



First Episode Psychosis

Estimating Annual Incidence Using Administrative Data

Grace Hong, PhD • Yaoqi Lin, PhD • Barbara Lucenko, PhD • Barbara E.M. Felver, MES, MPA

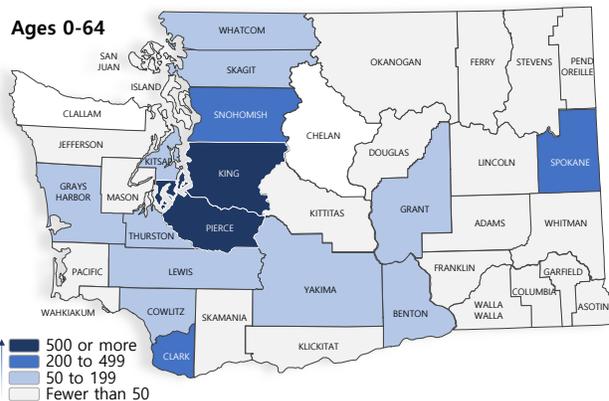
Report to the Health Care Authority, Division of Behavioral Health and Recovery

THE SUBSTANCE ABUSE AND MENTAL HEALTH SERVICES ADMINISTRATION (SAMHSA) of the U.S. Department of Health and Human Services requires states receiving the Mental Health Block Grant to set aside 10 percent to provide evidence-based services to persons experiencing first episode psychosis (FEP). With SAMHSA funding, the Health Care Authority is implementing the evidence-based New Journeys early intervention program and plans to expand the services to additional sites to meet statewide needs. In 2019, the Washington State Legislature passed Senate Bill 5903, which requires the Health Care Authority to implement evidence-based coordinated specialty care programs like New Journeys to provide early identification and intervention for individuals with psychosis and ensures that each regional service area has an adequate number of such programs based on FEP incidence and population size. This report estimates annual incidence rates of FEP among Washington’s Medicaid population in State Fiscal Year (SFY) 2021.

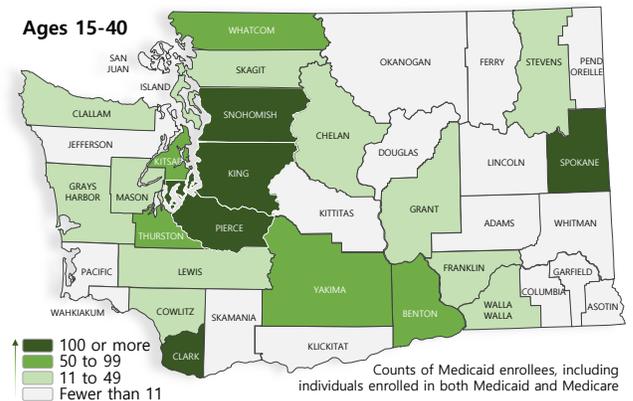
Key Findings

- 1. A total of 4,388 Medicaid enrollees in Washington State received their first psychotic disorder diagnoses in SFY 2021.** Among them, 1,956 enrollees between the ages of 15 and 40 received New Journeys-qualifying diagnoses and potentially meet the program’s admission criteria.
- 2. The estimated annual incidence rate of first episode psychosis was 235 per 100,000 Medicaid enrollees in SFY 2021.** The incidence rate was almost five times higher among individuals dually enrolled in Medicaid and Medicare than those only enrolled in Medicaid.
- 3. Eleven counties each had more than 100 Medicaid enrollees with FEP in SFY 2021.** Five of those counties had more than 100 individuals potentially eligible for New Journeys services.

Medicaid Enrollees Experiencing FEP



Medicaid Enrollees Eligible for New Journeys Services



Study Methods

Study Population

The study population of this report includes individuals enrolled in Medicaid who were under the age of 65 and had no documented history of psychotic disorder prior to SFY 2021. To ensure sufficient health history for analyses, our estimates only included Medicaid enrollees who received Medicaid Title 19 or State Children’s Health Insurance Program (SCHIP) full coverage in at least 2 of the 3 years immediately before SFY 2021. There were 1,870,909 Medicaid enrollees meeting these criteria, including individuals enrolled in Medicaid only and individuals dually enrolled in Medicaid and Medicare in SFY 2021. We defined Medicaid enrollees with FEP as individuals who had received a diagnosis of psychotic disorder for the first time in SFY 2021. Using this definition, we identified 4,388 Medicaid enrollees with FEP in SFY 2021.



First Episode Psychosis Defined

We define individuals with FEP as individuals who:

- Received a psychotic disorder diagnosis* in SFY 2021 (July 2020 – June 2021);
- Had no documented history of psychotic disorders prior to SFY 2021; and
- Did not use anti-psychotic medications between SFY 2018 and SFY 2020.

To ensure sufficient health history for analyses, we only included individuals who were:

- Receiving Medicaid Title 19 or SCHIP full coverage in SFY 2021; and
- Enrolled in Medicaid in at least one month in 2 of the 3 years between SFY 2018 and SFY 2020.

* See Technical Notes for psychotic disorder diagnosis codes meeting the criteria for a first episode psychosis and New Journeys admission requirements.

Data and Measures

These analyses leveraged longitudinal data from linked administrative records in the Integrated Client Databases (ICDB). ICDB is a set of client databases containing over 20 years of data for service history, costs, and outcomes (Mancuso & Huber, 2021). We reviewed individuals’ Medicaid mental health records from 1997 forward. Psychotic disorders were identified using ICD-9 and ICD-10 codes from mental health treatment records, Medicaid claims maintained by the Health Care Authority, and assessment records maintained by the Aging and Long-term Support Administration. For the population dually enrolled in Medicare and Medicaid in SFY 2021, historical Medicare claims data from 2013 to 2021 were also integrated for the analyses. The technical notes of this report include the complete lists of diagnostic codes meeting the criteria of the FEP definition and New Journeys services eligibility requirements.

Incidence Estimates of First Episode Psychosis

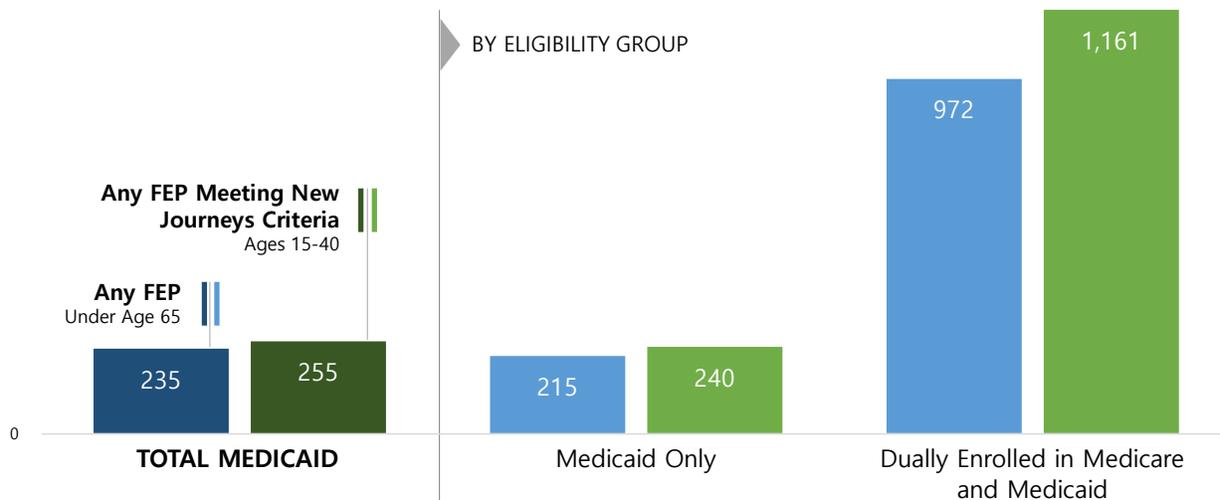
From the eligible Medicaid population of 1,870,909 enrollees under the age of 65, we identified 4,388 individuals who received their first psychotic disorder diagnosis in SFY 2021. This translates into an annual incidence rate of 235 individuals with FEP per 100,000 eligible Medicaid enrollees. The annual incidence rate of FEP among Medicaid-only enrollees was 215 per 100,000, while the rate among individuals dually enrolled in Medicaid and Medicare was 972 per 100,000 (*see* Figure 1). The incidence rate of the dually enrolled population was almost five times higher than the Medicaid-only population, likely because the dually enrolled population under the age of 65 included a disproportionately large number of individuals with disabilities.

New Journeys services are provided to individuals with FEP between the ages of 15 and 40 who have received a New Journeys-qualifying diagnosis and meet other admission criteria such as duration of symptoms. Among the eligible Medicaid population between the ages of 15 and 40, 1,956 individuals received New Journeys-qualifying diagnoses for the first time in SFY 2021, indicating they potentially met eligibility criteria for the services. The annual incidence rate of individuals potentially meeting New Journeys eligibility criteria was 255 per 100,000 Medicaid enrollees (*see* Figure 1). The incidence rate for those dually enrolled in Medicaid and Medicare was almost six times higher than the rate for those enrolled only in Medicaid (1,161 per 100,000 enrollees vs. 240 per 100,000 enrollees).

FIGURE 1.

Estimated Annual Incidence Rates among the Medicaid Population

SFY 2021, per 100,000 eligible Medicaid enrollees



SOURCE: Research and Data Analysis Division, Integrated Client Databases.

Individuals Experiencing First Episode Psychosis by County

This section presents the estimated numbers of Medicaid enrollees experiencing FEP by county. Because psychotic disorders are relatively uncommon illnesses, measuring FEP incidences by county directly would likely yield unstable estimates. We therefore apportioned the 4,388 individuals with FEP statewide to counties based on the number of Medicaid enrollees in each county with psychotic disorders in SFY 2021, regardless of first episode status. Medicaid enrollees potentially meeting New Journeys eligibility criteria were apportioned to counties using the same methodology with data for Medicaid enrollees between the ages of 15 and 40.

The two left-hand columns of Table 1 (blue) present the estimated numbers of individuals with FEP by county for the Medicaid-only population and the total Medicaid population that includes individuals dually enrolled in Medicaid and Medicare. Eleven of 39 Washington counties each had more than 100 estimated Medicaid enrollees (including dually enrolled individuals) with FEP in SFY 2021. Population centers including King, Pierce, Snohomish and Spokane Counties each had more than 300 estimated number of individuals with FEP.

The two right-hand columns (green) show the estimated numbers of individuals potentially meeting New Journeys eligibility criteria. Five counties had more than 100 potential New Journeys-eligible individuals each—Clark, King, Pierce, Snohomish and Spokane counties.

TABLE 1.

Estimated Number of Medicaid Enrollees with First Episode Psychosis by County

SFY 2021

	ANY FEP		MEETING NEW JOURNEYS CRITERIA	
	Medicaid Only	Medicaid Only and Dually Enrolled*	Medicaid Only	Medicaid Only and Dually Enrolled*
Statewide Total	3,925	4,388	1,809	1,956
Adams	<11	<11	<11	<11
Asotin	18	20	<11	<11
Benton	101	110	48	51
Chelan	42	47	21	22
Clallam	44	49	19	20
Clark	246	272	121	129
Columbia	<11	<11	<11	<11
Cowlitz	96	105	42	45
Douglas	18	20	<11	<11
Ferry	<11	<11	<11	<11
Franklin	37	40	22	23
Garfield	<11	<11	<11	<11
Grant	52	57	25	27
Grays Harbor	63	72	31	34
Island	31	34	14	15
Jefferson	17	18	<11	<11
King	996	1,114	423	459
Kitsap	125	139	61	65
Kittitas	15	17	<11	<11
Klickitat	13	14	<11	<11
Lewis	51	58	25	27
Lincoln	<11	<11	<11	<11
Mason	38	42	18	20
Okanogan	21	23	<11	<11
Pacific	14	16	<11	<11
Pend Oreille	<11	11	<11	<11
Pierce	553	625	248	269
San Juan	<11	<11	<11	<11
Skagit	62	69	29	32
Skamania	<11	<11	<11	<11
Snohomish	321	360	156	169
Spokane	395	446	181	199
Stevens	31	33	16	17
Thurston	165	187	84	91
Wahkiakum	<11	<11	<11	<11
Walla Walla	33	37	16	18
Whatcom	116	131	55	60
Whitman	16	18	<11	<11
Yakima	149	164	73	78

SOURCE: Research and Data Analysis Division, Integrated Client Databases.

NOTE: * Dually enrolled clients are individuals enrolled in both Medicare and Medicaid in SFY 2021.

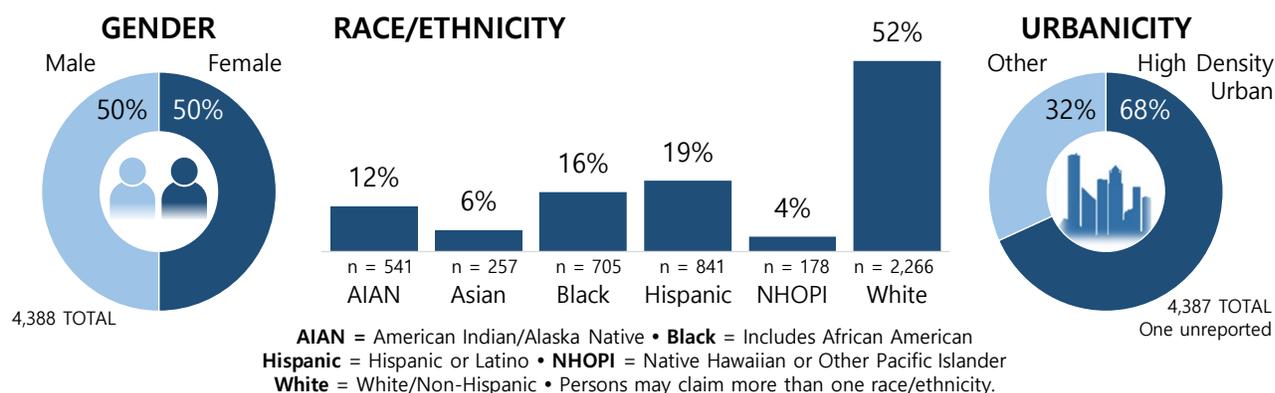
Demographics of Individuals Experiencing First Episode Psychosis

Figure 2 presents the demographic characteristics of individuals enrolled in Medicaid who received their first psychotic disorder diagnoses in SFY 2021. Most individuals experiencing FEP were between the ages of 14 and 37. Approximately half of the individuals were female. White non-Hispanic enrollees accounted for 52 percent of the individuals experiencing FEP. The remaining 48 percent of the individuals were black, indigenous, and people of color. More than one in ten (12.3 percent) individuals with FEP were American Indian or Alaska Native. About two thirds (68 percent) of the group lived in high density urban counties.

FIGURE 2.

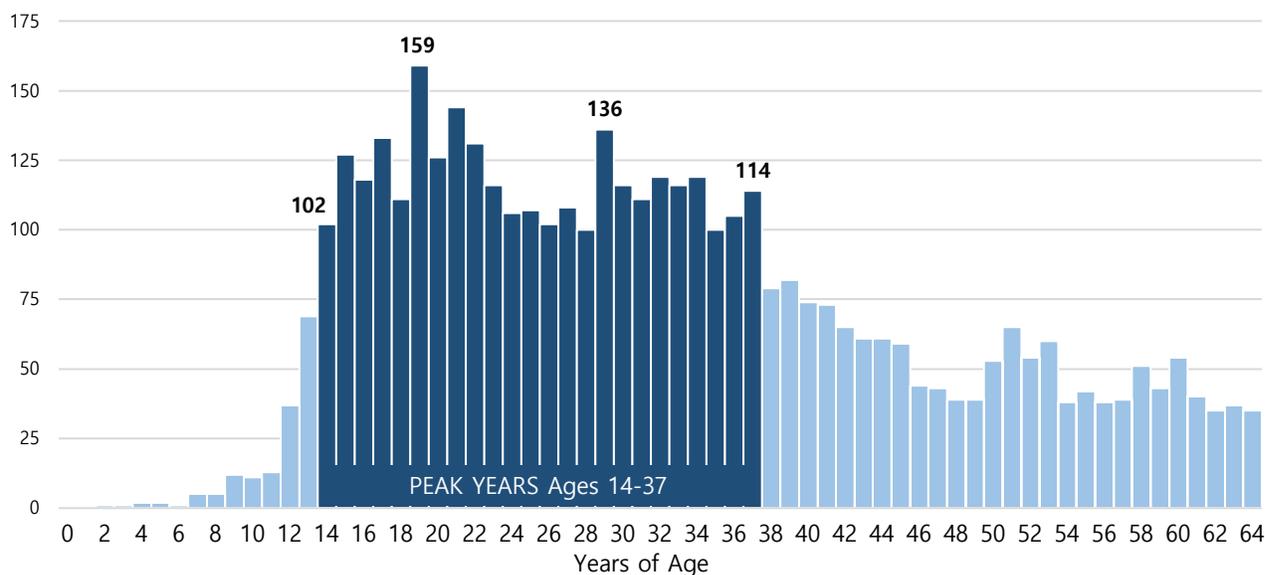
Demographic Characteristics of Medicaid Enrollees with First Episode Psychosis

SFY 2021, Ages 0-64



AGE AT FIRST EPISODE OF PSYCHOSIS

Number per Age

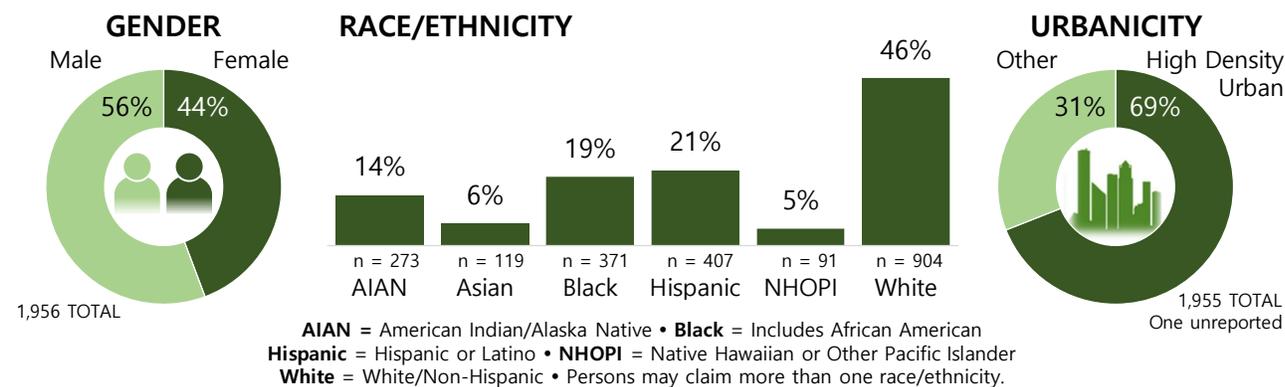


As shown in Figure 3, Medicaid enrollees who had a New Journeys-qualifying diagnosis between the ages of 15 and 40 shared similar demographic characteristics with all Medicaid enrollees experiencing FEP. This group, however, is more likely to be male (56 percent) than female (44 percent). The greatest number of individuals with FEP were between the ages of 19 and 37.

FIGURE 3.

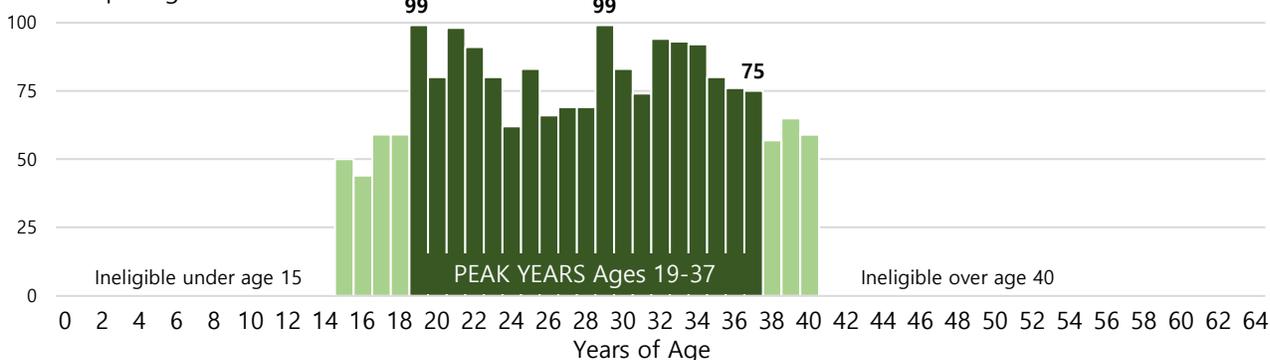
Demographic Characteristics of Medicaid Enrollees Meeting New Journeys Criteria

SFY 2021, Ages 15-40



AGE AT FIRST EPISODE OF PSYCHOSIS

Number per Age



Discussion

This report presents incidence rates of FEP in Washington’s Medicaid population. Using longitudinal data of behavioral health and medical services over the past 25 years, we identified Medicaid enrollees who received their first psychotic disorder diagnoses in SFY 2021. We estimated that the annual incidence rate of FEP was 235 per 100,000 Medicaid enrollees, which is similar to the incidence rates found in other studies of the Medicaid population (Radigan et al., 2019). The results demonstrate the feasibility of using administrative data to identify individuals with first psychotic disorder diagnoses.

In addition to reporting statewide incidence rates of FEP, we developed an algorithm to estimate the number of individuals with FEP by county and analyzed the demographic characteristics of the FEP population. As the New Journeys model expands to cover more of the population in Washington State, the findings of this report are useful in assisting the Health Care Authority in distributing resources to geographic areas and demographic groups with the highest needs.

Three limitations are of note. First, to ensure data availability, our analyses only included individuals enrolled in Medicaid in SFY 2021 and in at least two of the three prior years. Therefore, we likely underestimated numbers of individuals experiencing FEP as those newly enrolled in Medicaid with FEP were not included in the estimates. Second, Medicare data prior to 2013 were not available to us, and some information (e.g. place of service) was incomplete. Mental health history for individuals dually enrolled in Medicare and Medicaid may be incomplete. Third, to meet the eligibility criteria for New Journeys services, an individual must have symptoms lasting one week to two years. Information on illness duration is unavailable in administrative data.

TECHNICAL NOTES

ICD-9 and ICD-10 diagnosis codes for psychotic disorders meeting FED definition

ICD-9	295 – 295.99	Schizophrenic disorders
ICD-9	297 – 297.99	Delusional disorders
ICD-9	298 – 298.99	Other nonorganic psychoses
ICD-9	293.81, 293.82	Transient psychotic disorder with delusions or hallucinations in conditions classified elsewhere
ICD-9	296.04, 296.14, 296.24, 296.34, 296.44, 296.54, 296.64	Mood disorder with psychotic behavior
ICD-10	F20.0 - F20.9	Schizophrenia
ICD-10	F21	Schizotypal disorder
ICD-10	F22	Delusional disorder
ICD-10	F23	Brief psychotic disorder
ICD-10	F24	Shared psychotic disorder
ICD-10	F25.0 - F25.9	Schizoaffective disorder
ICD-10	F28	Other psychotic disorder not due to a substance or known physiological condition
ICD-10	F29	Unspecified psychosis not due to a substance or known physiological condition
ICD-10	F30.2	Manic episode, severe with psychotic symptoms
ICD-10	F31.2, F31.5, F31.64	Bipolar disorder, severe with psychotic features
ICD-10	F32.3, F33.3	Major depressive disorder, severe with psychotic features
ICD-10	F53, F531	Puerperal psychosis

Qualifying ICD-9 and ICD-10 diagnosis codes for New Journeys Services

ICD-9	295.9	Schizophrenia, unspecified
ICD-9	295.7	Schizoaffective disorder, unspecified
ICD-9	295.4	Schizophreniform disorder, unspecified
ICD-9	298.8	Brief psychotic disorder
ICD-9	297.1	Delusional disorder
ICD-9	298.9	Psychotic disorder NOS
ICD-10	F20.9	Schizophrenia, unspecified
ICD-10	F25.0, F25.1	Schizoaffective disorder
ICD-10	F20.81	Schizophreniform disorder
ICD-10	F23	Brief psychotic disorder
ICD-10	F22	Delusional disorder
ICD-10	F29	Unspecified psychosis not due to a substance or known physiological condition
ICD-10	F28	Other psychotic disorder not due to a substance or known physiological condition

REFERENCES

- Mancuso, D. and Huber, A. (2021). *DSHS Integrated Client Database*. Washington State Department of Social and Health Services, Research and Data Analysis Division. <https://www.dshs.wa.gov/sites/default/files/rda/reports/research-11-205.pdf>.
- Radigan, M., Gyojeong, G., Frimpong, E. Y., Wang, R., Huz, S., Li, M., Nossel, I., & Nixon, L. (2019). A New Method for Estimating Incidence of First Psychotic Diagnosis in a Medicaid Population. *Psychiatric Services*, 70(8), 665–673.



REPORT CONTACT: Alice Huber, PhD, 360.902.0707
 VISIT US AT: <https://www.dshs.wa.gov/SESA/research-and-data-analysis>