REPORT TO THE LEGISLATURE

State Psychiatric Hospital Forensic and Civil Bed Need Models

Engrossed Substitute House Bill 1109 (Chapter 415, Laws of 2019)

October 1, 2019

Contents

Executive Summary

Engrossed Substitute House Bill 1109 (Chapter 415, Laws of 2019) directed the Department of Social and Health Services (the Department) 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 criminal 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 to a state hospital or community inpatient setting for a 72-hour evaluation 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.

Table 1 below reports the distribution of beds across civil and forensic patient populations at Eastern and Western State Hospitals, including 54 competency restoration beds associated with WSH in Residential Treatment Facilities (RTFs) at Yakima and Maple Lane. NGRI beds are included in the forensic counts. Note the WSH civil bed count reflects the conversion of 60 beds to forensic RTF capacity in August 2019.

TABLE 1.
Summary of Current Bed Capacity and Forecast Need in June 2027

Hospital	Type	Current Beds Capacity August 2019	Forecast Bed Need June 2027
Eastern State Hospital	Forensic	125	281
Eastern State Hospital	Civil	192	206
Western State Hospital	Forensic	414[1]	582
Western State Hospital	Civil	467[2]	796

Including beds allocated for NGRI patients, we forecast that 582 total forensic beds are needed by June 2027 for forensic patients attributable to WSH, including the capacity reflected in the 54 beds currently operating at Yakima and Maple Lane. We forecast that 281 total ESH forensic beds will be needed by June 2027 (including NGRI beds).

The forensic bed need models are based on:

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[1] Includes the 54 RTF beds currently operating at Yakima and Maple Lane and 30 recently established RTF beds at the Fort Steilacoom Competency Restoration Program on the grounds of WSH, scheduled to be fully operational in the fall of 2019.
[2] Reflects 60 beds taken off line in August 2019 at WSH for conversion to forensic capacity.

- Current bed capacity as of August 2019;
- Forecasts of monthly inpatient evaluation and restoration referrals based on time series models applied to referral data through July 2019;
- Estimates of length of stay (LOS) by hospital by legal authority group (LAG), based on CY 2017 patient experience;
- Estimates of 90 percent capacity utilization (proportion of beds occupied); and
- Current wait lists for forensic beds as of August 1, 2019.

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 members[3] 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 health system, future forecasts of need for inpatient evaluation and restoration services should be understood to have a wide confidence margin.

Civil bed need forecasts are based on the following parameters and assumptions:

- Baseline utilization data reflects average daily census in SFY 2019, after accounting for single-bed certification (SBC) utilization and wait lists;
- The geropsychiatric share of bed utilization is estimated based on September 2018 utilization experience for ESH, and the August 31st, 2018 census for WSH;
- Daily census growth factors are derived from OFM's 2017 Growth Management Population Projections for counties in each hospital's catchment area;
- Translation of daily census levels (utilization) to bed need assumes a 90 percent capacity utilization rate at WSH and an 85 percent utilization rate at ESH; and
- Estimates assume no change to currently observed average lengths of stay.

The civil bed need models forecast that, by SFY 2027, 796 beds will be needed to meet the demand for civil inpatient services associated with WSH, and 206 beds will be needed to meet the demand for civil inpatient services associated with ESH. As noted above, these forecasts include bed need associated with use of SBCs, in addition to use of civil beds at the state hospitals.[4] We also note that these forecasts include the capacity necessary to care for patients currently in a state hospital who may be ready for discharge to a lower level of care.

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[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.

[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 criminal 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 to a state hospital or community inpatient setting for a 72-hour evaluation 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.

Engrossed Substitute House Bill (ESHB) 1109 (Chapter 415, Laws of 2019) 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. ESHB 1109 directed that the bed need models 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.

ESHB 1109 also directed 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 a quarterly basis 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
Trueblood Settlement Implementation Competency Process

CHARGES FILED
and competency to stand trial is in question

TIME LIMIT waiting in Jail
• *State Hospital, 7 days*
• *Jail, within 14 days*

COURT ORDER
Competency
Evaluation

JAIL — *Trueblood class member*

Competency Evaluation

Community

Competent? — YES — **TRIAL**

NO

Law Change for Misdemeanors (ESSB 5444):
• If an individual charged with a misdemeanor is found not competent, the charges will be dismissed unless the prosecutor proves there is a compelling state interest in pursuing restoration.

TIME LIMIT waiting in Jail
• *State Hospital, 7 days*

COURT ORDER
Competency
Restoration

JAIL — *Trueblood class member*

Community

NOT Trueblood class member

JAIL

Community

Either:

Inpatient Competency Restoration

OR

Multiple competency restoration periods may be imposed

Outpatient (Community-Based) Competency Restoration

Successful Completion?

YES

NO

Civil Commitment/Other
If outpatient, could be transferred to inpatient

In April 2015, a federal court found in the case of Trueblood v 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 competency restoration 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
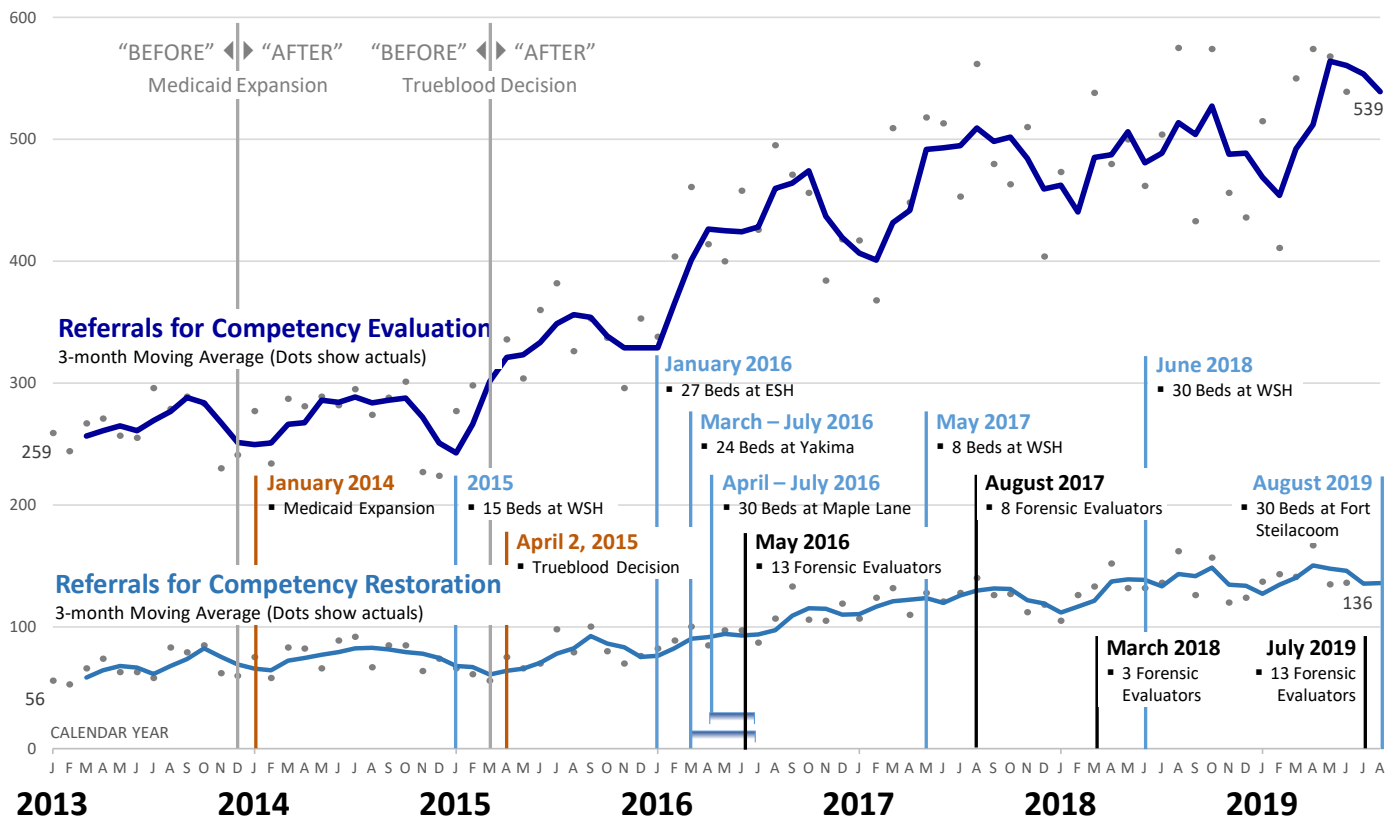
NOTES: 1. Total Competency evaluation referrals includes jail, inpatients, and personal recognizance (PR) based competency evaluations. The data also includes Pierce County Evaluation Panel data from January 2016 to July 2019. **2.** Total Competency restoration referrals includes inpatient admissions to state hospitals and other competency restorations facilities.

DATA SOURCE: Total Competency restoration referrals includes inpatient admissions to state hospitals and other competency restorations facilities, September 2019.

Following the Trueblood decision, referrals for competency evaluation and restoration surged. Through mid-2019, year-over-year increases in forensic referrals were still significant. 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.

Meanwhile, Medicaid Expansion 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 very recently) enrolled in Medicaid <u>and</u> have a mental illness and/or substance use disorder identified in their recent Medicaid service experience (58 percent as of July 2019).

FIGURE 3.
Trend in Arrests and Competency Evaluation/Restoration Referrals
Washington State
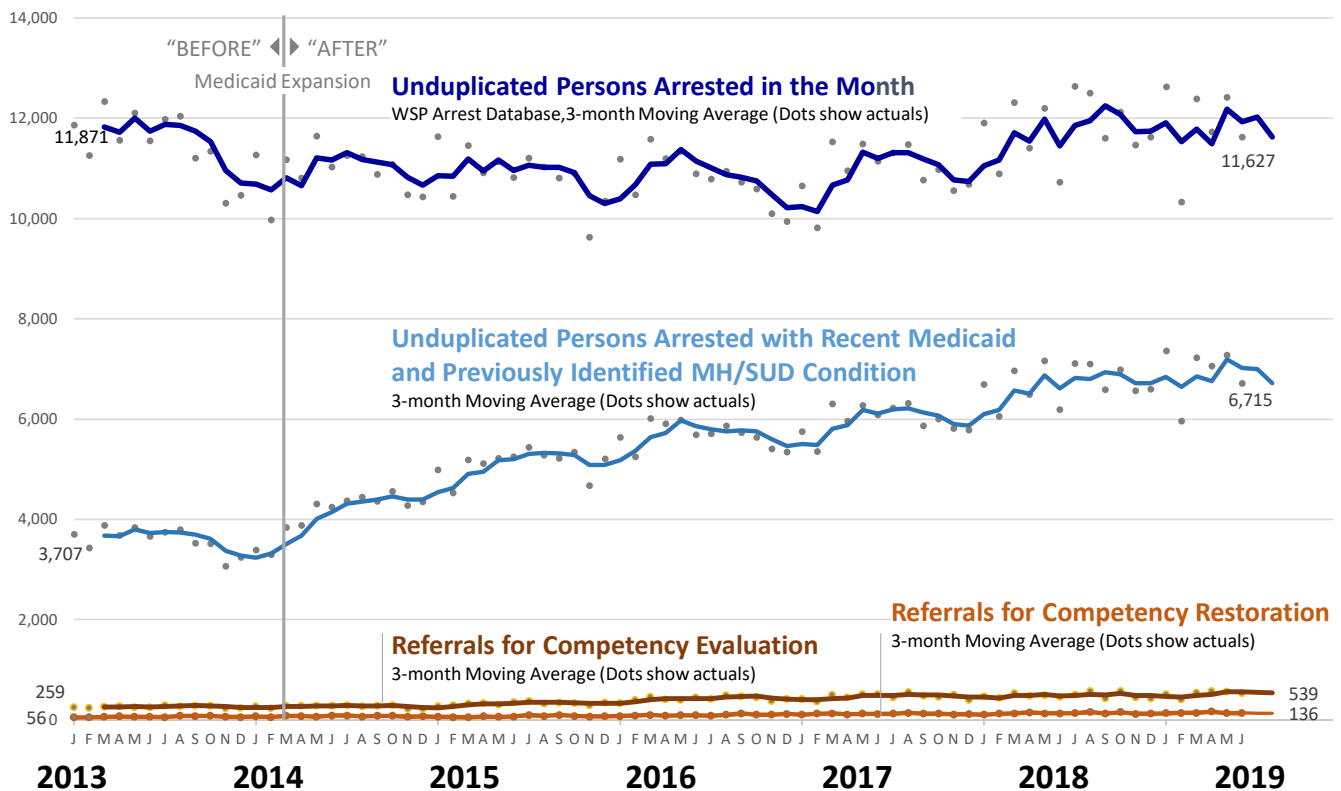
NOTES: **1.** Total Competency evaluation referrals includes jail, inpatients, and personal recognizance (PR) based competency evaluations. The data also includes Pierce County Evaluation Panel data from January 2016 to July 2019. **2.** Total Competency restoration referrals includes inpatient admissions to state hospitals and other competency restorations facilities. **3.** Behavioral health need identified within the past 24 months.

DATA SOURCES: DSHS Research and Data Analysis Division, Client Outcomes Database and Washington State Patrol Arrest Database. Total Competency restoration referrals includes inpatient admissions to state hospitals and other competency restorations facilities, September 2019.

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 August 2019, 330 forensic beds were available at WSH and 125 beds were available at ESH, including beds for competency evaluation, competency restoration, and NGRI patients. An additional 54 competency restoration beds associated with WSH were available at Residential Treatment Facilities (RTFs) at Yakima and Maple Lane, and an additional 30 RTF beds have been established on the campus of WSH.

Over the past three years, use of WSH forensic beds for NGRI patients has been relatively stable in the 160 to 170 daily bed census range. As of August 1st, 2019 the WSH NGRI bed census was 168 patients, up slightly from 165 patients per day in September 2018 noted in our 2018 report. We maintain our long-term forecast of NGRI-related bed need for WSH through June 2027 at 183 beds. This is equivalent to assuming the WSH NGRI daily census would increase by about two patients per year. This leaves 147 beds of the current capacity available to provide inpatient competency evaluation and restoration services. Combined with the 84 competency restoration beds at WSH and the Yakima and Maple Lane RTFs, this puts the "baseline" competency evaluation/restoration capacity associated with WSH at 231 beds.

As of August 1st, 2019 the ESH NGRI bed census was 68 patients. We assume an NGRI-related need of 72 beds for ESH through June 2027.

Inpatient Competency Evaluation and Restoration Referral Trends

We apply exponential smoothing time series models to the last three years of monthly inpatient competency evaluation and restoration referral data. Applying this approach in future forecast cycles would tend to pick up any dampening of referral growth rates, should such a pattern begin to be observed in future monthly referral data.

For WSH we were able to obtain time series data for referrals by legal authority group (LAG) over the full historical time period used for forecasting. For ESH, referral data by LAG was available from August 2018 forward, and the ESH model applies the distribution of referrals by LAG observed from August 2018 to July 2019 to the forecast of total referral volume derived from data spanning the 36-month period from August 2016 to July 2019. Figures 4 through 9 illustrate forecast inpatient competency evaluation and restoration referral trends that feed into the forensic bed need model.

FIGURE 4.
Monthly Inpatient Referrals: WSH Forensic Group A

GROUP A: Felony Competency Restorations for 1st 90 days, 2nd 90 days, and 180 days[5]
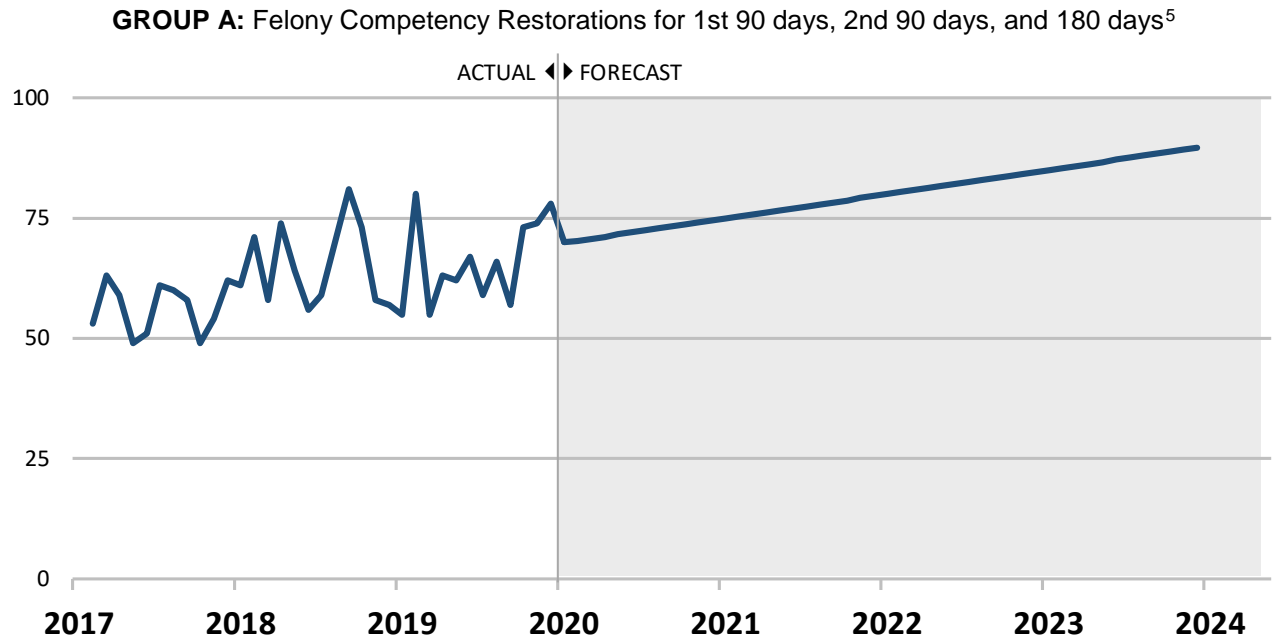
FIGURE 5.
Monthly Inpatient Referrals: WSH Forensic Group B

GROUP B: Felony Restorations (45 days)

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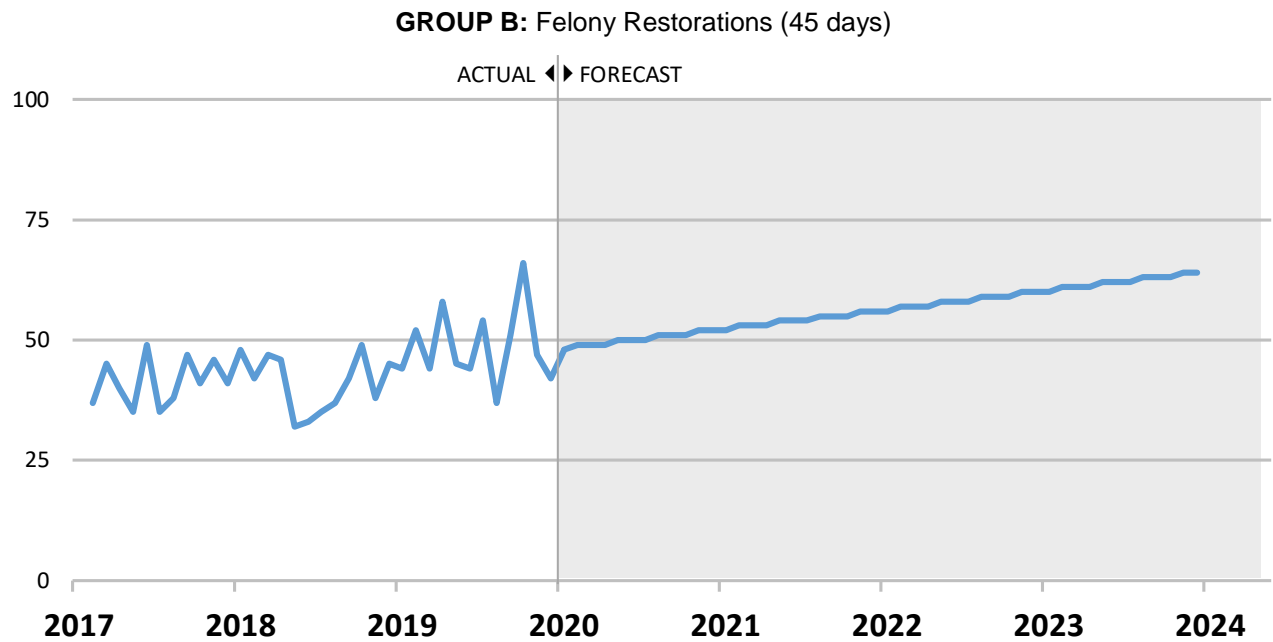
[5] Includes a small number of patients in other legal authority groups with similar expected lengths of stay.

FIGURE 6.
Monthly Inpatient Referrals: WSH Forensic Group C

GROUP C: Misdemeanor Competency Evaluation.
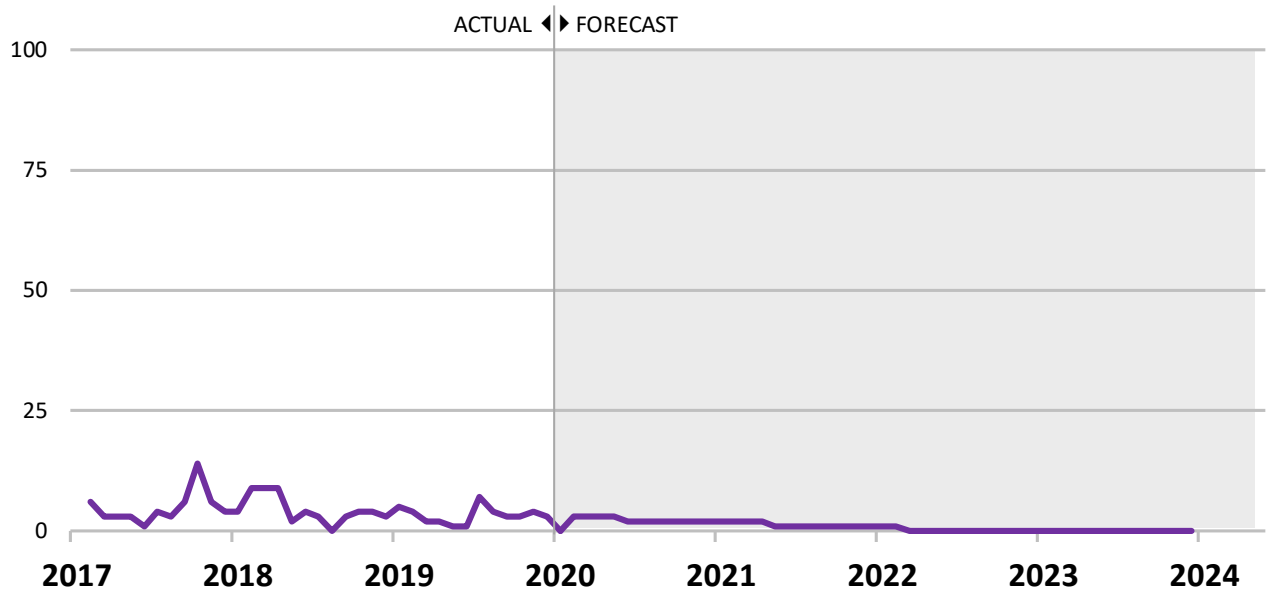
FIGURE 7.
Monthly Inpatient Referrals: WSH Forensic Group D

GROUP D: Misdemeanor Restorations.
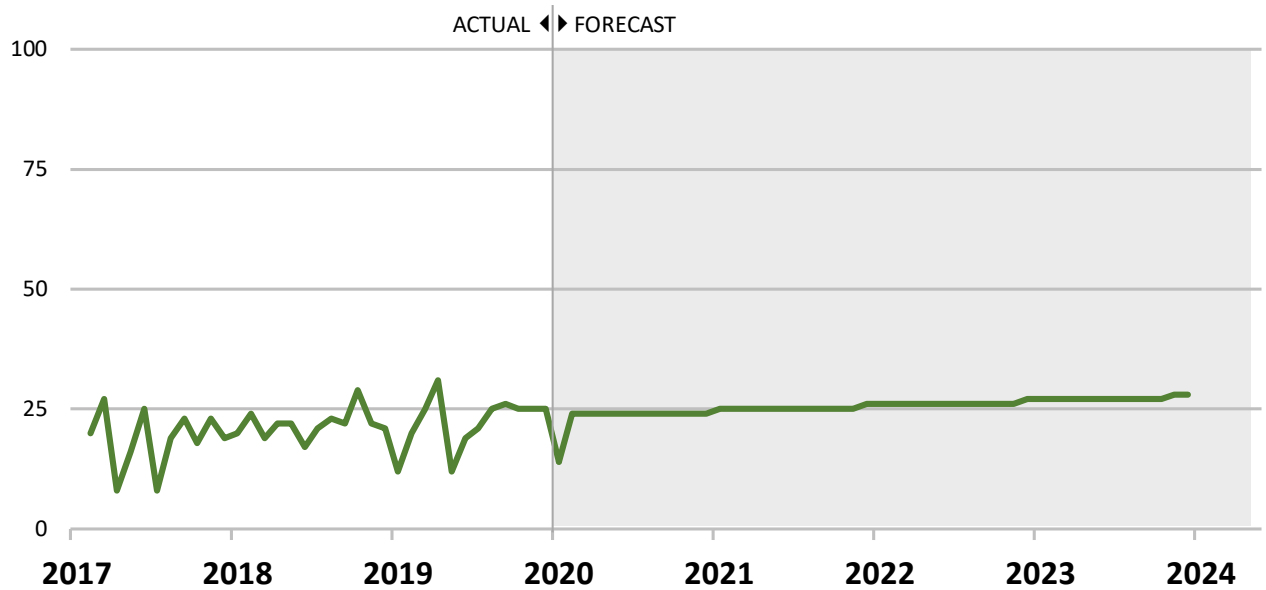
FIGURE 8.
Monthly Inpatient Referrals: WSH Forensic Group E

GROUP E: Felony Competency Evaluations.
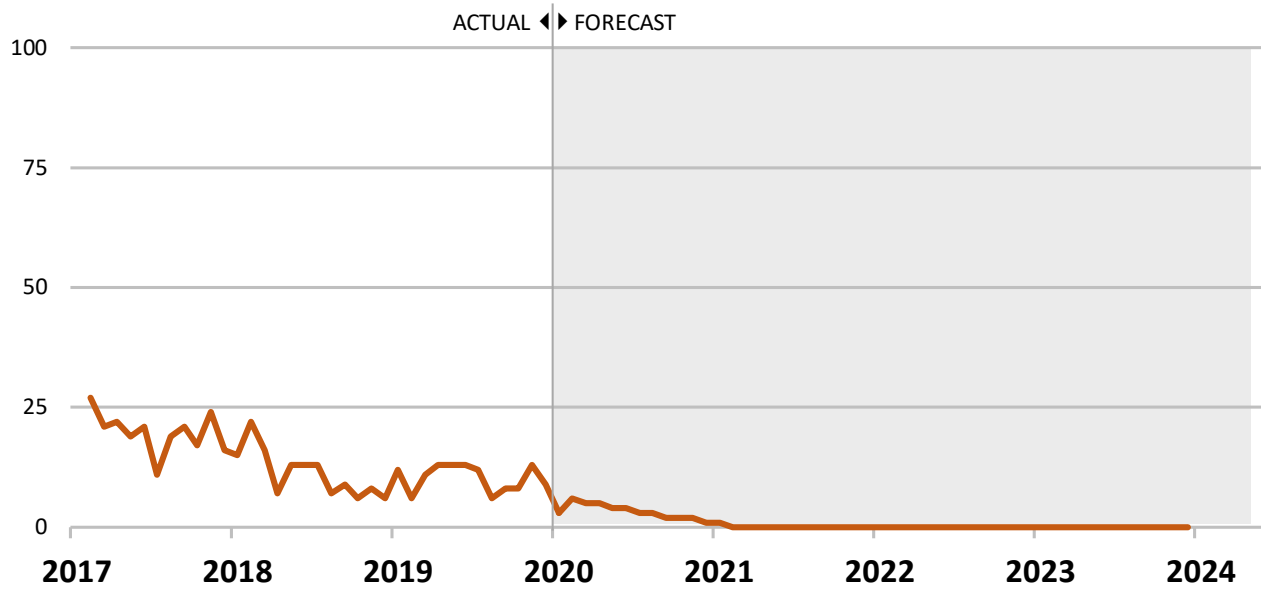
FIGURE 9.
Monthly Inpatient Referrals: ESH Forensic Inpatient Restoration and Evaluation
(combined)
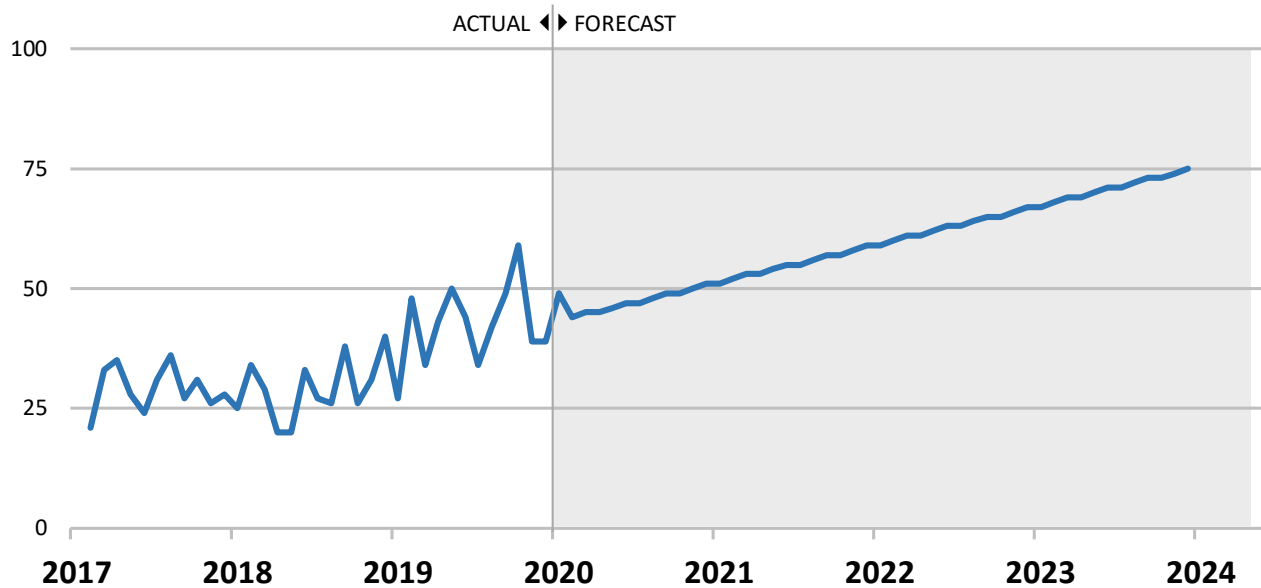
Forensic Length of Stay

We estimated average length of stay by legal authority group, by hospital, and by time period (Tables 2 and 3). Annual estimates are based on the admissions occurring in the reported year, applying Kaplan-Meier duration models to account for censoring of discharge dates for admissions not yet resulting in a discharge by the end of the measurement period. Our bed need model uses estimates for CY 2017.

TABLE 2.
Average and Median Length of Stay (Days)
By Legal Authority Group, Excludes Not Guilty by Reason of Insanity

WESTERN STATE HOSPITAL

	2015		2016		2017	
	MEAN	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN
GROUP A	57	60	60	62	65	71
GROUP B	38	42	39	42	39	42
GROUP C	12	14	13	14	13	14
GROUP D	21	24	20	18	21	22
GROUP E	8	6	13	14	13	14

WESTERN STATE HOSPITAL LEGAL AUTHORITY GROUP REFERENCE

GROUP A: Felony Competency Restorations for 1st 90 days, 2nd 90 days, and 180 days
GROUP B: Felony Competency Restorations for 45 days
GROUP C: Misdemeanor Competency Evaluation
GROUP D: Misdemeanor Competency Restorations
GROUP E: Felony Competency Evaluations

TABLE 3.
Average and Median Length of Stay (Days)
By Legal Authority Group

EASTERN STATE HOSPITAL

	2015		2016		2017	
	MEAN	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN
GROUP 6	46	25	104	53	63	28
GROUP I	104	55	77	21	84	21
GROUP G	451	399	612	693	422	437
GROUP Q	121	78	136	78	108	69

EASTERN STATE HOSPITAL LEGAL AUTHORITY GROUP REFERENCE

GROUP 6: Misdemeanor Competency Restorations
GROUP I: Competency Evaluation
GROUP G: Not Guilty by Reason of Insanity
GROUP Q: Felony Competency Restorations

Forensic Capacity Utilization

Analysis published in last year's report continue to inform our capacity utilization assumptions. We calculated daily capacity utilization rates by hospital by ward type over the six most current months of actuals available at the time of publication. Utilization rates reflect the ratio of the daily patient census to the number of available beds. Over the two-year period analyzed for our 2018 report, utilization rates for WSH forensic admission wards averaged 86.7 percent and utilization rates for WSH forensic treatment wards (restoration and NGRI) averaged 98.3 percent. At ESH, utilization rates ranged from 89.7 percent for forensic admission wards to 91.5 percent in forensic treatment wards (restoration and NGRI). For both hospitals, the forensic bed need model assumes the optimal evaluation and restoration bed utilization rate would be 90 percent.

Forensic Wait Lists

As of August 1st, 2019, wait lists at the two hospitals were as reported in Table 4 below. We applied observed LOS data for CY 2017 by legal authority group to estimate the number of bed days required to clear the current waiting list.

TABLE 4.
Inpatient Forensic Wait Lists as of 8/1/2019

WESTERN STATE HOSPITAL	
GROUP A: Felony Competency Restorations for 1st 90 days, 2nd 90 days, and 180 days	71
GROUP B: Felony Competency Restorations for 45 days	142
GROUP C: Misdemeanor Competency Evaluation	8
GROUP D: Misdemeanor Competency Restorations	74
GROUP E: Felony Competency Evaluations	13
WSH Total	**308**

EASTERN STATE HOSPITAL	
GROUP 6: Misdemeanor Competency Restorations	2
GROUP I: Competency Evaluation	18
GROUP G: Not Guilty by Reason of Insanity	0
GROUP Q: Felony Competency Restorations	45
ESH Total	**65**

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 5 and detail Tables 5A and 5B), and (2) the time-limited capacity needed to eliminate current wait lists (Table 6). The models apply the observed CY 2017 LOS (by legal authority group) to forecast referrals (Tables 5A and 5B) or current wait list volume (Table 6), assuming a 90 percent capacity utilization rate. The forecast bed need for a given month in Tables 5A and 5B 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 allowable standards for Trueblood

class members[6] 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, 582 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 54 RTF beds at Yakima and Maple Lane. Additional time-limited capacity is needed to clear the existing wait list, and we forecast 36 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 6). The ESH model forecasts that 281 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 5). The additional bed capacity necessary to clear the current ESH waiting within 12 months is 11 beds (Table 6).

As directed by budget proviso, DSHS has implemented a quarterly 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 through the first four quarterly forecast cycles. We note that the WSH forensic forecast has tended to be quite stable through the first year of operation, and is now slightly higher than originally forecast in our 2018 report. In contrast, the bed need forecast for ESH has risen significantly, reflecting the surge in referrals since our original report as illustrated in Figure 9 on page 10.

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 5.
Forensic Bed Need: Summary by Fiscal Year
Excludes time-limited capacity needed to clear current wait lists

SFY	Western State Hospital		Eastern State Hospital	
	Year End	SFY Average	Year End	SFY Average
2020	454	446	171	165
2021	471	463	187	180
2022	490	481	203	196
2023	508	500	218	211
2024	527	518	234	227
2025	545	537	250	243
2026	564	555	266	258
2027	582	574	281	274

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[6] 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.

TABLE 5A
Western State Hospital Forensic Bed Need Model

		Forecast Referrals					Bed Need Associated with Forecast Referrals						NGRI	TOTAL
		LEGAL AUTHORITY GROUP					LEGAL AUTHORITY GROUP							
		A	B	C	D	E	A	B	C	D	E	Subtotal	Bed Need	AUG 2019 Forecast
2019	AUG	70	49	3	24	6	167	69	1	18	3	258	183	441
	SEP	71	49	3	24	5	168	70	1	18	2	259	183	442
	OCT	71	49	3	24	5	169	70	1	18	2	261	183	444
	NOV	72	50	3	24	4	170	71	1	18	2	262	183	445
	DEC	72	50	2	24	4	171	71	1	18	2	263	183	446
2020	JAN	72	50	2	24	3	172	72	1	18	2	264	183	447
	FEB	73	51	2	24	3	173	72	1	19	1	266	183	449
	MAR	73	51	2	24	2	174	72	1	19	1	267	183	450
	APR	74	51	2	24	2	175	73	1	19	1	268	183	451
	MAY	74	52	2	24	2	176	73	1	19	1	270	183	453
	JUN	75	52	2	24	1	177	74	1	19	1	271	183	454
	JUL	75	52	2	25	1	178	74	1	19	0	272	183	455
	AUG	75	53	2	25	0	179	75	1	19	0	274	183	457
	SEP	76	53	2	25	0	180	75	1	19	0	275	183	458
	OCT	76	53	2	25	0	181	76	1	19	0	276	183	459
	NOV	77	54	1	25	0	182	76	1	19	0	278	183	461
	DEC	77	54	1	25	0	183	77	1	19	0	279	183	462
2021	JAN	77	54	1	25	0	184	77	1	19	0	281	183	464
	FEB	78	55	1	25	0	185	78	1	19	0	282	183	465
	MAR	78	55	1	25	0	186	78	0	19	0	284	183	467
	APR	79	55	1	25	0	187	79	0	19	0	285	183	468
	MAY	79	56	1	25	0	188	79	0	20	0	287	183	470
	JUN	80	56	1	26	0	189	80	0	20	0	288	183	471
	JUL	80	56	1	26	0	190	80	0	20	0	290	183	473
	AUG	80	57	1	26	0	191	81	0	20	0	291	183	474
	SEP	81	57	0	26	0	192	81	0	20	0	293	183	476
	OCT	81	57	0	26	0	193	82	0	20	0	294	183	477
	NOV	82	58	0	26	0	194	82	0	20	0	296	183	479
	DEC	82	58	0	26	0	195	83	0	20	0	297	183	480
2022	JAN	82	58	0	26	0	196	83	0	20	0	299	183	482
	FEB	83	59	0	26	0	197	84	0	20	0	300	183	483
	MAR	83	59	0	26	0	198	84	0	20	0	302	183	485
	APR	84	59	0	26	0	199	85	0	20	0	303	183	486
	MAY	84	60	0	26	0	200	85	0	20	0	305	183	488
	JUN	85	60	0	27	0	201	86	0	20	0	307	183	490
	JUL	85	60	0	27	0	202	86	0	20	0	308	183	491
	AUG	85	61	0	27	0	203	86	0	21	0	310	183	493
	SEP	86	61	0	27	0	204	87	0	21	0	311	183	494
	OCT	86	61	0	27	0	205	87	0	21	0	313	183	496
	NOV	87	62	0	27	0	206	88	0	21	0	314	183	497
	DEC	87	62	0	27	0	207	88	0	21	0	316	183	499
2023	JAN	88	62	0	27	0	208	89	0	21	0	317	183	500
	FEB	88	63	0	27	0	209	89	0	21	0	319	183	502
	MAR	88	63	0	27	0	210	90	0	21	0	320	183	503
	APR	89	63	0	27	0	211	90	0	21	0	322	183	505
	MAY	89	64	0	28	0	212	91	0	21	0	324	183	507
	JUN	90	64	0	28	0	213	91	0	21	0	325	183	508

Eastern State Hospital Forensic Bed Need Model

| | | Forecast Referrals | | | | Bed Need Associated with Forecast Referrals | | | | | NGRI | TOTAL |
| | | LEGAL AUTHORITY GROUP | | | | LEGAL AUTHORITY GROUP | | | | | | |
		Group 6	Group I	Group G	Group Q	Group 6	Group I	Group G	Group Q	Subtotal	Bed Need	AUG 2019 Forecast
2019	AUG	3.7	10.5	0.0	29.9	3.7	8.0	0.0	74.9	86.6	71.6	158
	SEP	3.7	10.6	0.0	30.4	3.8	8.2	0.0	76.0	87.9	71.6	160
	OCT	3.8	10.8	0.0	30.8	3.9	8.3	0.0	77.1	89.2	71.6	161
	NOV	3.8	11.0	0.0	31.3	3.9	8.4	0.0	78.2	90.6	71.6	162
	DEC	3.9	11.1	0.0	31.7	4.0	8.5	0.0	79.4	91.9	71.6	163
2020	JAN	3.9	11.3	0.0	32.2	4.0	8.6	0.0	80.5	93.2	71.6	165
	FEB	4.0	11.4	0.0	32.6	4.1	8.8	0.0	81.6	94.5	71.6	166
	MAR	4.0	11.6	0.0	33.1	4.1	8.9	0.0	82.8	95.8	71.6	167
	APR	4.1	11.7	0.0	33.6	4.2	9.0	0.0	83.9	97.1	71.6	169
	MAY	4.2	11.9	0.0	34.0	4.2	9.1	0.0	85.0	98.4	71.6	170
	JUN	4.2	12.1	0.0	34.5	4.3	9.2	0.0	86.2	99.7	71.6	171
	JUL	4.3	12.2	0.0	34.9	4.4	9.4	0.0	87.3	101.0	71.6	173
	AUG	4.3	12.4	0.0	35.4	4.4	9.5	0.0	88.4	102.3	71.6	174
	SEP	4.4	12.5	0.0	35.8	4.5	9.6	0.0	89.6	103.6	71.6	175
	OCT	4.4	12.7	0.0	36.3	4.5	9.7	0.0	90.7	105.0	71.6	177
	NOV	4.5	12.9	0.0	36.7	4.6	9.9	0.0	91.8	106.3	71.6	178
	DEC	4.5	13.0	0.0	37.2	4.6	10.0	0.0	93.0	107.6	71.6	179
2021	JAN	4.6	13.2	0.0	37.6	4.7	10.1	0.0	94.1	108.9	71.6	180
	FEB	4.7	13.3	0.0	38.1	4.8	10.2	0.0	95.2	110.2	71.6	182
	MAR	4.7	13.5	0.0	38.5	4.8	10.3	0.0	96.3	111.5	71.6	183
	APR	4.8	13.6	0.0	39.0	4.9	10.5	0.0	97.5	112.8	71.6	184
	MAY	4.8	13.8	0.0	39.4	4.9	10.6	0.0	98.6	114.1	71.6	186
	JUN	4.9	14.0	0.0	39.9	5.0	10.7	0.0	99.7	115.4	71.6	187
	JUL	4.9	14.1	0.0	40.3	5.0	10.8	0.0	100.9	116.7	71.6	188
	AUG	5.0	14.3	0.0	40.8	5.1	10.9	0.0	102.0	118.0	71.6	190
	SEP	5.0	14.4	0.0	41.2	5.2	11.1	0.0	103.1	119.4	71.6	191
	OCT	5.1	14.6	0.0	41.7	5.2	11.2	0.0	104.3	120.7	71.6	192
	NOV	5.2	14.8	0.0	42.1	5.3	11.3	0.0	105.4	122.0	71.6	194
	DEC	5.2	14.9	0.0	42.6	5.3	11.4	0.0	106.5	123.3	71.6	195
2022	JAN	5.3	15.1	0.0	43.1	5.4	11.6	0.0	107.7	124.6	71.6	196
	FEB	5.3	15.2	0.0	43.5	5.4	11.7	0.0	108.8	125.9	71.6	197
	MAR	5.4	15.4	0.0	44.0	5.5	11.8	0.0	109.9	127.2	71.6	199
	APR	5.4	15.5	0.0	44.4	5.5	11.9	0.0	111.1	128.5	71.6	200
	MAY	5.5	15.7	0.0	44.9	5.6	12.0	0.0	112.2	129.8	71.6	201
	JUN	5.5	15.9	0.0	45.3	5.7	12.2	0.0	113.3	131.1	71.6	203
	JUL	5.6	16.0	0.0	45.8	5.7	12.3	0.0	114.4	132.4	71.6	204
	AUG	5.6	16.2	0.0	46.2	5.8	12.4	0.0	115.6	133.8	71.6	205
	SEP	5.7	16.3	0.0	46.7	5.8	12.5	0.0	116.7	135.1	71.6	207
	OCT	5.8	16.5	0.0	47.1	5.9	12.6	0.0	117.8	136.4	71.6	208
	NOV	5.8	16.7	0.0	47.6	5.9	12.8	0.0	119.0	137.7	71.6	209
	DEC	5.9	16.8	0.0	48.0	6.0	12.9	0.0	120.1	139.0	71.6	211
2023	JAN	5.9	17.0	0.0	48.5	6.1	13.0	0.0	121.2	140.3	71.6	212
	FEB	6.0	17.1	0.0	48.9	6.1	13.1	0.0	122.4	141.6	71.6	213
	MAR	6.0	17.3	0.0	49.4	6.2	13.3	0.0	123.5	142.9	71.6	214
	APR	6.1	17.4	0.0	49.8	6.2	13.4	0.0	124.6	144.2	71.6	216
	MAY	6.1	17.6	0.0	50.3	6.3	13.5	0.0	125.8	145.5	71.6	217
	JUN	6.2	17.8	0.0	50.7	6.3	13.6	0.0	126.9	146.8	71.6	218

FIGURE 10.
Forensic Bed Need Forecast Comparisons
November 2018 through August 2019 (Monthly Data)

Western State Hospital

Eastern State Hospital
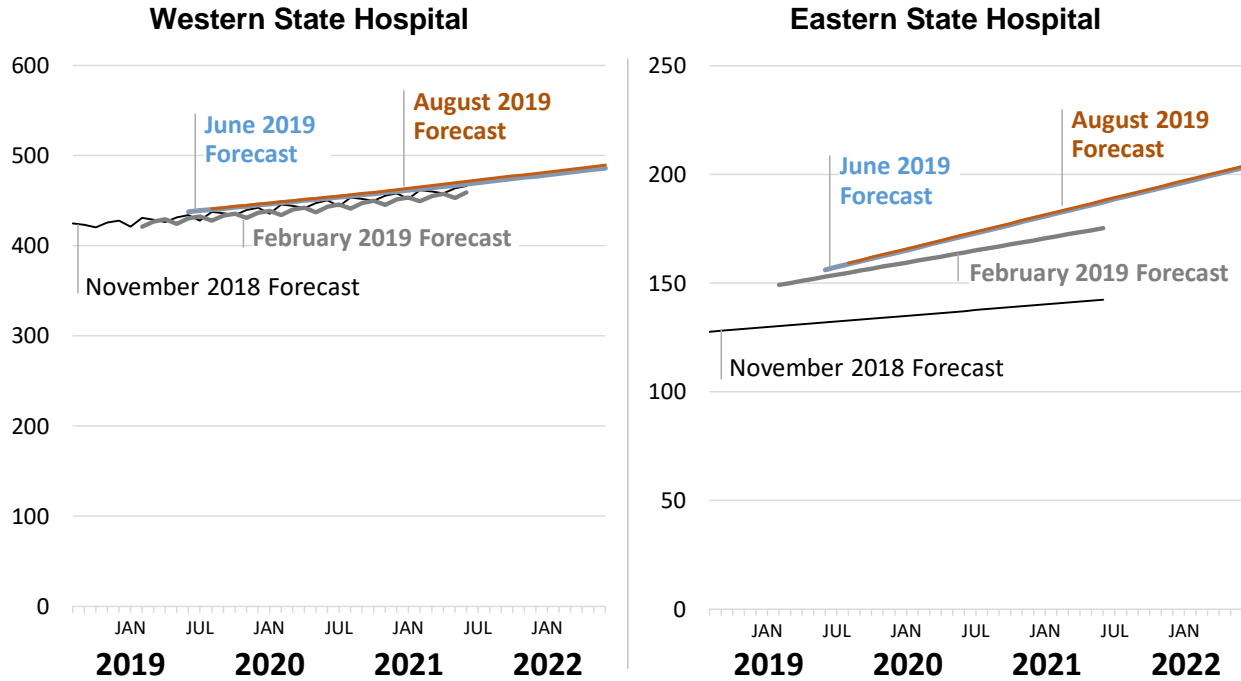
TABLE 6.
Additional Forensic Bed Capacity Needed To Clear Wait List

WESTERN STATE HOSPITAL							EASTERN
	Legal Authority Group						
	A	B	C	D	E	TOTAL	TOTAL
Wait List	71	142	8	74	13	**260**	**65**
Length of Stay (CY 2017)	65	39	13	21	13		**54.1**
Utilization Rate	90%	90%	90%	90%	90%		90%
Bed Days	5,128	6,153	116	1,727	188	**13,311**	**3,907**
Additional beds needed to clear wait list in 12 months:						**36.4**	**10.7**

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. 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.

The civil bed need context is quite different from the forensic context. On the forensic side, rapidly increasing competency evaluation and restoration referral volume has driven rapidly increasing bed need, with growing wait lists as capacity growth has lagged behind demand. On the civil side, bed utilization recently has declined at both hospitals (Figure 11). Further, at WSH civil wait list length and use of single-bed certifications (SBCs) have been declining recently (Figures 12 and 13).[7] At ESH, the civil wait list has recently increased (Figure 13).

FIGURE 11.
Civil Daily Census, by Hospital

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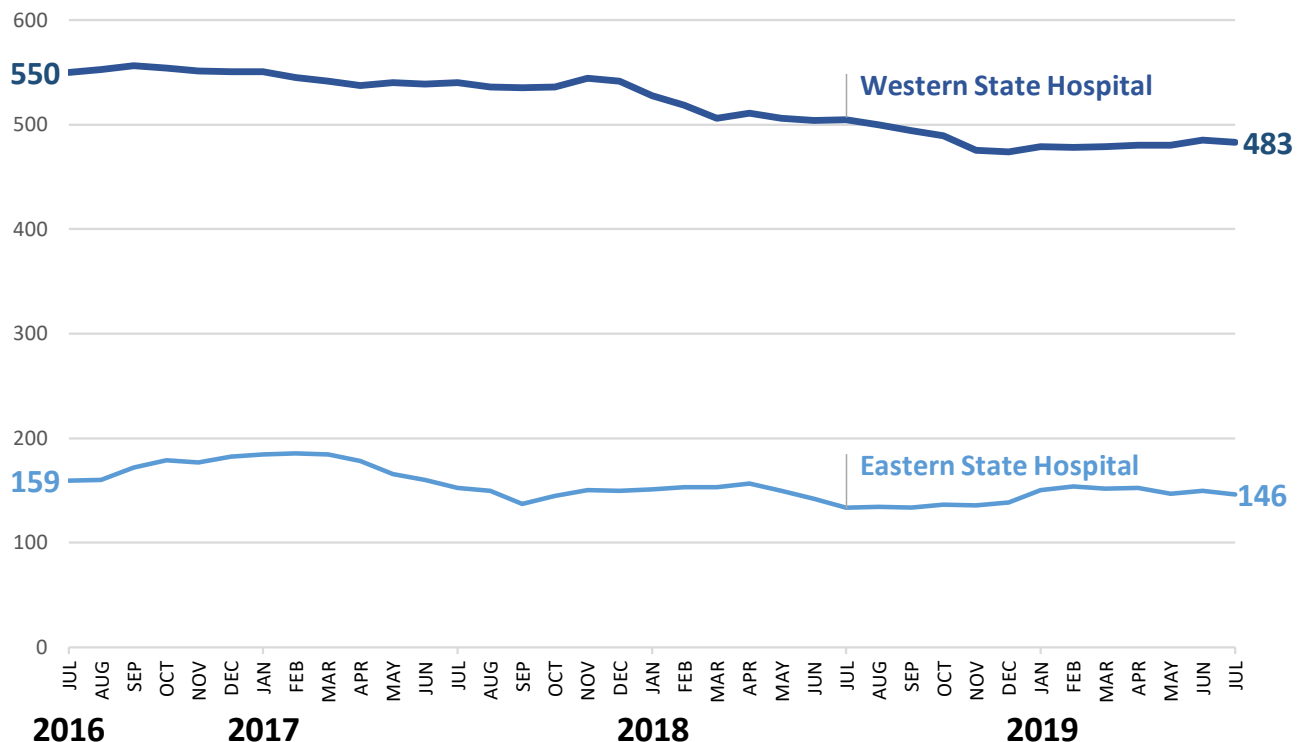
[7] A Single Bed Certification allows a person to be detained under the Involuntary Treatment Act for a 90/180-day commitment when there are no available state hospital beds.

FIGURE 12.
Single-Bed Certification Daily Census, by Hospital

Western State Hospital

Eastern State Hospital

107

70

7

8

JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN

2017   **2018**   **2019**

FIGURE 13.
Wait List, by Hospital

Western State Hospital

Eastern State Hospital

66

73

26

17

JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL
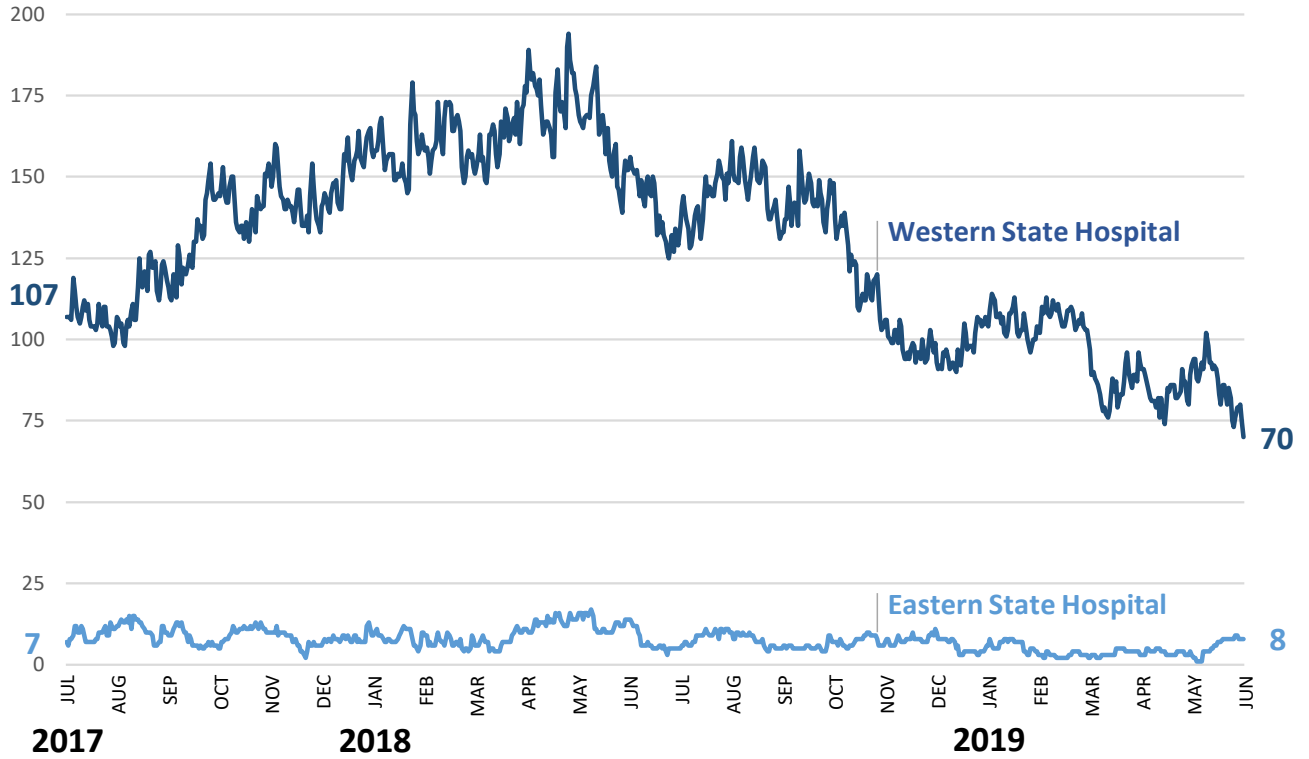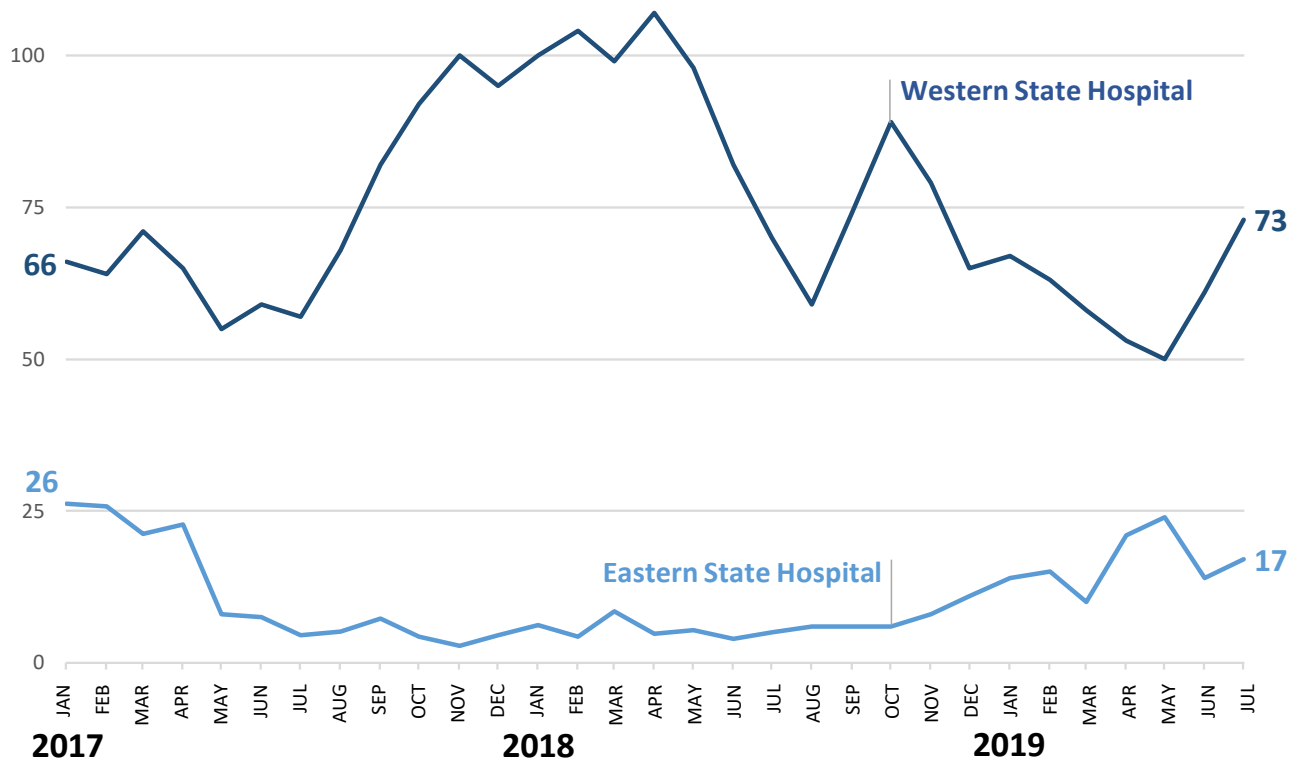
2017   **2018**   **2019**

Based on these observations, our civil bed need model is driven by underlying population growth. We incorporate separate forecasts by hospital catchment area for adult populations under 55 and age 55+, applied to the adult psychiatric and geropsychiatric populations, respectively. The age distinction is important, given the higher forecast growth rate in the population age 55 and above (related to the demographic phenomenon sometimes referred to as the "Age Wave").

More specifically, annual (SFY) civil bed need forecasts reported in Tables 7 and 8 are based on the following parameters and assumptions:

- Baseline utilization data reflects the average daily civil census in SFY 2019, after accounting for SBC utilization and expected utilization associated with persons on the wait list;

- The geropsychiatric share of bed utilization is estimated based on September 2018 utilization experience for ESH, and the August 31st 2018 census for WSH;

- Daily census growth factors are derived from OFM's 2017 Growth Management Population Projections for counties in each hospital's catchment area;[8]

- The translation of daily census levels (utilization) to bed need assumes 90 percent capacity utilization at WSH and 85 percent utilization at ESH;[9] and

- Estimates assume no change to currently observed average lengths of stay.[10]

The civil bed need models forecast that, by SFY 2027, 796 beds will be needed to meet the demand for civil inpatient services associated with WSH, and 206 beds will be needed to meet the demand for civil inpatient services associated with ESH. As noted above, these forecasts include bed need associated with use of SBCs, in addition to use of civil beds at the state hospitals.[11] We also note that these forecasts include the capacity necessary to care for patients currently in a state hospital who may be ready for discharge to a lower level of care.

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[8] Individual years (2021, 2022, 2023, etc.) are interpolated assuming flat growth rates within the associated 5-year Growth Management population forecast period.

[9] Over the July 2018 to September 2018 period, the average daily bed utilization rate in non-admission civil wards was 96 percent at WSH and 84 percent at WSH.

[10] Alternative assumptions about future changes in average length of stay, expressed in proportion to the historical average, would have a proportional impact on estimated bed need. For example, an assumption of a 10 percent across-the-board reduction in average length of stay for patients associated with WSH hospital would reduce forecast bed need by 10 percent.

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

TABLE 7.
WSH Civil Bed Need Model

SFY	POPULATION ANNUAL CHANGE		UTILIZATION			BED NEED		
	20-54	55+	APU + HMH	Geropsych	Total Census	APU + HMH	Geropsych	Total Bed Need
2019	1.01%	3.02%	399	249	**647**	443	276	**719**
2020	1.01%	3.03%	403	256	**659**	447	284	**732**
2021	0.71%	2.05%	406	261	**667**	451	290	**741**
2022	0.71%	2.05%	408	267	**675**	454	296	**750**
2023	0.71%	2.05%	411	272	**683**	457	302	**759**
2024	0.71%	2.06%	414	278	**692**	460	309	**769**
2025	0.71%	2.06%	417	283	**701**	464	315	**778**
2026	0.86%	1.54%	421	288	**709**	467	320	**787**
2027	0.86%	1.54%	424	292	**717**	471	325	**796**
2028	0.86%	1.54%	428	297	**725**	476	330	**805**
2029	0.86%	1.55%	432	301	**733**	480	335	**814**
2030	0.86%	1.55%	435	306	**741**	484	340	**824**
2031	0.83%	1.26%	439	310	**749**	488	344	**832**
2032	0.83%	1.26%	443	314	**756**	492	349	**840**
2033	0.83%	1.26%	446	318	**764**	496	353	**849**
2034	0.83%	1.26%	450	322	**772**	500	357	**858**
2035	0.83%	1.27%	454	326	**780**	504	362	**866**
2036	0.55%	1.29%	456	330	**786**	507	367	**874**
2037	0.55%	1.29%	459	334	**793**	510	371	**881**
2038	0.55%	1.30%	461	339	**800**	513	376	**889**
2039	0.55%	1.30%	464	343	**807**	515	381	**896**
2040	0.55%	1.30%	466	347	814	518	386	**904**

NOTES: 1. SFY 2019 utilization data reflects average SFY 2019 daily census, including wait list and SBC utilization. **2.** Geropsychiatric share of bed utilization is estimated based on 8/31/2018 experience. **3.** Daily census growth factors are derived from OFM population projections for counties in hospital catchment area. **4.** Translation of daily census (utilization) to bed need assumes 90 percent capacity utilization rate. **5.** Estimates assume no change to currently observed average length of stay.

TABLE 8.
ESH Civil Bed Need Model

SFY	POPULATION ANNUAL CHANGE		UTILIZATION			BED NEED		
	20-54	55+	APU + HMH	Geropsych	Total Census	APU + HMH	Geropsych	Total Bed Need
2019	0.83%	2.25%	82	77	**159**	97	91	**188**
2020	0.84%	2.26%	83	79	**162**	97	93	**190**
2021	0.81%	1.47%	83	80	**164**	98	94	**193**
2022	0.81%	1.48%	84	81	**166**	99	96	**195**
2023	0.82%	1.48%	85	83	**167**	100	97	**197**
2024	0.82%	1.48%	85	84	**169**	101	99	**199**
2025	0.83%	1.49%	86	85	**171**	101	100	**202**
2026	1.04%	1.13%	87	86	**173**	102	101	**204**
2027	1.04%	1.14%	88	87	**175**	104	102	**206**
2028	1.04%	1.14%	89	88	**177**	105	104	**208**
2029	1.04%	1.15%	90	89	**179**	106	105	**211**
2030	1.05%	1.15%	91	90	**181**	107	106	**213**
2031	0.86%	0.96%	92	91	**183**	108	107	**215**
2032	0.86%	0.97%	92	92	**184**	109	108	**217**
2033	0.86%	0.98%	93	93	**186**	110	109	**219**
2034	0.86%	0.98%	94	94	**188**	111	110	**221**
2035	0.87%	0.99%	95	95	**189**	111	111	**223**
2036	0.63%	1.02%	95	96	**191**	112	112	**225**
2037	0.64%	1.03%	96	97	**193**	113	114	**227**
2038	0.64%	1.03%	97	98	**194**	114	115	**228**
2039	0.64%	1.04%	97	99	**196**	114	116	**230**
2040	0.64%	1.05%	98	100	**197**	115	117	**232**

NOTES: 1. SFY 2019 utilization data reflects average SFY 2019 daily census, including wait list and SBC utilization. **2.** Geropsychiatric share of bed utilization is estimated based on September 2018 experience. **3.** Daily census growth factors are derived from OFM population projections for counties in hospital catchment area. **4.** Translation of daily census (utilization) to bed need assumes 85 percent capacity utilization rate. **5.** Estimates assume no change to currently observed average length of stay.

Civil Commitment Capacity Investments

Significant investments were made in the 2019-2021 Operating Budget related to 90/180-day civil commitment capacity. Table 9 summarizes key investments relative to forecast civil bed need, including investments requiring legislative action in future biennia. Analysis of the effect of new community investments in behavioral health services on 90/180-day civil commitment needs requires additional time to pass for new capacity to be implemented and for impacts to be assessed.

TABLE 9.
90/180-Day Civil Commitment Budgeted Capacity

	2019-21 Biennium			2021-23 Biennium		2023-25 Biennium		2025-27 Biennium	
SFY	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Western State Hospital Civil Beds	527	467[12]	467	467	467	467	467	467	467
Eastern State Hospital Civil Beds	192	192	192	192	192	192	192	192	192
Baseline 90/180-Day SBC Bed Need, SFY 19	131	131	131	131	131	131	131	131	131
DSHS 90/180-Day Civil Community Facilities	0	0	0	0	32	64	64	64	64
HCA 90/180-Day Civil Community Beds	0	71	119	119	119	119	119	119	119
Total Beds	850	861	909	909	941	973	973	973	973
Forecast Bed Need	907	922	934	945	956	968	980	991	1,002
Related Capacity Investments									
ALTSA Facilities (ESF, CR, NH, Specialized Dementia)	118	258	398	398	398	398	398	398	398
DDA Facilities (SOLA/Group Training Homes)	17	28	41	47	47	47	47	47	47
HCA Intensive BH Treatment Facilities	0	16	48	48	48	48	48	48	48
Other 90/180-Day Civil (Multicare / UW Teaching)	0	0	0	0	0	110	110	110	110

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[12] Reflects 60 beds taken off line in August 2019 at WSH for conversion to forensic capacity.

Conclusion

Table 10 below summarizes civil and forensic bed need forecasts for June 2027. Accounting for beds allocated for WSH NGRI patients, the model projects that 582 total forensic beds are needed by June 2027 for forensic patients attributable to WSH, including the capacity reflected in the 54 beds currently operating at Yakima and Maple Lane. We forecast that 281 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. If effective diversion and community-based intervention strategies are identified, implemented, and successfully scaled up, we would expect forensic referral growth to moderate back toward the level of general population growth.

TABLE 10.
Summary of Current Bed Capacity and Forecast Need in June 2027

Hospital	Type	Current Beds Capacity August 2019	Forecast Bed Need June 2027
Eastern State Hospital	Forensic	125	281
Eastern State Hospital	Civil	192	206
Western State Hospital	Forensic	414[13]	582
Western State Hospital	Civil	467[14]	796

The civil bed need models forecast that, by SFY 2027, 796 beds will be needed to meet the demand for civil inpatient services associated with WSH, and 206 beds will be needed to meet the demand for civil inpatient services associated with ESH. These forecasts include bed need associated with use of SBCs for 90/180-day civil commitments, in addition to use of civil beds at the state hospitals. This also includes the capacity necessary for patients currently served who may be ready for discharge to a lower level of care.

Finally, we note that an increasing proportion of civil bed need will be among persons aged 55 or above who under current practice would be admitted to a state hospital geropyschiatric ward. Increasing access for older adults to more intensive community-based mental health services is likely to be an important mechanism for meeting future demand for civil bed capacity forecast in this report.

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[13] Includes the 54 RTF beds currently operating at Yakima and Maple Lane and 30 recently established RTF beds at the Fort Steilacoom Competency Restoration Program on the grounds of WSH, scheduled to be fully operational in the fall of 2019.
[14] Reflects 60 beds taken off line in August 2019 at WSH for conversion to forensic capacity.