Behavioral Health. Children with mental disorders are served through the Division of Child and Family Services within the populous urban counties (Washoe and Clark) and the Division of Public and Behavioral Health across the 17 rural and frontier counties. Services are supported through Medicaid, the Nevada General Fund, and Federal grants.

Highlights

- In 2014, Nevada was one of only four states in the country that directly operates community-based mental health services.
- In 2015-2016, an estimated 37,266 children in Nevada suffered from serious emotional disturbance (SED)
- Some 119,373 adults in Nevada – 5.4% of the state's adult population – suffered from serious mental illness during 2015-2016.
- Between 8% and 13% of Nevada's children and adolescents are at risk for developing severe mental disorders.

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The Division of Public and Behavioral Health is located within the Nevada Department of Health and Human Services, under the Executive Branch of the State, and serves as its Public Health Authority and Mental Health Commissioner. By statute, the Commission on Behavioral Health is responsible for the following: establishing policies to ensure development and administration of services for persons with mental illness, persons with intellectual disabilities and related conditions, and persons with substance use conditions; reviewing programs and finances of the Division; and providing reports to the Governor and Legislature regarding the quality of care and treatment provided to individuals with mental illness, intellectual disabilities, and substance use disorders [Nevada Revised Statutes (NRS) 433.314].

Historically, the governance structure of Nevada's behavioral and mental health system has been centralized at the state level with limited involvement at regional and local levels. A policy study conducted during 2014 identified Nevada as one of only four states in the country that directly operates community-based mental health services (Mental Health Governance: A Review of State Models and Guide for Nevada Decisions Makers, Guinn Center for Policy Priorities, December, 2014). During that same year, the State began to consider ways to move from its centralized governance structure to a more localized model involving regional, county and city entities. A key consideration was a growing recognition that increasing the State's responsiveness to the unique needs of individual communities is essential.

Nevada's plan to restructure the governance of its state mental health system is not without challenges. For example, the numbers of Nevada residents covered by Medicaid benefits more than doubled when Medicaid coverage was expanded by Governor Brian Sandoval under the Affordable Care Act (ACA) during 2014, increasing from 351,315 persons in 2013 to 654,442 individuals in 2015 (Woodard and Nevada Division of Health Care Financing and Policy, 2016). On its face, the increase in numbers of residents covered by Medicaid benefits is a positive outcome. However, the existing mental health provider network was not adequate to serve the increase in numbers of individuals covered. As detailed in later sections in this chapter, the increase in health care coverage appears to have impacted the frequency with which Nevada residents used health care services, most notably hospital emergency departments and inpatient facilities. Thus, the dual influences of increased health care coverage, and limited access to appropriate and optimal mental health services are reflected in the dramatic increase in residents' utilization of emergency department services for a wide range of mental health-related conditions during 2015, after the expansion of Medicaid during 2014. Also discussed in later sections is the fact that almost all of the State qualifies as a mental health professional shortage area (Health Resources and Services Administration, HRSA). Therefore, moving from a primarily centralized or state control model to a local control model will require accommodation for the shortages in mental health professionals within communities that lie outside the State's urban centers.

Nevada Residents with Serious Mental Illness and Emotional Disturbance

Serious mental illness in adults (SMI) and serious emotional disturbance in children (SED), which are accompanied by significant functional impairment, represent debilitating conditions that are costly in terms of human suffering and societal economic burden. In the United States, the societal economic burden for schizophrenia was estimated at $155.7 billion for the year 2013, and included excess costs that were associated with unemployment,

productivity loss due to caregiving, and direct health care costs (Cloutier et al., 2016). It is important to emphasize that this estimate of economic burden pertains to just one of the disorders included in the serious mental illness diagnosis. Early intervention services may provide one avenue to mitigate the magnitude of human suffering, and the extent of economic burden of schizophrenia (Mihalopoulos et al., 2009), as well as other severe mental disorders. Providing intervention services to individuals during the early stages of SMI and SED, and extending those early interventions throughout the State, including Nevada's rural and remote frontier regions, were adopted as strategic priorities for the next biennium.

Nevada Public Health and the Treatment of Mental Illness in Populations

The following discussion is based on a recent needs assessment conducted by the Bureau of Behavioral Health Wellness and Prevention within the Nevada Division of Public and Behavioral Health. A wide range of information sources was examined for the purpose of identifying service needs and gaps in Nevada's current behavioral and mental health system, with a focus on the following vulnerable populations:

- Children with serious emotional disturbance (SED)
- Adults with serious mental illness (SMI)
- Older Adults with serious mental illness (SMI)
- Individuals with SMI or SED in the rural and homeless populations
- Individuals who have an Early Serious Mental Illness (ESMI)

Inclusion of mental health within public health science and practice is increasingly recognized as having potential to advance both disciplines (Galea, 2015; Sallis, Owen and Fotheringham 2000; Williams, Chapman and Lando 2005). The State of Nevada is developing this paradigm for its population of individuals with SMI and SED through strategic program planning and evaluation that are data-driven, population-based and community-targeted. The recent needs assessment was conducted within that integrative framework. *Community psychiatric epidemiology* and *behavioral health data* were reviewed to distinguish the prevalence of mental disorders in Nevada and nationwide. When available, county-level prevalence rates were considered to reveal subsets of the State's population with particular needs. *Rates of persons served by the State's current behavioral and mental health system* were then evaluated within the context of the prevalence rates reported for the United States as a whole, and for Nevada and its individual counties. *Billing data for hospital emergency room visits related to mental health conditions* were additionally considered as indicators of SMI and SED that were either untreated or ineffectively managed. The combined findings indicate the presence of unmet service needs and gaps within Nevada's current behavioral and mental health system, and this information shaped the strategic priorities that were adopted for the next biennium. A summary of these findings is provided below for each of the targeted populations, as well as a discussion of their significance for Nevada's current and future public and mental health system.

CHILDREN WITH SERIOUS EMOTIONAL DISTURBANCE (SED)

Table 1 (below) shows the population estimates and projections for Nevada's children aged 17 and younger by urban, rural and frontier counties for 2010 to 2022 (Griswold, T., et al., 2015; Griswold, T., et al., 2017; Nevada State Demographer's Office, 2014; Nevada State Demographer's Office, 2016). These estimates and projections show steady increases for

this age group in the urban regions and across Nevada as a whole, but diminutions were observed and anticipated for the combined rural and frontier counties.

Region/ County	**Table 1: Population Estimates and Projections for Nevada's Residents Aged 0 - 17 by County, 2010 to 2022**				
	2010	**2014**	**2017**	**2019**	**2022**
Rural and Frontier					
Churchill County	6,128	6,197	5,787	6,819	6,285
Douglas County	9,128	8,730	8,474	8,170	8,575
Elko County	14,306	11,831	12,593	11,212	12,090
Esmeralda County	144	114	105	104	89
Eureka County	475	415	387	417	355
Humboldt County	4,522	4,349	4,379	4,403	4,212
Lander County	1,573	1,433	1,427	1,500	1,380
Lincoln County	1,336	1,015	860	967	803
Lyon County	12,524	12,107	12,037	12,597	10,581
Mineral County	842	920	988	853	899
Nye County	8,622	8,418	8,090	8,129	7,636
Pershing County	1,247	1,200	1,108	1,000	1,149
Storey County	631	544	541	490	668
White Pine County	2,170	2,095	1,889	1,968	1,721
Rural & Frontier Region Subtotal	63,648	59,368	58,663	58,629	56,443
Urban					
Carson City	11,741	12,639	11,832	12,021	10,867
Clark County	489,207	500,906	517,059	512,497	539,215
Washoe County	99,179	103,464	105,467	109,354	105,197
Urban Region Subtotal	600,127	617,009	634,358	633,872	655,279
Nevada – Total	663,775	676,377	693,021	692,501	711,722

Source: *Adapted from Griswold, T. et al. (2015; 2017), and based on estimates provided by Nevada State Demographer's Office (2014; 2016)*

***Rates of Serious Emotional Disturbance (SED) in Nevada's Children*:**

An estimated 37,266 children in Nevada suffered from serious emotional disturbance (SED) during 2015-2016, which represents 11% of the state's youth population (2016 SAMHSA Uniform Reporting System (URS) Output Tables-Nevada). This estimate is similar to the 12-month prevalence rate of 8% for SED observed among adolescents aged 13 to 17 who participated in the United States community survey involving parallel household and school samples (Kessler et al., 2012, National Comorbidity Survey Replication Adolescent Supplement). It is also comparable to the range of estimates for major depressive episode (MDE) among adolescents in Nevada and the United States obtained by the National Surveys on Drug Use and Health (NSDUH), which are shown in **Table 2 (**below).

Table 2: Past Year Major Depressive Episode (MDE) Among Adolescents Aged 12-17 in Nevada and the United States: 2010-2011 to 2013-2014				
Years	**2010-2011**	**2011-2012**	**2012-2013**	**2013-2014**
Nevada	8.6%	8.5%	9.6%	11.6%
United States	8.1%	8.7%	9.9%	11.0%

Source: Substance Abuse and Mental Health Services Administration. *Behavioral Health Barometer: Nevada, 2015*. HHS Publication No. SMA-16-Baro-2015-NV. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2015.

The most recent available NSDUH data indicate that approximately 26,000 adolescents in Nevada (11.6% of all adolescents) per year in 2013-2014 experienced at least one major depressive episode during the year before being surveyed. The rate for adolescents in Nevada was similar to the national percentage observed for that same survey period. Importantly, the percentage experiencing at least one major depressive episode during each survey period increased from 2010-2011 to 2013-2014.

Rates of Health Risk Behaviors in Nevada's Children

The *Youth Risk Behavior Surveillance System (YRBSS)* monitors health behaviors among youth and young adults to evaluate the success of public health efforts directed to protect and enhance the wellbeing of these individuals nationwide. *YRBSS* includes school-based survey, the *Youth Risk Behavior Survey (YRBS)*, which is conducted by the Centers for Disease Control and Prevention (CDC) and state and local education and health agencies to collect population-based data on health behaviors of interest. This section summarizes findings concerning the emotional health of Nevada's youth who were surveyed for the *2015 YRBS* from February 2015 through May 2015.

Emotional Health Profile of Nevada's High School Students (Grades 9-12), 2015

Tables 3 - 4 (below) summarize responses among Nevada's High School students (Grades 9 –12) to questions about their emotional health and suicide-related thoughts and behaviors that occurred during the 12 months before they participated in the *2015 Nevada High School Youth Risk Behavior Survey*. Overall rates for United States High School students are provided as a comparison. Results indicate that Nevada's youth experienced disturbances to their emotional health during the 12 months before their participation in the survey, and these disturbances included symptoms of depression and suicide attempts.

Psychological Distress and Suicide Attempts among Nevada's Adolescents, 2015

Two patterns emerged from the results of the *2015 Nevada High School Youth Risk Behavior Survey* (**Table 3** and **Table 4** below) that are informative about the emotional health of Nevada's High School Students, and that indicate the presence of unmet needs and critical gaps within the state's current behavioral health system. The ***first pattern***

concerns the proportion of Nevada's high school students (33%) who reported experiencing the *hallmark symptoms of a major depressive episode* during the 12 months before the survey—"*feeling sad or hopeless almost every day for two or more weeks so that they stopped doing some usual activities.*" The proportion of Nevada's youth who experienced this mood disturbance was elevated compared to the proportion of high school students in the United States as a whole (30%), although this group difference did not reach statistical significance (p=0.09). Moreover, 22% of Nevada's adolescents reported having intentionally cut or burned themselves without wanting to die during the 12 months before the survey.

Thus, converging evidence suggests the presence of emotional disturbance and disability for adolescents in Nevada, as well as nationwide, with 12-month prevalence estimates ranging from 8% (national samples) and 9-13% (2016 SAMHSA Uniform Reporting System (URS) Output Tables-Nevada) for serious emotional disturbance (SED), and 8-11% for major depressive episode (MDE) (SAMHSA, NSDUH samples). Moreover, the hallmark symptoms of a major depressive episode were reported by one third of Nevada's adolescents, which was similar to the national rate. This latter finding is suggestive of levels of psychological distress that are more pervasive in this age cohort than would be expected based on the established 12-month prevalence estimates for serious emotional disturbance (SED) and major depressive episode (MDE).

The ***second pattern*** evident from the *2015 Nevada High School Youth Risk Behavior Survey* involves a *heightened risk of injury and death through suicide attempts* made during the year before they participated in the survey. As reflected in **Table 3** (below) approximately 11% of Nevada's high school students reported having engaged in one or more suicide attempts during the 12 months before the survey, compared to 9% of US high school students. Importantly, that difference between the proportions for Nevada and US adolescents was statistically significant (p=0.03). **Table 4a** and **Table 4b** (below) provide a detailed profile of this subgroup of Nevada's adolescents by sex, age, grade and race/ethnicity (Table 3a), and by region (Table 3b). Results show the greatest numbers of suicide attempts during the prior 12 months occurred for females, students in the 9th and 10th grades, American Indians/Alaskan Natives, and for students living in rural and frontier counties.

Table 3: Summary of Emotional Health during the past 12 months, Nevada High School Students, 2015 (*Adapted from*: Youth Risk Behavior Surveillance System, 2015 High School Youth Risk Behavior Survey §)

Question	Nevada 2015	United States 2015	*p-value*	**Nevada 2015** more likely than United States 2015	**United States 2015** more likely than Nevada 2015	*No difference* (NV = US)
Felt sad or hopeless? *(almost every day for 2 or more weeks in a row so that they stopped doing some usual activities during the 12 mos before the survey)* §	32.7 (30.0–35.6) ‡	29.9 (28.0–31.8)	0.09			o
Intentionally cut or burned themselves without wanting to die? *(one or more times during the 12 mos before the survey)* †	21.5 (19.9–23.0)	—	~			
Seriously considered attempting suicide? *(during the 12 mos before the survey)* §	17.2 (14.8–20.0)	17.7 (16.7–18.8)	0.71			o
Made a plan about how they would attempt suicide? *(during the 12 mos before the survey)* §	15.8 (13.8–18.1)	14.6 (13.4–15.8)	0.31			o
Attempted suicide? *(one or more times during the 12 mos before the survey)* §	**10.7 (9.1–12.6)**	**8.6 (7.6–9.6)**	**0.03**	o		
Attempted suicide that resulted in an injury, poisoning, or overdose that had to be treated by a doctor or nurse *(during the 12 mos before the survey)* §	2.8 (2.0–3.7)	2.8 (2.2–3.5)	0.98			o

Footnotes: ‡ Percentage, 95% confidence interval; — Data not available; ~ = P-value not available

§ Accessed from ***Application URL*** on June 5, 2017: https://nccd.cdc.gov/youthonline/App/Results.aspx?TT=G&OUT=0&SID=HS&QID=QQ&LID=NV&YID=2015&LID2=XX&YID2=2015&COL=T&ROW1=N&ROW2=N&HT=QQ&LCT=LL&FS=S1&FR=R1&FG=G1&FI=I1&FP=P1&FSL=S1&FRL=R1&FGL=G1&FIL=I1&FPL=P1&PV=&TST=True&C1=NV2015&C2=XX2015&QP=G&DP=1&VA=CI&CS=N&SYID=&EYID=&SC=DEFAULT&SO=ASC

† Source: Lensch T, Baxa A, Zhang F, Gay C, Larson S, Clements-Nolle K, Yang W. State of Nevada, Division of Public and Behavioral Health and the University of Nevada Reno. *2015 Nevada High School Youth Risk Behavior Survey (YRBS)*, Table 32, p. 36.

Table 4a: Percentage of high school students who attempted suicide [a] by sex, age, grade and race/ethnicity Nevada, Youth Risk Behavior Survey, 2015 §							
		Yes			**No**		
		N [b]	**% [c]**	**CI (95%) [d]**	**N**	**%**	**CI (95%)**
Overall Total	**Total**	488	9.8%	(8.7-10.9)	3928	90.2%	(89.1-91.3)
Sex	**Female**	308	11.7%	(10.0-13.4)			
	Male	176	7.8%	(6.4-9.3)			
Age	**14 years old or younger**	61	9.6%	(6.7-12.6)			
	15 years old	148	11.6%	(9.4-13.8)			
	16 years old	134	10.0%	(7.7-12.4)			
	17 years old	110	9.9%	(7.8-12.0)			
	18 years old or older	34	5.7	(3.2-8.3)			
Grade	**9th grade**	159	11.4%	(9.1-13.7)			
	10th grade	136	11.3%	(8.9-13.7)			
	11th grade	115	8.8%	(6.7-11.0)			
	12th grade	70	7.5%	(5.6-9.3)			
Race/Ethnicity	**American Indian/Alaska Native**	10	16.5%	(5.2-27.9)			
	Asian	19	8.0%	(3.8-12.2)			
	Black	21	8.0%	(4.1-11.9)			
	Native Hawaiian/Pacific Islander	9	9.5%	(2.4-16.6)			
	White	173	8.4%	(6.6-10.1)			
	Hispanic/Latino	210	11.4%	(9.6-13.2)			

Footnotes:

[a] Attempted suicide one or more times during the 12 months before the survey.

[b] Sample size in the total and subgroups may differ due to missing data.

[c] Weighted row percent

[d] Percentage, 95% confidence interval

§ *Adapted from*: Lensch T, Baxa A, Zhang F, Gay C, Larson S, Clements-Nolle K, Yang W. State of Nevada, Division of Public and Behavioral Health and the University of Nevada Reno. *2015 Nevada High School Youth Risk Behavior Survey (YRBS)*, Table 30, p. 34.

Table 4b: Percentage of high school students who attempted suicide [a] by region Nevada, Youth Risk Behavior Survey, 2015 §							
		Yes			**No**		
		N [b]	**% [c]**	**CI (95%) [d]**	**N**	**%**	**C.I. (95%)**
Overall Total	**Total**	488	9.8%	(8.7-10.9)	3928	90.2%	(89.1-91.3)
Region	**Carson City and Douglas**	35	11.7%	(3.1-20.4)			
	Elko, White Pine and Eureka	37	11.4%	(7.0-15.9)			
	Churchill, Humboldt, Pershing and Lander	26	8.3%	(3.0-13.5)			
	Lyon, Mineral and Storey	25	12.8%	(7.9-17.6)			
	Nye and Lincoln	52	14.9%	(11.4-18.4)			
	Washoe	119	11.7%	(9.0-14.4)			
	Clark	194	9.2%	(7.8-10.5)			

Footnotes:

[a] Attempted suicide one or more times during the 12 months before the survey.

[b] Sample size in the total and subgroups may differ due to missing data.

[c] Weighted row percent

[d] Percentage, 95% confidence interval

§ *Adapted from*: Lensch T, Baxa A, Zhang F, Gay C, Larson S, Clements-Nolle K, Yang W. State of Nevada, Division of Public and Behavioral Health and the University of Nevada Reno. *2015 Nevada High School Youth Risk Behavior Survey (YRBS)*, Table 30, p. 34.

Suicide Attempts with Injuries and Medical Intervention among Nevada's Youth, 2015

The *2015 Nevada High School Youth Risk Behavior Survey* results determined that 3% of Nevada's high school students reported having made suicide attempts that resulted in injury, poisoning or overdose, and that required treatment from a doctor or nurse. The national rate for suicide attempts that resulted in medical intervention did not differ from Nevada's rate. Thus, Nevada's adolescents were more likely to report a suicide attempt during the 12 months before participating in the survey, compared to US adolescents as a whole, but this group effect did not hold for attempts that required treatment from a medical professional.

Tables 5a – 5g (below) show the frequencies of suicide related injuries among Nevada's residents who were treated during emergency department visits from February 1, 2014 to May 31, 2015. Frequencies represent numbers of injuries that are reported by external cause of injury (methods of self injury), age and region. Age is distinguished among children younger than 14, adolescents aged 14 to 19, and adults aged 20 and older. The most frequently used methods for these attempts statewide were self-inflicted poisoning by solid or liquid substances and self-inflicted injury by cutting and piercing instrument. These most common methods were observed across all urban and rural regions of the state.

Tables 5a – 5e: Rural and Frontier Counties

Table 5a: Carson City & Douglas County
Suicide Attempts: External Cause of Injury, Emergency Room Visits by Age, 02/01/2014-5/31/2015

	Age during Emergency Room Visit		
	< 14	**14-19**	**20+**
	f	***f***	***f***
Solid or Liquid Substance	3	33	38
Gases in Domestic Use	0	0	0
Other Gases and Vapors	0	1	0
Hanging, Strangulation or Suffocation	0	1	4
Submersion [Drowning]	0	0	0
Firearms, Air Guns or Explosives	0	0	1
Cutting and Piercing Instrument	1	18	44
Jumping from High Place	0	0	0
Other and Unspecified Means	0	5	9

Source: *Hospital Emergency Room Discharge, Nevada Division of Public and Behavioral Health,*
Office of Public Informatics and Epidemiology, June 2017
**Categories are not mutually exclusive.*

Table 5b: Elko County, White Pine County, Eureka County
Suicide Attempts: External Cause of Injury, Emergency Room Visits by Age, 02/01/2014-5/31/2015

	Age during Emergency Room Visit		
	< 14 *f*	**14-19** *f*	**20+** *f*
Solid or Liquid Substance	1	19	45
Gases in Domestic Use	0	0	0
Other Gases and Vapors	0	0	1
Hanging, Strangulation or Suffocation	0	1	1
Submersion [Drowning]	0	0	0
Firearms, Air Guns or Explosives	0	1	1
Cutting and Piercing Instrument	0	7	16
Jumping from High Place	0	0	0
Other and Unspecified Means	1	1	4

Source: *Hospital Emergency Room Discharge, Nevada Division of Public and Behavioral Health,*
Office of Public Informatics and Epidemiology, June 2017
**Categories are not mutually exclusive.*

Table 5c: Churchill County, Humboldt County, Pershing County, Lander County
Suicide Attempts: External Cause of Injury, Emergency Room Visits by Age, 02/01/2014-5/31/2015

	Age during Emergency Room Visit		
	< 14 *f*	**14-19** *f*	**20+** *f*
Solid or Liquid Substance	5	17	52
Gases in Domestic Use	0	0	0
Other Gases and Vapors	0	1	0
Hanging, Strangulation or Suffocation	0	3	5
Submersion [Drowning]	0	0	0
Firearms, Air Guns or Explosives	0	0	3
Cutting and Piercing Instrument	1	10	21
Jumping from High Place	0	0	0
Other and Unspecified Means	0	2	6

Source: *Hospital Emergency Room Discharge, Nevada Division of Public and Behavioral Health, Office of Public Informatics and Epidemiology, June 2017*

**Categories are not mutually exclusive.*

Table 5d: Lyon County, Mineral County, Storey County
Suicide Attempts: External Cause of Injury, Emergency Room Visits by Age, 02/01/2014-5/31/2015

	Age during Emergency Room Visit		
	< 14 *f*	**14-19** *f*	**20+** *f*
Solid or Liquid Substance	5	10	23
Gases in Domestic Use	0	0	0
Other Gases and Vapors	0	0	0
Hanging, Strangulation or Suffocation	0	0	2
Submersion [Drowning]	0	0	0
Firearms, Air Guns or Explosives	0	0	0
Cutting and Piercing Instrument	0	13	15
Jumping from High Place	0	0	0
Other and Unspecified Means	2	0	6

Source: *Hospital Emergency Room Discharge, Nevada Division of Public and Behavioral Health, Office of Public Informatics and Epidemiology, June 2017*

**Categories are not mutually exclusive.*

Table 5e: Nye County & Lincoln County
Suicide Attempts: External Cause of Injury, Emergency Room Visits by Age, 02/01/2014-5/31/2015

	Age during Emergency Room Visit		
	< 14 *f*	**14-19** *f*	**20+** *f*
Solid or Liquid Substance	2	21	68
Gases in Domestic Use	0	0	0
Other Gases and Vapors	0	0	1
Hanging, Strangulation or Suffocation	0	0	3
Submersion [Drowning]	0	0	0
Firearms, Air Guns or Explosives	0	0	1
Cutting and Piercing Instrument	5	19	27
Jumping from High Place	0	0	0
Other and Unspecified Means	0	5	14

Source: *Hospital Emergency Room Discharge, Nevada Division of Public and Behavioral Health, Office of Public Informatics and Epidemiology, June 2017*

**Categories are not mutually exclusive.*

Tables 5f – 5g: Urban Counties

Table 5f: Washoe County

Suicide Attempts: External Cause of Injury, Emergency Room Visits by Age, 02/01/2014-5/31/2015

	Age during Emergency Room Visit		
	< 14 *f*	**14-19** *f*	**20+** *f*
Solid or Liquid Substance	10	130	352
Gases in Domestic Use	0	0	0
Other Gases and Vapors	0	0	1
Hanging, Strangulation or Suffocation	0	7	8
Submersion [Drowning]	0	0	0
Firearms, Air Guns or Explosives	0	0	6
Cutting and Piercing Instrument	5	39	231
Jumping from High Place	0	0	3
Other and Unspecified Means	2	17	44

Source: *Hospital Emergency Room Discharge, Nevada Division of Public and Behavioral Health,*
Office of Public Informatics and Epidemiology, June 2017
**Categories are not mutually exclusive.*

Table 5g: Clark County

Suicide Attempts: External Cause of Injury, Emergency Room Visits by Age, 02/01/2014-5/31/2015

	Age during Emergency Room Visit		
	< 14 *f*	**14-19** *f*	**20+** *f*
Solid or Liquid Substance	49	381	1437
Gases in Domestic Use	0	0	2
Other Gases and Vapors	0	3	15
Hanging, Strangulation or Suffocation	6	21	66
Submersion [Drowning]	0	0	1
Firearms, Air Guns or Explosives	0	1	30
Cutting and Piercing Instrument	41	229	631
Jumping from High Place	0	2	17
Other and Unspecified Means	11	64	236

Source: *Hospital Emergency Room Discharge, Nevada Division of Public and Behavioral Health,*
Office of Public Informatics and Epidemiology, June 2017
**Categories are not mutually exclusive.*

Emotional Health Profile of Nevada's Middle School Students (Grades 6-8)

Table 6 (below) summarizes the results from the *2015 Nevada Middle School Youth Risk Behavior Survey* (Grades 6-8). Because not all states conduct the *Middle School Youth Risk Behavior Survey (YRBS)*, a representative national sample is not available for comparison. Results show that more than 30% of Nevada's Middle School students reported experiencing depressed mood every day for two or more weeks in a row and reduced involvement in their typical activities. This rate is numerically comparable to the proportion of Nevada's High School students who reported this mood disturbance. Suicidal thoughts and behaviors reported by Nevada Middle School students ranged from suicidal ideation and suicide planning to attempted suicide, and the proportions of Middle School students in each of these categories paralleled the proportions observed for the older state and national High School samples. Importantly, 20% of Nevada's Middle School students reported having engaged in intentionally injuring themselves without wanting to die, which is similar to the proportion of Nevada's High School students reporting those behaviors.

Table 6: Summary of Emotional Health, Nevada Middle School Students, 2015

(*Adapted from*: Youth Risk Behavior Surveillance System, 2015 High School Youth Risk

Question	**Nevada Middle School Students (Grades 6-8)**
Felt sad or hopeless. *(almost every day for 2 or more weeks in a row so that they stopped doing some usual activities)*	31.4 (29.0–33.7) ‡
Ever seriously considered killing themselves.	22.9 (21.2–24.6)
Ever made a plan about how they would kill themselves.	13.4 (12.1–14.8)
Ever tried killing themselves.	8.7 (7.5–9.8)
Ever done something to purposely hurt themselves without wanting to die, such as cutting or burning themselves on purpose.	20.2 (18.5–21.9)

Footnote: ‡ Weighted percentage, 95% confidence interval

§ *Adapted from*: Lensch T, Baxa A, Zhang F, Gay C, Larson S, Clements-Nolle K, Yang W. State of Nevada, Division of Public and Behavioral Health and the University of Nevada Reno. *2015 Nevada Middle School Youth Risk Behavior Survey (YRBS)*, Tables 21-25, pp. 24-28.

Summary

Results from the recent ***2015 National Surveys on Drug Use and Health*** and the ***2015 Nevada High School Youth Risk Behavior Survey*** indicate that the health and wellbeing are compromised for a significant proportion of Nevada's children and adolescents. In combination, these findings raise important questions about the services

that may be available to these young persons. Fundamental questions concern the causal factors underlying those suicide attempts and deliberate acts of self-harm that did not necessarily result in medical intervention. What was the severity of their distress, and the degree of their suicide risk and self-injury? It is possible that the acuity of psychological distress and the lethality of suicidal behaviors were low to moderate, and that each resolved without attracting much attention. However, it is also possible that in the absence of effective mental health intervention, such ***psychological distress*** and ***'silent' suicide attempts*** may escalate in syndromal distinctiveness and severity, and in risk for injury and death. Providing appropriate and optimal interventions to such individuals will depend on a range of health services capacities, including the accurate identification of subsets within these populations.

Access to Services for Nevada's Children with Serious Emotional Disturbance (SED)

Services Provided by the Nevada State Mental Health Authority (SMHA): An estimated 37,266 children in Nevada suffered from serious emotional disturbance (SED) during 2015-2016, which represents 11% of the state's youth population (2016 SAMHSA Uniform Reporting System (URS) Output Tables-Nevada). Based on the National Outcomes Measures (NOMS) for this period, 3,035 children with serious emotional disturbance (SED) were served by Nevada's State Mental Health Authority (SMHA), which represents eight percent (8%) of the estimated services need for this population. Service penetration rates are presented below for Nevada's children aged 0-17, and the national rates are provided as a comparison.

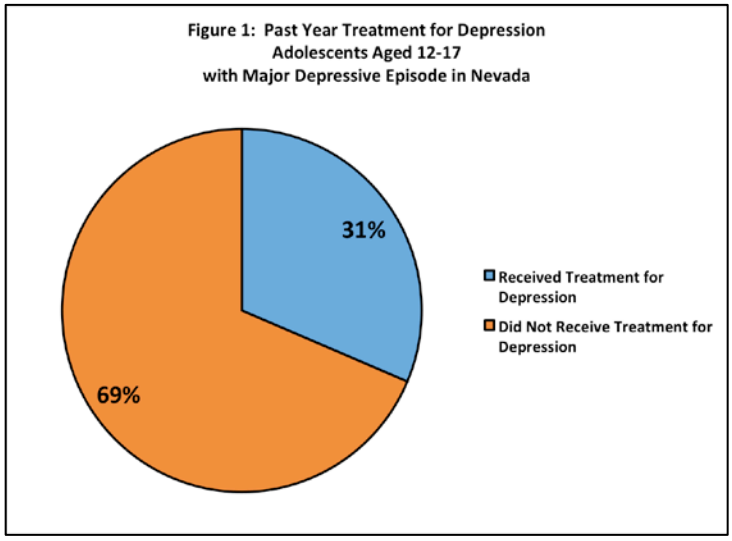
Table 7: Children with SED served by the Nevada State Mental Health Authority by Age, FY 2016

	Total Served				Penetration Rates (per 1,000 population)	
	Nevada		US			
Age (years)	**n**	**%**	**n**	**%**	**State**	**US**
Total Served *(all ages 0-75 yrs)*	13,435	100.0%	4,979,257	100.0%	4.6	15.3
0-12 yrs	1,404	10.5%	769,252	15.4%	2.9	14.6
13-17 yrs	1,631	12.1%	639,492	12.8%	8.7	30.6

Source: *2016 SAMHSA Uniform Reporting System (URS) - Nevada*

Division of Child and Family Services (DCFS), in the Nevada Department of Health and Human Services (DHHS), reported serving 2,486 children with SED during 2015-2016. Of the 3,035 children with SED who were served by the State Mental Health Authority, an estimated 652 were provided care in Nevada's rural communities through the Division of Public and Behavioral Health (DPBH) Rural Clinics for Mental Health Services. These services include patient assessments in the rural hospitals, and direct care services at each of 16 Rural Clinic locations.

Treatment for Depression Among Nevada's Adolescents with Major Depressive Episode, Aged 12-17: As summarized in the previous section, the most recent available data reported by the National Surveys on Drug Use and Health (NSDUH) indicate that approximately 26,000 adolescents in Nevada (11. 6% of all adolescents in the state), per year in 2013-2014, experienced at least one Major Depressive Episode (MDE) during the year before being surveyed. Nevada's percentage of adolescents experiencing MDE was similar to the national percentage. Importantly, as shown in **Figure 1** (left), almost one-third of Nevada's adolescents with MDE received



Source: *SAMHSA, Center for Behavioral Health and Quality, NSDUH, 2010-2014*

treatment for depression (31.4%), which was similar to the annual national average (38.6%) from 2010 to 2014.

Hospital Emergency Room Visits for Mental Health Conditions Among Nevada's Youth, Aged 17 and Younger

Limited access to community-based mental health services contributes to over-utilization of hospital emergency departments. Billing data for hospital emergency room visits related to mental health conditions were examined as indicators of serious emotional disturbance (SED) that was either untreated or ineffectively managed. **Table 8** (below) provides the frequencies of emergency room visits by mental health conditions in four domains: mental disorder categories (mood, anxiety, psychosis); suicidal behaviors (tendencies and ideation); suicide attempts by method; and substance use disorders (alcohol and other drugs). Condition frequencies are based on emergency room billing codes compiled by University of Nevada, Las Vegas, Center for Health Information Analysis (CHIA). Data are based on visits, not patients, with any single individual potentially representing multiple visits.

Depression, drug-related conditions, suicidal ideation and anxiety were the most frequent mental health conditions diagnosed for Nevada youth who presented to emergency rooms in Nevada hospitals from 2009 to 2014. Suicide conditions (n=8,896 visits) accounted for 39% of all emergency room visits over that six-year period for individuals aged 17 and younger. Suicide attempts, combined across methods (n=2,989 visits), represented 13% of all emergency room visits. Suicidal tendencies and ideation (n=5,907 visits) accounted for 26% of all visits. One-third (34%) of the suicide condition visits involved suicide attempts.

Table 8: Select Mental Health Related Emergency Room Visits by Gender, Aged 17 and Younger, Nevada Residents, 2009-2014

Condition	Female		Male		Unknown		Total
	N	Row %	N	Row %	N	Row %	
Anxiety	2,668	65.1%	1,428	34.9%	0	0.0%	4,096
Depression	4,294	66.2%	2,197	33.8%	0	0.0%	6,491
Bipolar	1,243	49.8%	1,252	50.2%	0	0.0%	2,495
PTSD	270	57.6%	199	42.4%	0	0.0%	469
Schizophrenia	202	49.3%	208	50.7%	0	0.0%	410
Suicidal Tendencies	877	66.7%	437	33.3%	0	0.0%	1,314
Suicidal Ideation	2,767	60.2%	1,826	39.8%	0	0.0%	4,593
Alcohol Related	1,501	47.1%	1,687	52.9%	0	0.0%	3,188
Other Drug Related	3,394	52.9%	3,018	47.1%	1	0.0%	6,413
Suicide Attempt- Solid or Liquid	1,334	77.7%	382	22.3%	0	0.0%	1,716
Suicide Attempt- Gases in Domestic Use	0	0.0%	1	100.0%	0	0.0%	1
Suicide Attempt- Other Gases and Vapors	5	35.7%	9	64.3%	0	0.0%	14
Suicide Attempt- Hanging, Strangulation, Suffocation	43	46.7%	49	53.3%	0	0.0%	92
Suicide Attempt- Cutting & Piercing Instrument	642	73.2%	235	26.8%	0	0.0%	877
Suicide Attempt- Firearms, Air Guns, Explosives	2	20.0%	8	80.0%	0	0.0%	10
Suicide Attempt- Jumping from High Place	8	66.7%	4	33.3%	0	0.0%	12
Suicide Attempt- Drowning	2	100.0%	0	0.0%	0	0.0%	2
Suicide Attempt- Other Unspecified Means	104	39.2%	161	60.8%	0	0.0%	265
Total Behavioral Health Visits*	**13,012**	**56.9%**	**9,851**	**43.1%**	**1**	**0.0%**	**22,864**

Source: *Hospital Emergency Room Discharge, Nevada Division of Public and Behavioral Health, Office of Public Informatics and Epidemiology, June 2017*
***** *Categories are not mutually exclusive.*

MEDICAID Expansion under the Affordable Care Act (ACA) and Health Services Utilization

Health care financing plays a significant role in the frequency and type of health services that people use. Equally important is the availability and quality of health care services. Both factors are clearly reflected in the patterns of health services utilization observed among Nevada residents. Firstly, the numbers of Nevada residents covered by Medicaid benefits more than doubled when the state expanded Medicaid coverage in 2014 by Governor Brian Sandoval under the Affordable Care Act (ACA), increasing from ***351,315 persons in 2013*** to ***654,442 individuals in 2015***. Secondly, as reflected in **Table 9** (below), this increase in health care coverage appears to have impacted the frequency with which Nevada residents used health care services, most notably inpatient facilities and hospital emergency departments. Thus, the dual influences of increased health care coverage, and limited access to appropriate and optimal services are demonstrated in the utilization of Emergency Department Services for a wide range of mental health-related conditions from 2009 to 2014, shown in **Table 8** (above), and the dramatic increase in emergency room visits in 2015, after Medicaid expansion in 2014, shown in **Table 9** (below).

Table 9: Medicaid Managed Care Organizations (MCO) and Fee-for-Service (FFS) Utilization, 2015			
MCO and FFS Utilization: Percent Change from Calendar Years 2013 – 2015			
Provider/Service Type	**2013**	**2015**	**% Change**
MCO			
Inpatient	441	6,626	93%
Outpatient	588,868	1,482,972	60%
Emergency Room Visits	9,014	48,784	82%
FFS			
Inpatient	4,656	8,645	46%
Outpatient	2,197,658	2,474,380	11%
Emergency Room Visits	6,298	12,019	48%
Source: S. Woodard and Nevada Division of Health Care Financing and Policy (2016)			

MEDICAID Reimbursements for Behavioral Health Services, 2015: Youth Aged 0-17 years:

Table 10 (below) provides the demographic characteristics for individuals aged 17 and younger with one or more behavioral health procedure codes or diagnosis codes during calendar year (CY) 2015, which were reimbursed through Medicaid Fee-for-Service (FFS) or Managed Care Organization (MCO) (*adapted from S. Woodard and Nevada Division of Health Care Financing and Policy, 2016*). Medicaid Fee-for-Service (FFS) subsidized services provided by the state mental health system, as well as services from the private provider community. Medicaid Managed Care (MCO) reimbursement supported services provided by the private provider community.

Table 10: Medicaid Fee-For-Service and Managed Care, 2015
Individuals Aged 17 years and younger with one or more health procedure code or diagnosis code during CY 2015

Fee-For-Service Demographics, 2015		**Age Group**	
		Aged 0-17 years (n=61,457 unique individuals)	
Sex	Male	34,383	56%
	Female	27,164	44%
Region	Clark	36,024	59%
	Washoe	7,743	13%
	All Other Counties	17,780	29%
Race/Ethnicity	White, non-Hispanic	23,838	39%
	Black, non-Hispanic	10,158	17%
	Hispanic	20,409	33%
	American Indian/Native American	1,463	2%
	Asian, non-Hispanic	1,315	2%
	Other/Unknown	4,364	7%
Managed Care Demographics, 2015		**Age Group**	
		Aged 0-17 years (n=229,175 unique individuals)	
Sex	Male	116,030	51%
	Female	113,145	49%
Region	Clark	196,336	86%
	Washoe	32,827	14%
	All Other Counties	12	< 1%
Race/Ethnicity	White, non-Hispanic	51,013	22%
	Black, non-Hispanic	42,868	19%
	Hispanic	106,501	46%
	American Indian/Native American	1,923	1%
	Asian, non-Hispanic	8,378	4%
	Other/Unknown	18,492	8%

Source: *Adapted from S. Woodard and Nevada Division of Health Care Financing and Policy, 2016*

Access to Licensed Mental Health Care Specialists in Nevada

Table 11 (below) presents the numbers of specialty mental health professionals by county who held current licenses in 2016 that were recognized by the State of Nevada Boards of Examiners for their respective disciplines, including psychiatry, psychology, and social work.

Table 11: Distribution of Licensed Mental Health Care Specialists in Nevada by County, 2016

Region/County	Licensed Psychiatrists [1]		Licensed Psychologists [2]		Licensed Clinical Social Workers (LCSW) [3]
	Number	Number per 100,000 population	Number	Number per 100,000 population	Number
Rural and Frontier					
Churchill County	0	0.0	1	3.9	4
Douglas County	1	2.1	5	10.4	8
Elko County	0	0.0	0	0.0	6
Esmeralda County	0	0.0	0	0.0	0
Eureka County	0	0.0	0	0.0	0
Humboldt County	0	0.0	0	0.0	4
Lander County	0	0.0	0	0.0	2
Lincoln County	0	0.0	0	0.0	3
Lyon County	0	0.0	4	7.4	6
Mineral County	0	0.0	0	0.0	0
Nye County	0	0.0	2	4.4	5
Pershing County	0	0.0	0	0.0	0
Storey County	0	0.0	0	0.0	0
White Pine County	0	0.0	0	0.0	3
Rural and Frontier Subtotal	1	0.1	12	4.2	41
Urban					
Carson City	4	7.3	17	30.8	30
Clark County	120	5.6	215	10.3	459
Washoe County	65	11.8	146	32.4	168
Urban Subtotal	189	7.1	378	14.5	657
Nevada – Total	190	6.8	390	13.4	698

Adapted from: *Griswold et al., Nevada Rural and Frontier Health Data Book – Eighth Edition (January 2017)*

[1] Nevada State Board of Medical Examiners, 2016; [2] Nevada State Board of Psychological Examiners, 2016; [3] State of Nevada Board of Examiners for Social Workers, 2016

INSERT MAPS SHOWING GEOGRAPHIC DISTRIBUTION BY MENTAL HEALTH PROFESSIONAL TYPE

Summary

Access to Services for Nevada's Children (aged 0-17). Access to services is a complex issue. A critical factor for Nevada is that almost all the state qualifies as a mental health professional shortage area (Health Resources and Services Administration, HRSA), with the only exception being Las Vegas in Clark County (Griswold et al., 2017, *Map 5.3*, p. 148). This circumstance is reflected in **Table 11** (above), which indicates an overall rate of 6.8 psychiatrists and 13.4 psychologists per 100,000 population. However, access to services becomes even more challenging for Nevada's children living in the remote and less densely populated regions of the state, with less than 1 psychiatrist and 4.2 psychologists per 100,000 population for all rural and frontier counties combined. Equally important for those children is the apparent reduced availability of managed care providers outside the urban counties of Washoe and Clark. As reflected in the behavioral health services data presented in **Table 10** (above), the proportion of rural and frontier residents aged 0-17 that received Medicaid Fee-For-Service (FFS) was intermediate between the rates of children receiving Medicaid FFS and living in the urban counties of Washoe and Clark. Medicaid FFS subsidizes services provided by the State mental health system, as well as services from the private provider community. **Table 10** also shows that 229,175 unique individuals aged 0–17 were served by Medicaid managed care organizations (MCOs) during calendar year 2015. However, less than one percent receiving Medicaid MCO services was residing in the rural and frontier counties. Medicaid MCO reimbursement supports services that are delivered by the private provider community.

Adults with Serious Mental Illness (SMI)

Table 12 (below) shows the population estimates and projections for Nevada's residents aged 18 to 64 by urban and rural counties and regions for 2010 to 2022 (Griswold, T., et al., 2015; Griswold, T., et al., 2017; Nevada State Demographer's Office, 2014; Nevada State Demographer's Office, 2016). Population estimates and projections reflect steady growth for this age group and the State as a whole, but with some variability in the combined rural and frontier counties.

Region/County	Table 12: Population Estimates and Projections for Nevada Residents Aged 18 - 64 by County, 2010 to 2022				
	2010	**2014**	**2017**	**2019**	**2022**
Rural and Frontier					
Churchill County	14,652	15,289	15,563	15,771	16,062
Douglas County	27,877	27,639	27,362	26,481	26,851
Elko County	30,886	35,855	32,827	37,759	30,815
Esmeralda County	428	529	626	698	566
Eureka County	1,239	1,312	1,239	1,327	1,169
Humboldt County	10,489	11,491	10,119	11,814	8,543
Lander County	3,570	4,355	4,069	4,199	3,289
Lincoln County	2,982	2,679	2,643	2,834	2,981
Lyon County	30,477	31,119	32,529	33,778	30,834
Mineral County	2,708	2,616	2,764	2,386	2,549
Nye County	24,045	24,332	23,997	24,474	23,114
Pershing County	4,528	3,290	3,091	3,331	3,346
Storey County	2,494	2,431	2,454	2,264	2,574
White Pine County	6,398	5,095	4,960	5,024	4,432
Rural & Frontier Region Subtotal	162,773	168,032	164,242	172,140	157,125
Urban					
Carson City	34,261	29,898	30,535	30,944	30,407
Clark County	1,250,003	1,277,188	1,326,583	1,309,201	1,395,647
Washoe County	273,032	272,309	278,197	292,181	281,563
Urban Region Subtotal	1,557,296	1,579,395	1,635,315	1,632,326	1,707,617
Nevada – Total	1,720,069	1,747,427	1,799,557	1,804,466	1,864,742

Source: *Adapted from Griswold, T. et al. (2015; 2017), and based on estimates provided by Nevada State Demographer's Office (2014; 2016).*

Rates of Serious Mental Illness (SMI) Among Nevada Adults Aged 18 and Older

An estimated 119,373 adults in Nevada suffered from serious mental illness (SMI) during 2015-2016, which represents 5.4% of the state's adult population (2016 SAMHSA Uniform Reporting System (URS) Output Tables-Nevada). This estimate is generally consistent with the 12-month prevalence rates for adults aged 18 and older who participated in national and international community epidemiology surveys. Based on the U.S. National Comorbidity Survey Replication (Kessler et al., 2005), the 12-month prevalence estimate for the presence of a serious mental disorder was 5.7%. Based on the World Health Organization-World Mental Health Surveys (Kessler et al., 2012), involving 28 countries, the 12-month prevalence estimates for serious mental illness (SMI) were: 4.0-6.8% for one-half of the

surveys; 2.3-3.6% for another quarter; and 0.8-1.9% for the final quarter. Finally, those prevalence estimates are also similar to the range of estimates for serious mental illness (SMI) among adults in Nevada and the United States based on the National Surveys on Drug Use and Health (NSDUH), which are presented in **Table 13** (below).

Table 13: Past Year Serious Mental Illness (SMI) Among Adults Aged 18 or Older in Nevada and the United States: 2010-2011 to 2013-2014				
Years	**2010-2011**	**2011-2012**	**2012-2013**	**2013-2014**
Nevada	4.0%	3.9%	4.1%	4.3%
United States	3.9%	4.0%	4.1%	4.2%

Source: Substance Abuse and Mental Health Services Administration. *Behavioral Health Barometer: Nevada, 2015*. HHS Publication No. SMA-16-Baro-2015-NV. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2015.

The most recent available NSDUH data indicate that approximately 91,000 adults in Nevada (4.3% of all adults), per year in 2013-2014, experienced serious mental illness during the year before being surveyed. Nevada's rate was similar to the national percentage for that same survey period. The percentage of adults with SMI did not change significantly from 2010-2011 to 2013-2014.

It is worthwhile to note the quality of the assessment methodology used to obtain the estimates of serious mental illness in the 2015 National Survey on Drug Use and Health (NSDUH). Estimates for this diagnostic category were based on follow-up telephone interviews of a sub-sample from the Mental Health Surveillance Study (MHSS). These follow-up contacts included the administration of structured clinical interviews (Structured Clinical Interview for DSM-IV, SCID-IV: First et al., 2002) by trained mental health clinicians. Adults with serious mental illness (SMI) were identified from among individuals who met the criteria for any mental illness (AMI) based on these interviews. An adult with AMI was any person having the presence of any mental, behavioral or emotional disorder during the past year that met DSM-IV criteria, excluding developmental disorders and substance use disorders. Adults with AMI were defined as having SMI if they had any mental, behavioral, or emotional disorder that substantially interfered with or limited one or more major life activities (Center for Behavioral Health Statistics and Quality, 2016).

Rates of Specific Mental Disorders Among Nevada's Adults Who Received Treatment

Division of Public and Behavioral Health (DPBH or the Division) is the largest provider of mental health services in Nevada. During the period from 2010-2014, the Division provided mental health services to 57,920 Nevada adults aged 18 and older. Females comprised 54% of this patient population and males represented 46%. White non-Hispanic individuals represented 62% of patients. The largest age group was 31-50 years old, and this group accounted for 45% of patients.

Twenty-five percent (25%) of patients were high school graduates, 20% had "some college," and 20% reported "less than 12th grade, no diploma." **Figure 2** (left) shows the most common mental disorder diagnoses that were assigned to those Nevada residents during the 5-year period from 2010-2014. Schizophrenia, psychosis and mood disorders were the disorders most frequently diagnosed, and adjustment and anxiety disorders, including post-traumatic stress disorder, were the least frequently diagnosed.

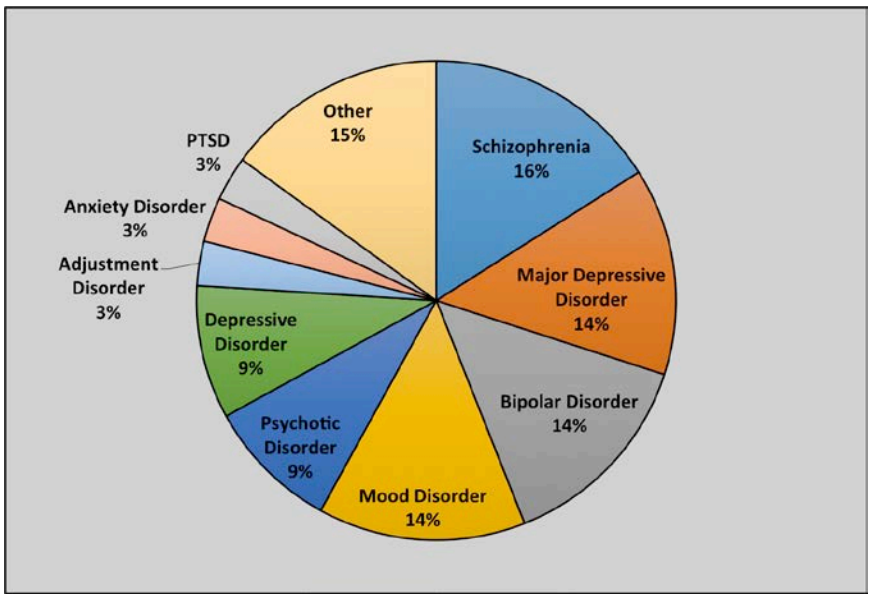


Figure 2: Most Common Mental Health Diagnoses, 2010-2014
Nevada Division of Public and Behavioral Health

Source: *AVATAR, Division of Public and Behavioral Health, Office of Public Informatics and Epidemiology, June 2017*

Rates of Suicide-Related Behaviors and Suicide Deaths Among Nevada Residents

Rates of Suicide Ideation Among Nevada's Adults Aged 18 and Older

The most recent available data from the National Surveys on Drug Use and Health (2015 NSDUH) indicate that approximately 92,000 adults in Nevada (4.4% of all adults), per year during 2013-2014, had serious thoughts of suicide during the year before participating in the survey. Nevada's rate was similar to the national percentage observed for that same period. **Table 14** (below) presents the range of estimates for serious thoughts of suicide among adults in Nevada and the United States. The percentages did not change significantly across the five-year period.

Table 14: Past Year Serious Thoughts of Suicide Among Adults Aged 18 or Older in Nevada and the United States: 2010-2011 to 2013-2014				
Years	**2010-2011**	**2011-2012**	**2012-2013**	**2013-2014**
Nevada	3.6%	3.8%	3.8%	4.4%
United States	3.8%	3.8%	3.9%	3.9%

Source: Substance Abuse and Mental Health Services Administration. *Behavioral Health Barometer: Nevada, 2015.* HHS Publication No. SMA-16-Baro-2015-NV. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2015.

Rates of Suicide Attempts Among Nevada's Adults, Aged 18 and Older, 2009 - 2014

Table 17 (below) presents the frequencies of visits to Nevada hospital emergency departments among adults aged 18 and older by behavioral health conditions, including suicide-related behaviors (tendencies and ideation) and suicide attempts by methods of self-injury. Suicide conditions (n=74,106 visits) accounted for 15% of the total behavioral health-related visits among the State's residents aged 18 and older who presented to emergency rooms in Nevada hospitals from 2009 to 2014. ***Suicidal tendencies and ideation*** (n=57,072 visits) accounted for 77% of all suicide-related visits. ***Suicide attempts***, combined across methods of self-injury (n=17,034 visits), represented 23% of all suicide-related visits. **Tables 5a – 5g** (above) present the frequencies of suicide related injuries among Nevada's residents who were treated during emergency room visits between February 1, 2014 and May 31, 2015. Age categories were 13 years and younger, 14 to 19 years, and 20 years and older. The most frequently used methods for these suicide attempts were self-inflicted poisoning by solid or liquid substances and self-inflicted injury by cutting and piercing instrument. These patterns of most common external cause of self-injury were observed across all ages and all areas of the State, including urban, rural and frontier counties.

Rates of Suicide Deaths Among Nevada's Residents, 2014

Nevada continues to rank among the states with the highest rates of suicide deaths nationwide, although the most recent available data indicate movement from the state rank of 8th for calendar year 2014 to the state rank of 11th for 2015 (https://www.cdc.gov, Retrieved August 24, 2017). Regional rates indicate the highest numbers of suicide deaths per population occur in Nevada's rural and frontier counties. **Table 15** (below) presents the most recent available suicide rates for Nevada residents by region for 2014. The rates for homicide and all cause mortality by region in 2014 are included as points of reference.

Table 15: Mortality Rates by Cause of Death in Nevada by Region of Residence, 2014					
Cause of Death	**Number of Deaths per 100,000 Population**				
	Rural and Frontier Counties	**Carson City, Northwestern Nevada**	**Clark County, Southern Nevada**	**Washoe County, Northwestern Nevada**	**Nevada**
Suicide, Intentional Self Harm	28.9	15.1	17.3	19.6	18.2
Homicide, Assault	3.6	1.1	7.1	5.8	6.2
Total Mortality – All Causes	693.4	779.4	753.3	818.9	725.7

Source: *Adapted from Griswold et al., 2017.*

Note: All rates are age-adjusted.

Access to Mental Health Services for Nevada's Adults with Serious Mental Illness (SMI)

Services Provided by the Nevada State Mental Health Authority (SMHA)

An estimated 119,373 adults in Nevada suffered from serious mental illness (SMI) during 2015-2016, which represents 5.4% of the state's civilian adult population (2016 SAMHSA Uniform Reporting System (URS) Output Tables-Nevada). Based on the National Outcomes Measures (NOMS) for this period, 10,400 adults with serious mental illness (SMI) were served by Nevada's State Mental Health Authority, which represents 9% of the estimated services need. **Table 16** (below) presents service penetration rates for Nevada's adults with SMI, and national rates provide comparisons.

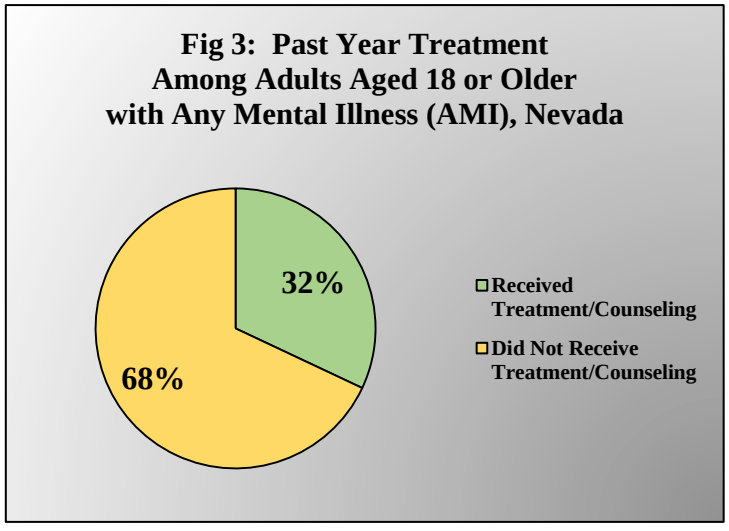
Table 16: Adults with SMI served by the Nevada State Mental Health Authority (SMHA) by Age, FY 2016						
	Total Served				Penetration Rates (per 1,000 population)	
	Nevada		US			
Age (years)	n	%	n	%	State	US
Total Served *(all ages 0-75 yrs)*	13,435	100.0%	4,979,257	100.0%	4.6	15.3
18-20	288	2.1%	205,480	4.1%	3.0	16.0
21-64	9,512	70.8%	3,143,936	63.1%	5.6	16.8
65-74	533	4.0%	162,995	3.3%	2.0	5.9
75 and over	67	0.5%	56,810	1.1%	0.4	3.1

Source: *2016 SAMHSA Uniform Reporting System (URS) – Nevada.*

Thirty-four percent (n=3,549) of the 10,400 adults with SMI who were served by Nevada's mental health system received their care from the Rural Clinics for Mental Health Services, which include patient assessments in rural hospitals, and direct care at each of the 16 rural clinic locations.

Mental Health Treatment/Counseling for Any Mental Illness Among Nevada's Adults, Aged 18 or Older

As summarized in the previous section, the most recent available data reported by the National Surveys on Drug Use and Health (NSDUH) indicate that approximately 91,000 adults in Nevada (4.3% of all adults in the state), per year in 2013-2014, experienced serious mental illness (SMI) during the year before being surveyed. Nevada's percentage of SMI was similar to the national percentage for that same period. Moreover, the percentage of adults with SMI did not change significantly from 2010-2011 to 2013-2014. As shown in **Figure 3** (left), approximately 113,000 adults with any mental illness (AMI) in Nevada (32% of all adults with AMI), per year from 2010 to 2014, received mental health treatment or counseling within the year before being surveyed. However, Nevada's annual average (32%) for treatment of AMI was *lower than* the national annual average (42.7%), 2010 - 2014.



Source: *SAMHSA, Center for Behavioral Health and Quality, NSDUH, 2010-2014*

Hospital Emergency Room Visits for Mental Health Conditions Among Nevada's Adults, Aged 18 or Older

Limited access to effective community-based mental health services, including crisis interventions, contributes to over-utilization of hospital emergency department services. Billing data for hospital emergency room visits related to mental health were considered as indicators of serious mental illness (SMI) that was either untreated or ineffectively managed. **Table 17** (below) provides the frequencies of visits to Nevada hospital emergency rooms among adults aged 18 or older by mental health conditions in four domains: mental disorder categories (mood, anxiety, psychosis); suicidal behaviors (tendencies, ideation); suicide attempts by method; and substance use disorders. Frequencies are based on emergency room billing codes compiled by University of Nevada, Las Vegas, Center for Health Information Analysis (CHIA). Data are based on visits, not patients, with any single individual potentially representing multiple visits.

Anxiety, substance use conditions, depression and suicide-related behaviors were the conditions most frequently diagnosed for the State's residents aged 18 and older who presented to emergency rooms in Nevada hospitals from 2009 to 2014. Suicide conditions (n=74,106 visits) accounted for 15% of the total number of behavioral health related visits during that six-year period. Suicide attempts, combined across methods (n=17,034 visits), represented 23% of all suicide-related visits. Suicidal tendencies and ideation (n=57,072 visits) comprised 77% of all suicide-related visits.

Table 17: Select Behavioral Health Related Emergency Room Visits by Gender, Ages 18 and Older, Nevada Residents, 2009-2014

Condition	Female		Male		Unknown		Total
	N	Row %	N	Row %	N	Row %	
Anxiety	97,406	66.6%	48,761	33.4%	3	0.0%	146,170
Depression	72,565	61.2%	45,987	38.8%	2	0.0%	118,554
Bipolar	30,814	59.6%	20,890	40.4%	1	0.0%	51,705
PTSD	5,385	55.9%	4,244	44.1%	0	0.0%	9,629
Schizophrenia	11,407	37.5%	19,035	62.5%	1	0.0%	30,443
Suicidal Tendencies	4,937	46.1%	5,769	53.9%	0	0.0%	10,706
Suicidal Ideation	19,635	42.3%	26,731	57.7%	0	0.0%	46,366
Alcohol Related	43,725	30.3%	100,378	69.7%	6	0.0%	144,109
Other Drug Related	48,645	44.9%	59,627	55.1%	3	0.0%	108,275
Suicide Attempt- Solid or Liquid	6,528	64.0%	3,670	36.0%	0	0.0%	10,198
Suicide Attempt- Gases in Domestic Use	2	33.3%	4	66.7%	0	0.0%	6
Suicide Attempt- Other Gases and Vapors	33	32.0%	70	68.0%	0	0.0%	103
Suicide Attempt- Hanging, Strangulation, & Suffocation	104	29.9%	244	70.1%	0	0.0%	348
Suicide Attempt- Cutting & Piercing Instrument	2,614	56.3%	2,031	43.7%	1	0.0%	4,646
Suicide Attempt- Firearms, Air Guns, & Explosives	31	18.8%	134	81.2%	0	0.0%	165
Suicide Attempt- Jumping from High Place	21	28.0%	54	72.0%	0	0.0%	75
Suicide Attempt- Drowning	5	50.0%	5	50.0%	0	0.0%	10
Suicide Attempt- Other Unspecified Means	622	41.9%	861	58.1%	0	0.0%	1,483
Total Behavioral Health Visits*	**253,312**	**50.6%**	**247,454**	**49.4%**	**14**	**0.0%**	**500,780**

Source: *Hospital Emergency Room Discharge, Nevada Division of Public and Behavioral Health, Office of Public Informatics and Epidemiology, June 2017.* NOTE*: * Categories are not mutually exclusive.*

MEDICAID Reimbursements for Behavioral Health Services, 2015: Adults Aged 18 - 64

Table 18 (below) provides the demographic characteristics for individuals aged 18 and older with one or more behavioral health procedure codes or diagnosis codes during calendar year (CY) 2015, which were reimbursed through Medicaid Fee-for-Service (FFS) or Managed Care Organization (MCO) (*adapted from S. Woodard and Nevada Division of Health Care Financing and Policy, 2016*). Medicaid Fee-for-Service (FFS) subsidized services provided by the state mental health system, as well as services from the private provider community. Medicaid Managed Care (MCO) reimbursement supported services provided by the private provider community.

Table 18: Medicaid Fee-For-Service and Managed Care, 2015
Individuals Aged 18 - 64 with one or more health procedure code or diagnosis code during CY 2015

Fee-For-Service Demographics, 2015		**Age Group**			
		18 – 25 (n=18,602)		**26 – 64 (n=82,024)**	
Sex	Male	6,651	36%	34,520	42%
	Female	11,951	64%	47,504	58%
Region	Clark	11,188	60%	49,645	61%
	Washoe	2,123	11%	10,012	12%
	All Other Counties	5,291	28%	22,367	27%
Race/Ethnicity	White, non-Hispanic	8,602	46%	47,216	58%
	Black, non-Hispanic	3,897	21%	15,373	19%
	Hispanic	4,081	22%	10,963	13%
	American Indian/Native American	515	3%	2,296	3%
	Asian, non-Hispanic	404	2%	2,396	3%
	Other/Unknown	1,103	6%	3,780	5%
Managed Care Demographics, 2015		**Age Group**			
		18 – 25 (n=56,862)		**26 – 64 (n=182,849)**	
Sex	Male	20,798	37%	77,239	42%
	Female	36,064	63%	105,610	58%
Region	Clark	48,217	85%	155,548	85%
	Washoe	8,632	15%	27,256	15%
	All Other Counties	13	<1%	45	<1%
Race/Ethnicity	White, non-Hispanic	18,415	32%	82,184	45%
	Black, non-Hispanic	14,959	26%	39,074	21%
	Hispanic	16,806	30%	36,574	20%
	American Indian/Native American	595	1%	2,080	1%
	Asian, non-Hispanic	2,055	4%	10,678	6%
	Other/Unknown	4,032	7%	12,259	7%

Source: *Adapted from S. Woodard and Nevada Division of Health Care Financing and Policy, 2016*

Summary

Access to Mental Health Services for Nevada's Adults Aged 18 to 64. Access to services for Nevada's residents is influenced by multiple factors. An ongoing challenge is the fact that almost all of the state qualifies as a mental health professional shortage area (Health Resources and Services Administration, HRSA), with the only exception being Las Vegas in Clark County (Griswold et al., 2017, *Map 5.3*, p. 148). This circumstance is clearly evident in **Table 11** (above), which provides the distribution of licensed mental health care specialists by county for 2016. The overall rates for psychiatry and psychology statewide highlight the severity of this shortage, with 6.8 psychiatrists and 13.4 psychologists per 100,000 population. However, access to services becomes even more challenging for Nevada's residents who live in the state's remote and less densely populated counties, with less than 1 psychiatrist and 4.2 psychologists per 100,000 population for the combined region of all rural and frontier counties. Equally important for those residents is the apparent reduced availability of managed care providers outside the urban counties of Washoe and Clark. As reflected in the behavioral services data presented in **Table 18** (above), the proportions of rural and frontier residents aged 18-25 and 26-64 that received Medicaid Fee-For-Service (FFS) were intermediate between the rates for residents of the same ages who were living in the urban counties of Washoe and Clark. Medicaid FFS supported services provided by the state mental health system, as well as services from the private provider community. **Table 18** also shows that 239,711 unique individuals aged 18-64 were served by Medicaid Managed Care Organizations (MCOs) during calendar year 2015. However, less than one percent receiving Medicaid managed care services was residing in the rural and frontier counties. Medicaid MCO reimbursement supported services provided by the private provider community.

Older Adults with Serious Mental Illness (SMI)

Table 19 (below) shows the population estimates for Nevada's residents aged 65 and older by counties and regions for 2017 (Griswold, T., et al., 2017; Nevada State Demographer's Office, 2016).

Region/County	**Table 19: Population Estimates for Nevada's Residents Aged 65 and Older by County, 2017**	
	Population	**Percent of Total Population**
Rural and Frontier		
Churchill County	4,126	16.2
Douglas County	12,967	26.6
Elko County	6,596	12.7
Esmeralda County	274	27.3
Eureka County	357	18.0
Humboldt County	2,117	12.7
Lander County	893	14.0
Lincoln County	1,078	23.5
Lyon County	10,875	19.6
Mineral County	941	20.1
Nye County	12,691	28.3
Pershing County	953	18.5
Storey County	1,213	28.8
White Pine County	1,804	20.8
Rural & Frontier Region Subtotal	56,885	20.3
Urban		
Carson City	10,401	19.7
Clark County	288,882	13.5
Washoe County	67,922	15.5
Urban Region Subtotal	367,204	13.9
Nevada – Total	424,089	14.5

Source: *Adapted from Griswold, T. et al. (2017), and based on estimates provided by Nevada State Demographer's Office (2016)*

Rates of Serious Mental Illness (SMI) Among Nevada's Adults, Aged 65 and Older

An estimated 23,822 adults aged 65 and older in Nevada suffered from serious mental illness (SMI) during 2015-2016, which represents 5.4% of the State's adult population aged 65 and older (n=441,142: U.S. Census Bureau, Population Division, Nevada Population Estimate 2016, Release Date: June 2017).

Access to Mental Health Services for Nevada's Residents Aged 65 and older with SMI

Services Provided by the Nevada State Mental Health Authority (SMHA)

Based on the Nevada 2016 Mental Health National Outcomes Measures (NOMS), 600 adults aged 65 and older with serious mental illness (SMI) were served by Nevada's State Mental Health Authority (2016 SAMHSA Uniform Reporting System (URS) Output Tables-Nevada), which represents 2.5% of the estimated services need. **Table 20** (below) presents the service penetration rates for Nevada's adults aged 65 and older with SMI, and the national rates provide comparisons.

Table 20: Adults with SMI served by the Nevada State Mental Health Authority (SMHA) by Age, FY 2016

	Total Served				**Penetration Rates (per 1,000 population)**	
	Nevada		**US**			
Age (years)	**n**	**%**	**n**	**%**	**State**	**US**
Total Served ***(all ages 0-75 yrs)***	13,435	100.0%	4,979,257	100.0%	4.6	15.3
65-74 yrs	533	4.0%	162,995	3.3%	2.0	5.9
75 yrs and over	67	0.5%	56,810	1.1%	0.4	3.1

Source: 2016 SAMHSA Uniform Reporting System (URS) - Nevada

MEDICAID Reimbursements for Behavioral Health Services, 2015: Adults Aged 65 and Older

Table 21 (below) provides the demographic characteristics for individuals aged 65 and older with one or more behavioral health procedure codes or diagnosis codes during calendar year (CY) 2015, which were reimbursed through Medicaid Fee-for-Service (FFS) or Managed Care Organization (MCO) (*adapted from S. Woodard and Nevada Division of Health Care Financing and Policy, 2016*). Medicaid Fee-for-Service (FFS) supports services provided by the State mental health system, as well as services from the private provider community. Medicaid Managed Care (MCO) reimbursement supports services provided by the private provider community.

Table 21: Medicaid Fee-For-Service and Managed Care, 2015
Individuals Aged 65 and older with one or more health procedure code or diagnosis code during CY 2015

Fee-For-Service Demographics, 2015		**Age Group**	
		65+ (n=22,919)	
Sex	Male	7,751	34%
	Female	15,168	66%
Region	Clark	16,894	74%
	Washoe	3,187	14%
	All Other Counties	2,838	12%
Race/Ethnicity	White, non-Hispanic	10,580	46%
	Black, non-Hispanic	2,091	9%
	Hispanic	5,501	24%
	American Indian/Native American	329	1%
	Asian, non-Hispanic	3,552	15%
	Other/Unknown	866	4%
Managed Care Demographics, 2015		**Age Group**	
		65+ (n=464)	
Sex	Male	216	47%
	Female	248	53%
Region	Clark	375	81%
	Washoe	89	19%
	All Other Counties	0	0%
Race/Ethnicity	White, non-Hispanic	213	46%
	Black, non-Hispanic	43	9%
	Hispanic	100	22%
	American Indian/Native American	2	<1%
	Asian, non-Hispanic	57	12%
	Other/Unknown	49	11%

Source: *Adapted from S. Woodard and Nevada Division of Health Care Financing and Policy, 2016*

Summary

The pattern observed for Nevada's residents in the groups aged 0-17, 18-25 and 26-64 years is also observed for the State's residents aged 65 and older; namely, limited access to services becomes even more difficult for Nevada's residents who live in the State's remote and less densely populated counties, with less than 1 psychiatrist and 4.2 psychologists per 100,000 population for the combined region of all rural and frontier counties. Equally important for those residents is the apparent reduced availability of managed care providers outside the urban counties of Washoe and Clark. As reflected in the behavioral services data presented

in **Table 21** (above), the proportion of rural and frontier residents aged 65 and older that received Medicaid Fee-For-Service (FFS) was less than their age counterparts in urban Clark County, but similar to their age peers in urban Washoe County. Medicaid FFS supports services provided by the State mental health system, as well as services delivered by the private provider community. **Table 21** also shows that 464 unique individuals aged 65 and older were served by Medicaid Managed Care Organizations (MCOs) during calendar year 2015. However, none of this age group received Medicaid MCO services in the rural and frontier counties. Medicaid MCO reimbursement supports services by the private provider community.

Individuals with SED or SMI in Nevada Rural Population

Distribution of Nevada's Population Across Urban and Rural Counties, 2017

The current population of Nevada is 2,940,058 (https://www.census.gov/topics/population/data.html), and the State's land mass encompasses 109,286 square miles. Ninety percent (90.3%) of the State's population lives in its three urban counties—Clark County in southern Nevada, and Carson City and Washoe County in northwestern Nevada. The remaining 10% of Nevada's residents, an estimated 281,019 individuals, lives in the fourteen rural and frontier counties, which span 87% of the State's land area and cover 95,431 square miles (Griswold et al., 2017). The average population density is 26.5 people per square mile, although the variation is considerable with 0.3 persons per square mile in Esmeralda County to 382.6 persons per square mile in the State Capital in Carson City (Griswold et al., 2017). [NOTE: Population estimates and projections for Nevada's children by county are provided in Table 1, and for Nevada's adults by county are shown in Table 12 and Table 19.]

Rates of SED and SMI Among Nevada's Rural Population, 2017

The State's geography and its low population density in the rural and frontier counties amplify the challenges associated with Nevada's critical mental health professional shortage. For the approximately 280,000 individuals who reside in the rural and frontier counties, access to health care services is limited, and this is especially so for mental health services, with less than 1 psychiatrist and only 4.2 psychologists per 100,000 population for the entire rural and frontier region. Using the prevalence rates adopted by SAMHSA of 5.4% for Serious Mental Illness (SMI) among adults, and 11% for Serious Emotional Disturbance (SED) among children, the expected rates of SMI and SED are summarized in **Table 22** (below), which are highlighted for ease of reference.

Table 22: Rates of Serious Mental Illness and Serious Emotional Disturbance, Rural Nevada, 2017		
Number of Nevada residents with SED, aged 17 and younger	**2017 Rural Nevada Population, aged 17 and younger [1]**	**Estimate of 2017 Rural Nevada Population, aged 17 and younger, with SED (11%) [2]**
	58,663	**6,453**
Number of Nevada residents with SMI, aged 18 and older	**2017 Rural Nevada Population, aged 18 and older [1]**	**Estimate of 2017 Rural Nevada Population, aged 18 and older, with SMI (5.4%) [3]**
	221,127	**11,941**

[1] Population Data Source, 2017: Griswold, T. et al. (2017), and based on estimates provided by Nevada State Demographer's Office (2016)

[2] 11% is mid-point of 9 - 13% range of prevalence rates for children adopted by SAMHSA, NRI, National Association of State Mental Health Program Directors Research Institute.

[3] 5.4% prevalence rate for Serious Mental Illness (SMI) adopted by SAMHSA, NRI, National Association of State Mental Health Program Directors Research Institute.

Access to Services for SED and SMI Among Nevada's Rural Population, 2017

Of the 3,035 children with SED who were served by the State Mental Health Authority, an estimated 652 children were provided care in Nevada's rural and frontier communities during 2015-2016, which represents approximately 10% of the estimated services need for this regional population. These services are supported through the Division of Public and Behavioral Health, Rural Clinics for Mental Health Services, and include patient assessments in the rural hospitals, and direct care services at each of 16 Rural Clinic locations. Of the 10,400 adults with SMI who were served by the State Mental Health Authority, an estimated 3,549 adults received their care from the DPBH Rural Clinics for Mental Health Services during 2015-2016, which represents approximately 30% of the estimated services need for this regional population. Details regarding Medicaid Fee-for-Service (FFS) and Managed Care Organization (MCO) services in Nevada's rural and frontier counties are provided in earlier sections (see pp. ** and pp. **).

Individuals Who Have and Early Serious Mental Illness (ESMI*)*

Expected Rates of Early Serious Mental Illness (ESMI) and First Episode of Psychosis (FEP)

Evidence reviewed in earlier sections indicates that *12-month prevalence estimates* for serious emotional disturbance (SED) range from 8% in representative national community surveys (Kessler et al, 2012), and 9-13% for the states and nation as a whole (2016 SAMHSA Uniform Reporting System Output Tables-Nevada). Those rates are comparable to prevalence estimates of 8.1-11.6% for major depressive episode (MDE) among adolescents aged 12 to 17 in Nevada and the United States that were obtained by the National Surveys on Drug Use and Health (NSDUH) from 2010-2011 to 2013-2014. The *12-month prevalence estimate* of 5.7% for serious mental disorder among adults aged 18 and older, which was determined by a national community survey in the United States (Kessler et al., 2005), is comparable to the range of *12-month prevalence estimates* for serious mental illness (SMI), which were determined by the WHO-World Health Surveys conducted in 28 countries (Kessler et al., 2012): 4.0-6.8% for one-half of the countries; 2.3-3.6% for another quarter; and 0.8-1.9% for the final quarter.

The *median rate of new cases (or incidence)* of schizophrenia each year is estimated to be 15.2 per 100,000 population (McGrath et al., 2008), and the first episode of psychosis exhibits a peak onset between 15 and 25 years of age (Heinssen et al., 2014; Kessler et al., 2007a; Kessler et al., 2007b). However, approximately 20% of individuals diagnosed with schizophrenia have an onset of their illness after the age of 40 years (Harris and Jeste, 1988; Howard et al., 2000; Maglione et al., 2014). The *lifetime prevalence rate* for the broader category of non-affective psychosis is estimated at approximately twice the rate for schizophrenia and schizophreniform disorder (Kessler et al., 2005c). *Lifetime prevalence rates* for bipolar disorder, estimated from a nationally representative community survey of United States households, indicate average (standard deviation) rates of 1.0% (13.2) for Bipolar I; and 1.1% (10.6) for Bipolar II (Merikangas et al., 2007). *Twelve-month prevalence rates* estimated from the same survey were comparable: 0.6% (9.2) for Bipolar I; and 0.8% (9.9) for Bipolar II. Age at onset estimates for those mood diagnoses ranged from averages of 18.2 years and 20.3 years for Bipolar I and Bipolar II, respectively, and interquartile ranges (25^{th}-75^{th} percentiles) from 12.3-21.2 years and 12.1-24.0 years, respectively.

For the planning and enrollment activities necessary to implement early intervention programs, the importance of considering *age of onset distributions* for each mental disorder is demonstrated in **Table 23** (below), which shows that while a number of serious mental disorders first appear during late childhood, adolescence and early adulthood, the range (25^{th}-75^{th} percentiles) of ages of onset for many disorders extends into middle age.

Table 23: Age of onset distributions for specific DSM-IV Mental Disorders [1]			
DSM-IV Mental Disorders	Lifetime prevalence % (SE) 1	Age of onset (yrs) (Median) 1	Age of onset (yrs) (25^{th}–75^{th} percentiles) 1
Any anxiety disorder	**28.8 (0.9)**	**11**	**6-21**
Panic disorder	4.7 (0.2)	24	16-40
Specific phobia	12.5 (0.4)	7	5-12
Social phobia	12.1 (0.4)	13	8-15
Generalized anxiety disorder	5.7 (0.3)	31	20-47
Post-traumatic stress disorder	6.8 (0.4)	23	15-39
Obsessive-compulsive disorder	1.6 (0.3)	19	14-30
Any mood disorder	**20.8 (0.6)**	**30**	**18-43**
Major depressive disorder	16.6 (0.5)	32	19-44
Dysthymia	2.5 (0.2)	31	17-43
Bipolar I and II disorders	3.9 (0.2)	25	17-42
Any impulse-control disorder	**24.8 (1.1)**	**11**	**7-15**
Any substance use disorder	**14.6 (0.6)**	**20**	**18-27**
Alcohol abuse	13.2 (0.6)	21	18-29
Alcohol dependence	5.4 (0.3)	23	19-31
Drug abuse	7.9 (0.4)	19	17-23
Drug dependence	3.0 (0.2)	21	18-28

[1] *Adapted from* Kessler et al., 2005a.

Clinical Staging and Early Interventions for ESMI and First Episode of Psychosis

The emotional health profile identified for Nevada's youth, grades 6-12, during 2015 revealed a pattern of significant psychological distress: one third experienced depressed mood and reduced functioning during the prior year; as a group, they were more likely to report one or more suicide attempts without subsequent medical intervention, compared to their age peers nationwide; and more than 20% acknowledged deliberate self-injuries, such as cutting or burning themselves, without the intent to die (Nevada Youth Risk Behavior Survey, 2015). It is likely that some of those adolescents experienced challenging life circumstances that produced strong adjustment reactions (mood disturbance, suicidal thoughts and behaviors, deliberate self-harm), which peaked and then resolved successfully. It is also possible that other adolescents were experiencing the early stages of a first episode of psychosis (FEP) or an emerging serious mental illness (SMI), which in the absence of appropriate and optimal interventions may progress to chronic and debilitating illnesses. As such, the year 2015 represented a critical period for a subset of Nevada's youth, and thereby afforded an opportunity for early interventions. **Figure 4** below (adapted from McGorry et al., 2010) illustrates the idea of chronic ***serious mental illness (SMI)*** as a dynamic

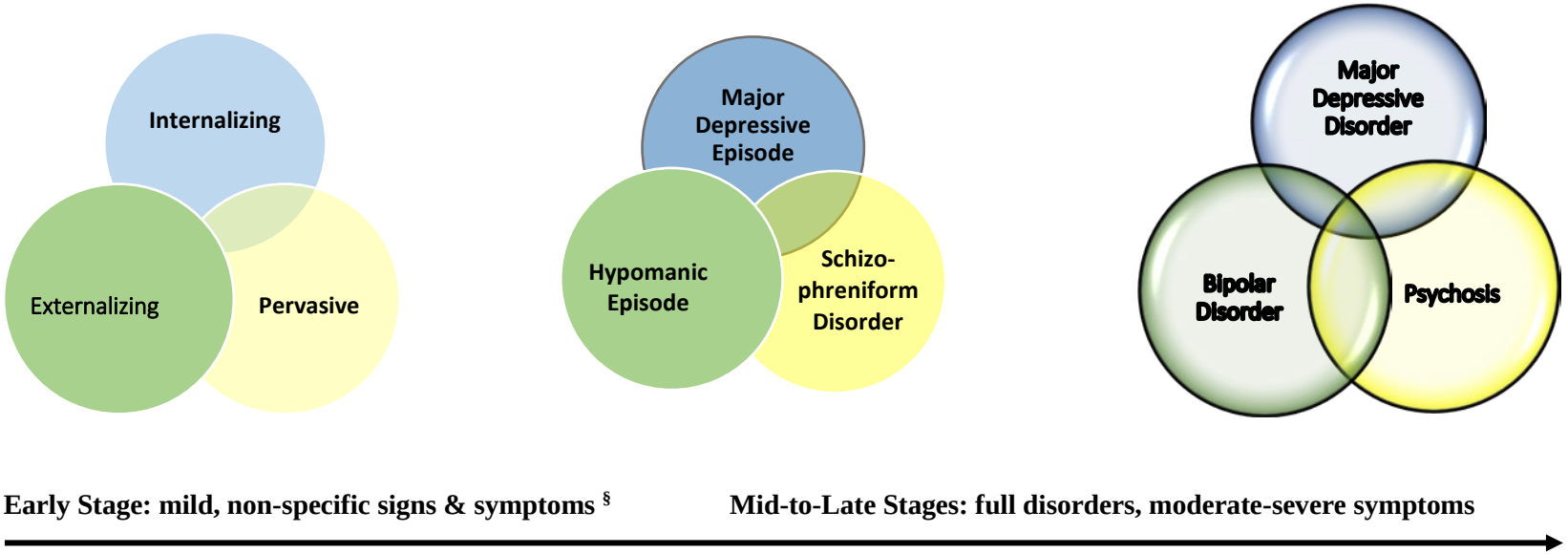
process that evolves over time, and that begins as a diffuse constellation of features, characteristics and mild symptoms, which gradually cohere within syndromal boundaries. The term "clinical staging" refers to the belief that with accurate identification of the severity or point of progression of an individual's illness—mild symptoms versus moderate symptoms versus severe symptoms—clinicians can select interventions that are presumed to be more relevant for early stages of an illness when the opportunity exists to alter the person's prognosis (McGorry et al. 2010).

Schizophrenia, the psychoses and other severe mental disorders that are accompanied by significant functional impairment represent debilitating conditions that are costly in terms of human suffering and societal economic burden. In the United States, the societal economic burden for schizophrenia was estimated at $155.7 billion for the year 2013, and included excess costs that were associated with unemployment, productivity loss due to caregiving, and direct health care costs (Cloutier et al., 2016). It is important to emphasize that estimate of economic burden only pertains to one of the disorders included in the serious mental illness diagnosis. Early intervention services may provide one avenue to mitigate the magnitude of human suffering, and the extent of economic burden of schizophrenia (Mihalopoulos et al., 2009), as well as other severe mental disorders.

The objective of providing early interventions for individuals who are at risk for developing severe mental illness has a long history in the fields of psychiatry and psychopathology. It received renewed focus and vitality from the success achieved recently by the National Institute of Mental Health's (NIMH) initiative, Recovery After an Initial Schizophrenia Episode (RAISE) (Heinssen, Goldstein and Azrin, 2014). In a comparison of comprehensive coordinated specialty care (CSC) and usual community care for first episode psychosis, Kane et al. (2016) demonstrated the feasibility of implementing a comprehensive recovery-oriented, evidence-based intervention for first-episode psychosis that was carried out in community health clinics within the United States. Importantly, greater improvements in clinical and functional outcomes were observed for participants who received this comprehensive, multidisciplinary, team-based treatment.

Extending early intervention efforts to identified cases of early serious mental illness (ESMI) among adolescents and young adults represents an optimal strategy for reducing the duration of untreated illness, a factor known to be associated with treatment response and clinical course of psychotic disorders (Addington et al., 2015; Kane et al., 2016). As noted above and reflected in **Table 23**, later ages of onset occur for some disorders, including schizophrenia. Therefore, Early Serious Mental Illness (ESMI) is generally considered as the initial stage and onset of the first episode of diagnosed illness that includes schizophrenia, other psychoses, bipolar disorders, and the depressive, anxiety and substance use disorders. Providing intervention services to individuals during the early stages of serious mental illness and serious emotional disturbance, and extending those early interventions throughout Nevada, including the rural and remote frontier counties, were adopted as strategic priorities for the next biennium.

Figure 4: Serious Mental Illness (SMI) as a Dynamic, Emerging Process (*adapted from* McGorry et al., 2010)



§ Early-Stage Mild Signs and Symptoms:

Internalizing Signs/Symptoms:	***Anxious, Depressive, Somatic***
Pervasive Psychological Disturbances:	***Cognition, Perception, Affect, Language, Social relationships***
Externalizing Signs/Symptoms:	***Impulsive, Disruptive conduct, Substance misuse/abuse***

Access to Mental Health Services for Nevada's Adults with Early Serious Mental Illness (SMI) and First Episode Psychosis (FEP)

In July 2015, Nevada introduced a newly established service of early interventions for residents experiencing a first episode of psychosis (FEP). This service is supported with federal grant funds, and contracted to private sector entities with administrative oversight provided by the Division of Child and Family Services within Nevada Department of Health and Human Services. The service offers interventions for individuals diagnosed with FEP in the urban counties of Washoe and Clark in northern and southern Nevada. The approach is team-based with multiple components, including intensive case management, education and supported employment, pharmacotherapy and medication management, and psychotherapy for patients and family members. An array of social supports services is also provided, including housing assistance, access to food banks, and financial, transportation and clothing assistance. **Table 24** (below) shows the number of Nevada residents with FEP served since its inception in July 2015 and through May 2017.

Table 24: Number of Nevada Residents Served, 2015-2017 **First Episode of Psychosis (FEP)**	
Northern Nevada, Washoe County	**Nevada Residents Served (n)**
Brief Contact	25
Screening and Evaluation: Pending Referred Out	 0 43
Excluded (Did not meet criteria)	0
Active Cases of FEP	31
Southern Nevada, Clark County	**Nevada Residents Served (n)**
Brief Contact	5
Screening and Evaluation: Pending Referred Out	 6 0
Excluded (Did not meet criteria)	6
Active Cases of FEP	9

Source: *Enliven, Nevada Division of Child and Family Services, May 18, 2017.*

Statewide Planning and Development Focus Group April 2016 – June 2016

Results were examined from ten (10) statewide focus groups that were conducted from April 2016 to June 2016 as part of the planning and development phases for Certified Community Behavioral Health Clinics (CCBHC) in Nevada (Woodard, 2016b). Participants included consumers, family members, advocates and providers. Strong agreement across participants was observed regarding broad themes, as well as specific issues. Prominent themes and issues identified by focus group participants included:

Staffing – Insufficient numbers of behavioral health providers and medical personnel were identified, especially in psychiatry, child psychology and school social work. Professional training for providers was consistently recommended in the areas of crisis management, care coordination and peer support.

Access – Both providers and consumers identified the need for more services, as well as the need for more varieties of services.

Care Coordination – The need to improve collaboration, coordination and communication was identified, with sharing of data and electronic records considered to be crucial. The importance of establishing a formal, defined standard of care that is implemented statewide was emphasized. Use of multidisciplinary teams for the care of complex cases was suggested.

Services – More treatment options for different stages of illness were recommended, as well as more resources devoted to prevention, early intervention, treatment, and crisis management.

Summary of Behavioral and Mental Health in Nevada, 2017

The combined findings from multiple State and public databases and scientific publications provide guideposts for building a coherent public health model that includes prevention and treatment of serious mental illness for Nevada residents. Key findings and conclusions are summarized below:

Nevada's children and adolescents are at risk for developing severe mental disorders, which in the absence of effective interventions may progress to chronic and debilitating illnesses. *One-third of Nevada's adolescents reported experiencing depressed mood and reduced functioning* during the year before they participated in the most recent 2015 Nevada Youth Risk Behavior Survey, which is conducted by the Centers for Disease Control (CDC) and Prevention, and local and state education and health agencies. *The State's youth were more likely to report one or more suicide attempts during the prior year, compared to their age peers nationwide.* More than *20% acknowledged deliberate acts of self-harm, such as cutting or burning themselves, without the intent to die.* Importantly, the clinical outcomes and current mental health status, in 2017, for each adolescent who reported psychological distress and life-threatening behaviors, in 2015, are unknown.

Expansion of early intervention services for individuals with early serious mental illness (ESMI) and first episode of psychosis (FEP) throughout Nevada

is a critical need. Between 8% and 13% of Nevada's children and adolescents are at risk for developing severe mental disorders. An estimated 3% to 13% are at risk for suicidal behaviors that include suicide attempts resulting in injuries. Early intervention services have been initiated for first episode of psychosis (FEP) in the urban counties of northern and southern Nevada. Expanding these services to early serious mental illness (ESMI), and to the rural and frontier regions of the State is vital.

Access to mental health services is limited for Nevada's children with serious emotional disturbance (SED) and adults with serious mental illness (SMI). The numbers of individuals covered by Medicaid benefits more than doubled when Medicaid coverage was expanded by Governor Brian Sandoval under the Affordable Care Act (ACA) during 2014, increasing from 351,315 persons in 2013 to 654,442 individuals in 2015. However, the existing mental health provider network was not adequate to serve the numbers of individuals covered. Moreover, the percentage of Nevada residents with SED and SMI who were served by the State's mental health system was less than 10% of each population in FFY 2016; eight percent (8%) of the estimated number of children with SED, and nine percent (9%) of the estimated number of adults with SMI. Service penetration rates for each population were lower than the penetration rates nationwide.

Access to services is a complex issue. An important factor for Nevada is that almost all of the State qualifies as a mental health professional shortage area (Health Resources and Services Administration, HRSA), with the only exception being Las Vegas (Griswold et al., 2017, *Map 5.3*, p. 148). Equally important is the lack of capacity for tracking treatment outcomes and productivity metrics associated with community providers whose services are supported through Medicaid fee-for-service and managed care resources. (See Appendix: Strategic Plan 2017-2020, Nevada State Substance Abuse Prevention and Treatment Agency.)

Nevada's mental health workforce is underdeveloped, which produces limited access to mental health specialty care. There are less than 1 psychiatrist and only 4.2 psychologists per 100,000 population for all of the rural and frontier counties combined. The State's land mass encompasses 109,286 square miles, and its low population density in rural and frontier regions amplify the challenges associated with Nevada's mental health professional shortage. While the average population density is 26.5 people per square mile for the State as a whole, the variation is considerable with 0.3 persons per square mile in Esmeralda County to 382.6 persons per square mile in the State Capital in Carson City (Griswold et al. 2017).

Data collection and database development and maintenance are not organized to enable effective monitoring and evaluating the efficacy of clinical programs. This includes a lack of capacity devoted to monitoring and evaluating access to services provided by the State and its community providers, and a lack of strategic monitoring and evaluation of clinical outcomes associated with specific treatments and services.

???OMIT???~~*Suicide prevention efforts are not integrated with clinical services or post-mortem reviews within the state's current mental health system.*~~ Nevada ranks in the top 11 states with the highest rates of suicide deaths nationwide. Regional rates reflect the highest numbers of suicide deaths per population occur in the State's rural and frontier counties. Suicide-related conditions represented 39% of all behavioral health related visits to Nevada's emergency rooms among children and adolescents from 2009 to 2014. Ideally, suicide prevention efforts are integrated with clinical interventions that include evidence-based practices, and post-mortem reviews that support quality assurance and performance improvement activities. This type of integrated model is incomplete and fragmented in the urban counties of northern and southern Nevada, and undeveloped in the State's rural and frontier counties.

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Competing interest statement

The authors declare no competing interests.

Appendix:

Recommended Resources

Nevada Divide of Public of Behavioral Health, Program Guide 2018

www.dpbh.nv.gov

Division of Child and Family Services Website

Governor's Council on Behavioral Health and Wellness

http://dpbh.nv.gov/Boards/BHWC/BHWC_-_home/

Guinn Center for Policy Priorities: *Mental Health Governance: A Review of State Models and Guide for Nevada Decisions Makers, Guinn Center for Policy Priorities, December 2014.*

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Office of Public Health Investigations and Epidemiology (OPHIE)

http://dpbh.nv.gov/Programs/Office_of_Public_Healh_Informatics_and_Epidemiology_(OPHIE)/

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