

REPORT TO THE LEGISLATURE

State Psychiatric Hospital Forensic and Civil Bed Need Models

Engrossed Substitute Senate Bill 5092, Section 202 (1)(g)(ii)

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Executive Summary

Engrossed Substitute Senate Bill 6168 (Chapter 415, Laws of 2020) directed the Department of Social and Health Services to develop, in consultation with staff from the Office of Financial Management and the appropriate committees of the State Legislature, a model to estimate demand for forensic and civil state hospital beds. This report provides models of forensic and civil bed need for Eastern State Hospital (ESH) and Western State Hospital (WSH), with forecasts through June 2027.

The state hospitals provide forensic inpatient competency evaluation services when a court believes a mental disability may prevent a defendant from assisting in their defense. Inpatient treatment for competency restoration is provided when the evaluation finds the defendant is not competent. A civil commitment is a second avenue for admission to a state psychiatric hospital. The civil commitment process begins with an evaluation by a designated crisis responder who can commit a patient for a 72-hour evaluation (up to 120 hours effective January 1, 2021) if he or she is a danger to themselves or others due to a mental disorder. If needed, subsequent court hearings can result in additional commitments of 14, 90, or 180 days.

Forensic evaluation/restoration and civil commitment patterns were heavily impacted by the COVID-19 pandemic in 2020. This period has seen wide swings in monthly forensic referral patterns, a dramatic reduction in 90-/180-day civil admissions at the state hospitals, and the continuation of a longstanding trend towards a greater proportion of state hospital civil commitment capacity serving civil conversion patients. Our forensic bed need forecasts for this annual report reflect the November 2021 quarterly forensic bed need forecast – the first forecast since the onset of the COVID-19 pandemic to use COVID era data. While our civil bed need forecast is based primarily on data through December 2019, we present post-pandemic-onset data on the following topics:

- Daily census trends at the State Hospitals and in HCA-contracted long-term civil commitments (LTCC) settings;
- HCA-contracted LTCC admission and length of stay (LOS) trends;
- Single Bed Certification trends for both 90/180-day and 72-hour/14-day legal authorities;
- Analysis of Acute Hospital Referral List managed by the DSHS Aging and Long-Term Supports Administration (AL TSA) Home and Community Services (HCS) Division;
- Data on the experiences of persons included in the “No Bed Report” maintained by the HCA Division of Behavioral Health and Recovery (DBHR); and
- Trends in the use of AL TSA community residential and in-home services among persons with schizophrenia and related psychotic disorders.

Table 1 below reports the current distribution of beds across civil and forensic patient settings at Eastern and Western State Hospitals. The forensic bed counts include the competency restoration beds in Residential Treatment Facilities (RTFs) currently operating at Maple Lane and the Fort Steilacoom Competency Restoration Program on the grounds of WSH. Beds for persons found not guilty by reason of insanity (NGRI) are included in the forensic counts.

TABLE 1.

Summary of Current Bed Capacity and Forecast Need in June 2027

Hospital	Type	Current Beds Capacity November 2021	Forecast Bed Need¹ June 2027
Eastern State Hospital	Forensic	175	220
Eastern State Hospital	Civil	162	203
Western State Hospital	Forensic	430 ²	630
Western State Hospital	Civil	417	827

Including beds allocated for NGRI patients, we forecast that 630 forensic beds are needed by June 2027 for forensic patients attributable to WSH, and 220 ESH forensic beds will be needed by June 2027.

The forensic bed need models are based on:

- Forecasts of monthly inpatient evaluation and restoration referrals based on time series models applied to monthly referral data and NGRI utilization;
- Estimates of length of stay (LOS) by hospital by legal authority group (LAG), based on CY 2019 patient experience; and
- Estimates of 85 percent capacity utilization (proportion of beds occupied) for non-NGRI forensic patients and 90 percent capacity utilization for NGRI patients.

We also present information based on wait lists for forensic beds as of September 1, 2021.

The forensic models calculate the number of beds needed to avoid adding to a waiting list for admissions of persons referred for inpatient competency evaluation or restoration services. The models apply an average LOS to forecast referrals by legal authority group and identify the number of beds needed to avoid wait times for admission. Altering the models to make patients wait for admission up to the allowable standards for Trueblood class members³ would slightly reduce estimated bed need, while modeling the need for surge capacity to account for variability in future referral trends would increase estimated bed need.

The forensic bed need model is sensitive to changes in inpatient competency evaluation and restoration referral trends. Given the risk of still-untapped growth in demand for inpatient evaluation and restoration services, potentially moderated by current and future efforts to divert persons with behavioral health needs from the forensic mental

¹ The civil bed need reflected in this table is an estimate of how many state hospital civil beds would be necessary to meet forecast long-term civil commitment need if the number of HCA-contracted beds (33 beds in CY 2019) were maintained at the CY 2019 levels.

² Includes 60 RTF beds operating at Maple Lane and the Fort Steilacoom Competency Restoration Program on the grounds of WSH.

³ As a result of the Trueblood case, the State has been ordered to provide court-ordered competency evaluations within 14 days and competency restoration services within 7 days.

health system, future forecasts of need for inpatient evaluation and restoration services should be understood to have a wide confidence margin.

The civil bed need models forecast that, by June of 2027, 827 beds will be needed to meet the demand for civil inpatient services associated with WSH, and 203 beds will be needed to meet the demand for civil inpatient services associated with ESH. These forecasts include bed need associated with civil conversions and use of Single-Bed Certifications (SBCs) for 90/180-day civil commitments, in addition to 90- and 180-day civil admissions at the state hospitals.⁴

In addition to the required civil bed need forecast, we provided a series of supplemental analyses from which we drew the following inferences:

- Even at a capacity of just 100 beds, HCA-contracted LTCC settings are serving a large volume of monthly admissions in relation to the volume of non-CC civil admissions at the state hospitals prior to CY 2020. This is possible due to the lower lengths of stay observed in HCA-contracted facilities.
- SBC utilization trends and ALTSA HCS acute hospital referral list data do not show indications of increasing unmet need for LTCC beds. SBC data do show increasing admission volumes associated with shorter legal authorities.
- ALTSA HCBS settings – particularly community residential settings – are serving a significantly increased volume of clients with schizophrenia or related psychotic disorders. From supplemental analyses not presented here, there is evidence that receipt of ALTSA HCBS services is associated with significantly lower risk of subsequent psychiatric hospitalization for persons discharging from a LTCC setting.

In conclusion, it is important to note that the civil bed need forecast presented in this report starts from a baseline of the investments in place as of the end of CY 2019. This includes 33 HCA-contracted LTCC beds. We then modeled how many beds would be needed to maintain the footprint of HCA-contracted LTCC beds at 33, while meeting the remaining demand for LTCC beds in state hospital settings. If we were to model the number of beds needed in an alternative scenario where HCA-contracted facilities serve an increasing share of the LTCC population, the number of beds needed across both state hospital and HCA-contracted facilities would be lower than reported here, due to the shorter lengths of stay observed in HCA-contracted settings.

⁴ Single-bed certification utilization was restricted to admissions associated with 90- or 180-day civil commitments.

Scope and Purpose

The state hospitals provide forensic inpatient competency evaluation services when a court believes a mental disability may prevent a person charged with a crime from assisting in their defense. Inpatient treatment for competency restoration is provided when the evaluation finds the defendant is not competent and outpatient competency restoration is either not available or not sufficient to meet the need. A civil commitment is a second avenue for admission to a state psychiatric hospital. The civil commitment process begins with an evaluation by a designated crisis responder who can commit a patient to a state hospital or community inpatient setting for a 72-hour evaluation (up to 120 hours effective January 1, 2021) if he or she is a danger to themselves or others due to a mental disorder. At the state hospitals, evaluations occur in the hospitals' Center for Adult Services or, for older patients, in the Center for Geriatric Services at WSH or the Geropsychiatric Unit at ESH. If needed, subsequent court hearings can result in additional commitments of 14, 90, or 180 days.

Budget proviso language directed the Department of Social and Health Services to develop, in consultation with staff from the Office of Financial Management and the appropriate fiscal committees of the State Legislature, a model to estimate demand for forensic and civil state hospital beds. The bed need models are to incorporate factors such as:

- The capacity in state hospitals as well as contracted facilities which provide similar levels of care,
- Referral patterns,
- Lengths of stay,
- Wait lists, and
- Other factors (e.g., capacity utilization rates) identified as appropriate for predicting the number of beds needed to meet the demand for civil and forensic state hospital services.

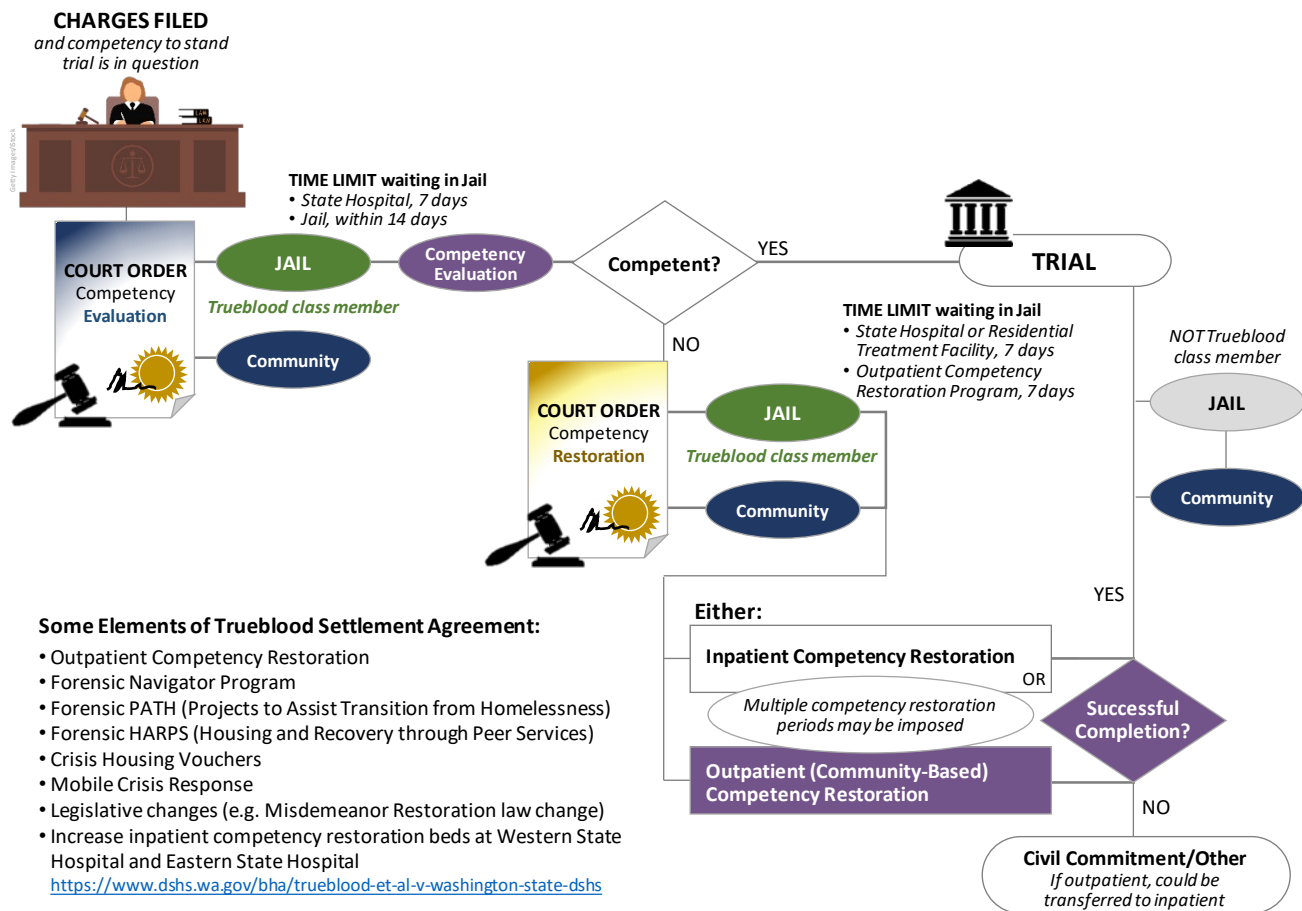
Budget proviso also directs that the model forecast bed need through the end of State Fiscal Year 2027 (June 2027), and that the Department must continue to update the model on schedule that aligns with the Caseload Forecast Council cycle and provide regular updates to the Office of Financial Management and the appropriate committees of the Legislature.

As required, this report provides models of forensic and civil bed need for Eastern and Western State Hospitals, with forecasts of bed need through June 2027. The next section of this report describes forensic models forecasting need for inpatient competency evaluation and restoration services, and need for beds for NGRI patients. The following section describes the civil bed need models. The closing section provides a summary of findings. The underlying models and supporting data are available in companion Excel workbooks.

Models of Forensic Bed Need

The forensic mental health system operates at the intersection of the legal and behavioral health care systems, providing competency evaluation services when a court believes a mental disability may prevent a criminal defendant from assisting in their own defense, and treatment for restoration when the evaluation finds the defendant is not competent. The court will then order the defendant to receive mental health treatment to restore competency. Figure 1 provides a high-level overview of the operation of the forensic mental health system.

FIGURE 1.
Competency Evaluation/Restoration Pathway



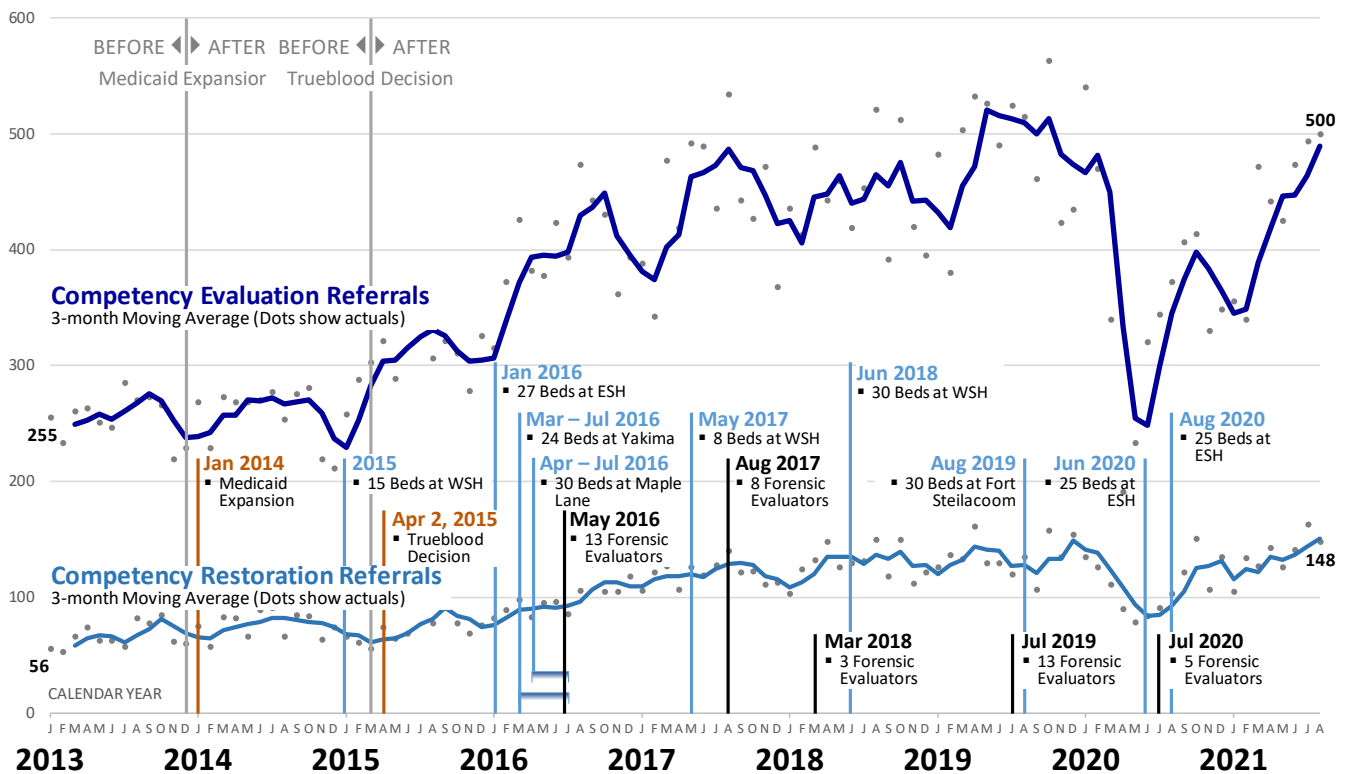
In April 2015, a federal court found in the case of Trueblood et al. v Washington State DSHS (Trueblood) that the Department was taking too long to provide competency evaluation and restoration services, in part due to a shortage of beds for the provision of inpatient restoration services. As a result of the Trueblood case, the State has been ordered to provide court-ordered competency evaluations within fourteen days and inpatient admission for competency services within seven days.

The Trueblood class includes individuals who are detained in city and county jails awaiting a competency evaluation or restoration services, and individuals who have previously received competency evaluation and restoration services who are released and at-risk for re-arrest or re-institutionalization.

Figures 2 and 3 put recent trends in competency evaluation and restoration referrals into the context of larger trends in arrests and the timing of two changes in the criminal justice and behavioral health care systems affecting the forensic system:

- Announcement of the Trueblood decision in April 2015, and
- Expansion of Medicaid eligibility under the Affordable Care Act in January 2014.

FIGURE 2.
Competency Evaluation/Restoration Referrals in a Policy Context
 Washington State



NOTES: 1. Total Competency evaluation referrals includes jail, inpatient, and personal recognition (PR) based competency evaluations. The data also includes Pierce County Evaluation Panel data from January 2016 to July 2019. 2. Total Competency restoration referrals includes inpatient admissions to state hospitals and other competency restorations facilities. 3. Multiple competency orders for the same individual that overlap in time are counted once.

DATA SOURCE: FES modules in Cache database (WSH), MILO database (ESH), Pierce County, and the Forensic Data System (FDS), October 2021.

Following the Trueblood decision, referrals for competency evaluation and restoration surged. The timing of the increase in forensic evaluation referrals following the Trueblood decision suggests the decision spurred changes in forensic system behavior that have resulted in rapidly rising referral trends. The onset of the COVID-19 pandemic

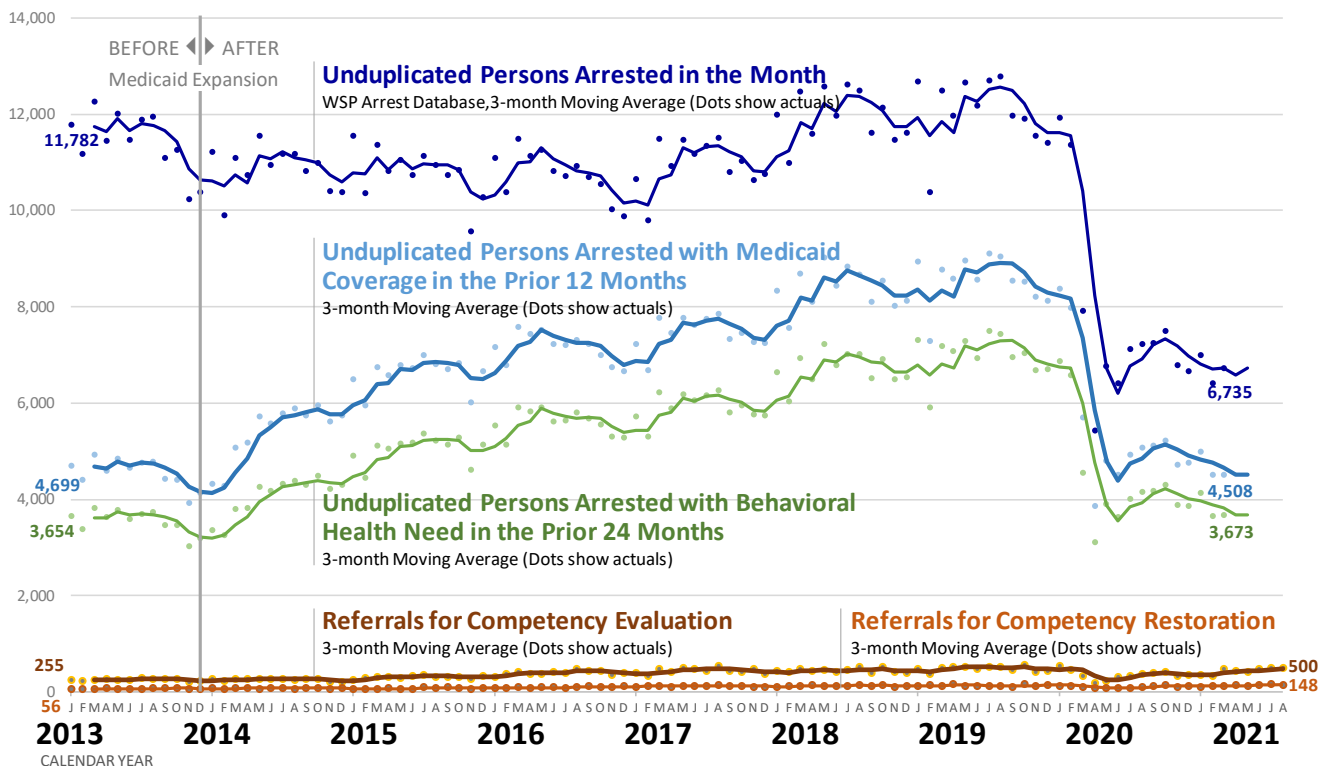
was associated with a significant decline in referral volumes in the months following March 2020. Later in this report we examine trends in forensic referrals in 2020 and 2021 in greater detail.

Beginning in 2014, Medicaid Expansion under the Affordable Care Act has led to a significant increase in the number of persons arrested who both:

- Are currently enrolled or have recently been enrolled in Medicaid; and
- Have a mental illness or substance use disorder identified in their recent Medicaid health service experience.

This phenomenon is illustrated in Figure 3 below. Most persons arrested in Washington State are currently or were recently enrolled in Medicaid and have a mental illness and/or substance use disorder identified in their recent Medicaid service experience (59 percent as of January 2021).

FIGURE 3.
Trend in Arrests and Competency Evaluation/Restoration Referrals
 Washington State, January 2013 to August 2021



NOTES: 1. Total Competency evaluation referrals includes jail, inpatient, and personal recognizance (PR) based competency evaluations. The data also includes Pierce County Evaluation Panel data from January 2016 to July 2019. 2. Total Competency restoration referrals includes inpatient admissions to state hospitals and other competency restorations facilities. 3. Behavioral health condition identified in the past 24 months. 4. Multiple competency orders for the same individual that overlap in time are counted once.

DATA SOURCES: DSHS Research and Data Analysis Division, Client Outcomes Database and Washington State Patrol Arrest Database, FES modules in Cache database (WSH), MILO database (ESH), Pierce County, October 2021.

In the context of forecasting forensic bed need, we draw two main inferences from Figure 3. First, Medicaid Expansion may have increased identification of behavioral health needs in the jail-involved population, reinforcing the likely direct impact of the Trueblood decision on competency evaluation and restoration referrals.

Second, despite the recent rapid growth in referrals for inpatient competency evaluation and restoration services, there may still be significant untapped demand for forensic inpatient beds. On a monthly basis there are many times the number of persons arrested with evident behavioral health needs (based only on Medicaid data) than there are persons referred for competency evaluation or restoration services.

This latter consideration is one reason why our forensic bed need models do not assume any dampening of inpatient referral trends, beyond what might be directly observed in recent referral data. Absent intervention (e.g., scaling up of effective diversion strategies), it is reasonable to expect competency evaluation and restoration referral volume will continue to grow at rates well above underlying general population growth.

Current Forensic Bed Capacity

As of October 2021, 370 forensic beds were available at WSH and 175 beds were available at ESH, including beds for competency evaluation, competency restoration, and NGRI patients. An additional 60 competency restoration beds associated with WSH operate at the RTFs at Maple Lane and the Fort Steilacoom Competency Restoration Program on the grounds of WSH.

Inpatient Competency Evaluation and Restoration Referral Trends

The COVID-19 pandemic has had a profound impact on competency evaluation and restoration referral trends, as illustrated in Figures 4 through 9 below. Referral volume dropped dramatically in the spring of 2020 at the onset of the pandemic, and recovered over the summer and into the early fall. We now have sufficient information to begin using post-pandemic-onset data in our bed need forecast updates. The information presented in the balance of this section reflects the November 2021 forecast cycle.

For WSH, we create separate forecasts by legal authority group (LAG) as shown in Figures 4 through 8. For ESH, we forecast total referral volume, to which we apply the referral share by LAG observed over the most recent year of data (Figure 9). We applied different time series models across forensic settings to better account for the differential impact of the pandemic on referral trends in the spring and summer of 2020:

- WSH Group A: exponential smoothing applied to last 12 months of actuals
- WSH Groups B – E: average of last 12 months of actuals
- ESH total referral volume: exponential smoothing applied to total referral count using last 36 months of actuals, dropping the first 6 months of the COVID pandemic period (30 observations total)
- NGRI: the forecast for the NGRI population is maintained at the last observed actual value

FIGURE 4.
Monthly Inpatient Referrals: WSH Forensic Group A

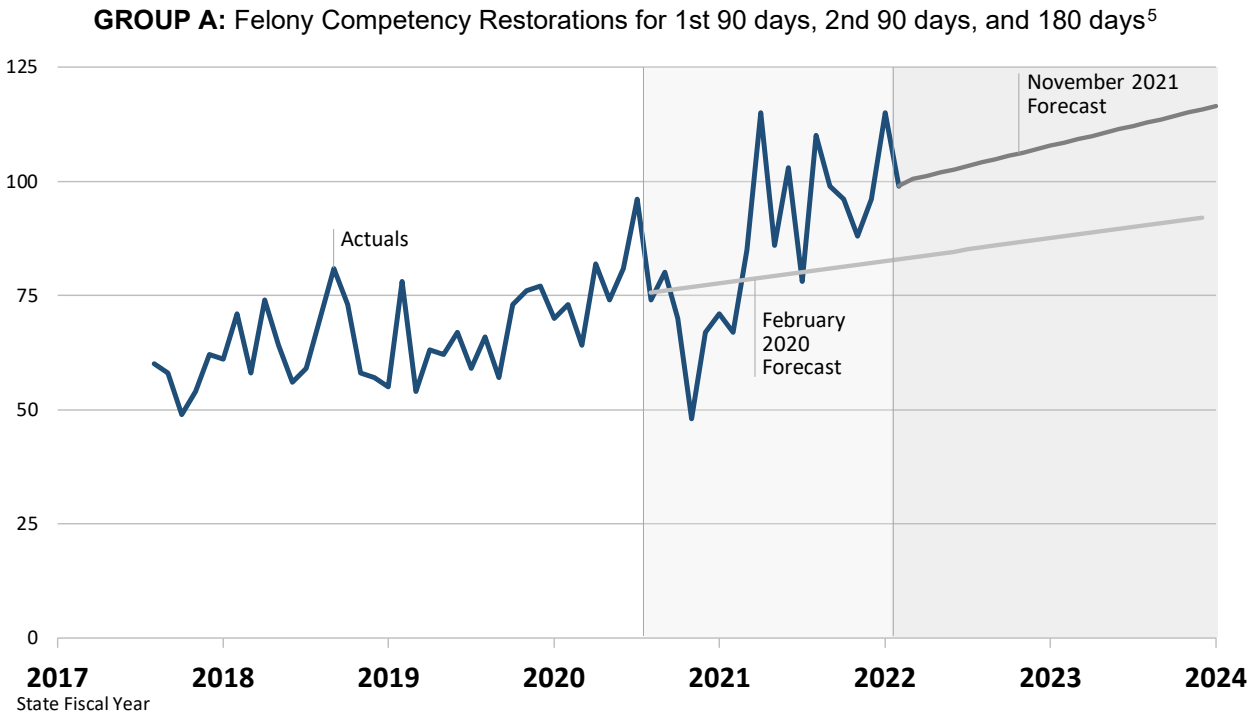
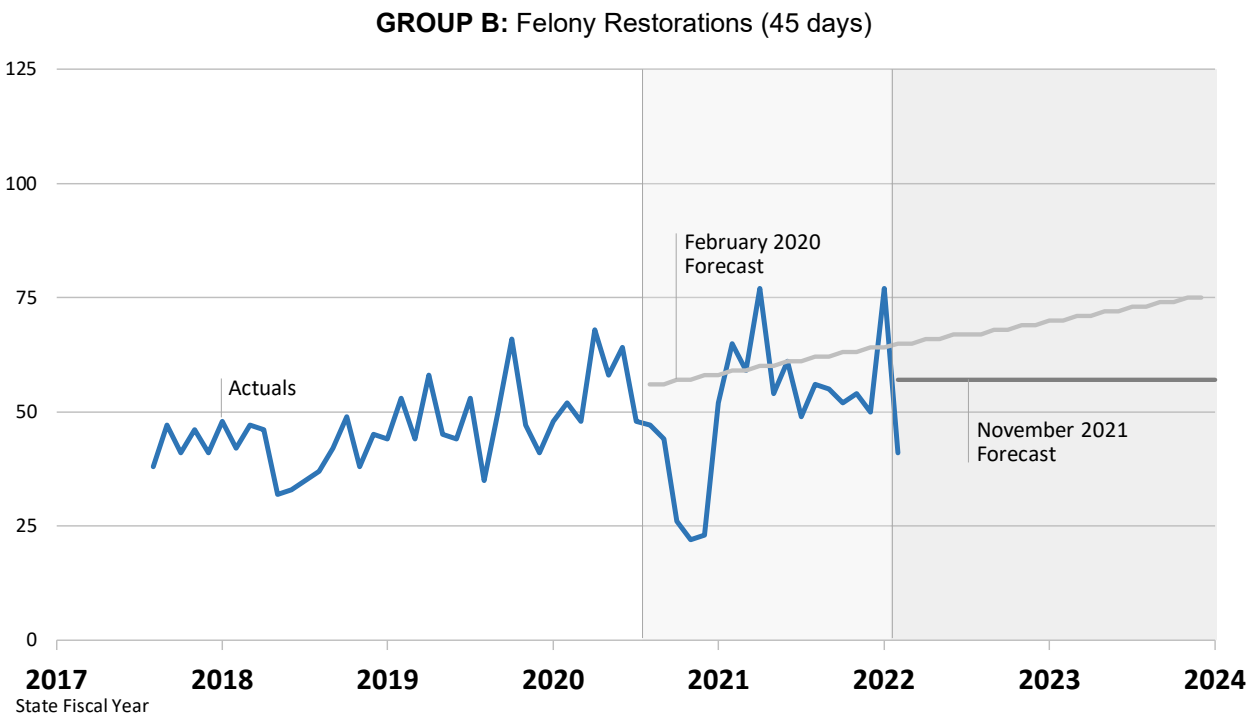


FIGURE 5.
Monthly Inpatient Referrals: WSH Forensic Group B



⁵ Includes a small number of patients in other legal authority groups with similar expected lengths of stay.

FIGURE 6.
Monthly Inpatient Referrals: WSH Forensic Group C

GROUP C: Misdemeanor Competency Evaluation.

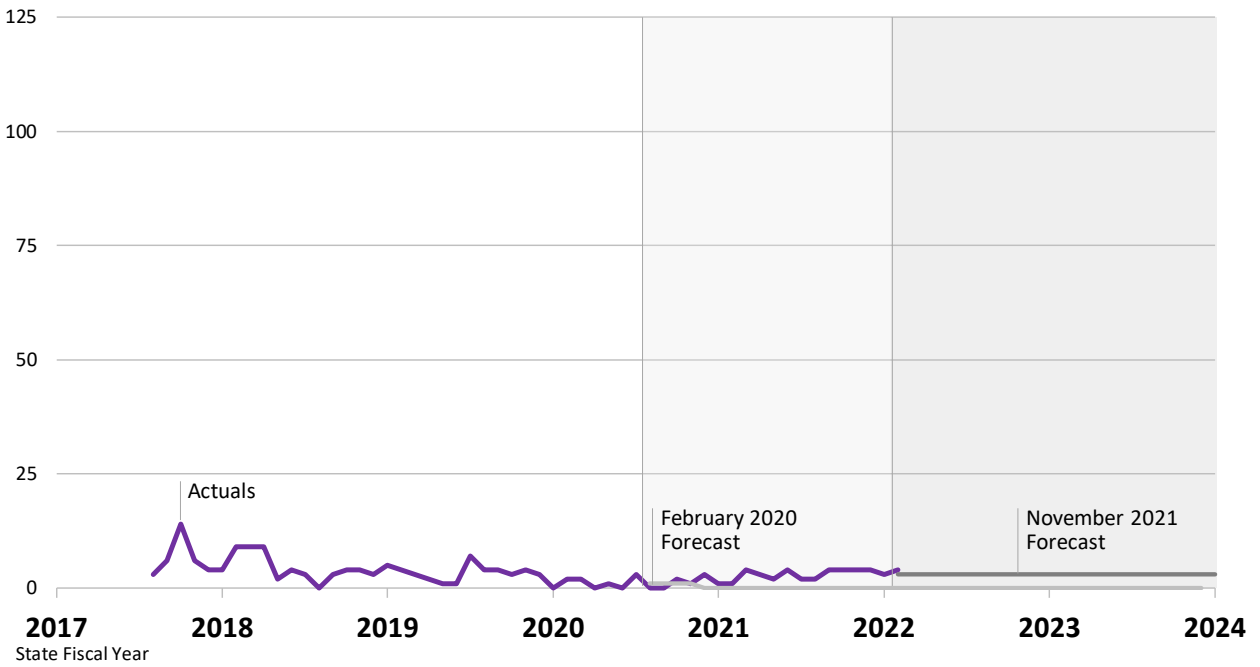


FIGURE 7.
Monthly Inpatient Referrals: WSH Forensic Group D

GROUP D: Misdemeanor Restorations.

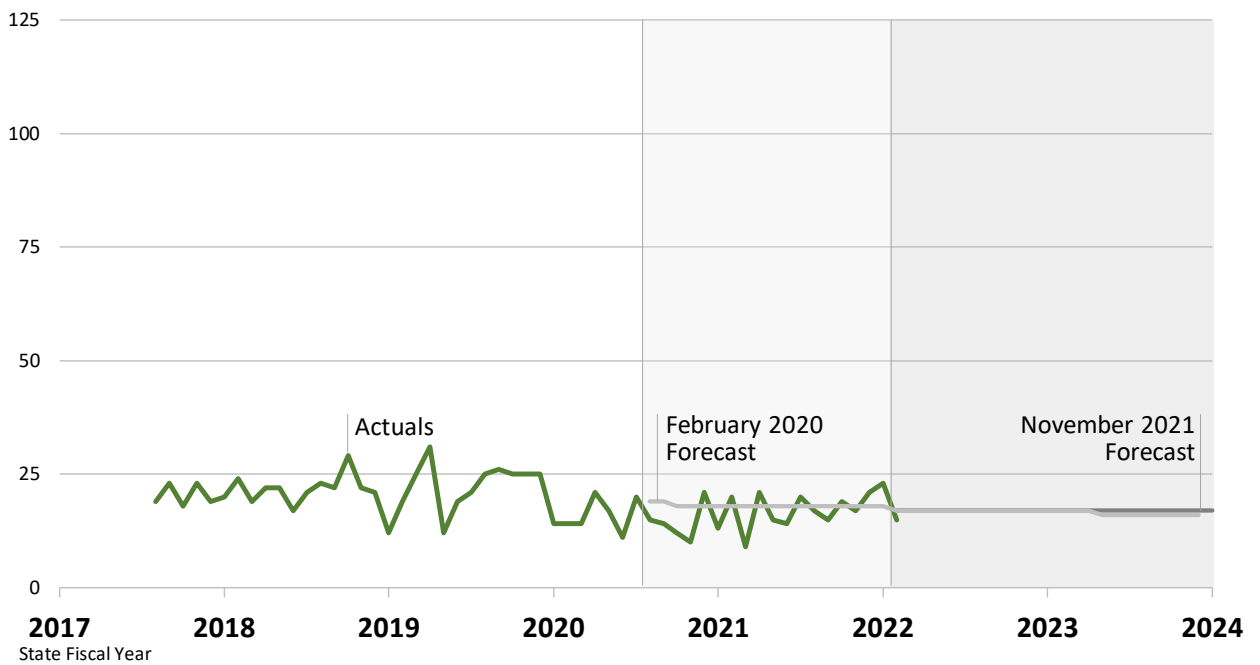


FIGURE 8.
Monthly Inpatient Referrals: WSH Forensic Group E

GROUP E: Felony Competency Evaluations.

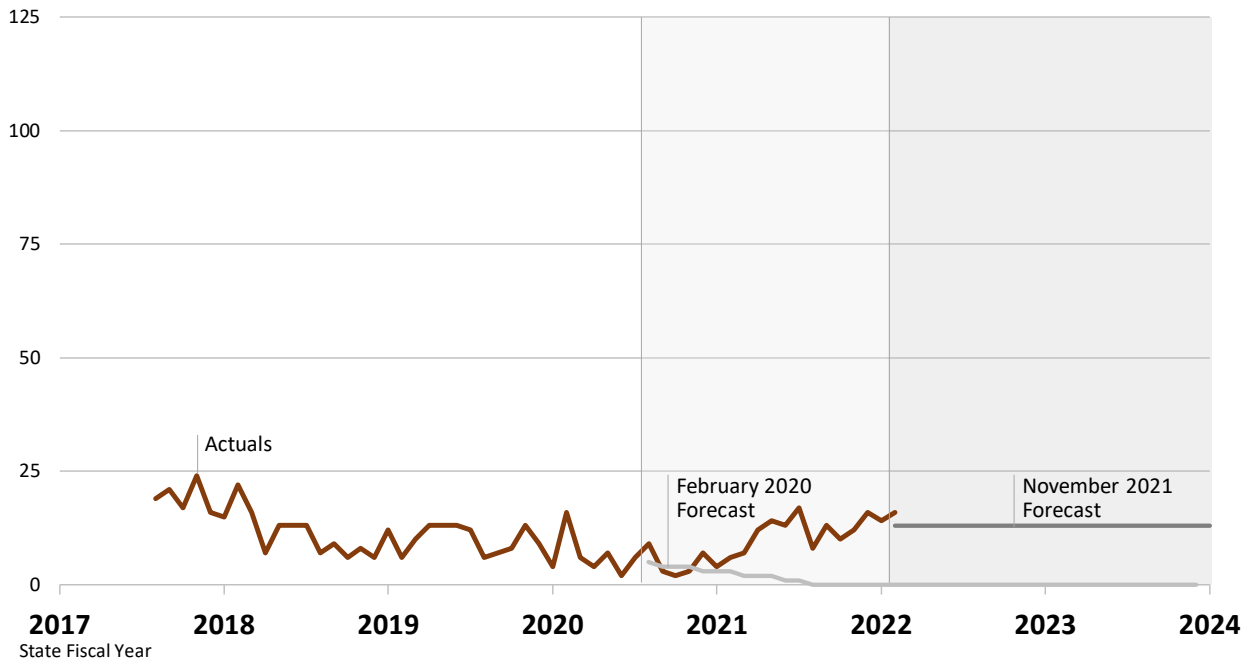
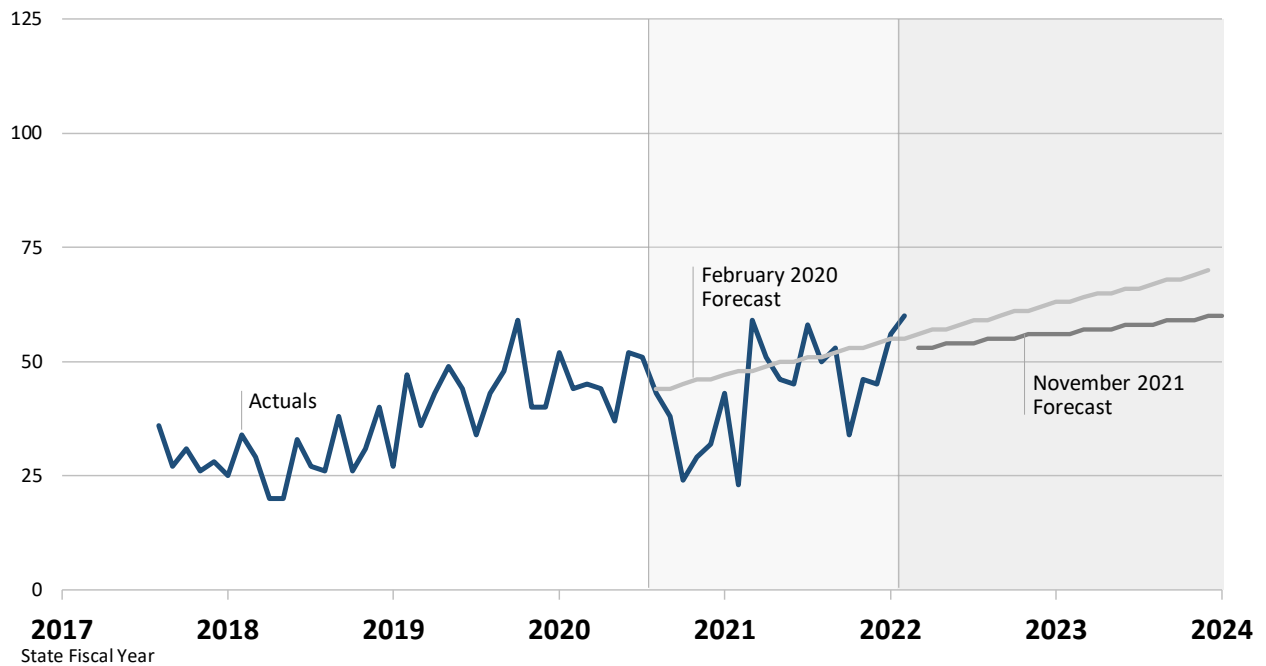


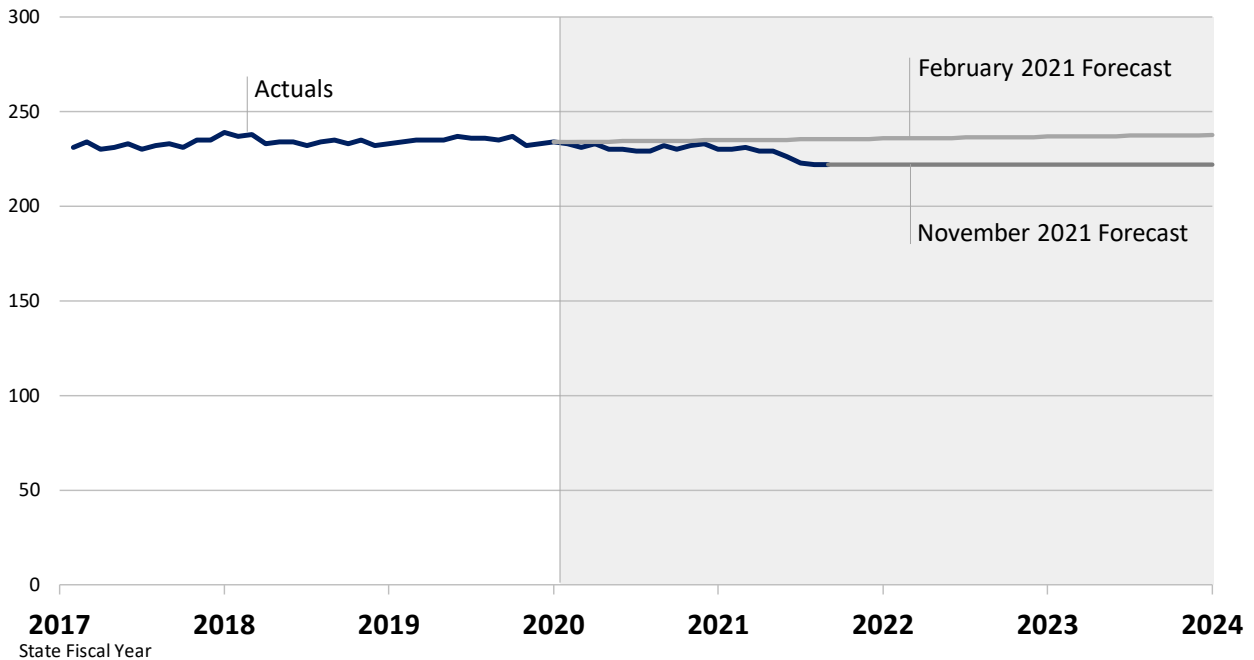
FIGURE 9.
Monthly Inpatient Referrals: ESH Forensic Inpatient Restoration and Evaluation⁶

All Legal Authorities



⁶ Includes a small number of patients in other legal authority groups with similar expected lengths of stay.

FIGURE 10.
Statewide Not Guilty by Reason of Insanity Forecast
Combined ESH and WSH



Forensic Length of Stay and Capacity Utilization

We estimated average length of stay by legal authority group, by hospital, and by time period (Tables 2 and 3). LOS estimates are based on observed lengths of stay for discharges in CY 2019. We assumed 85 percent capacity utilization in non-NGRI forensic beds and 90 percent capacity utilization in NGRI beds.

TABLE 2.
Average Length of Stay (Days) by Legal Authority Group
 Mean LOS for CY 2019 Discharges

WESTERN STATE HOSPITAL		Mean Discharge LOS CY 2019
GROUP A: Felony Competency Restorations for 1st 90 days, 2nd 90 days, and 180 days		63.3
GROUP B: Felony Competency Restorations for 45 days		40.5
GROUP C: Misdemeanor Competency Evaluation		15.3
GROUP D: Misdemeanor Competency Restorations		23.0
GROUP E: Felony Competency Evaluations		15.8
EASTERN STATE HOSPITAL		Mean Discharge LOS CY 2019
GROUP 6: Misdemeanor Competency Restorations		26.9
GROUP I: Competency Evaluation		18.7
GROUP G: Not Guilty by Reason of Insanity		437.0
GROUP Q: Felony Competency Restorations		51.7

Forensic Wait Lists

As of September 1, 2021, wait lists at the two hospitals were as reported in Table 3 below. We applied observed LOS data for CY 2019 by legal authority group to estimate the number of bed days required to clear the current waiting list.

TABLE 3.
Inpatient Forensic Wait Lists
As of September 1, 2021

WESTERN STATE HOSPITAL	
GROUP A: Felony Competency Restorations for 1 st 90 days, 2 nd 90 days, and 180 days	110
GROUP B: Felony Competency Restorations for 45 days	137
GROUP C: Misdemeanor Competency Evaluation	14
GROUP D: Misdemeanor Competency Restorations	80
GROUP E: Felony Competency Evaluations	17
WSH Total	358
EASTERN STATE HOSPITAL	
GROUP 6: Misdemeanor Competency Restorations	4
GROUP I: Competency Evaluation	18
GROUP Q: Felony Competency Restorations	46
ESH Total	68

Forensic Model Forecasts

We forecast two related but different concepts: (1) the bed capacity needed to meet monthly forecast referral volume without adding to a wait list (Table 4 and detail Tables 4A and 4B), and (2) the time-limited capacity needed to eliminate current wait lists (Table 6). The models apply the observed CY 2019 LOS (by legal authority group) to forecast referrals (Tables 4A and 4B) or current wait list volume (Table 5), at the assumed capacity utilization rate.

The forecast bed need for a given month in Tables 4A and 4B reflects the number of beds required to ensure no wait time at admission, assuming the level of future referrals continued at the value observed in the given month. Altering the model to make patients wait for admission up to the standards for Trueblood class members⁷ would slightly reduce calculated bed need. Modeling the need for surge capacity to account for likely month-to-month variation in future referral trends would increase estimated bed need.

Table 5 shows that in June 2027, 630 beds are forecast to be needed to serve the expected volume of WSH referrals without adding to a wait list, including NGRI beds and the 60 RTF beds currently operating at Maple Lane and the Fort Steilacoom Competency Restoration Program on the grounds of WSH. Additional time-limited capacity is needed to clear the existing wait list, and we forecast 48 time-limited beds would be needed to clear the current WSH wait list in 12 months, in addition to the beds needed to handle ongoing referral volume (Table 5).

⁷ As a result of the Trueblood case, the State has been ordered to provide court-ordered competency evaluations within fourteen days and competency restoration services within seven days.

The ESH model forecasts that 220 forensic beds will be needed by the end of SFY 2027 to meet demand from ongoing referrals for inpatient evaluation and restoration services at ESH (Table 4). The additional bed capacity necessary to clear the current ESH waiting within 12 months is 18 beds (Table 5).

As directed by budget proviso, DSHS has implemented a triannual update cycle for state hospital bed need models in collaboration with OFM, the Legislature, and subject matter experts in DSHS and the state hospitals. Figure 10 illustrates forecasts for the last two quarterly forecast cycles (the February 2021 forecast was maintained in the June 2021 forecast cycle), along with a trend labeled “implied bed need”. The “implied bed need” concept translates observed monthly referrals into implied “steady state” bed need, assuming recently observed average lengths of stay continue to hold. “Steady state” bed need refers to the number of beds needed to serve the observed monthly referral volume, if future referrals remained constant at the observed monthly level. The “implied bed need” trend reflects the observations that referral volume dropped dramatically in the spring of 2020 at the onset of the pandemic, followed by a recovery of referral volume over the summer and into the early fall of 2020.

Given the potential for still-untapped growth in demand for evaluation and restoration services, potentially moderated by current and future efforts to divert persons with behavioral health needs from the forensic mental health system, future forecasts of need for inpatient evaluation and restoration services should be understood to have a wide confidence margin. We also note that this modeling approach provides a framework for creating baseline projections against which to infer the potential impact of efforts to divert persons with behavioral health needs from the forensic system.

TABLE 4.
Forensic Bed Need: Summary by Fiscal Year
 November 2021 Forecast

SFY	Western State Hospital		Eastern State Hospital	
	Year End	SFY Average	Year End	SFY Average
2022	524		188	
2023	545	535	195	192
2024	566	557	201	198
2025	588	578	207	205
2026	609	599	214	211
2027	630	621	220	217

TABLE 4A

Western State Hospital Forensic Bed Need Model

Legal Authority Group	A	B	C	D	E	NGRI
LOS (Past Year)	63.3	40.5	15.3	23.0	15.8	
Utilization Rate	85%	85%	85%	85%	85%	90%

		Forecast Referrals					Bed Need Associated with Forecast Referrals						TOTAL NOV 2021 Forecast	
		LEGAL AUTHORITY GROUP					LEGAL AUTHORITY GROUP					NGRI		
		A	B	C	D	E	A	B	C	D	E	TOTAL		Bed Need
2021	SEP	100	57	3	17	13	246	89	2	15	8	360	148	508
	OCT	101	57	3	17	13	248	89	2	15	8	362	148	510
	NOV	102	57	3	17	13	249	89	2	15	8	364	148	511
	DEC	103	57	3	17	13	251	89	2	15	8	365	148	513
2022	JAN	103	57	3	17	13	253	89	2	15	8	367	148	515
	FEB	104	57	3	17	13	255	89	2	15	8	369	148	517
	MAR	105	57	3	17	13	256	89	2	15	8	371	148	518
	APR	106	57	3	17	13	258	89	2	15	8	372	148	520
	MAY	106	57	3	17	13	260	89	2	15	8	374	148	522
	JUN	107	57	3	17	13	262	89	2	15	8	376	148	524
	JUL	108	57	3	17	13	264	89	2	15	8	378	148	526
	AUG	108	57	3	17	13	265	89	2	15	8	380	148	527
	SEP	109	57	3	17	13	267	89	2	15	8	381	148	529
	OCT	110	57	3	17	13	269	89	2	15	8	383	148	531
	NOV	111	57	3	17	13	271	89	2	15	8	385	148	533
	DEC	111	57	3	17	13	272	89	2	15	8	387	148	534
2023	JAN	112	57	3	17	13	274	89	2	15	8	388	148	536
	FEB	113	57	3	17	13	276	89	2	15	8	390	148	538
	MAR	114	57	3	17	13	278	89	2	15	8	392	148	540
	APR	114	57	3	17	13	280	89	2	15	8	394	148	542
	MAY	115	57	3	17	13	281	89	2	15	8	396	148	543
	JUN	116	57	3	17	13	283	89	2	15	8	397	148	545
	JUL	116	57	3	17	13	285	89	2	15	8	399	148	547
	AUG	117	57	3	17	13	287	89	2	15	8	401	148	549
	SEP	118	57	3	17	13	288	89	2	15	8	403	148	550
	OCT	119	57	3	17	13	290	89	2	15	8	404	148	552
	NOV	119	57	3	17	13	292	89	2	15	8	406	148	554
	DEC	120	57	3	17	13	294	89	2	15	8	408	148	556
2024	JAN	121	57	3	17	13	295	89	2	15	8	410	148	558
	FEB	122	57	3	17	13	297	89	2	15	8	412	148	559
	MAR	122	57	3	17	13	299	89	2	15	8	413	148	561
	APR	123	57	3	17	13	301	89	2	15	8	415	148	563
	MAY	124	57	3	17	13	303	89	2	15	8	417	148	565
	JUN	124	57	3	17	13	304	89	2	15	8	419	148	566
	JUL	125	57	3	17	13	306	89	2	15	8	420	148	568
	AUG	126	57	3	17	13	308	89	2	15	8	422	148	570
	SEP	127	57	3	17	13	310	89	2	15	8	424	148	572
	OCT	127	57	3	17	13	311	89	2	15	8	426	148	574
	NOV	128	57	3	17	13	313	89	2	15	8	428	148	575
	DEC	129	57	3	17	13	315	89	2	15	8	429	148	577
2025	JAN	130	57	3	17	13	317	89	2	15	8	431	148	579
	FEB	130	57	3	17	13	319	89	2	15	8	433	148	581
	MAR	131	57	3	17	13	320	89	2	15	8	435	148	582
	APR	132	57	3	17	13	322	89	2	15	8	436	148	584
	MAY	132	57	3	17	13	324	89	2	15	8	438	148	586
	JUN	133	57	3	17	13	326	89	2	15	8	440	148	588

TABLE 4B

Eastern State Hospital Forensic Bed Need Model

Legal Authority Group	Group 6	Group I	Group Q	NGRI
LOS (Past Year)	26.9	18.7	51.7	
Share	4.5%	26.5%	68.3%	
Utilization Rate	85%	85%	85%	90%

		Forecast Referrals				Bed Need Associated with Forecast Referrals					
		LEGAL AUTHORITY GROUP				LEGAL AUTHORITY GROUP				NGRI	TOTAL
		6	I	Q	TOTAL	6	I	Q	TOTAL	Bed Need	NOV 2021 Forecast
2021	SEP	2.4	14.0	36.1	53	2.5	10.1	72.2	84.8	98.9	184
	OCT	2.4	14.1	36.3	53	2.5	10.2	72.6	85.3	98.9	184
	NOV	2.4	14.2	36.6	54	2.5	10.3	73.1	85.8	98.9	185
	DEC	2.4	14.3	36.8	54	2.5	10.3	73.5	86.4	98.9	185
2022	JAN	2.4	14.4	37.0	54	2.5	10.4	74.0	86.9	98.9	186
	FEB	2.4	14.5	37.2	55	2.5	10.5	74.4	87.4	98.9	186
	MAR	2.5	14.6	37.5	55	2.6	10.5	74.9	88.0	98.9	187
	APR	2.5	14.6	37.7	55	2.6	10.6	75.3	88.5	98.9	187
	MAY	2.5	14.7	37.9	56	2.6	10.7	75.8	89.0	98.9	188
	JUN	2.5	14.8	38.1	56	2.6	10.7	76.2	89.5	98.9	188
	JUL	2.5	14.9	38.4	56	2.6	10.8	76.7	90.1	98.9	189
	AUG	2.5	15.0	38.6	56	2.6	10.8	77.1	90.6	98.9	189
	SEP	2.5	15.1	38.8	57	2.6	10.9	77.6	91.1	98.9	190
	OCT	2.6	15.2	39.1	57	2.7	11.0	78.0	91.7	98.9	191
	NOV	2.6	15.3	39.3	57	2.7	11.0	78.5	92.2	98.9	191
	DEC	2.6	15.3	39.5	58	2.7	11.1	78.9	92.7	98.9	192
2023	JAN	2.6	15.4	39.7	58	2.7	11.2	79.4	93.2	98.9	192
	FEB	2.6	15.5	40.0	58	2.7	11.2	79.8	93.8	98.9	193
	MAR	2.6	15.6	40.2	59	2.7	11.3	80.3	94.3	98.9	193
	APR	2.6	15.7	40.4	59	2.8	11.3	80.7	94.8	98.9	194
	MAY	2.7	15.8	40.6	59	2.8	11.4	81.2	95.4	98.9	194
	JUN	2.7	15.9	40.9	60	2.8	11.5	81.6	95.9	98.9	195
	JUL	2.7	16.0	41.1	60	2.8	11.5	82.1	96.4	98.9	195
	AUG	2.7	16.0	41.3	60	2.8	11.6	82.5	97.0	98.9	196
	SEP	2.7	16.1	41.5	61	2.8	11.7	83.0	97.5	98.9	196
	OCT	2.7	16.2	41.8	61	2.8	11.7	83.4	98.0	98.9	197
	NOV	2.8	16.3	42.0	61	2.9	11.8	83.9	98.5	98.9	197
	DEC	2.8	16.4	42.2	62	2.9	11.9	84.3	99.1	98.9	198
2024	JAN	2.8	16.5	42.4	62	2.9	11.9	84.8	99.6	98.9	198
	FEB	2.8	16.6	42.7	62	2.9	12.0	85.2	100.1	98.9	199
	MAR	2.8	16.7	42.9	63	2.9	12.0	85.7	100.7	98.9	200
	APR	2.8	16.7	43.1	63	2.9	12.1	86.1	101.2	98.9	200
	MAY	2.8	16.8	43.3	63	3.0	12.2	86.6	101.7	98.9	201
	JUN	2.9	16.9	43.6	64	3.0	12.2	87.0	102.2	98.9	201
	JUL	2.9	17.0	43.8	64	3.0	12.3	87.5	102.8	98.9	202
	AUG	2.9	17.1	44.0	64	3.0	12.4	87.9	103.3	98.9	202
	SEP	2.9	17.2	44.2	65	3.0	12.4	88.4	103.8	98.9	203
	OCT	2.9	17.3	44.5	65	3.0	12.5	88.8	104.4	98.9	203
	NOV	2.9	17.4	44.7	65	3.0	12.6	89.3	104.9	98.9	204
	DEC	2.9	17.4	44.9	66	3.1	12.6	89.7	105.4	98.9	204
2025	JAN	3.0	17.5	45.1	66	3.1	12.7	90.2	105.9	98.9	205
	FEB	3.0	17.6	45.4	66	3.1	12.7	90.6	106.5	98.9	205
	MAR	3.0	17.7	45.6	67	3.1	12.8	91.1	107.0	98.9	206
	APR	3.0	17.8	45.8	67	3.1	12.9	91.5	107.5	98.9	206
	MAY	3.0	17.9	46.0	67	3.1	12.9	92.0	108.1	98.9	207
	JUN	3.0	18.0	46.3	68	3.2	13.0	92.4	108.6	98.9	207

FIGURE 11.
Forensic Bed Need Forecast Comparisons
 November 2020 through June 2027

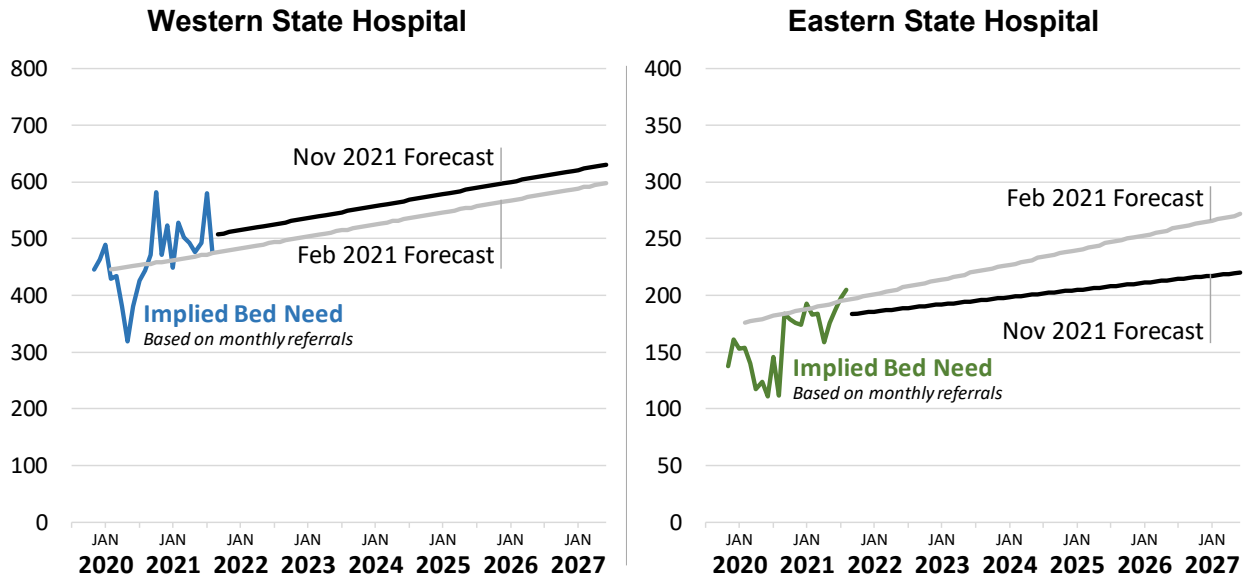


TABLE 5.
Additional Forensic Bed Capacity Needed to Clear Wait List
 As of September 1, 2021

WESTERN STATE HOSPITAL							EASTERN
	Legal Authority Group						
	A	B	C	D	E	TOTAL	TOTAL
Wait List	110	137	14	80	17	358	68
Length of Stay (Past Year)	63.3	40.5	15.3	23.0	15.8		41.5
Utilization Rate	85%	85%	85%	85%	85%		85%
Bed Days	8,188	6,524	252	2,161	315	17,441	3,321
<i>Additional beds needed to clear wait list in 12 months:</i>						47.8	9.1
<i>Additional beds needed to clear wait list in 6 months:</i>						95.5	18.2

NOTE: Assumes Additional Bed Capacity Allocated Across LAG in Proportion to Implied Bed-Day Need.

Civil Bed Need Models

The civil commitment process begins with an evaluation by a designated crisis responder who can commit a patient for a 72-hour evaluation if he or she is a danger to themselves or others due to a mental disorder (up to 120 hours effective January 1, 2021). At the state hospitals, evaluations occur in the hospitals' Center for Adult Services or, for older patients, in the Center for Geriatric Services at WSH or the Geropsychiatric Unit at ESH. If needed, subsequent court hearings can result in additional commitments of 14, 90 or 180 days. Our bed need forecasts are focused on 90- and 180-day civil commitment beds, including civil conversion (“forensic flip”) beds, beds in HCA-contracted community facilities, and bed utilization in single-bed certification (SBC) settings.⁸

The civil bed need model closely parallels the forensic model and is based on admission trend forecasts, LOS assumptions, and capacity utilization parameters. Civil bed need forecasting presents distinct challenges, relative to the forensic context. One challenge is that civil bed utilization at the state hospitals includes a higher proportion of cases with extreme outlier lengths of stay. This means that observed average lengths of stay for discharging patients in a given time period will tend to understate the true average length of stay that would be calculated in the absence of censored (incomplete) LOS data for long-stay patients who have not yet discharged. In addition, changes to admission patterns have a significant impact on observed lengths of stay for discharging patients, by changing the composition of the patient population. In particular, as non-civil-conversion (non-CC) civil admissions at WSH effectively ceased in CY 2020, data on completed LOS for discharging cases became increasingly unrepresentative of what would have occurred if WSH had continued to accept new non-CC civil admissions.

Because non-CC civil admissions ceased at WSH in CY 2020, and slowed at ESH during the COVID-19 pandemic, we build the civil bed need forecast primarily using data observed through December 2019. By basing our forecasts on experience through December 2019, we are essentially assuming that post-pandemic admission trends and lengths of stay at the state hospitals would more closely resemble the pre-COVID experience than the CY 2020 experience, if the hospitals were to continue operating as the primary setting for non-CC civil admissions.

A second challenge in the civil bed need forecast context is the intrinsic need to account for the interaction between different capacity investments. The most obvious interactions are between beds in state hospital settings, SBC utilization, and beds in HCA-contracted long-term civil commitment (LTCC) facilities. With regard to the interaction between potential capacity investments, report on HCA’s progress in developing contracted community LTCC beds, and the admission volume, daily census, and lengths of stay associated with LTCC admissions at these facilities. The tradeoff between maintaining state hospital civil beds and developing additional HCA-contracted LTCC beds largely depends on relative LOS, capacity utilization, and admissions forecasts across settings.

⁸ A Single Bed Certification allows a person to be detained under the Involuntary Treatment Act for a 90/180-day commitment when there are no available state hospital beds.

There are other important potential capacity investment interactions. As we will see, for several years civil bed utilization has been driven by increasing civil conversion volume. One implication of this observation is that Trueblood-related investments could have a significant impact on civil bed need if these investments were to slow the volume of forensic referrals and, further downstream, the flow of civil conversation cases.

Similarly, investments in HCA-contracted community behavioral health services and DSHS in-home and community residential services and supports are likely impacting the need for LTCC beds. As we will see in the next section, there are nearly 10,000 persons currently residing in AL TSA home- and community service (HCBS) settings who have a diagnosis of schizophrenia or a related psychotic disorder. This number has increased by nearly 2,000 clients since 2018 due to efforts to divert and discharge patients from state hospital and acute hospital settings. Because persons discharged from the state hospitals to AL TSA HCBS settings are less likely to be subsequently hospitalized in a psychiatric inpatient setting, these investments impact the number of LTCC beds needed to serve the at-risk population. We do not explicitly model potential tradeoffs between investments in AL TSA and DDA HCBS services and LTCC bed need in this report.

The forecast presented in this report starts from a baseline of the investments in place as of the end of CY 2019. This includes 33 HCA-contracted LTCC beds. We then model how many beds would be needed to maintain the footprint of HCA-contracted beds at 33 beds and meet the remaining demand for LTCC beds in state hospital settings. If we were to model the number of beds needed in an alternative scenario where HCA-contracted facilities serve an increasing share of the LTCC population, the number of beds needed across both state hospital and HCA-contracted facilities would be lower than presented here. This is due to the shorter lengths of stay observed in HCA-contracted settings described in the next section.

Model Overview

With regard to capacity utilization, we assume utilization rates of 85 percent at the state hospitals. For civil conversion admissions we apply exponential smoothing time series models to monthly admissions data over the three-year period from January 2017 to December 2019. For all other model components, we project future admission volume to be at the average monthly level observed in CY 2019. Admission trend historic actuals and forecasts are presented in Figures 12 to 19 below.

With regard to LOS assumptions in state hospital settings, we use a method that aligns projected admission volumes with observed bed census levels as of the beginning of the forecast window. This calculation produces average LOS parameters that are slightly higher than the average LOS observed for discharges over the 66-month period from January 2015 to June 2020 (see Table 6). LOS in SBC settings are based on averages observed in CY 2019.

Our models produce the statewide civil bed need forecasts summarized in Table 8 and Figure 20. Monthly detail through June 2027 for WSH and ESH are provided in Tables 9 and 10. Compared to our 2019 report, the newer civil bed need model projects a lower level of State Hospital civil bed need over the near term, but projects a more rapid rate of

growth that results in comparable levels of State Hospital bed need by the end of our forecast horizon. For example, the current civil bed need forecast for WSH for June 2027 is 827 beds, compared to 796 beds in the 2019 annual report. Similarly, the current civil bed need forecast for ESH for June 2027 is 203 beds, compared to 206 beds in our 2019 annual report.

TABLE 6.
Length of Stay (LOS) Parameters
 By Setting and Legal Authority at Discharge
 WSH/ESH medians derived from CY 2015 - to June 2020 Discharges
 SBC means and medians derived from CY 2019 experience

	Median LOS	Implied Mean LOS After Adjustment for Outliers and Case Mix
Western State Hospital		
Civil Conversion	209.0	313.7
90- and 180-Day*	262.3	436.2
Single-Bed Certification	8.0	12.0
Eastern State Hospital		
Civil Conversion	117.0	197.3
90- and 180-Day*	93.6	175.9
Single-Bed Certification	5.8	10.0

* Weighted average based on 12/31/2019 case mix.

FIGURE 12.
Western State Hospital Civil Conversion Admission Trend

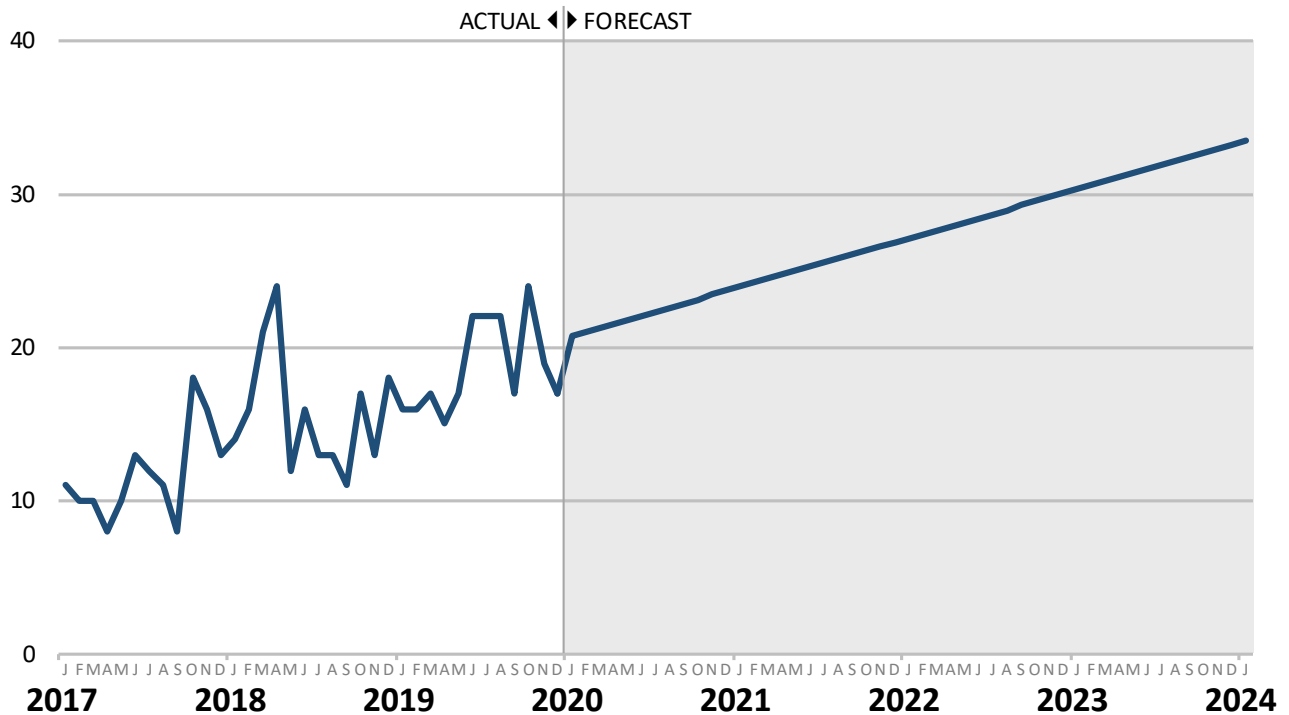


FIGURE 13.
Western State Hospital 90- and 180-Day Civil Commitment Admission Trend

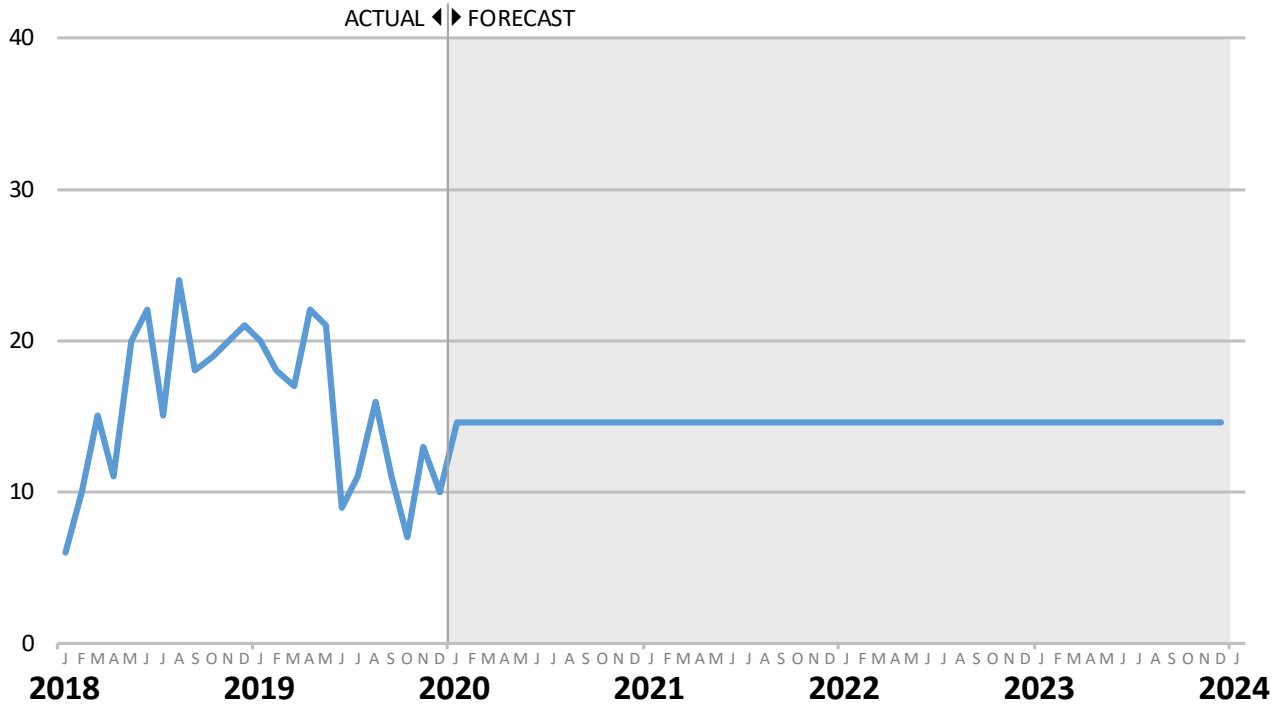


FIGURE 14.
Eastern State Hospital Civil Conversion Admission Trend

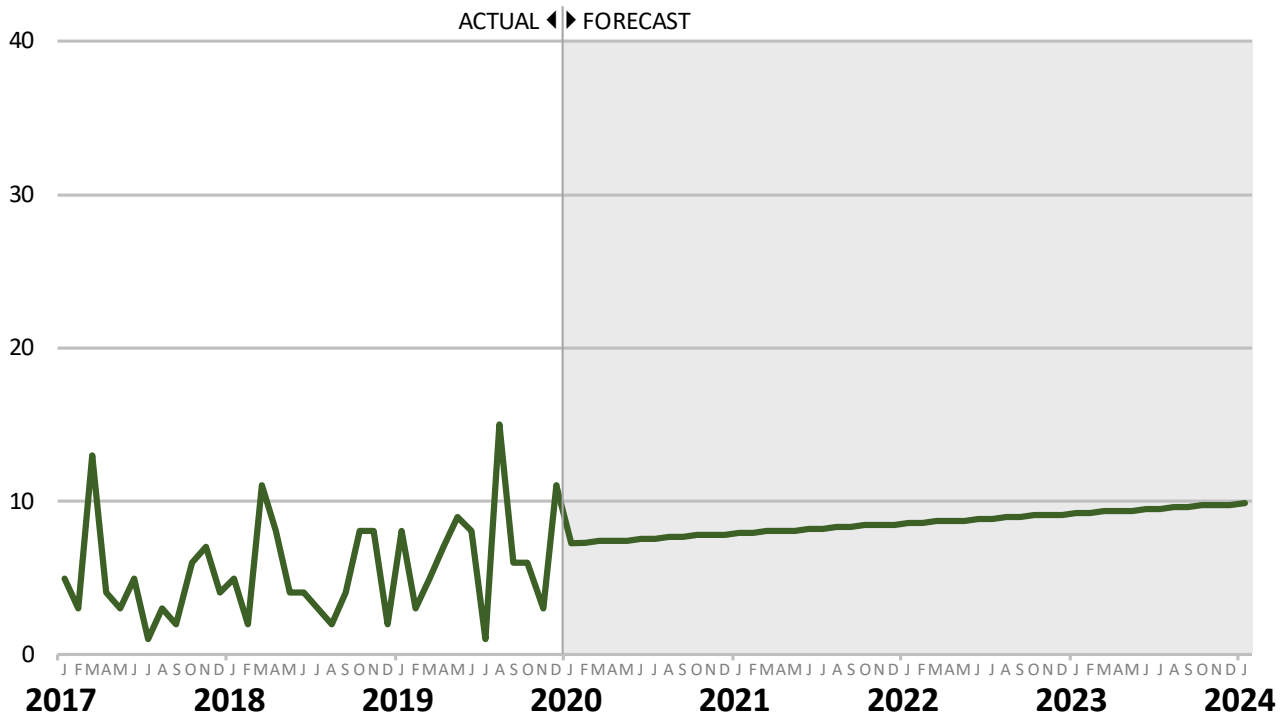


FIGURE 15.
Eastern State Hospital 90- and 180-Day Civil Commitment Admission Trend

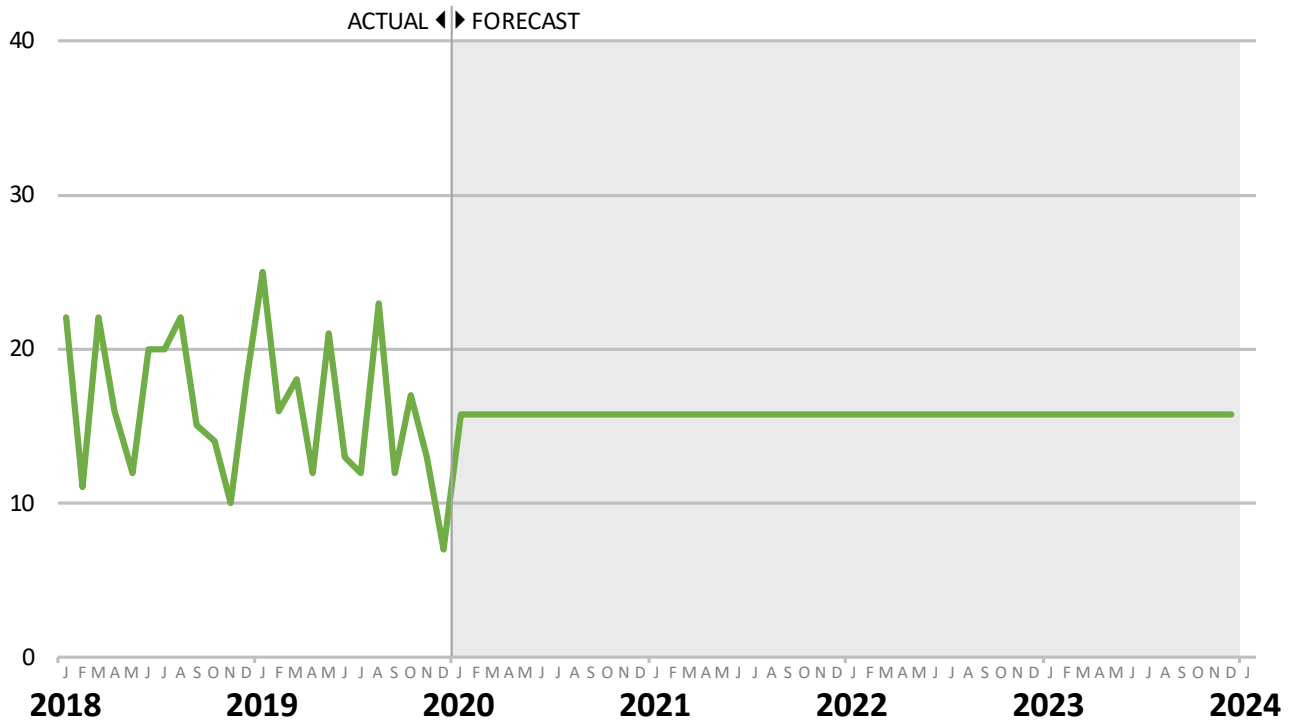


FIGURE 16.
90- and 180-Day SBC Admissions Forecast in WSH Catchment Area

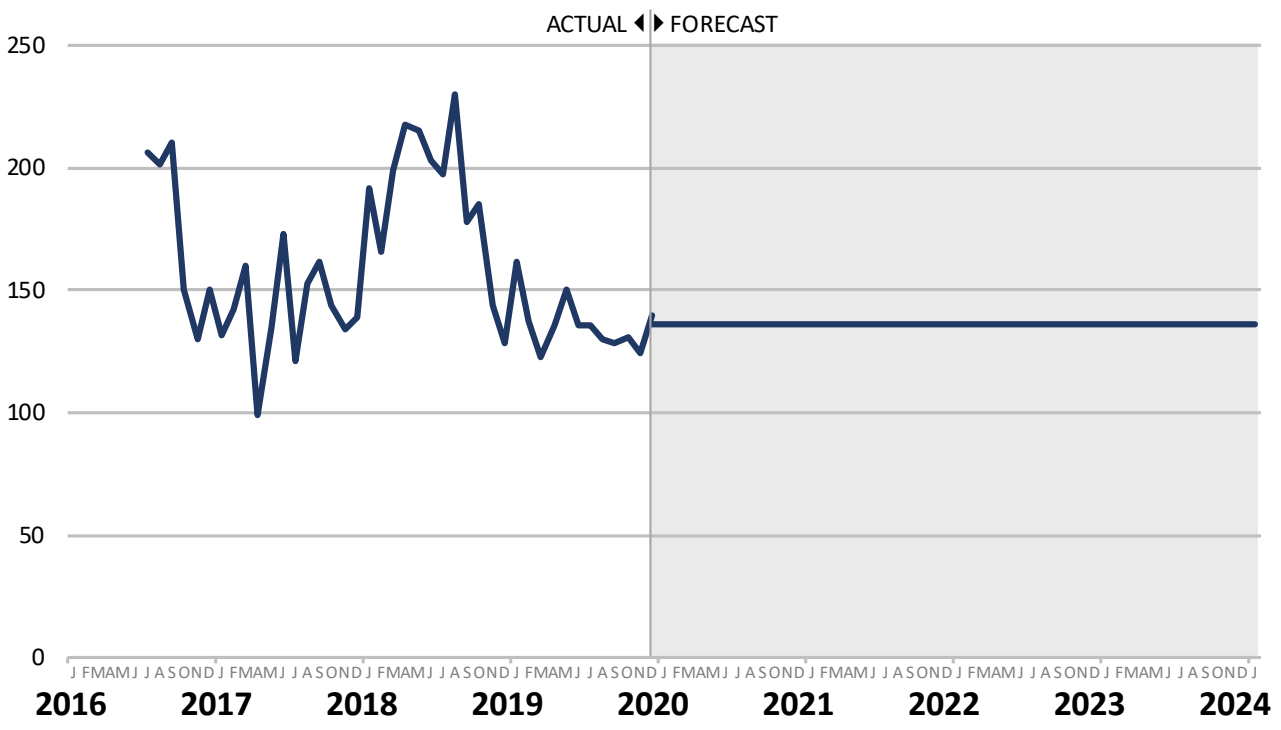


FIGURE 17.
90- and 180-Day SBC Admissions Forecast in ESH Catchment Area

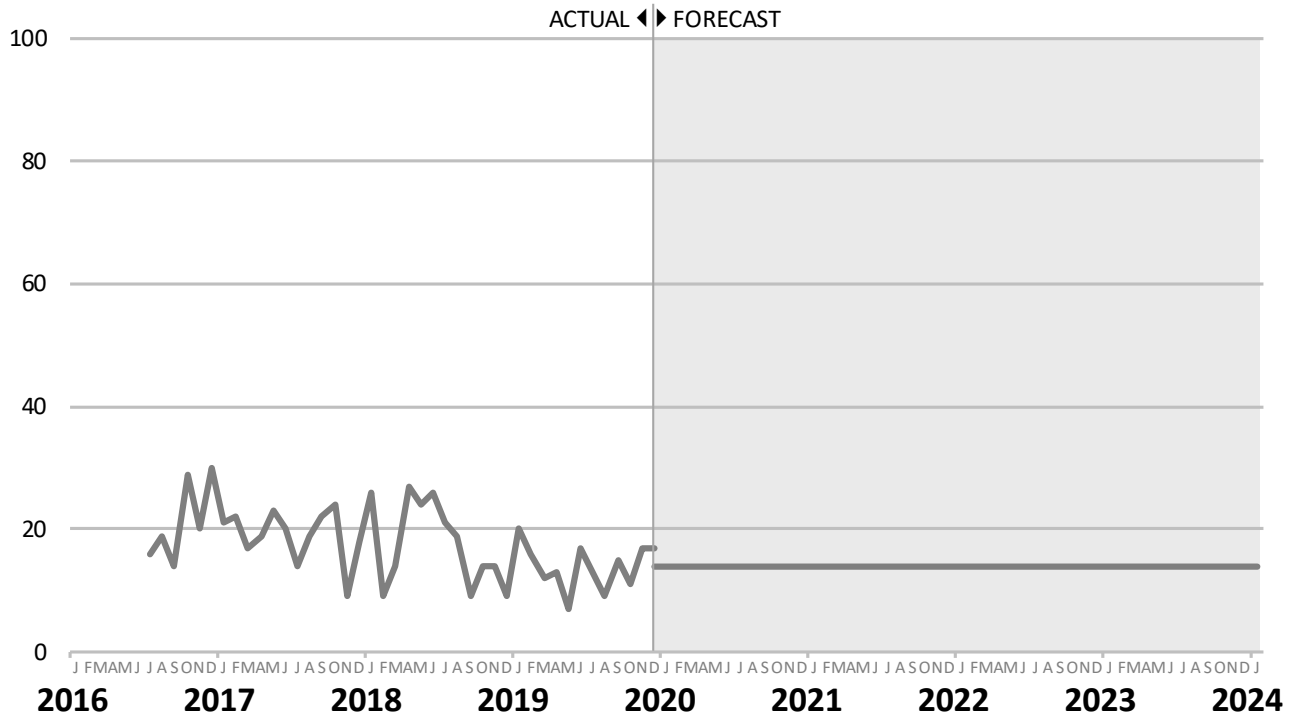


FIGURE 18.
HCA-Contracted Facilities 90- and 180-Day Civil Commitment Forecast

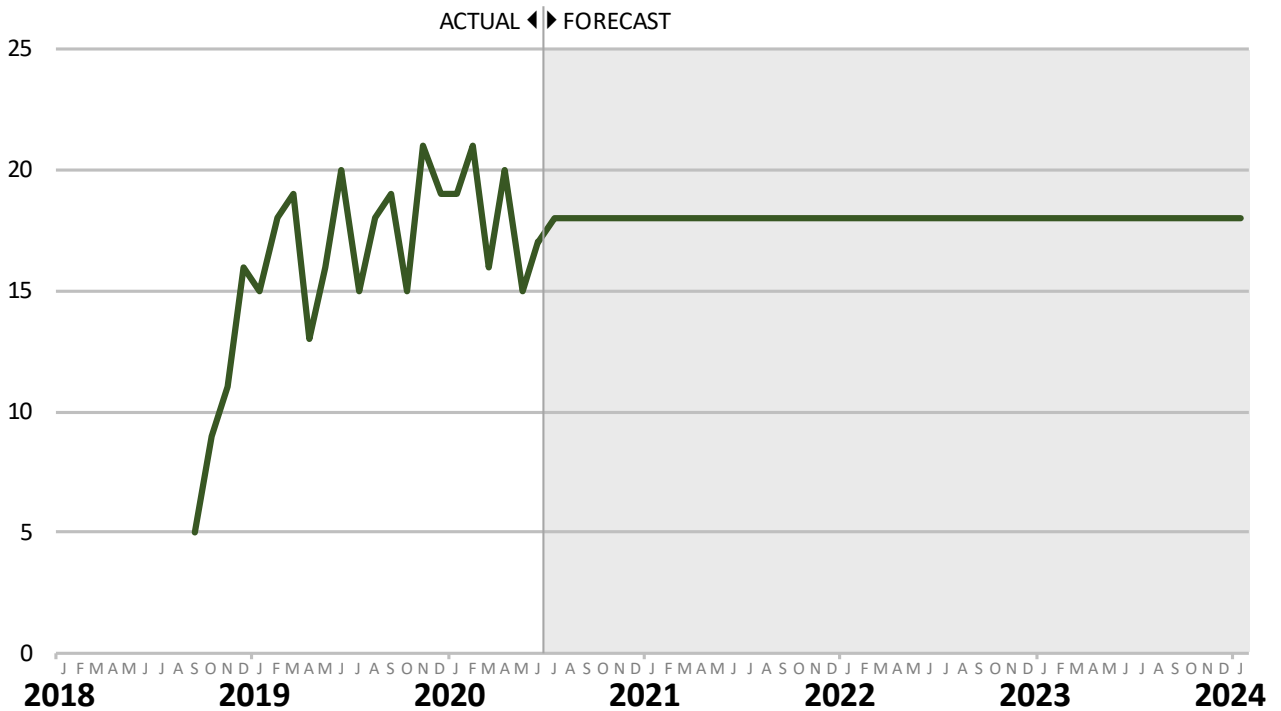


TABLE 7.

Civil Bed Need: Summary by Fiscal Year

NOTE: The civil bed need reflected in this table is an estimate of how many state hospital civil beds would be necessary to meet forecast long-term civil commitment need if the number of HCA-contracted beds (33 beds in CY 2019) were maintained at the CY 2019 levels.

SFY	Civil Conversion		90-/180-Day	
	Year End	SFY Average	Year End	SFY Average
2022	412	392	400	400
2023	456	436	400	400
2024	499	479	400	400
2025	543	523	400	400
2026	586	566	400	400
2027	630	610	400	400

TABLE 8.
Western State Hospital Civil Bed Need Model

	Legal Authority		
	WSH Civil Conversion	WSH 90/180	SBC 90/180
Median Length of Stay	209	262.3	12.0
Utilization Rate	85%	85%	100%
12/31/2019 Census Benchmark	214	209	
Civil Conversion Outlier Adjustment	150%		
Single-Bed Certification Utilization Substitution			80%

	Forecast Admissions			90/180 Bed Need Associated with Forecast Admissions						
	Civil Conv.	WSH 90/180	SBC 90/180	Civil Conv.	WSH 90/180	SBC 90/180		2020 WSH Forecast Civil Conv./90/180		
2020	JAN	21	14.6	136	252	246	43	2020	JAN	541
	FEB	21	14.6	136	255	246	43		FEB	544
	MAR	21	14.6	136	258	246	43		MAR	547
	APR	22	14.6	136	261	246	43		APR	550
	MAY	22	14.6	136	265	246	43		MAY	553
	JUN	22	14.6	136	268	246	43		JUN	557
	JUL	22	14.6	136	271	246	43		JUL	560
	AUG	23	14.6	136	274	246	43		AUG	563
	SEP	23	14.6	136	277	246	43		SEP	566
	OCT	23	14.6	136	281	246	43		OCT	570
	NOV	23	14.6	136	284	246	43		NOV	573
	DEC	24	14.6	136	287	246	43		DEC	576
2021	JAN	24	14.6	136	290	246	43	2021	JAN	579
	FEB	24	14.6	136	294	246	43		FEB	582
	MAR	24	14.6	136	297	246	43		MAR	586
	APR	25	14.6	136	300	246	43		APR	589
	MAY	25	14.6	136	303	246	43		MAY	592
	JUN	25	14.6	136	306	246	43		JUN	595
	JUL	26	14.6	136	310	246	43		JUL	598
	AUG	26	14.6	136	313	246	43		AUG	602
	SEP	26	14.6	136	316	246	43		SEP	605
	OCT	26	14.6	136	319	246	43		OCT	608
	NOV	27	14.6	136	323	246	43		NOV	611
	DEC	27	14.6	136	326	246	43		DEC	615
2022	JAN	27	14.6	136	329	246	43	2022	JAN	618
	FEB	27	14.6	136	332	246	43		FEB	621
	MAR	28	14.6	136	335	246	43		MAR	624
	APR	28	14.6	136	339	246	43		APR	627
	MAY	28	14.6	136	342	246	43		MAY	631
	JUN	28	14.6	136	345	246	43		JUN	634
	JUL	29	14.6	136	348	246	43		JUL	637
	AUG	29	14.6	136	351	246	43		AUG	640
	SEP	29	14.6	136	355	246	43		SEP	643
	OCT	30	14.6	136	358	246	43		OCT	647
	NOV	30	14.6	136	361	246	43		NOV	650
	DEC	30	14.6	136	364	246	43		DEC	653
2023	JAN	30	14.6	136	368	246	43	2023	JAN	656
	FEB	31	14.6	136	371	246	43		FEB	660
	MAR	31	14.6	136	374	246	43		MAR	663
	APR	31	14.6	136	377	246	43		APR	666
	MAY	31	14.6	136	380	246	43		MAY	669
	JUN	32	14.6	136	384	246	43		JUN	672

		Forecast Admissions			90/180 Bed Need Associated with Forecast Admissions					
		Civil Conv.	WSH 90/180	SBC 90/180	Civil Conv.	WSH 90/180	SBC 90/180		2020 WSH Forecast Civil Conv./90/180	
2024	JUL	32	14.6	136	387	246	43		JUL	676
	AUG	32	14.6	136	390	246	43		AUG	679
	SEP	32	14.6	136	393	246	43		SEP	682
	OCT	33	14.6	136	397	246	43		OCT	685
	NOV	33	14.6	136	400	246	43		NOV	689
	DEC	33	14.6	136	403	246	43		DEC	692
	JAN	33	14.6	136	406	246	43	2024	JAN	695
	FEB	34	14.6	136	409	246	43		FEB	698
	MAR	34	14.6	136	413	246	43		MAR	701
	APR	34	14.6	136	416	246	43		APR	705
	MAY	35	14.6	136	419	246	43		MAY	708
	JUN	35	14.6	136	422	246	43		JUN	711
JUL	35	14.6	136	425	246	43	JUL	714		
AUG	35	14.6	136	429	246	43	AUG	717		
SEP	36	14.6	136	432	246	43	SEP	721		
OCT	36	14.6	136	435	246	43	OCT	724		
NOV	36	14.6	136	438	246	43	NOV	727		
DEC	36	14.6	136	442	246	43	DEC	730		
2025	JAN	37	14.6	136	445	246	43	2025	JAN	734
	FEB	37	14.6	136	448	246	43		FEB	737
	MAR	37	14.6	136	451	246	43		MAR	740
	APR	37	14.6	136	454	246	43		APR	743
	MAY	38	14.6	136	458	246	43		MAY	746
	JUN	38	14.6	136	461	246	43		JUN	750
	JUL	38	14.6	136	464	246	43	JUL	753	
	AUG	39	14.6	136	467	246	43	AUG	756	
	SEP	39	14.6	136	470	246	43	SEP	759	
	OCT	39	14.6	136	474	246	43	OCT	762	
	NOV	39	14.6	136	477	246	43	NOV	766	
	DEC	40	14.6	136	480	246	43	DEC	769	
2026	JAN	40	14.6	136	483	246	43	2026	JAN	772
	FEB	40	14.6	136	487	246	43		FEB	775
	MAR	40	14.6	136	490	246	43		MAR	779
	APR	41	14.6	136	493	246	43		APR	782
	MAY	41	14.6	136	496	246	43		MAY	785
	JUN	41	14.6	136	499	246	43		JUN	788
	JUL	41	14.6	136	503	246	43	JUL	791	
	AUG	42	14.6	136	506	246	43	AUG	795	
	SEP	42	14.6	136	509	246	43	SEP	798	
	OCT	42	14.6	136	512	246	43	OCT	801	
	NOV	43	14.6	136	516	246	43	NOV	804	
	DEC	43	14.6	136	519	246	43	DEC	808	
2027	JAN	43	14.6	136	522	246	43	2027	JAN	811
	FEB	43	14.6	136	525	246	43		FEB	814
	MAR	44	14.6	136	528	246	43		MAR	817
	APR	44	14.6	136	532	246	43		APR	820
	MAY	44	14.6	136	535	246	43		MAY	824
	JUN	44	14.6	136	538	246	43		JUN	827

TABLE 9.
Eastern State Hospital Civil Bed Need Model

	Legal Authority		
	ESH Civil Conversion	ESH 90/180	SBC 90/180
Median Length of Stay	117	93.6	10
Utilization Rate	85%	85%	100%
12/31/2019 Census Benchmark	47	91	
Civil Conversion Outlier Adjustment	169%		
Single-Bed Certification Utilization Substitution			80%

		Forecast Admissions			90/180 Bed Need Associated with Forecast Admissions					
		Civil Conv.	ESH 90/180	SBC 90/180	Civil Conv.	ESH 90/180	SBC 90/180		2020 ESH Forecast Civil Conv./90/180	
2020	JAN	7.3	15.8	14	55	107	4	2020	JAN	166
	FEB	7.3	15.8	14	56	107	4		FEB	166
	MAR	7.4	15.8	14	56	107	4		MAR	167
	APR	7.4	15.8	14	57	107	4		APR	167
	MAY	7.5	15.8	14	57	107	4		MAY	168
	JUN	7.5	15.8	14	57	107	4		JUN	168
	JUL	7.6	15.8	14	58	107	4		JUL	168
	AUG	7.6	15.8	14	58	107	4		AUG	169
	SEP	7.7	15.8	14	59	107	4		SEP	169
	OCT	7.7	15.8	14	59	107	4		OCT	170
	NOV	7.8	15.8	14	59	107	4		NOV	170
	DEC	7.8	15.8	14	60	107	4		DEC	171
2021	JAN	7.9	15.8	14	60	107	4	2021	JAN	171
	FEB	8.0	15.8	14	61	107	4		FEB	171
	MAR	8.0	15.8	14	61	107	4		MAR	172
	APR	8.1	15.8	14	61	107	4		APR	172
	MAY	8.1	15.8	14	62	107	4		MAY	173
	JUN	8.2	15.8	14	62	107	4		JUN	173
	JUL	8.2	15.8	14	63	107	4		JUL	173
	AUG	8.3	15.8	14	63	107	4		AUG	174
	SEP	8.3	15.8	14	64	107	4		SEP	174
	OCT	8.4	15.8	14	64	107	4		OCT	175
	NOV	8.4	15.8	14	64	107	4		NOV	175
	DEC	8.5	15.8	14	65	107	4		DEC	175
2022	JAN	8.5	15.8	14	65	107	4	2022	JAN	176
	FEB	8.6	15.8	14	66	107	4		FEB	176
	MAR	8.7	15.8	14	66	107	4		MAR	177
	APR	8.7	15.8	14	66	107	4		APR	177
	MAY	8.8	15.8	14	67	107	4		MAY	178
	JUN	8.8	15.8	14	67	107	4		JUN	178
	JUL	8.9	15.8	14	68	107	4		JUL	178
	AUG	8.9	15.8	14	68	107	4		AUG	179
	SEP	9.0	15.8	14	68	107	4		SEP	179
	OCT	9.0	15.8	14	69	107	4		OCT	180
	NOV	9.1	15.8	14	69	107	4		NOV	180
	DEC	9.1	15.8	14	70	107	4		DEC	180
2023	JAN	9.2	15.8	14	70	107	4	2023	JAN	181
	FEB	9.3	15.8	14	71	107	4		FEB	181
	MAR	9.3	15.8	14	71	107	4		MAR	182
	APR	9.4	15.8	14	71	107	4		APR	182
	MAY	9.4	15.8	14	72	107	4		MAY	182
	JUN	9.5	15.8	14	72	107	4		JUN	183

		Forecast Admissions			90/180 Bed Need Associated with Forecast Admissions					
		Civil Conv.	ESH 90/180	SBC 90/180	Civil Conv.	ESH 90/180	SBC 90/180		2020 ESH Forecast Civil Conv./90/180	
2024	JUL	9.5	15.8	14	73	107	4		JUL	183
	AUG	9.6	15.8	14	73	107	4		AUG	184
	SEP	9.6	15.8	14	73	107	4		SEP	184
	OCT	9.7	15.8	14	74	107	4		OCT	185
	NOV	9.7	15.8	14	74	107	4		NOV	185
	DEC	9.8	15.8	14	75	107	4		DEC	185
	JAN	9.8	15.8	14	75	107	4	2024	JAN	186
	FEB	9.9	15.8	14	75	107	4		FEB	186
	MAR	10.0	15.8	14	76	107	4		MAR	187
	APR	10.0	15.8	14	76	107	4		APR	187
	MAY	10.1	15.8	14	77	107	4		MAY	187
	JUN	10.1	15.8	14	77	107	4		JUN	188
JUL	10.2	15.8	14	78	107	4	JUL	188		
AUG	10.2	15.8	14	78	107	4	AUG	189		
SEP	10.3	15.8	14	78	107	4	SEP	189		
OCT	10.3	15.8	14	79	107	4	OCT	189		
NOV	10.4	15.8	14	79	107	4	NOV	190		
DEC	10.4	15.8	14	80	107	4	DEC	190		
2025	JAN	10.5	15.8	14	80	107	4	2025	JAN	191
	FEB	10.5	15.8	14	80	107	4		FEB	191
	MAR	10.6	15.8	14	81	107	4		MAR	192
	APR	10.7	15.8	14	81	107	4		APR	192
	MAY	10.7	15.8	14	82	107	4		MAY	192
	JUN	10.8	15.8	14	82	107	4		JUN	193
	JUL	10.8	15.8	14	82	107	4	JUL	193	
	AUG	10.9	15.8	14	83	107	4	AUG	194	
	SEP	10.9	15.8	14	83	107	4	SEP	194	
	OCT	11.0	15.8	14	84	107	4	OCT	194	
	NOV	11.0	15.8	14	84	107	4	NOV	195	
	DEC	11.1	15.8	14	85	107	4	DEC	195	
2026	JAN	11.1	15.8	14	85	107	4	2026	JAN	196
	FEB	11.2	15.8	14	85	107	4		FEB	196
	MAR	11.2	15.8	14	86	107	4		MAR	196
	APR	11.3	15.8	14	86	107	4		APR	197
	MAY	11.4	15.8	14	87	107	4		MAY	197
	JUN	11.4	15.8	14	87	107	4		JUN	198
	JUL	11.5	15.8	14	87	107	4	JUL	198	
	AUG	11.5	15.8	14	88	107	4	AUG	199	
	SEP	11.6	15.8	14	88	107	4	SEP	199	
	OCT	11.6	15.8	14	89	107	4	OCT	199	
	NOV	11.7	15.8	14	89	107	4	NOV	200	
	DEC	11.7	15.8	14	89	107	4	DEC	200	
2027	JAN	11.8	15.8	14	90	107	4	2027	JAN	201
	FEB	11.8	15.8	14	90	107	4		FEB	201
	MAR	11.9	15.8	14	91	107	4		MAR	201
	APR	12.0	15.8	14	91	107	4		APR	202
	MAY	12.0	15.8	14	92	107	4		MAY	202
	JUN	12.1	15.8	14	92	107	4		JUN	203

Civil Bed Need Forecast Supplemental Data

This section contains additional data on service trends that provide context for interpreting LTCC bed need, including:

- Currently funded and planned long-term civil commitment (LTCC) bed counts;
- Daily census trends for State Hospitals and HCA-contracted long-term civil commitment (LTCC) settings;
- HCA-contracted LTCC admission and LOS trends;
- Use of HCA-contracted LTCC settings by persons previously discharged from SH settings;
- SBC utilization trends for both 90/180-day and shorter legal authorities;
- Analysis of the composition of the AL TSA HCS acute hospital referral list; and
- Trends in use of AL TSA community residential and in-home services among persons with schizophrenia and other psychotic disorders.

Table 10 reports currently funded and planned LTCC beds at the state hospitals and in community settings. The table reflects the planned draw down of LTCC beds at the WSH and the increase in funded community LTCC capacity in HCA-contracted settings. Also displayed are the LTCC beds anticipated in the new psychiatric hospital at the University of Washington, along with planned beds to be developed in Vancouver, Grand Mound, and the Tulalip Tribal Evaluation and Treatment facility. When comparing funded and planned LTCC investments with bed need projections in the previous section of this report, it is important to recognize that the tradeoff between LTCC beds drawn down at WSH and new community LTCC beds is not 1:1, due to the substantially shorter lengths of stay observed in the HCA-contracted community facilities.

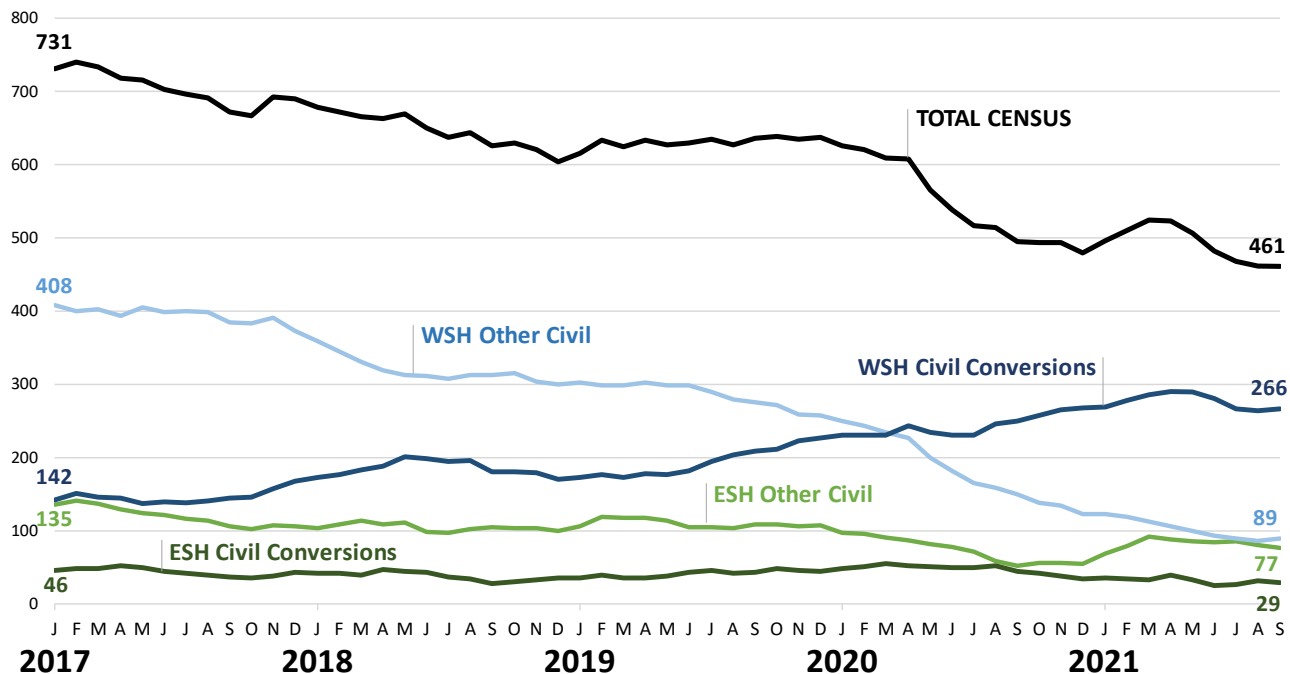
TABLE 10.
Funded and Planned Civil Bed Investments
 2021 Legislative Session: Net End of SFY Beds after Policy Level Step Calculation

	State Fiscal Year					
	2020	2021	2022	2023	2024	2025
Western State Hospital	467	437	374	287	232	174
Eastern State Hospital	192	192	192	192	192	192
HCA Long-Term Civil Commitment Beds	119	167	221	273	289	337
University of Washington	0	0	0	0	75	75
Grand Mound	0	0	0	16	16	16
Tulalip Tribal E&T	0	0	0	0	0	32
Vancouver (3 16-bed facilities)	0	0	0	48	48	48
TOTAL	778	796	787	816	852	874

NOTES: 1. Drawn from 21 Session Bed Model.Conference.xlsx.
 2. Beds reflect count at the end of the fiscal year.
 3. UW assumptions: 75 Long-Term / 75 Short-Term or Med Surge.

Figure 19 below displays a monthly snapshot of daily census trends at the state hospitals from January 2017 through September 2021. Counts reflect the daily census as of the first of the month, and are presented separately by hospital and for civil conversion and non-civil-conversion patient populations.

FIGURE 19.
State Hospital Civil Census Trends
 First-of-Month Snapshot from 1/1/2017 through 9/1/2021



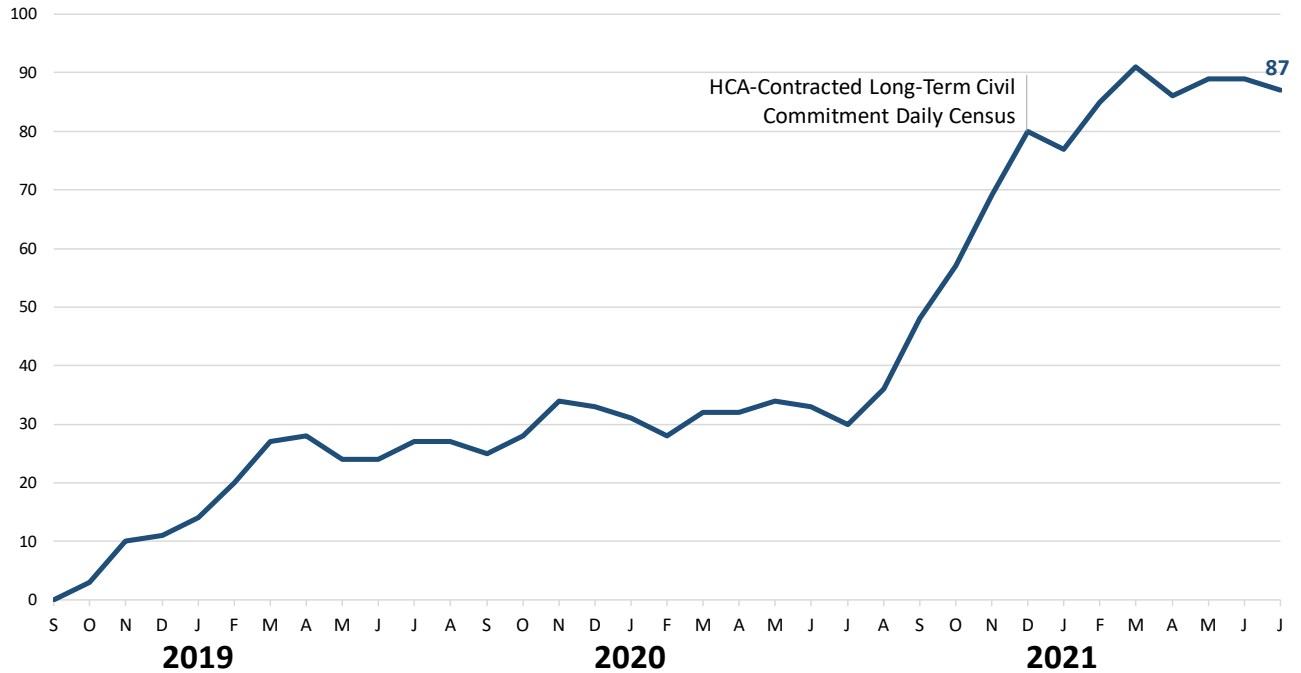
NOTES: Civil Census counts include in-residence patients. Excludes patients released on Authorized Leave or Medical Discharge. Civil Conversions are the number of in-residence civil patients who were converted from a forensic to a civil legal authority. SOURCE: DSHS Research and Data Analysis.

The combined civil census at the two state hospitals declined by 37 percent from January 2017 to September 2021. The WSH civil census, excluding civil-conversions, declined by 78 percent over this period. Over the same period, the WSH civil conversion population nearly doubled from 142 patients to 266 patients, increasing from 26 percent to 75 percent of the Western State Hospital civil census. Civil conversion patients now comprise about two-thirds (64 percent) of the combined civil census at the two state hospitals.

Figure 20 below displays a monthly snapshot of daily census trends in HCA-contracted LTCC settings from September 2017 through July 2021. Counts reflect the daily census as of the first of the month. Due to billing lags, data on the patient census at HCA-contracted LTCC settings takes somewhat longer to mature. The initial 33 HCA-contracted LTCC beds came online in the fall of 2018. In the second half of CY 2020, an additional 67 HCA contracted beds came online, bringing the total to 100 beds. An additional four HCA-contracted beds came online in July 2021, bringing the count of available beds to 104 as of October 2021.

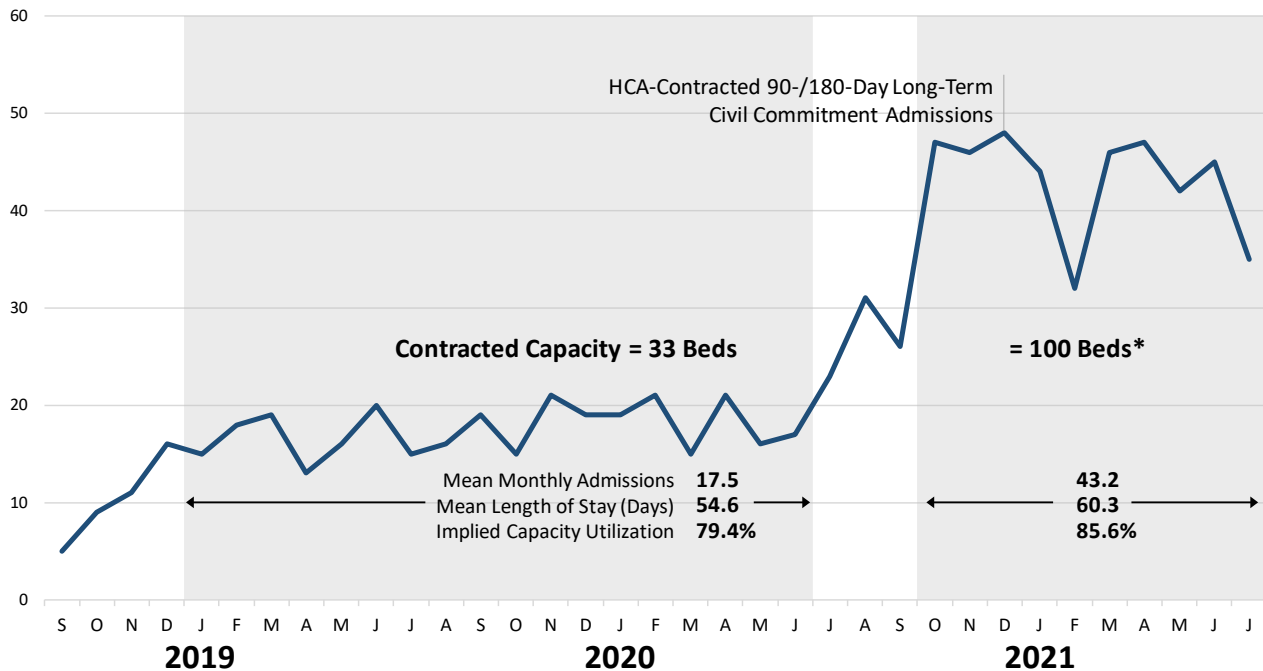
Figure 21 displays the monthly admissions associated with HCA-contracted LTCC beds, along with average LOS and capacity utilization at these facilities, highlighting the periods when contracted capacity was 33 beds and 100 beds. **Lengths of stay have been far shorter and admission volumes higher (with just 100 contracted beds) than observed for non-civil-conversion patients at the state hospitals in CY 2019.**

FIGURE 20.
HCA-Contracted Long-Term Civil Commitment (LTCC) Daily Census
 First Day of Month



NOTES: Based on admit and discharge dates for completed episodes and imputation from authorization data for admissions that have not yet discharged. SOURCE: DSHS Research and Data Analysis.

FIGURE 21.
HCA-Contracted 90-/180-Day Civil Commitment (LTCC) Admissions



*A contract for 4 beds with Comprehensive Healthcare in Yakima was executed on 7/9/21, bringing total bed count to 104. SOURCE: DSHS Research and Data Analysis.

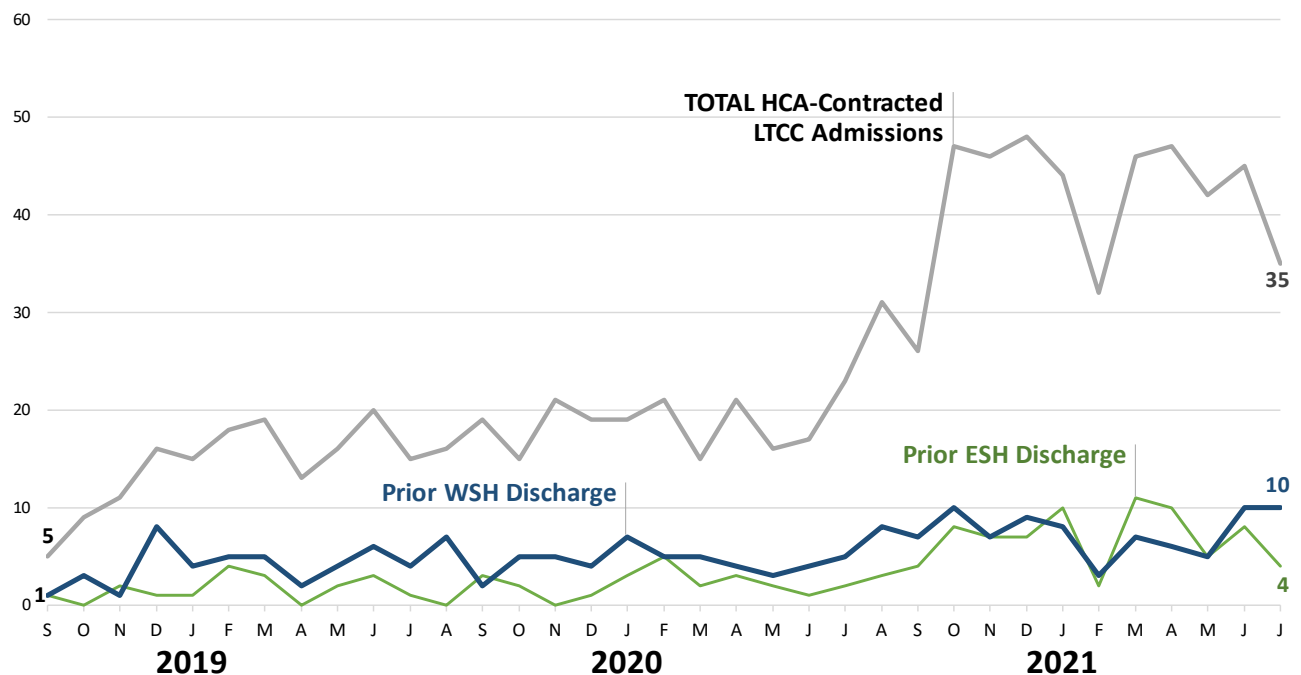
Table 11 below provides more detail regarding the average LOS observed in HCA-contracted facilities. Average (mean) LOS was about 55 days over the 18 months when the first 33 beds were operating at full capacity. Average LOS has drifted slightly higher to 60 days following the expansion to 100 beds. Average LOS at HCA-contracted facilities is expected to move higher as these facilities take on a larger share of the LTCC risk pool. Figure 22 shows the trend in the proportion of HCA-contracted LTCC admissions with a prior (past 5 year) history of a stay in a state hospital civil commitment setting. From their inception, a proportion of the patients served in HCA-contracted LTCC settings have had prior experience in a state hospital setting.

TABLE 11.
Observed and Projected Mean LOS HCA-Contracted LTCC Admissions

Phase	Time Period	Measurement			Mean LOS (Days)
		OBSERVED	IMPUTED	FORECAST*	
First 33 Beds	1/2019 - 6/2020	✓			54.6
Next 67 Beds	10/2020 - 7/2021		✓		63.1
All Initial 100 Beds	10/2020 - 7/2021	✓			60.3
273 Total Beds (Funded Through SFY 2023)	TBD			✓	76.1

*Based on linear projection to 273 beds of observed cumulative LOS slope from 33 to 100 beds.

FIGURE 22.
HCA-Contracted LTCC Admissions with Past 60-Month WSH/ESH Discharge



The next two figures describe trends in SBC admissions for 90/180-day legal authorities (Figure 23) and shorter legal authorities (Figure 24). SBC admission levels are trending up for shorter legal authorities, but drifting lower for 90/180-day SBCs.

FIGURE 23.

Monthly Single Bed Certification Admissions under 90-Day and 180-Day Legal Authorities

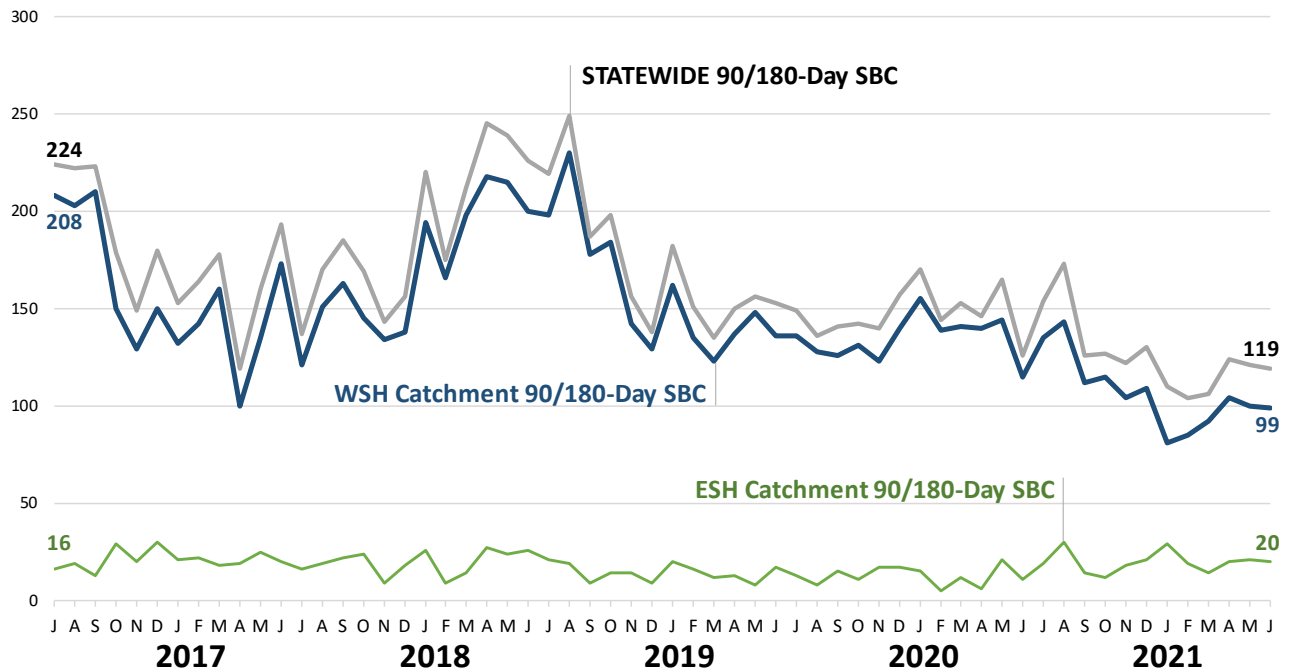
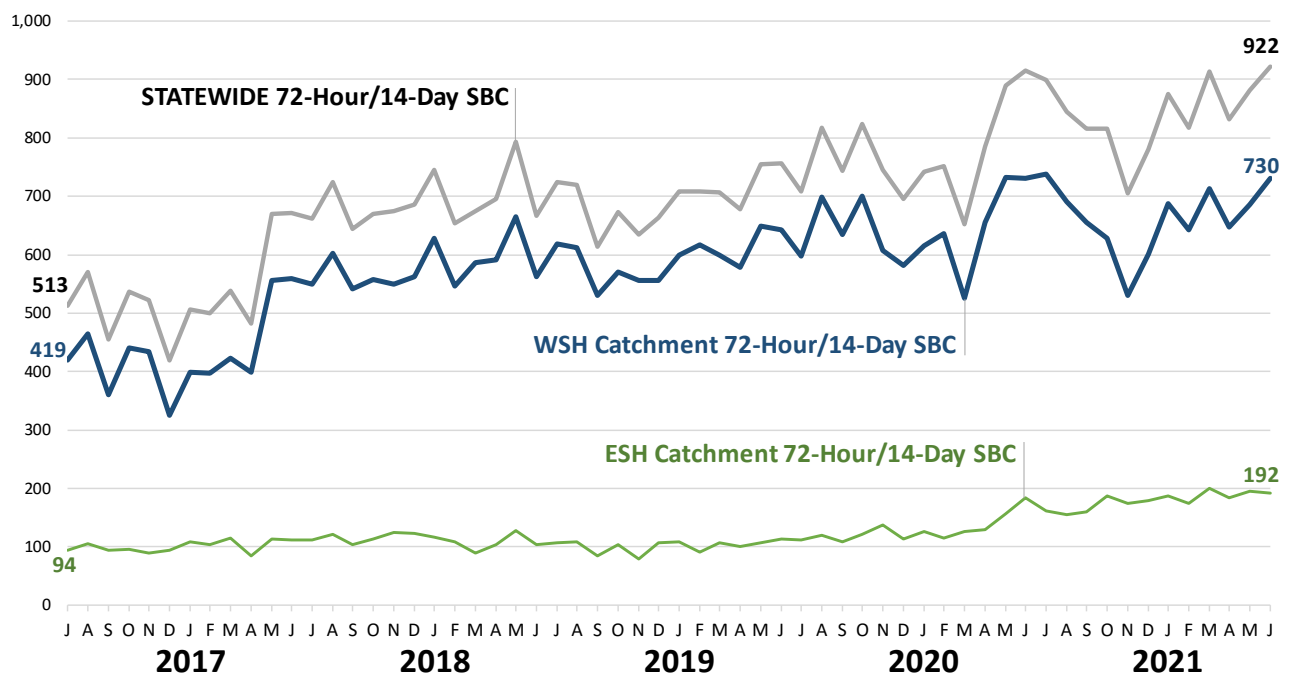


FIGURE 24.

Monthly Single Bed Certification Admissions under 72-Hour to 14-Day Legal Authorities



Analysis of ALTSA’s acute hospital referral list. Acute hospitals refer patients to ALTSA Home and Community Services (HCS) for potential discharge planning and placement support. In consultation with ALTSA HCS staff, we developed criteria to flag individuals in acute hospital settings who have been referred to ALTSA HCS who may be appropriate for a LTCC setting. The “LTCC indicator” criteria include the following three conditions:

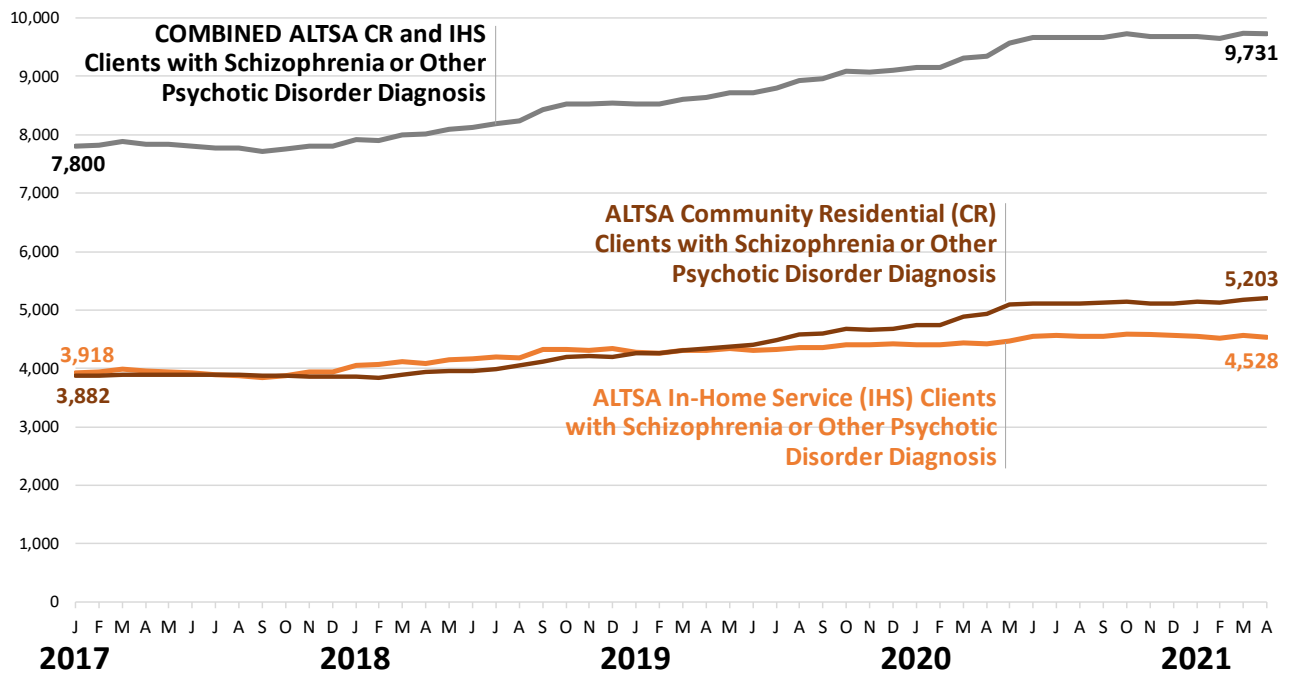
1. The patient is on an ITA or in psychiatric inpatient setting with a LOS in the acute hospital setting of greater than 14 days
2. The patient has continued in the hospital setting for at least 60 days since the original referral to HCS AND presents at least one of three discharge barriers:
 - i. “Significant behavioral health condition”, OR
 - ii. “Physical/medical restraint”, OR
 - iii. “Aggressive or inappropriate behaviors” AND (“Alzheimer's/dementia/encephalopathy with behaviors” OR “Traumatic brain injury”)
3. The patient meets all of the following 3 conditions:
 - a. LOS in the acute hospital setting is greater than 14 days AND
 - b. The patient has prior history of an ITA AND
 - c. The patient presents at least one of the following three discharge barriers:
 - i. “Significant behavioral health condition”, OR
 - ii. “Physical/medical restraint”, OR
 - iii. “Aggressive or inappropriate behaviors” AND (“Alzheimer's/dementia/encephalopathy with behaviors” OR “Traumatic brain injury”)

Of the 582 patients on the September 14, 2021 Acute Hospital Referral List, 61 patients met one or more of the “potentially appropriate for LTCC” criteria. Of these 61 patients, 40 met the first condition, 25 met the second condition, and 15 met the third condition. Of these 61 patients, 10 were in an HCA-contracted LTCC setting and four were on a 90-/180-day SBC as of September 14, 2021. We derived an identical count of 61 patients “potentially appropriate for LTCC” from the July 20, 2021 HCS acute hospital referral list. The earliest acute hospital referral list we received from ALTSA was for the week of January 12, 2021. From this first list, we identified 80 patients meeting one or more of the “potentially appropriate for LTCC” proxy criteria described above.

Based on these analyses, we conclude that trends in acute hospital referrals to ALTSA HCS do not present evidence of increasing unmet need for LTCC services. We note that ALTSA HCS staff report that, although patients on the acute hospital referral list who are potentially appropriate for an LTCC setting are not increasing in number, those on the list are presenting with increasingly complex support needs.

Figure 25 below presents data on the trend in the monthly caseload of persons in ALTSA home- and community-based service (HCBS) settings (i.e., community residential or in-home personal care settings) with a diagnosis of schizophrenia or other psychotic disorder. A 24-month lookback window was used to identify the presence of a qualifying diagnosis.

FIGURE 25.
Trend in Census of AL TSA HCBS Clients with Psychotic Disorder Diagnosis
 January 2017 through April 2021



The number of AL TSA Community Residential clients with a psychotic disorder diagnosis grew by 1,340 (35 percent) from January 2018 to April 2021. The number of AL TSA In-Home Service clients with a psychotic disorder diagnosis increased by 476 (12 percent) over the same time period. The total number of AL TSA HCBS clients with a psychotic disorder diagnosis in April 2021 was 9,731, an increase of 23 percent from the January 2018 level. These trends are consistent with a significant and increasing proportion of the population at risk of needing LTCC services being served in AL TSA HCBS settings.

We draw these inferences from the supplemental data presented in this section:

- Even at a capacity of just 100 beds, HCA-contracted LTCC settings are serving a large volume of monthly admissions in relation to the volume of non-CC civil admissions at the state hospitals prior to CY 2020. This is possible due to the lower lengths of stay observed in HCA-contracted facilities.
- SBC utilization trends and AL TSA HCS acute hospital referral list data do not show indications of increasing unmet need for LTCC beds. SBC data do show increasing admission volumes associated with shorter legal authorities.
- AL TSA HCBS settings – particularly community residential settings – are serving a significantly increased volume of clients with schizophrenia or related psychotic disorders since 2018. From supplemental analyses not presented here, there is evidence that receipt of AL TSA HCBS services is associated with significantly lower risk of subsequent psychiatric hospitalization for persons discharging from a LTCC setting.

Summary

Table 12 below summarizes civil and forensic bed need forecasts for June 2027. Accounting for beds allocated for WSH NGRI patients, the model projects that 630 total forensic beds are needed by June 2027 for forensic patients attributable to WSH, including the capacity reflected in the 60 beds currently operating in RTFs at Maple Lane and the Fort Steilacoom Competency Restoration Program on the grounds of WSH. We forecast that 220 total ESH forensic beds will be needed by June 2027 (including NGRI beds).

The forensic bed need model is sensitive to changes in inpatient competency evaluation and restoration referral trends. Given the risk of still-untapped growth in demand for inpatient evaluation and restoration services, potentially moderated by increasing investment in strategies to divert persons with behavioral health needs from the forensic mental health system, future forecasts of need for inpatient evaluation and restoration services should be understood to have a wide confidence margin.

TABLE 12.
Summary of Current Bed Capacity and Forecast Need in June 2027

Hospital	Type	Current Beds Capacity November 2021	Forecast Bed Need ⁹ June 2027
Eastern State Hospital	Forensic	175	220
Eastern State Hospital	Civil	162	203
Western State Hospital	Forensic	430 ¹⁰	630
Western State Hospital	Civil	417	827

The civil bed need models forecast that by June 2027 827 beds will be needed to meet the demand for civil inpatient services associated with WSH, and 203 beds will be needed to meet the demand for civil inpatient services associated with ESH. These forecasts include bed need associated with civil conversions and use of SBCs for 90/180-day civil commitments, in addition to 90- and 180-day civil admissions.

In addition to the required civil bed need forecast, we provided a series of supplemental analyses from which we drew the following inferences:

- Even at a capacity of just 100 beds, HCA-contracted LTCC settings are serving a large volume of monthly admissions in relation to the volume of non-CC civil admissions at the state hospitals prior to CY 2020. This is possible due to the lower lengths of stay observed in HCA-contracted facilities.

⁹ The civil bed need reflected in this table is an estimate of how many state hospital civil beds would be necessary to meet forecast long-term civil commitment need if the number of HCA-contracted beds (33 beds in CY 2019) were maintained at the CY 2019 levels.

¹⁰ Includes 60 RTF beds operating at Maple Lane and the Fort Steilacoom Competency Restoration Program on the grounds of WSH.

- SBC utilization trends and ALTSA HCS acute hospital referral list data do not show indications of increasing unmet need for LTCC beds. SBC data do show increasing admission volumes associated with shorter legal authorities.
- ALTSA HCBS settings – particularly community residential settings – are serving a significantly increased volume of clients with schizophrenia or related psychotic disorders. From supplemental analyses not presented here, there is evidence that receipt of ALTSA HCBS services is associated with significantly lower risk of subsequent psychiatric hospitalization for persons discharging from a LTCC setting.

In conclusion, we emphasize that the civil bed need forecast presented in this report starts from a baseline of the investments in place as of the end of CY 2019. This includes 33 HCA-contracted LTCC beds. We then modeled how many beds would be needed to maintain the footprint of HCA-contracted LTCC beds at 33, while meeting the remaining demand for LTCC beds in state hospital settings. If we were to model the number of beds needed in an alternative scenario where HCA-contracted facilities serve an increasing share of the LTCC population, the number of beds needed across both state hospital and HCA-contracted facilities would be lower than reported here, due to the shorter lengths of stay observed in HCA-contracted settings.