

## REPORT TO THE LEGISLATURE

### State Psychiatric Hospital Forensic and Civil Bed Need Models

As required per Engrossed Substitute Senate Bill 6032 (Chapter 299, Laws of 2018)

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Facilities, Finance, and Analytics Administration  
Research and Data Analysis Division  
PO Box 45204  
Olympia, WA 98504-5204  
(360) 902-0707  
<http://www.dshs.wa.gov/rda>

David Mancuso, PhD  
Director, DSHS Research and Data Analysis Division  
RDA Report Number 4.105

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## Executive Summary

Engrossed Substitute Senate Bill 6032 (Chapter 299, Laws of 2018) 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 2021.

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.

As of October 2018 there were 857 total inpatient beds available at WSH and 317 beds available at ESH, with the distribution across civil and forensic patient populations described in Table 1 below (note that NGRI beds are included in the forensic counts):

TABLE 1.

### Summary of Current Bed Capacity and Forecast Need in June 2021

Hospital	Type	Existing Beds (October 2018)	Forecast Bed Need (June 2021)
Eastern State Hospital	Forensic	125	142
Eastern State Hospital	Civil	192	202
Western State Hospital	Forensic	330 + 54 RTF beds	466
Western State Hospital	Civil	527	842

An additional 54 competency restoration beds associated with WSH are currently available at Residential Treatment Facilities (RTFs) at Yakima and Maple Lane.

Including beds allocated for NGRI patients, we forecast that 466 total forensic beds are needed by June 2021 for forensic patients attributable to WSH, including the capacity reflected in the 54 beds currently operating at Yakima and Maple Lane. If current WSH inpatient referral trends continue to hold through the end of SFY 2023, forecast WSH forensic bed need would rise to approximately 500 total forensic beds by the end of SFY 2023.

We forecast that 142 total ESH forensic beds will be needed by June 2021 (including NGRI beds). If current inpatient referral trends continue to hold beyond June 2021, forecast bed need would rise to approximately 152 total ESH forensic beds by the end of SFY 2023.

The forensic bed need models are based on:

- Current bed capacity as of October 2018;
- Forecasts of monthly inpatient evaluation and restoration referrals based on time series models applied to referral data through July 2018;
- 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 October 3<sup>rd</sup> 2018.

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<sup>1</sup> 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 2018, 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 8/31/2018 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 2021, 842 beds will be needed to meet the demand for civil inpatient services associated with WSH, and 202 beds will be needed to meet the demand for civil inpatient services associated with ESH. We emphasize that these forecasts include bed need associated with use of SBCs, in addition to admissions to the state hospitals for 72-hour, 14-day, 90-day, and 180-day civil commitments. These forecasts also include the capacity necessary to care for patients who may be ready for discharge to a lower level of care.

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<sup>1</sup> 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.

## Scope and Purpose

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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 Senate Bill 6032 (Chapter 299, Laws of 2018) 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. ESSB 6032 directed that the bed need models incorporate factors such as:

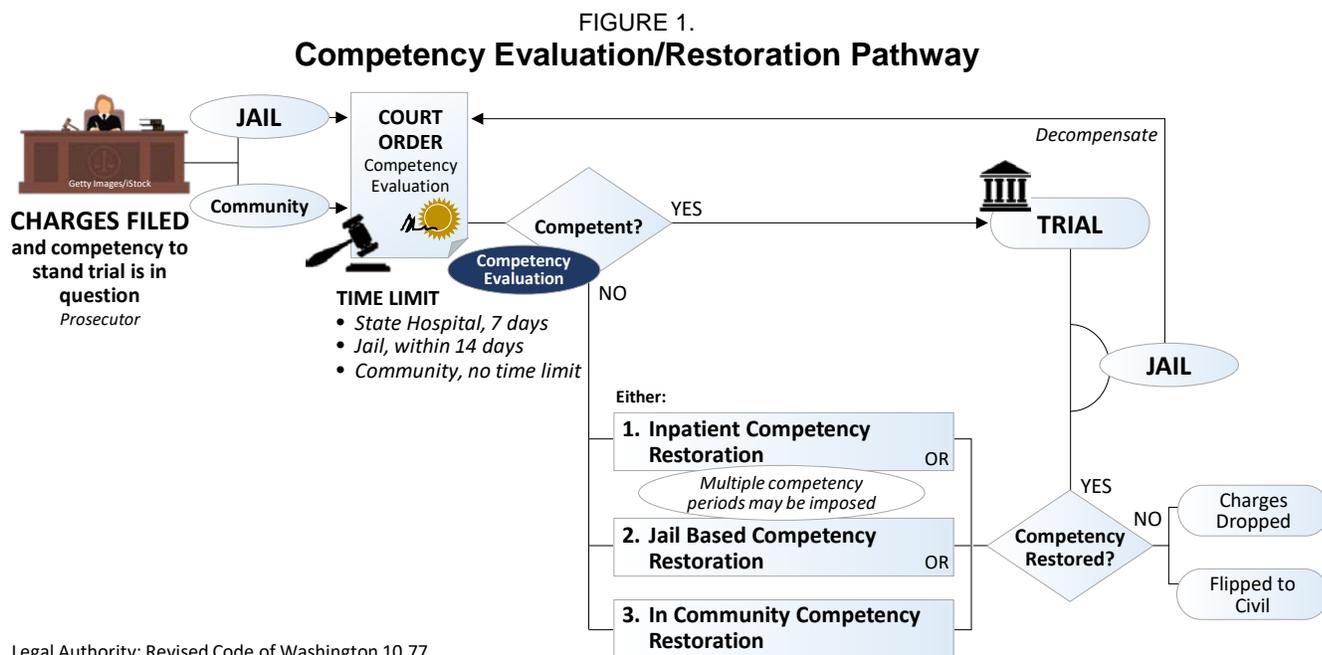
- The capacity in state hospitals as well as contracted facilities which provide similar levels of care,
- Referral patterns,
- Lengths of stay,
- Wait lists, and
- Other factors (e.g., capacity utilization rates) identified as appropriate for predicting the number of beds needed to meet the demand for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

ESSB 6032 also directed that the model forecast bed need through the end of fiscal year 2021 (June 2021), 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 2021. 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.

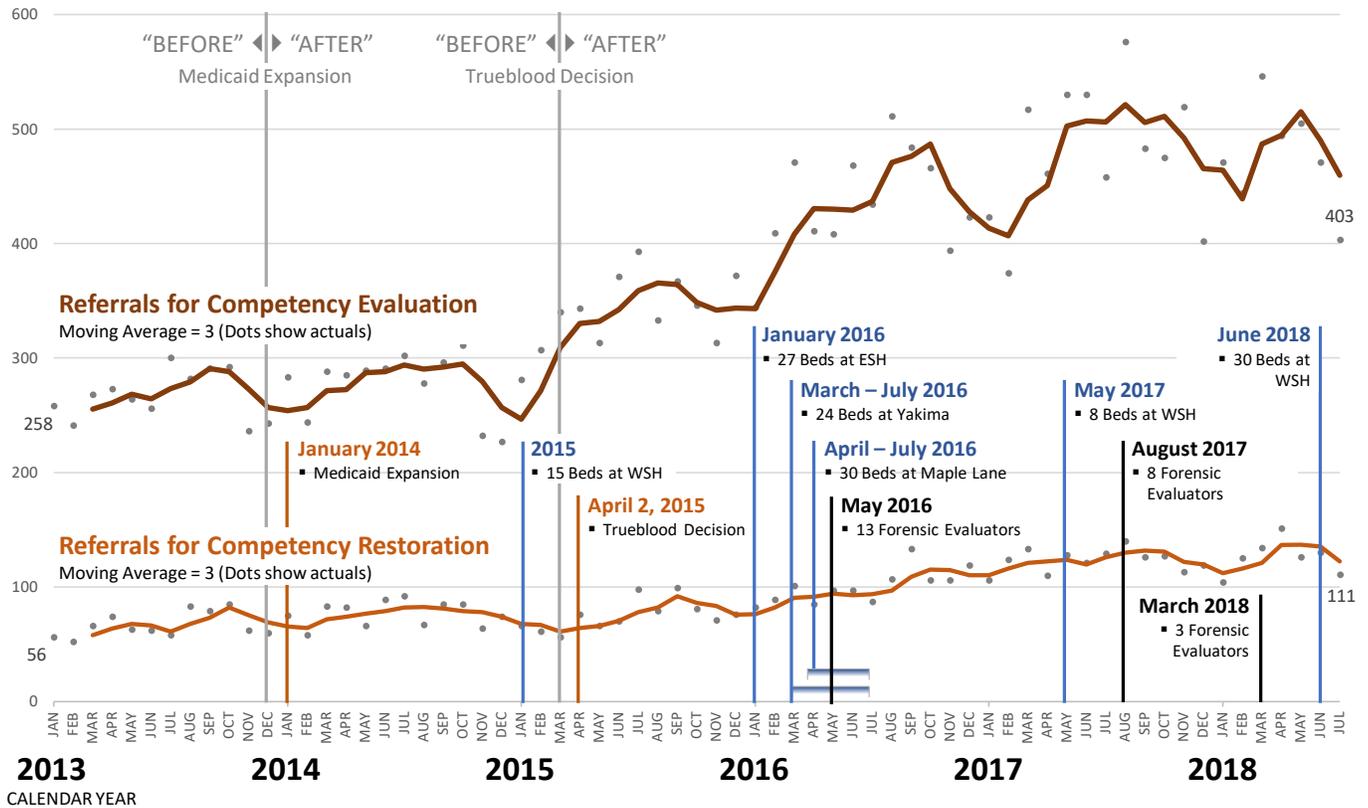


In April 2015, a federal court found in the case of *Trueblood v DSHS* (Trueblood) that the Department was taking too long to provide competency evaluation and restoration services, in part due to a shortage of beds for the provision of inpatient restoration services. As a result of the Trueblood case, 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 2018. 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 2018.

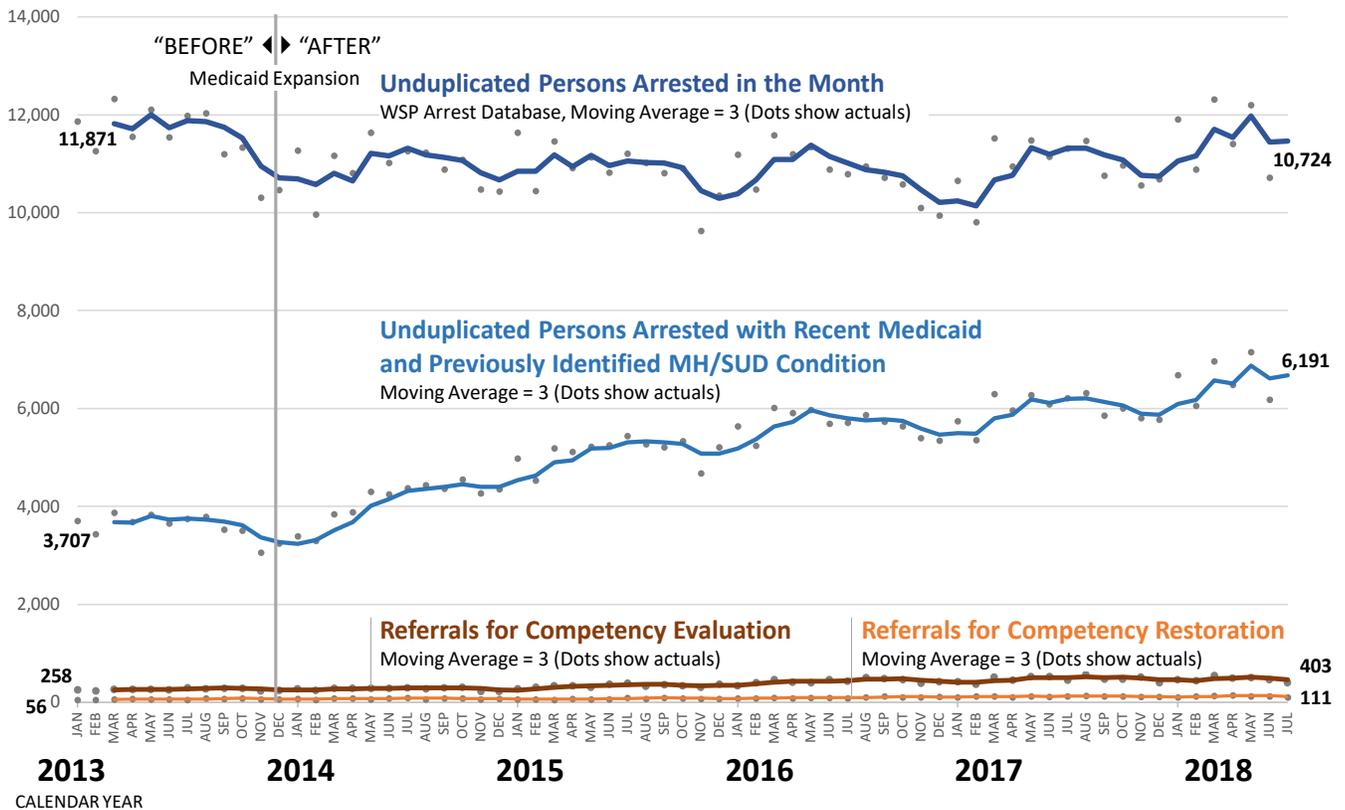
Following the Trueblood decision, referrals for competency evaluation and restoration surged. Through mid-2018, year-over-year increases in forensic referrals were still significant. The timing of the increase in forensic evaluation referrals following the Trueblood decision suggests the decision spurred 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. As of 2018, most persons arrested in Washington State are currently (or were very recently) enrolled in Medicaid and have a mental illness and/or substance use disorder identified in their Medicaid service experience (58 percent as of July 2018).

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 2018. 2. Total Competency restoration referrals includes inpatient admissions to state hospitals and other competency restorations facilities.

**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 2018.

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. Currently there are 15 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, on a monthly basis.

This latter consideration is one reason why our forensic bed need models do not assume any dampening of inpatient referral trends, beyond what is directly observed in recent referral data. Absent intervention (e.g., scaling up of effective diversion strategies), it is reasonable to expect that 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 2018, 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.

Over the past 2 years, use of WSH forensic beds for NGRI patients has been relatively stable in the 160 to 170 daily bed census range. On average in September 2018, the WSH average daily NGRI bed census was 165 patients – identical to the average observed over the 6-month period ending September 2018. Over the past 6 months, capacity utilization for WSH forensic treatment beds has averaged 98.3 percent. Our WSH forensic model assumes that the NGRI daily census will continue to remain stable at 165 patients, but that optimal longer-term capacity utilization of NGRI beds would be 90 percent. This implies the need for 183 beds at WSH allocated to serve the NGRI population, leaving 147 beds of the current capacity available to provide inpatient competency evaluation and restoration services. Combined with the 54 competency restoration beds at the Yakima and Maple Lane RTFs, this puts the “baseline” competency evaluation/restoration capacity associated with WSH at 201 beds.

Our WSH forensic model assumes utilization of NGRI beds at WSH will remain stable at 165 occupied beds with movement to 90 percent occupancy by the end of the forecast period. We note that – in terms of forecast bed need for June 2021– our assumption of a stable NGRI daily census with utilization moving from 98.3 percent to 90 percent is equivalent to assuming that the NGRI daily census would increase by five patients per year with bed utilization remaining stable at 98.3 percent. We note that NGRI beds are carved out of the WSH evaluation/restoration bed forecast presented below.

The ESH forensic referral data available to analyze for this report were provided in an aggregate form combining competency evaluation, competency restoration, and NGRI referrals. As a result, ESH forensic modeling conducted here integrates beds needed for both competency evaluation/restoration services and for NGRI patients.

## **Inpatient Competency Evaluation and Restoration Referral Trends**

Due to the major changes in the policy environment (most notably the likely direct impact of the Trueblood decision), it would be problematic to forecast future forensic bed demand using only the time series properties of referral data starting from a period significantly prior to the Trueblood decision. Rather than using a longer time series of data and attempting to model how Medicaid Expansion and the Trueblood decision impacted forensic referral patterns — and how their effects would continue to unwind over the forecast period — we implemented a simpler approach. We apply exponential smoothing time series models to the last two 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). For ESH, referral time series were received for pooled LAGs. Presented for informational purposes and not directly used in the bed need models, Figures 4 and 5

illustrate recent outpatient (jail-based and personal recognizance) competency evaluation referral trends. Figures 6 through 12 illustrate forecast inpatient competency evaluation and restoration referral trends that feed into the forensic bed need model.

FIGURE 4.

**Monthly Referrals for Jail-Based Competency Evaluation**

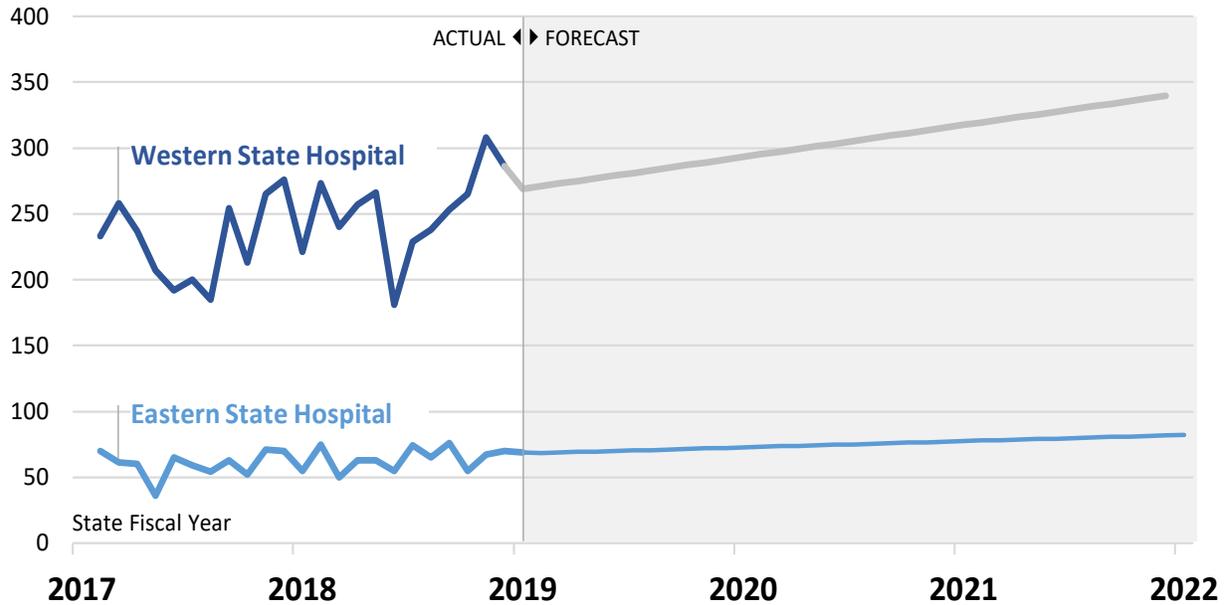


FIGURE 5.

**Monthly Referrals for Competency Evaluation for Persons on Personal Recognizance**

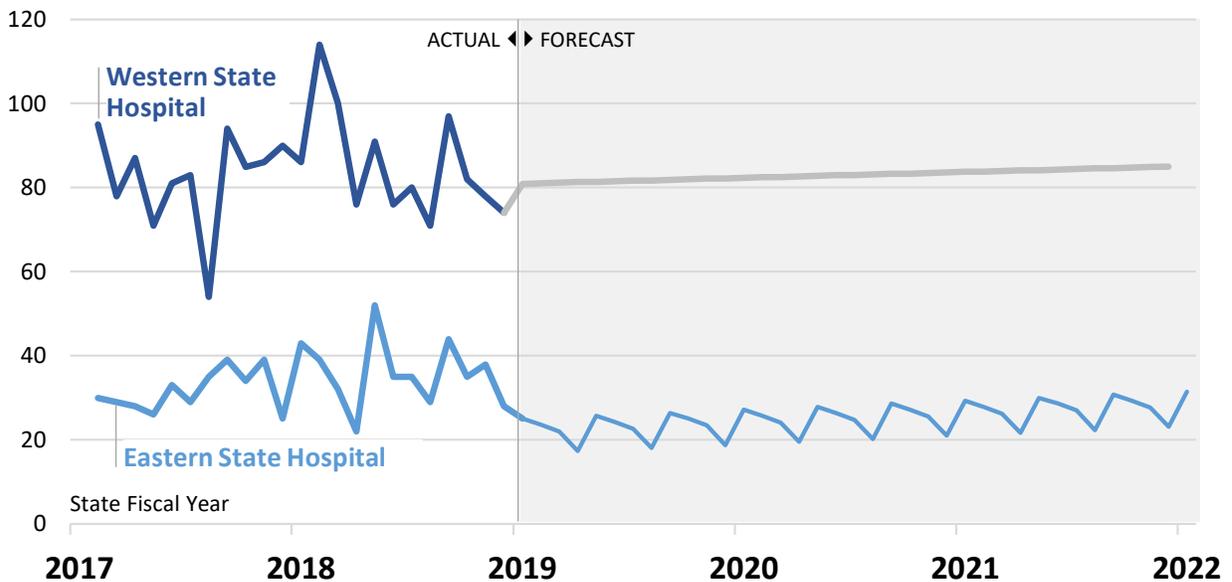


FIGURE 6.  
**Monthly Inpatient Referrals: WSH Forensic Group A**

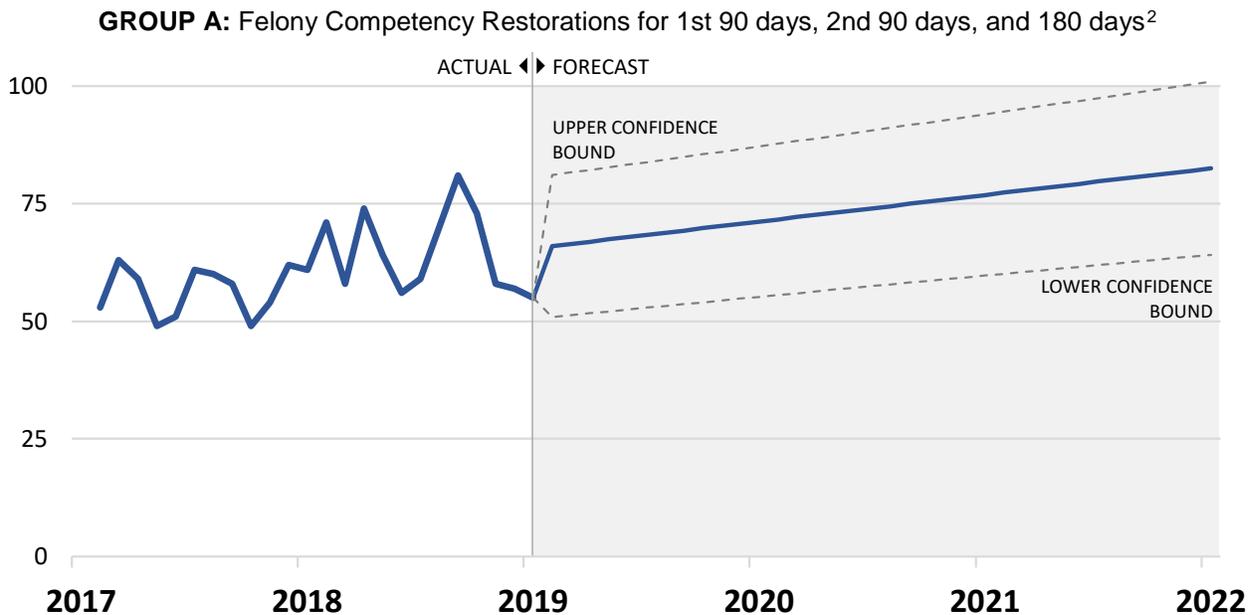
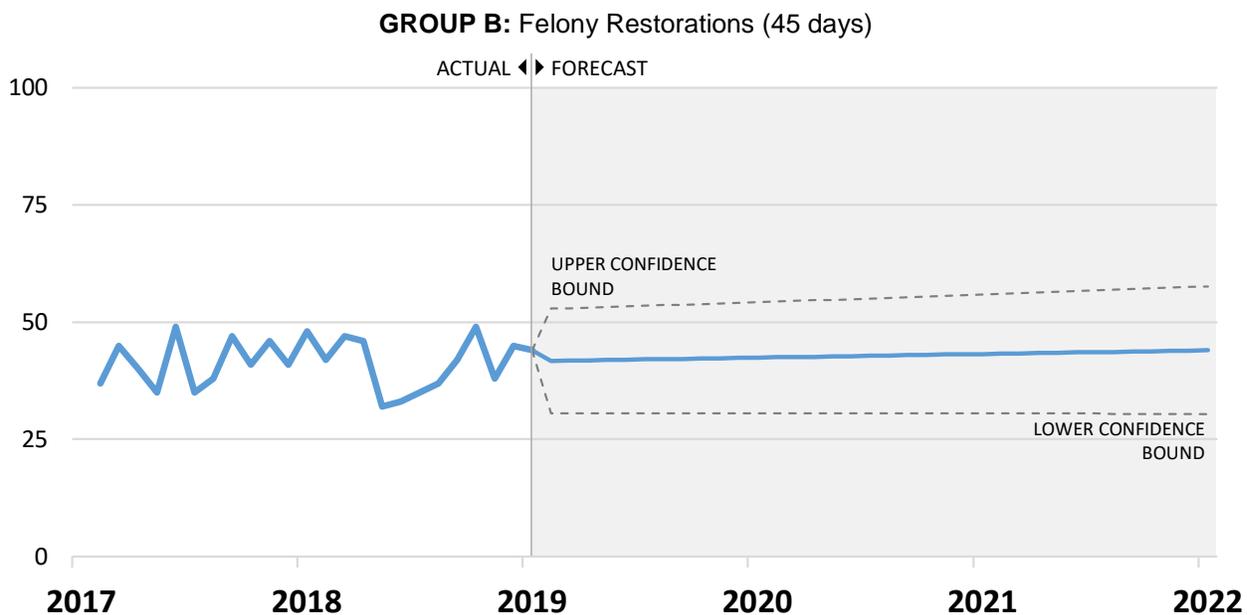


FIGURE 7.  
**Monthly Inpatient Referrals: WSH Forensic Group B**



<sup>2</sup> Includes a small number of patients in other legal authority groups with similar expected lengths of stay.

FIGURE 8.  
**Monthly Inpatient Referrals: WSH Forensic Group C**

**GROUP C: Misdemeanor Competency Evaluation.**

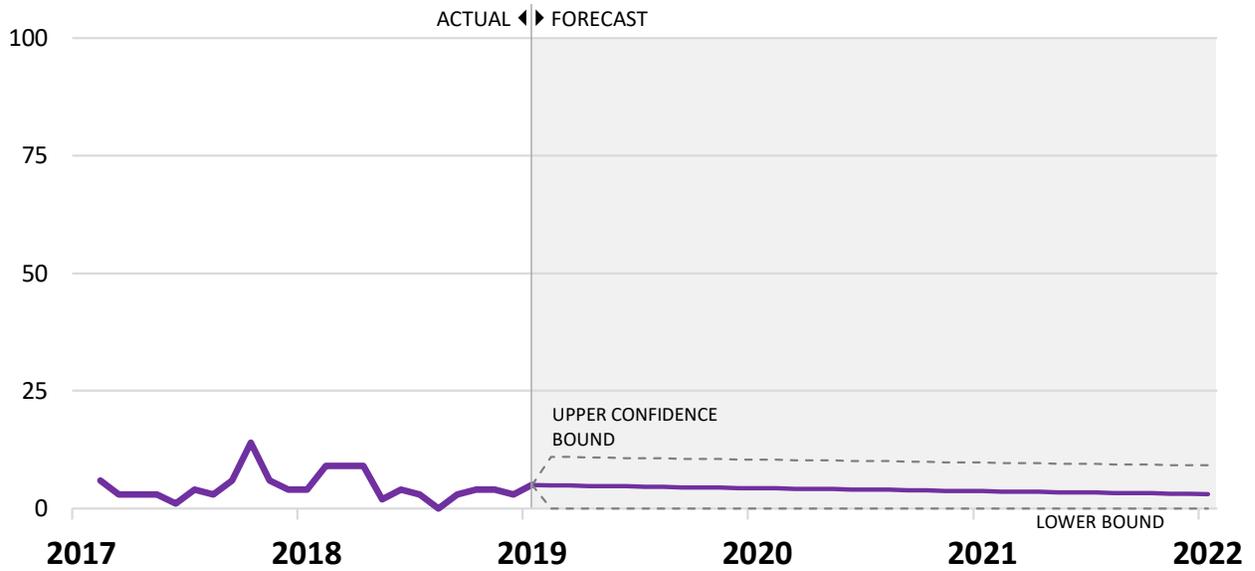


FIGURE 9.  
**Monthly Inpatient Referrals: WSH Forensic Group D**

**GROUP D: Misdemeanor Restorations.**

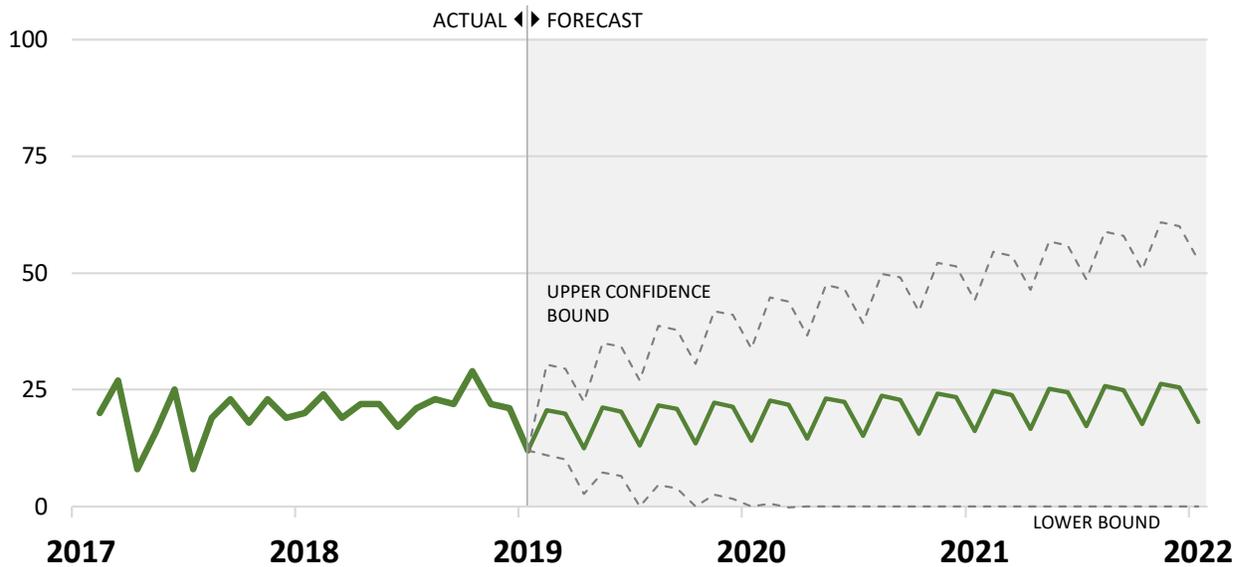


FIGURE 10.  
**Monthly Inpatient Referrals: WSH Forensic Group E**

**GROUP E: Felony Competency Evaluations.**

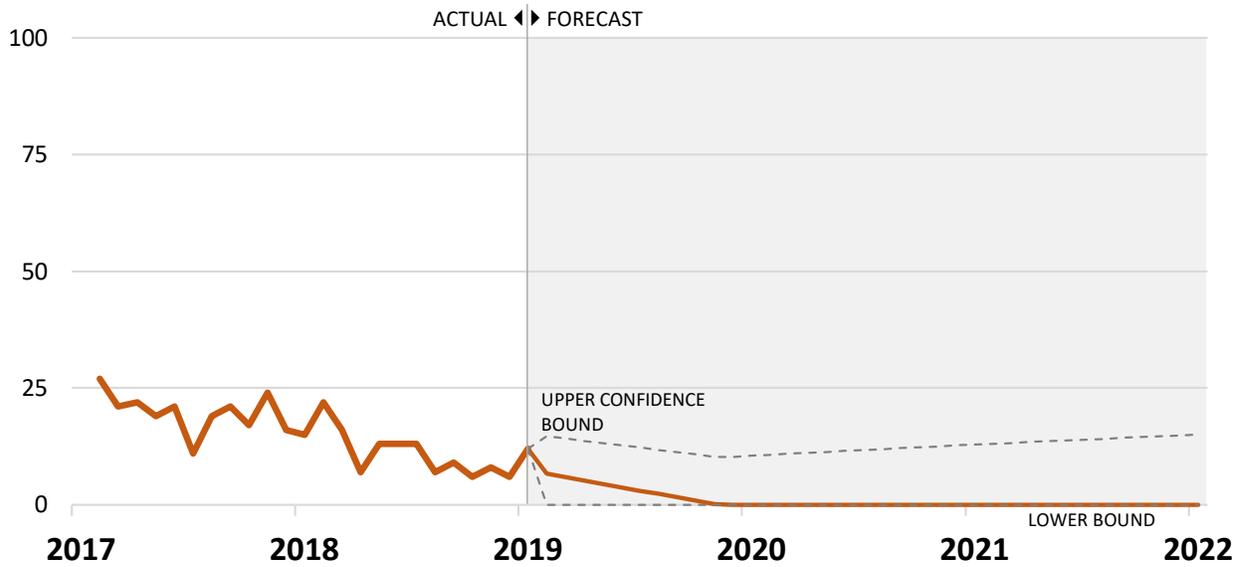


FIGURE 11.  
**Monthly Inpatient Referrals: ESH Forensic Inpatient Restoration and Evaluation (combined)**

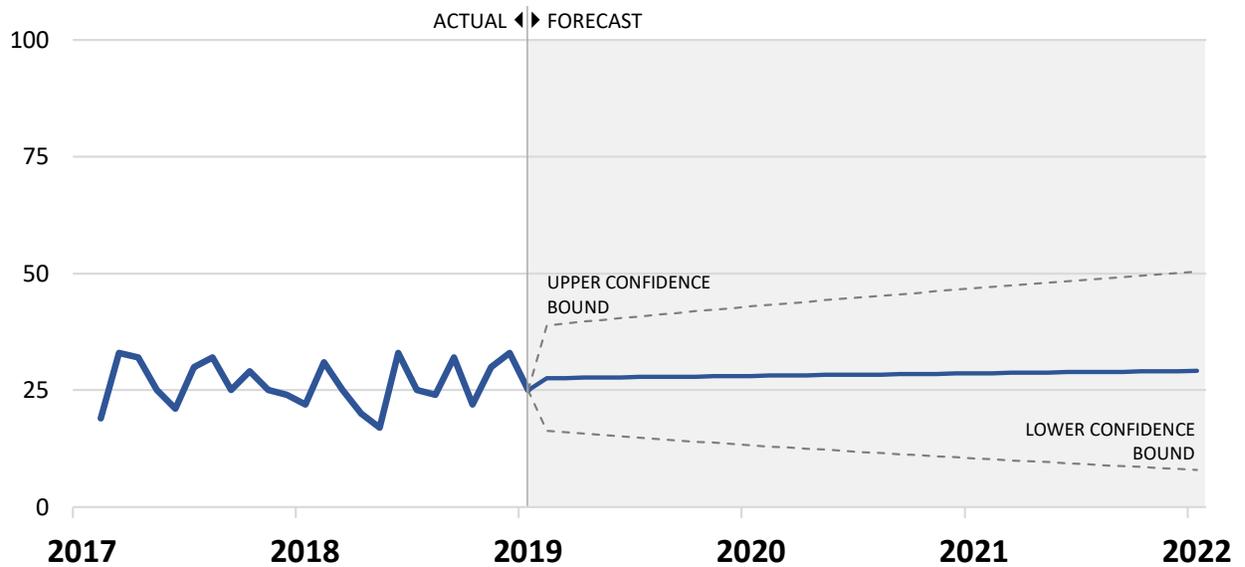
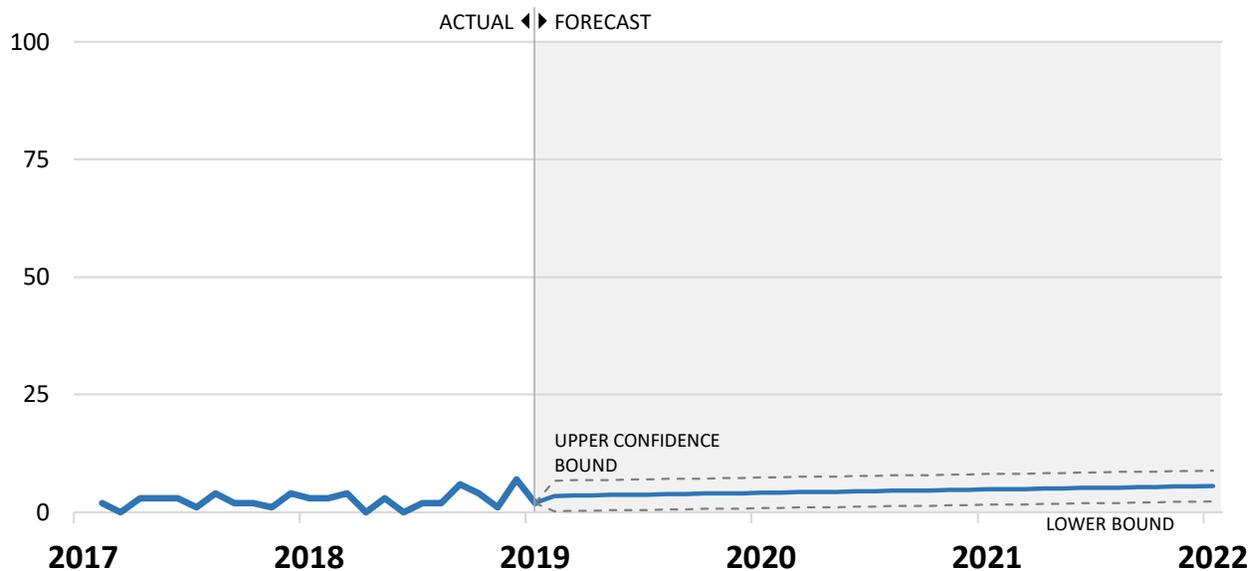


FIGURE 12.  
**Monthly Inpatient Referrals: ESH Forensic Inpatient Referrals for Persons on Personal Recognizance**



**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. LOS estimates were available for ESH by legal authority group, and an overall weighted average LOS was created to apply to the pooled ESH admission referral time series forecast.

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
<b>GROUP A</b>	57	60	60	62	65	71
<b>GROUP B</b>	38	42	39	42	39	42
<b>GROUP C</b>	12	14	13	14	13	14
<b>GROUP D</b>	21	24	20	18	21	22
<b>GROUP E</b>	8	6	13	14	13	14

**WESTERN STATE HOSPITAL LEGAL AUTHORITY GROUP REFERENCE**

- GROUP A: Felony Competency Restorations for 1<sup>st</sup> 90 days, 2<sup>nd</sup> 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
<b>GROUP 6</b>	46	25	104	53	63	28
<b>GROUP I</b>	104	55	77	21	84	21
<b>GROUP G</b>	451	399	612	693	422	437
<b>GROUP Q</b>	121	78	136	78	108	69
<b>Weighted Average</b>	118.8		130.1		112.6	

#### 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

We calculated daily capacity utilization rates by hospital by ward type over the six most current months of actuals available. Utilization rates reflect the ratio of the daily bed census to the number of available beds. Over this period, 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 capacity utilization rate would be 90 percent.

### Forensic Wait Lists

As of October 3<sup>rd</sup> 2018, 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 10/3/2018

<b>WESTERN STATE HOSPITAL</b>	
GROUP A: Felony Competency Restorations for 1 <sup>st</sup> 90 days, 2 <sup>nd</sup> 90 days, and 180 days	97
GROUP B: Felony Competency Restorations for 45 days	75
GROUP C: Misdemeanor Competency Evaluation	3
GROUP D: Misdemeanor Competency Restorations	64
GROUP E: Felony Competency Evaluations	21
<b>WSH Total</b>	<b>260</b>
<b>EASTERN STATE HOSPITAL</b>	
GROUP 6: Misdemeanor Competency Restorations	4
GROUP I: Competency Evaluation	5
GROUP G: Not Guilty by Reason of Insanity	0
GROUP Q: Felony Competency Restorations	17
<b>ESH Total</b>	<b>26</b>

## 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 (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 (Table 5) or current wait list volume (Table 6), assuming a 90 percent capacity utilization rate. The forecast bed need for a given month in Table 5 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<sup>3</sup> 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 42 more beds than are currently available are needed to serve the current volume of referrals at WSH without further adding to a wait list. Inpatient referrals are forecast to increase, and by June 2021 we forecast 82 more beds than are currently available are needed to serve the expected volume of referrals without adding to a wait list. Additional time-limited capacity is needed to clear the existing wait list, and we forecast 33 time-limited beds are needed to clear the current WSH wait list in 12 months, in addition to the beds needed to handle ongoing inpatient referral volume (Table 6).

Combined with the 183 beds allocated for WSH NGRI patients, the model forecasts that 466 total forensic beds will be needed by June 2021 for forensic patients attributable to WSH, including the 54 RTF beds at Yakima and Maple Lane. We note that if current inpatient referral trends continue to hold beyond June 2021, forecast bed need would rise to approximately 500 total WSH forensic beds by the end of SFY 2023.

The ESH model forecasts that 142 forensic beds (including NGRI beds) will be needed by the end of SFY 2021 to meet demand from ongoing referrals for inpatient evaluation and restoration services at ESH (Table 5). This is 17 more beds than are currently available to serve forensic patients at ESH. The current capacity at ESH is estimated to be 2.6 beds short of the number required to serve the current inpatient evaluation and restoration referral volume, and the additional bed capacity necessary to clear the current ESH waiting within 12 months is 7.6 beds (Table 6). If current referral trends continue to hold beyond June 2021, forecast bed need would rise to about 152 total ESH forensic beds by the end of SFY 2023, for a net increase of 27 beds over the 5-year forecast horizon.

As directed by budget proviso, DSHS is preparing to implement and maintain a quarterly update cycle for the forensic bed need models in collaboration with OFM, the Legislature, and subject matter experts in DSHS and the State Hospitals. Future model updates will depend on information from the Forensic Data System (FDS) implemented in August 2018. The timing of the first update to model forecasts will depend on improvements in data quality in the FDS system. Regular forecast updates are critical, given the sensitivity of the model to changes in trends in inpatient competency evaluation and restoration referrals. Given the potential for still-untapped growth in demand for evaluation and restoration services, potentially moderated by current and future efforts to divert persons

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<sup>3</sup> 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.

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 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 Models**

Monthly Trend in Bed Count Needed to Meet Forecast Trend in Inpatient Restoration and Evaluation Referrals

WESTERN STATE HOSPITAL													EASTERN	
Forecast Referrals						Associated Bed Need							Refs	Bed Need
MONTH	A	B	C	D	E	A	B	C	D	E	NGRI	TOTAL	All	TOTAL
<b>2018-AUG</b>	66	42	5	26	7	156.6	59.4	2.3	20.2	3.5	183.0	<b>425.0</b>	31.1	<b>127.6</b>
SEP	66	42	5	23	6	157.7	59.5	2.3	17.5	3.1	183.0	<b>423.1</b>	31.2	<b>128.1</b>
OCT	67	42	5	18	5	158.8	59.6	2.3	14.1	2.7	183.0	<b>420.5</b>	31.3	<b>128.5</b>
NOV	67	42	5	24	5	159.9	59.7	2.3	18.6	2.4	183.0	<b>425.8</b>	31.4	<b>128.9</b>
DEC	68	42	5	26	4	161.1	59.8	2.2	20.1	2.0	183.0	<b>428.1</b>	31.5	<b>129.4</b>
<b>2019-JAN</b>	68	42	5	16	3	162.2	59.9	2.2	12.4	1.6	183.0	<b>421.3</b>	31.6	<b>129.8</b>
FEB	69	42	5	28	2	163.3	59.9	2.2	21.2	1.2	183.0	<b>430.8</b>	31.7	<b>130.2</b>
MAR	69	42	5	24	2	164.4	60.0	2.2	18.5	0.8	183.0	<b>428.9</b>	31.8	<b>130.7</b>
APR	70	42	4	20	1	165.5	60.1	2.1	15.0	0.5	183.0	<b>426.2</b>	31.9	<b>131.1</b>
MAY	70	42	4	25	0	166.7	60.2	2.1	19.5	0.1	183.0	<b>431.6</b>	32.0	<b>131.5</b>
JUN	71	42	4	27	0	167.8	60.3	2.1	21.0	0.0	183.0	<b>434.2</b>	32.1	<b>132.0</b>
<b>2019-JUL</b>	71	42	4	17	0	168.9	60.4	2.1	13.3	0.0	183.0	<b>427.7</b>	32.2	<b>132.4</b>
AUG	72	42	4	29	0	170.0	60.5	2.0	22.1	0.0	183.0	<b>437.6</b>	32.3	<b>132.8</b>
SEP	72	43	4	25	0	171.1	60.6	2.0	19.4	0.0	183.0	<b>436.1</b>	32.4	<b>133.3</b>
OCT	73	43	4	21	0	172.3	60.7	2.0	15.9	0.0	183.0	<b>433.8</b>	32.5	<b>133.7</b>
NOV	73	43	4	27	0	173.4	60.8	2.0	20.4	0.0	183.0	<b>439.6</b>	32.6	<b>134.1</b>
DEC	74	43	4	29	0	174.5	60.9	1.9	21.9	0.0	183.0	<b>442.2</b>	32.8	<b>134.6</b>
<b>2020-JAN</b>	74	43	4	19	0	175.6	61.0	1.9	14.3	0.0	183.0	<b>435.8</b>	32.9	<b>135.0</b>
FEB	74	43	4	30	0	176.8	61.1	1.9	23.0	0.0	183.0	<b>445.7</b>	33.0	<b>135.4</b>
MAR	75	43	4	26	0	177.9	61.2	1.9	20.3	0.0	183.0	<b>444.2</b>	33.1	<b>135.9</b>
APR	75	43	4	22	0	179.0	61.2	1.8	16.8	0.0	183.0	<b>441.9</b>	33.2	<b>136.3</b>
MAY	76	43	4	28	0	180.1	61.3	1.8	21.4	0.0	183.0	<b>447.6</b>	33.3	<b>136.8</b>
JUN	76	43	4	30	0	181.2	61.4	1.8	22.8	0.0	183.0	<b>450.3</b>	33.4	<b>137.2</b>
<b>2020-JUL</b>	77	43	4	20	0	182.4	61.5	1.8	15.2	0.0	183.0	<b>443.8</b>	33.5	<b>137.6</b>
AUG	77	43	4	31	0	183.5	61.6	1.7	23.9	0.0	183.0	<b>453.7</b>	33.6	<b>138.1</b>
SEP	78	43	4	28	0	184.6	61.7	1.7	21.2	0.0	183.0	<b>452.2</b>	33.7	<b>138.5</b>
OCT	78	43	4	23	0	185.7	61.8	1.7	17.7	0.0	183.0	<b>449.9</b>	33.8	<b>138.9</b>
NOV	79	43	3	29	0	186.9	61.9	1.7	22.3	0.0	183.0	<b>455.7</b>	33.9	<b>139.4</b>
DEC	79	44	3	31	0	188.0	62.0	1.6	23.7	0.0	183.0	<b>458.3</b>	34.0	<b>139.8</b>
<b>2021-JAN</b>	80	44	3	21	0	189.1	62.1	1.6	16.1	0.0	183.0	<b>451.9</b>	34.1	<b>140.2</b>
FEB	80	44	3	32	0	190.2	62.2	1.6	24.8	0.0	183.0	<b>461.8</b>	34.2	<b>140.7</b>
MAR	81	44	3	29	0	191.3	62.3	1.6	22.1	0.0	183.0	<b>460.3</b>	34.3	<b>141.1</b>
APR	81	44	3	24	0	192.5	62.4	1.5	18.6	0.0	183.0	<b>458.0</b>	34.4	<b>141.5</b>
MAY	82	44	3	30	0	193.6	62.4	1.5	23.2	0.0	183.0	<b>463.7</b>	34.6	<b>142.0</b>
JUN	82	44	3	32	0	194.7	62.5	1.5	24.7	0.0	183.0	<b>466.4</b>	34.7	<b>142.4</b>

TABLE 6.  
**Additional Forensic Bed Capacity Needed To Clear Wait List**

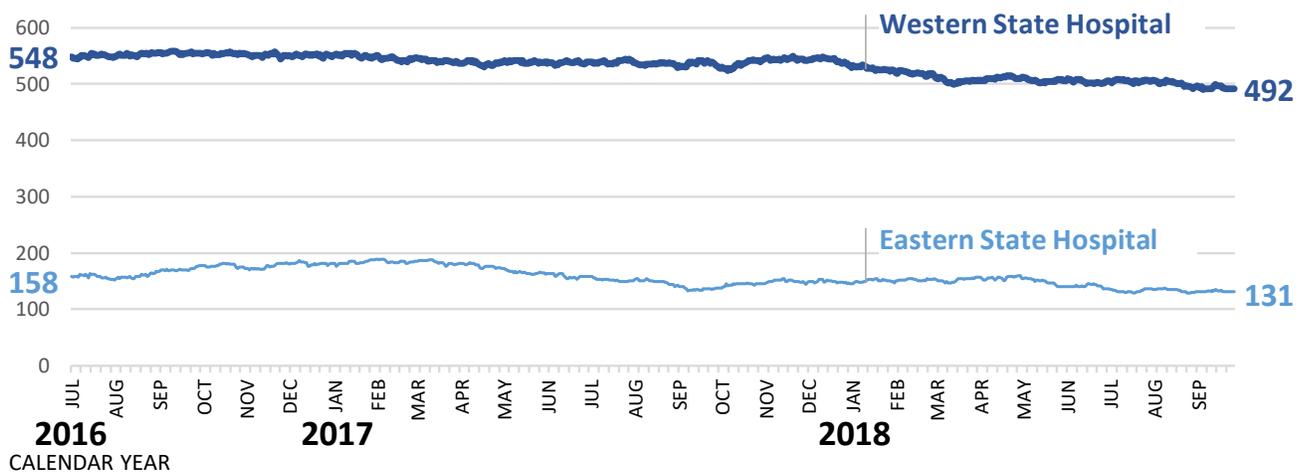
WESTERN STATE HOSPITAL							EASTERN
	Legal Authority Group						
	A	B	C	D	E	TOTAL	TOTAL
Wait List	97	75	3	64	21	260	26
Length of Stay (CY 2017)	65	39	13	21	13		96.4
Utilization Rate	90%	90%	90%	90%	90%		90%
Bed Days	7,006	3,250	43	1,493	303	12,096	2,786
<i>Additional beds needed to clear wait list in 12 months:</i>						<b>33.1</b>	<b>7.6</b>

## 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 has been declining at both hospitals over the last several months (Figure 13). Further, at WSH civil wait list length and use of single-bed certifications (SBCs) have been declining recently (Figures 14 and 15).<sup>4</sup> At ESH, the civil wait list has recently increased (Figure 15).

FIGURE 13.  
**Civil Daily Census, by Hospital**



<sup>4</sup> A Single Bed Certification allows a person to be detained under the Involuntary Treatment Act when there are no available certified Evaluation and Treatment (E & T) facility beds.

FIGURE 14.  
**Single-Bed Certification Daily Census, by Hospital**

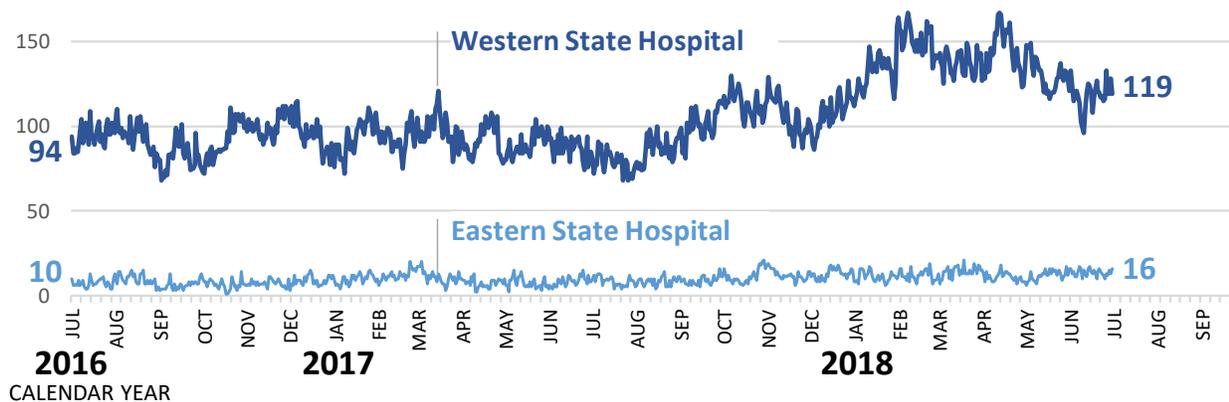
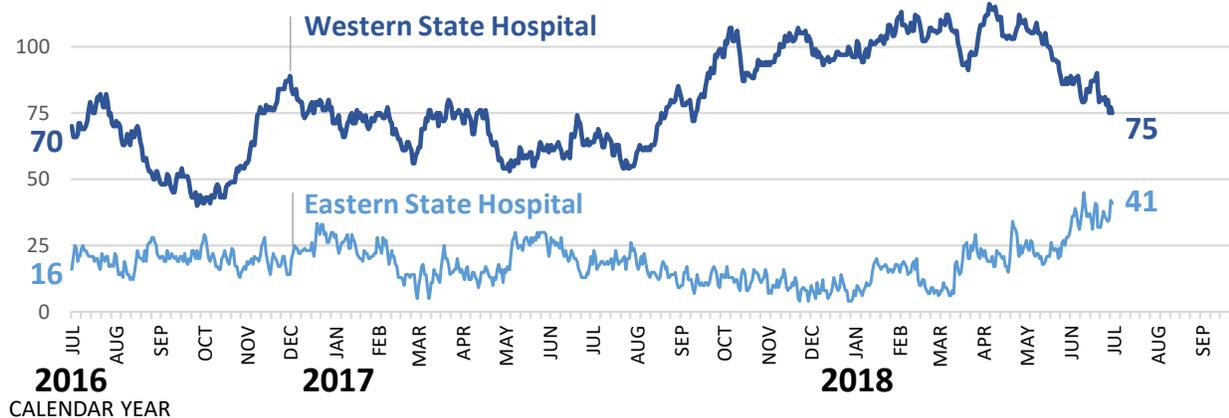


FIGURE 15.  
**Wait List, by Hospital**



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 geropsych 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 2018, 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;<sup>5</sup>

<sup>5</sup> Individual years (2021, 2022, 2023, etc.) are interpolated assuming flat growth rates within the associated 5-year Growth Management population forecast period.

- The translation of daily census levels (utilization) to bed need assumes 90 percent capacity utilization at WSH and 85 percent utilization at ESH;<sup>6</sup> and
- Estimates assume no change to currently observed average lengths of stay.<sup>7</sup>

The models estimate that by SFY 2021 842 beds will be needed to meet the demand for civil inpatient services associated with WSH, and 202 beds are needed to meet the demand associated with ESH. We emphasize that these forecasts include bed need associated with use of SBCs, in addition to admissions to the state hospitals for 72-hour, 14-day, 90-day, and 180-day civil commitments. This also includes the placement capacity necessary for patients currently served at WSH who are ready for discharge to a lower level of care. With forecast population growth, we project a need for 925 civil beds associated with WSH and 224 beds associated with ESH in SFY 2030.

TABLE 7.  
**WSH Civil Bed Need Model**

SFY	POPULATION ANNUAL CHANGE		UTILIZATION			BED NEED		
	20-54	55+	61.6% APU + HMH	38.4% Geropsych	Total Census	APU + HMH	Geropsych	Total Bed Need
2018	1.01%	3.02%	440	274	714	489	305	<b>793</b>
2019	1.01%	3.02%	444	282	727	494	314	<b>807</b>
2020	1.01%	3.03%	449	291	740	499	323	<b>822</b>
2021	0.71%	2.05%	452	297	749	502	330	<b>832</b>
2022	0.71%	2.05%	455	303	758	506	337	<b>842</b>
2023	0.71%	2.05%	458	309	768	509	344	<b>853</b>
2024	0.71%	2.06%	462	316	777	513	351	<b>863</b>
2025	0.71%	2.06%	465	322	787	516	358	<b>874</b>
2026	0.86%	1.54%	469	327	796	521	363	<b>884</b>
2027	0.86%	1.54%	473	332	805	525	369	<b>894</b>
2028	0.86%	1.54%	477	337	814	530	375	<b>905</b>
2029	0.86%	1.55%	481	342	823	534	380	<b>915</b>
2030	0.86%	1.55%	485	348	833	539	386	<b>925</b>
2031	0.83%	1.26%	489	352	841	543	391	<b>935</b>
2032	0.83%	1.26%	493	357	850	548	396	<b>944</b>
2033	0.83%	1.26%	497	361	858	553	401	<b>954</b>
2034	0.83%	1.26%	501	366	867	557	406	<b>963</b>
2035	0.83%	1.27%	506	370	876	562	411	<b>973</b>
2036	0.55%	1.29%	508	375	883	565	417	<b>982</b>
2037	0.55%	1.29%	511	380	891	568	422	<b>990</b>
2038	0.55%	1.30%	514	385	899	571	428	<b>999</b>
2039	0.55%	1.30%	517	390	907	574	433	<b>1,007</b>
2040	0.55%	1.30%	520	395	914	577	439	<b>1,016</b>

**NOTES:** 1. SFY 2018 utilization data reflects average SFY 2018 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.

<sup>6</sup> 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.

<sup>7</sup> 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.

TABLE 8.  
**ESH Civil Bed Need Model**

SFY	POPULATION ANNUAL CHANGE		UTILIZATION			BED NEED		
	20-54	55+	51% APU + HMH	49% Geropsych	Total Census	APU + HMH	Geropsych	Total Bed Need
2018	0.83%	2.24%	85	80	165	100	94	<b>194</b>
2019	0.83%	2.25%	86	82	168	101	96	<b>197</b>
2020	0.84%	2.26%	86	84	170	102	99	<b>200</b>
2021	0.81%	1.47%	87	85	172	102	100	<b>202</b>
2022	0.81%	1.48%	88	86	174	103	101	<b>205</b>
2023	0.82%	1.48%	89	88	176	104	103	<b>207</b>
2024	0.82%	1.48%	89	89	178	105	105	<b>210</b>
2025	0.83%	1.49%	90	90	180	106	106	<b>212</b>
2026	1.04%	1.13%	91	91	182	107	107	<b>214</b>
2027	1.04%	1.14%	92	92	184	108	108	<b>217</b>
2028	1.04%	1.14%	93	93	186	109	110	<b>219</b>
2029	1.04%	1.15%	94	94	188	110	111	<b>221</b>
2030	1.05%	1.15%	95	95	190	111	112	<b>224</b>
2031	0.86%	0.96%	96	96	192	112	113	<b>226</b>
2032	0.86%	0.97%	96	97	194	113	114	<b>228</b>
2033	0.86%	0.98%	97	98	195	114	116	<b>230</b>
2034	0.86%	0.98%	98	99	197	115	117	<b>232</b>
2035	0.87%	0.99%	99	100	199	116	118	<b>234</b>
2036	0.63%	1.02%	100	101	201	117	119	<b>236</b>
2037	0.64%	1.03%	100	102	202	118	120	<b>238</b>
2038	0.64%	1.03%	101	103	204	119	122	<b>240</b>
2039	0.64%	1.04%	101	104	206	119	123	<b>242</b>
2040	0.64%	1.05%	102	105	208	120	124	<b>244</b>

**NOTES:** 1. SFY 2018 utilization data reflects average SFY 2018 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.

## Conclusion

Table 9 below summarizes civil and forensic bed need forecasts for June 2021. Accounting for beds allocated for WSH NGRI patients, the model projects that 466 total forensic beds are needed by June 2021 for forensic patients attributable to WSH, including the capacity reflected in the 54 beds currently operating at Yakima and Maple Lane. If current WSH inpatient referral trends continue to hold through the end of SFY 2023, forecast WSH forensic bed need would rise to approximately 500 total forensic beds by June 2023. We forecast that 142 total ESH forensic beds will be needed by June 2021 (including NGRI beds). If current inpatient referral trends continue to hold beyond June 2021, forecast bed need would rise to approximately 152 total ESH forensic beds by June 2023.

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 9.

### Summary of Current Bed Capacity and Forecast Need in June 2021

Hospital	Type	Existing Beds (October 2018)	Forecast Bed Need (June 2021)
Eastern State Hospital	Forensic	125	142
Eastern State Hospital	Civil	192	202
Western State Hospital	Forensic	330 + 54 RTF beds	466
Western State Hospital	Civil	527	842

The civil bed need models estimate that by SFY 2021 842 beds will be needed to meet the demand for civil inpatient services associated with WSH, and 202 beds are needed to meet the demand associated with ESH. These forecasts include bed need associated with use of SBCs, in addition to admissions to the state hospitals for 72-hour, 14-day, 90-day, and 180-day civil commitments. 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 geropsych 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.