Washington State Department of Social and Health Services

Transforming Lives

REPORT TO THE LEGISLATURE

Projected Demand for Permanent Supportive Housing

As required per Engrossed Substitute Senate Bill 5693, Section 208(9)
(Chapter 297, Laws of 2022)

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Summary

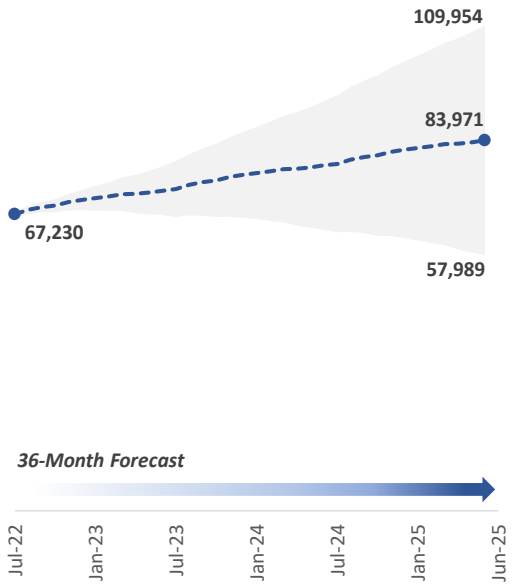
Engrossed Second Substitute House Bill 5693 (ESSB 5693, §208(9)) directed the Department of Social and Health Services' Research and Data Analysis Division to "prepare an annual report in consultation with the department of commerce on the projected demand for permanent supportive housing." The following brief summarizes the results of the assigned analysis. Estimates of permanent supportive housing (PSH) need were calculated using data from the Integrated Client Databases, which integrate administrative data from multiple state data systems including the state's Medicaid claims database, public assistance eligibility determination system, and Homelessness Management Information System (Mancuso, 2020). We used these data to construct unduplicated monthly counts of adult Medicaid beneficiaries potentially eligible for PSH from July 2017 to June 2022. These counts where then used to forecast the number of individuals potentially in need of PSH over a 36-month forecast period ending June 2025.[1]

Key Findings

Based on a time-series analysis of administrative data used to identify individuals who fit the profile of a PSH client, we found the following:

- The number of individuals potentially eligible for receipt of PSH increased (9 percent) from 61,534 in July 2017 to 66,886 in June 2022.
- If recently observed trends continue, the projected number of individuals potentially eligible for PSH by June 2025 is expected to be 83,971.
- The 83,971 projection is an estimate subject to uncertainty; with 95 percent confidence, the projected number of individuals may range from a low of 57,989 to a high of 109,954.

FIGURE 1.
Forecasted PSH Need, July 2022 to June 2025



PROVISO LANGUAGE

"$65,000 of the general fund—state appropriation for fiscal year 2023 is provided solely for the department to prepare an annual report in consultation with the department of commerce on the projected demand for permanent supportive housing. This report is to be submitted to the appropriate committees of the legislature by December 1, 2022."

[1] The beginning month, July 2017, was selected for this analysis because previous months reflected significant changes associated with Medicaid expansion and other policy changes. June 2022 represents the most recent month with sufficiently complete data for the analysis.

Background

Permanent Supportive Housing Forecast

We used data from the DSHS-RDA Integrated Client Databases (ICDB) to identify individuals who appear likely to need PSH.[2] Individuals were included in a given monthly observation if they:

1) Were observed to be homeless in the month;

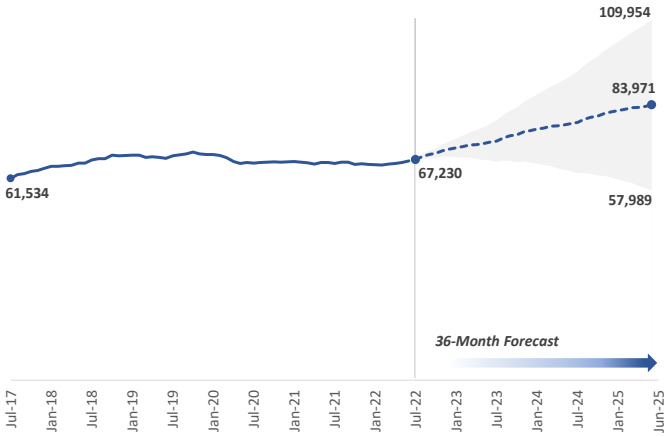
2) Were 18 years of age or older in that month;

3) Had at least one month of Title XIX Medicaid coverage in the past year (inclusive of the month in question); AND

4) Had a mental health diagnosis or substance use disorder in the past two years (inclusive of the month in question) OR an indication of a significant chronic illness based on Medicaid claims data.[3]

The resulting person-month dataset was used to measure the total number of individuals potentially in need of PSH in any month from July 2017 to June 2022. After comparing several statistical approaches, we used a variant of exponential smoothing to forecast PSH need.[4] As shown in Figure 2, the results of these analyses indicate that the total number of PSH eligible clients is expected to increase from 66,886 in June 2022 to 83,971 in June 2025, which corresponds to a 26 percent increase over a three-year period. The forecasted number of persons needing PSH is anticipated to increase by 475 individuals per month on average through June 2025.

FIGURE 2.
Forecasted Need for Permanent Supportive Housing
July 2017 to June 2025



To acknowledge the inherent uncertainty of any forecast, we present this forecast with a 95 percent confidence interval, which suggests a forecast ranging from a low at 57,989 and a high as 109,954 by June 2025. The monthly forecasted counts generated using this approach—and their upper and lower confidence limits—are provided in Table 1 below.

[2] The ICDB integrates administrative data from several state data systems including the state's Automated Client Eligibility System (ACES), ProviderOne MMIS data system that contains Medicaid claims and encounter data, and the Homeless Management Information System (Mancuso, 2020).
[3] Chronic illness is identified using a claims-based medical risk score that measures an individual's anticipated medical costs relative to the average disabled Medicaid client. Individuals were considered to have a chronic illness if that score is greater than or equal to one.
[4] All forecasts were calculated using PROC ESM in SAS 9.4. We compared several ESM approaches to identify a method that best fit the historical data. Based on these comparisons we selected the Holt-Winters' additive method, which prioritizes more recent data, assumes that there is an underlying linear trend in the data, and adjusts the forecasts for seasonality.

TABLE 1.

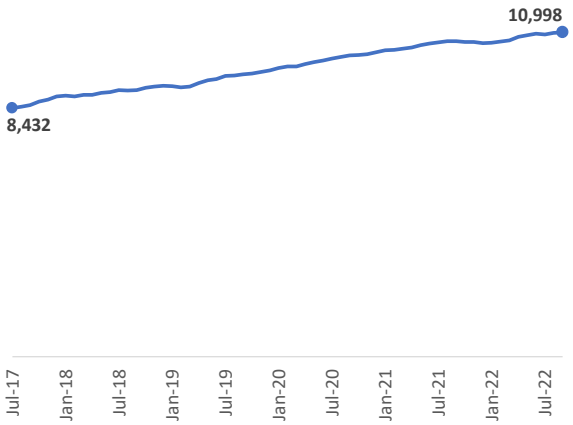
Forecasted Need for Permanent Supportive Housing Detail, July 2017 to June 2025

Month	*Lower 95% Confidence Limit*	*Forecasted PSH Need*	*Upper 95% Confidence Limit*
July 2022	66,482	67,230	67,977
August 2022	67,291	68,221	69,150
September 2022	67,628	68,822	70,015
October 2022	67,640	69,163	70,686
November 2022	68,094	69,997	71,900
December 2022	68,114	70,441	72,767
January 2023	68,067	70,854	73,641
February 2023	67,950	71,231	74,513
March 2023	67,931	71,737	75,543
April 2023	67,463	71,821	76,180
May 2023	67,203	72,141	77,078
June 2023	67,039	72,581	78,123
July 2023	66,572	72,925	79,277
August 2023	66,928	73,916	80,903
September 2023	66,870	74,517	82,164
October 2023	66,528	74,858	83,188
November 2023	66,657	75,692	84,727
December 2023	66,374	76,136	85,898
January 2024	66,040	76,549	87,058
February 2024	65,650	76,927	88,203
March 2024	65,369	77,432	89,496
April 2024	64,647	77,516	90,386
May 2024	64,142	77,836	91,529
June 2024	63,741	78,276	92,811
July 2024	63,092	78,620	94,148
August 2024	63,214	79,611	96,008
September 2024	62,929	80,212	97,496
October 2024	62,367	80,553	98,740
November 2024	62,280	81,387	100,494
December 2024	61,788	81,831	101,874
January 2025	61,249	82,244	103,239
February 2025	60,659	82,622	104,584
March 2025	60,182	83,127	106,072
April 2025	59,269	83,212	107,154
May 2025	58,576	83,531	108,486
June 2025	57,989	83,971	109,954

Permanent Support Housing Caseload

The preceding analysis describes the potential demand for PSH, historically and as forecasted. For context, Figure 3 describes the number of individuals who actually received PSH in Washington State during the same time period over which the forecast was based. According to data entered into each county's Homeless Management Information System, the number of individuals actually receiving PSH has grown from 8,432 in July 2017 to 10,998 in June 2022. On average, the PSH caseload was about 15 percent of the potential demand in any given month.

FIGURE 3.
Permanent Supportive Housing Caseload
July 2017 to June 2022



Limitations and Future Considerations

This forecast is subject to several limitations. First, it relies solely on recent historical trends and does not incorporate information on external factors that may influence demand for PSH. In the future, this omitted variable bias could be mitigated by developing a forecasting approach that accounts for time-varying predictors such as population growth, relevant policy changes (e.g., statewide emergency shelter closures, eviction moratoriums, etc.), changes in rental costs and unemployment rates, and other factors that may influence the need for PSH.

Second, this forecast is based in part on data generated during the COVID-19 pandemic. It is unclear to what degree the pandemic affected the number of individuals experiencing homelessness or the service utilization data used to identify those in need of PSH. Because state data systems are intended to support agencies' day-to-day business operations, they only include information on individuals who came in contact with state-funded health and human services systems. If an individual did not interact with these systems, we were not able to determine if they were potentially eligible for PSH. This is particularly problematic during the beginning of the COVID pandemic, as many key access points for public assistance and housing services (e.g., community service offices and emergency shelters) were closed. Consequently, we may have undercounted the number of clients who may have needed PSH and underestimated the forecasted demand. These concerns will diminish as future forecasts rely more heavily on data collected after the pandemic.[5]

To explore the sensitivity of our forecast to the use of data collected during the pandemic, we also estimated an exponential smoothing model applied to data from July 2017 through December 2019. We found that the model based on data immediately prior to the pandemic produced estimates that were almost identical to the model presented here, in terms of the June 2025 forecast value of approximately 84,000 persons in need of PSH services. This somewhat counterintuitive result, given that the primary forecast relies on data impacted by the pandemic, reflects the influence of the relatively rapid growth in the population estimated to need PSH in the first half of CY 2022, and the use of the Holt-Winters' additive method, which gives more weight in the forecast to more recent observations.

[5] DSHS-RDA will publish a forecast of PSH every December 1.

Third, as noted earlier, the unit of analysis used in these forecasts is the number of *individuals* potentially eligible for PSH in a month. However, units are allocated at the household level, and other housing projections (e.g., those produced under Engrossed Second Substitute House Bill 1220 (Chapter 254, Laws of 2021) center on the number of *households* that need PSH. Our decision to focus on individuals is due to the inherent difficulty in identifying and constructing households using administrative data, where individuals are grouped together into household-like structures based on program rules.

Finally, this forecast may not fully reflect the level of need for PSH in the state of Washington. In contrast to other states that limit eligibility for PSH to the chronically homeless, Washington has adopted more expansive eligibility criteria. Specifically, individuals with a behavioral health need or disabling condition who are currently housed but whose household earnings are less than or equal to 80 percent of the Area Median Income (AMI) are eligible for PSH in Washington State. Because these forecasts focus on individuals who were homeless in a month, they omit housed individuals potentially eligible for PSH. This issue will be addressed more fully in future forecasting efforts.

Technical Notes

MEASURES

Medical Coverage. Medicaid and other medical coverage information was obtained from eligibility codes recorded in ProviderOne.

Behavioral Health Indicators. Data ProviderOne and the Behavioral Health Data System were used to identify the presence of substance use disorders and/or mental illness based on diagnoses, prescriptions, and treatment records. In addition, drug- and alcohol-related arrest data maintained by the Washington State Patrol were also used to identify probable substance use issues and were included in the definition of treatment need for substance use disorders.

- **Mental Illness.** Mental illness is indicated for any individual who: 1) was diagnosed with a psychotic, mania/bipolar, depressive, anxiety, attention deficit and/or hyperactive, disruptive/impulse control/conduct, or adjustment disorder; 2) had an antipsychotic, antimania, antidepressant, antianxiety, or ADHD prescription filled; 3) received mental health services; or 4) received behavioral rehabilitation services from the Children's Administration.
- **Substance Use Disorder.** A substance use disorder is indicated for any individual who: 1) was diagnosed with a substance use disorder; 2) had a prescription filled for medication for opioid or alcohol use disorder treatment; 3) received outpatient or inpatient substance use disorder treatment services; or 4) was arrested for an SUD-related charge.
- **Chronic Illness Risk Score.** An indicator of chronic illness was developed to identify individuals with significant health problems. A risk score equal to one is the score for the average Medicaid participant in Washington state meeting Supplemental Security Income disability criteria. Chronic illness risk scores were calculated from health service diagnoses and pharmacy claim information, with scoring weights based on a predictive model associating health conditions with future medical costs (*see* Gilmer et al., 2001; Kronick et al., 2000 for more information). Individuals were identified as having chronic illness if their risk score was greater than or equal to one.
- **Housing Indicator.** Data from the Automated Client Eligibility System, Electronic Jobs Automated System, ProviderOne, and the Homelessness Management Information System were used to determine if individuals who received any form of cash, food, or medical assistance and/or housing service experienced homelessness in the month. An individual was considered unhoused if, for at least one day in the month: 1) they were identified as homeless based on client living arrangement data entered into ACES; 2) they had an address of “homeless” or an address format code that indicated the client was homeless; 3) a medical or behavioral health provider submitted a claim to ProviderOne for that client with a “Z590” or “Z591” diagnosis code; or 4) they were enrolled in any housing service that requires someone to be literally homeless to be eligible for the service and did not have a valid move-in date.
- **Permanent Supportive Housing.** An individual was identified as having received permanent supportive housing if they were enrolled in—but not necessarily housed through—a permanent supportive housing program in HMIS in a given month. This measure excludes individuals who received permanent supportive housing services through the Health Care Authority’s Foundational Community Supports program and individuals housed through site-based PSH.