Washington State Department of Social and Health Services

Transforming Lives

REPORT TO THE LEGISLATURE

State Hospital Clinical Staffing Model and Acuity Tool – Implementation Progress

Engrossed Substitute House Bill 1109 (2019), Section 202 (1) (k)
December 1, 2019

Behavioral Health Administration
PO Box 45050
Olympia, WA 98504-5050
(360) 902-7871
https://www.dshs.wa.gov/bha/

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EXECUTIVE SUMMARY

Engrossed Substitute Senate Bill HB1109, Section 202 (1) (k) of the bill, provides for the Department of Social and Health Services to produce a one-time report, requiring the following:

> "…the department and hospital staffing committees must submit a report to the office of financial management and the appropriate committees of the legislature that includes the following: (A) Progress in implementing the acuity based staffing tool; (B) a comparison of average monthly staffing expenditures to budgeted staffing levels and to the recommended state hospital staffing plan by function and at the ward level; and (C) metrics and facility performance for the use of overtimes and extra duty pay, patient length of stay, discharge management, active treatment planning, medication administration, patient and staff aggression, and staff recruitment and retention. The department must use information gathered from implementation of the clinical staffing tool and the hospital-wide staffing model to provide budget oversight and accountability and inform and prioritize future budget requests for staffing at the state hospitals."

BACKGROUND

The Behavioral Health Administration is mandated to justify requests to increase hospital staffing by illustrating the hospitals current baseline, acuity level, and actual staffing numbers to the legislature. Historically, the state hospitals have implemented different systems in their attempts to better define, track, and trend nursing acuity and staffing:

Currently, both ESH and WSH have implemented a "staffing office" to handle appropriate staffing numbers for patient care. They review scoring from the systems used but require further communication tools such as ward reports to fully depict their staffing needs. This staffing includes all nursing roles that work on the wards. The Johnson Behavioral Health Systems methodology is the identified acuity scoring practice for both ESH and WSH. By design, a rating of 1-5 is used to indicate the acuity level of a patient based on their psychiatric needs and the ward they are in. However, processes between the two hospitals are not consistent. The score is increased by special actions such as an ordered 1:1 for monitoring, seclusion, restraint, fall risk, close suicide watch, and assist with activities of daily living (ADLs). Johnson Behavioral Health Systems Method level assessment parameters such as patient sub-systems and associated nursing care hours are not standardized and the scoring is not routinely used.

The goal is to implement a standardized patient acuity IT solution that provides data-driven documentation to show baseline, acuity level, and actual staffing numbers for each hospital. This data will help ensure our state hospitals are staffed at an appropriate level for the most effective patient centered care.

HISTORY OF HOSPITAL STAFFING

Washington has two state-operated adult inpatient psychiatric facilities: Eastern State Hospital (ESH) and Western State Hospital (WSH). Each of the facilities has been in operation for over 100 years. The hospitals operate more than 1,100 beds and employ more than 3,000 professionals.

The Department of Social and Health Services (DSHS), in accordance with Engrossed Substitute Senate Bill 6656 (2016), contracted with OTB Solutions in the summer of 2016 to produce a ward staffing model to meet state hospital patient care demands. In fall of 2017, the Behavior Health Administration formed a team with the primary task of developing a full hospital model, which expanded upon the OTB ward model. To assist with this task, DSHS secured the expertise of the former CEO of Oregon State Hospital (OSH).

Work began in earnest over the past five years to bring hospital operations in closer alignment to ensure consistency in care, quality, and safety, as well as leverage resources to achieve better cost efficiency, and improve outcomes.

OTB Model

As written in the OTB 2016 report, a Staffing Plan Assessment commissioned by the Oregon State Hospital concludes that due to the uniqueness of each psychiatric hospital and perhaps other factors, there are no meaningful national staffing benchmarks and/or comparable resources for inpatient psychiatric hospital models. Furthermore, each hospital has treatment methodologies and outcome goals that influence staffing.

BHA conducted a financial analysis. This included the following factors not covered in the model presented by OTB:

- Weekend staffing, seasonality patterns, nonproductive time
- Current vacancy levels and on-call coverage
- A ward by ward detailed analysis, such as variation in duties across wards
- Acuity; a ward-level analysis is not a good substitute for acuity
- Non-direct care staff that provide clinical staffing needs and non-clinical staffing needs
- Permanent versus temporary positions
- Differing roles within a job description (for example, how MHT1, MHT2, MHT3 are used)

Oregon State Hospital Model

There are few psychiatric hospitals to use as benchmarks as most struggle to acquire, train and retain enough high performing staff and operate in poorly designed and maintained physical environments. Because each hospital varies in size, scope and intensity in the services provided, the types of patients treated, and the care model used, it is difficult to draw any meaningful conclusions or insights from the data alone.

Given the similarities between Washington's current experience and the past experience of Oregon, working with OSH was a logical approach. DSHS decided to use the OSH staffing structure as the foundation for construction of a single staffing model for Washington's State Psychiatric Hospitals. On September 27, 2017, BHA contracted with the former CEO of Oregon State Hospital to assist with a state hospital workgroup to examine the OTB Model and complete the work started by OTB. The workgroup was charged with completing specific tasks that would yield a staffing model January 29, 2018.

Table One: July 2019 Recommended Staffing Model Summary

Functional Category	Oregon State Hospital	Western State Hospital	Eastern State Hospital
Administration	24	36	22
Physical Medicine	77	82	42
Psychiatry	43	59	22
Psychology	70	97	36
Social Work	45	74	30
Rehabilitation	95	133	56
Non-Direct Care	158	146	42
Direct Care	990	1,342	523
Treatment Malls	98	80	32
Ward Manager	-	-	-
Treatment Team Coordinators	24	30	11
Legal Services	42	10	9
Quality Management	60	67	35
Business Office	52	10	6
Facilities	49	6	1
Housekeeping	70	120	45
Food Services	90	141	49
Warehouse & Laundry	12	12	2
Security	103	152	46
Staff Training & Development	24	33	16
Total	2,126	2,630	1,025
# of Beds	620	857	317
Ratio	3.43	3.07	3.23
# of Wards/Units	24	30	11
# of Treatment Malls	6	5	2
# of Centers	4	10	3

PROGRESS ON IMPLEMENTING THE ACUITY-BASED STAFFING TOOL

The request to identify an acuity model to help determine staffing levels at the state hospitals, prompted a complete extensive research dive. There were no evidence-based acuity models that were identified to use for psychiatric facilities and even the research on medical nursing acuity models was rather sparse. Beyond that, there are some significant and rapidly changing variables to consider when assessing psychiatric acuity that don't exist when assessing medical acuity. The results of the tools are intended to be used to inform staffing decisions, but not necessarily used to driving staffing levels.

Given this information, both state hospitals looked at the request as a great opportunity to develop a tool that combines the features of the popular nursing Johnson Behavioral Health Systems Model and also identifies and utilizes the psychiatric acuity variables that impact the number of care hours needed on each shift, which can be used to determine staffing needs beyond the baseline. The team selected the Johnson Behavioral Health Systems Model to be the foundational format from which to begin developing the Hospital Acuity Resource Tool (HART) as it is widely used.

The workgroup designed the HART and completed two pilots, utilizing the data each time to make revisions to improve consistency, accuracy and inter-rater reliability. While the tool will go live at ESH on 11/18/19 and WSH on 12/2/19, the plan is to continue to collect data, and use that data to continue to improve the tool and to validate the methodology.

The HART will introduce a new application to improve and optimize the current nursing acuity clinical assessment tracking. This tool creates a standardized scale for nursing acuity in relation to staffing and scheduling practice for both ESH and WSH. The new scale was developed by a team representing both hospitals, approved by the Chief Nursing Officers (CNOs). Terminology has been standardized for patient acuity scoring between ESH and WSH.

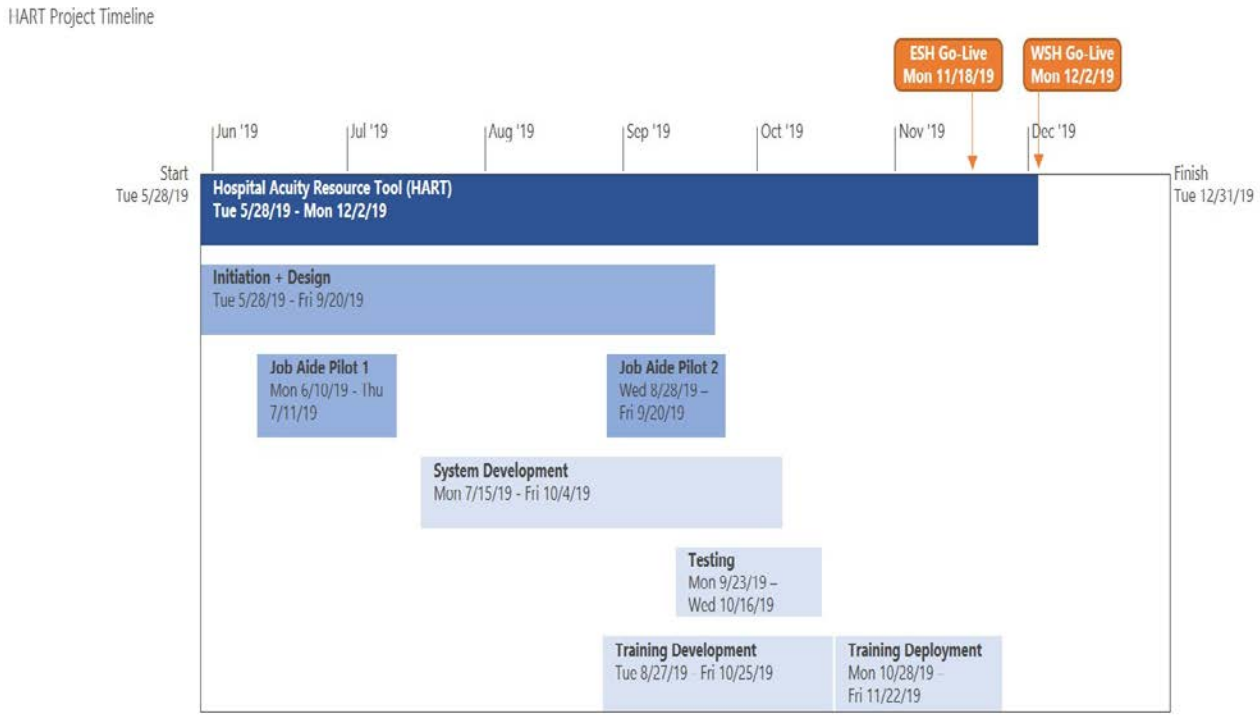
Hospital Acuity Resource Tool (H.A.R.T.)

Intervention and Activity Description	Level	Examples of Source Documents to Support Acuity Level
• Requires and participates in the standard ward routine; maintaining appropriate behaviors. • Sleeps throughout shift (no additional interventions needed). • Care effectively provided in group setting. • Modifying maladaptive behaviors and reinforcing new adaptive behaviors (treatment delivered within milieu).	Shift Acuity Level 1	No specific documentation other than on the shift report and environmental safety checks
• New admission (25 - 72 hours). • Modified self-medication. • Inter-ward transfers (1st 72 hours). • Requires frequent cues/reminders for adaptive behavior (treatment delivered in the milieu or individually). • Partial/Total assist with ADLs. • Off campus appointment not requiring escort by ward staff. • Medical conditions that require nursing interventions (BG checks, nebulizer, wound care, CPAP). • Pending discharge from a Forensic ward (shift of). • Pending discharge from a Civil ward (within 24 hours).	Shift Acuity Level 2	ADL flowsheet. Progress notes. Treatment plan or addendum for nursing responsibilities, progress notes. Treatment Administration Record for medical issue interventions, or flowsheets specific to intervention, such as Diabetic flowsheet.
• New admission (1st 24 Hours). • Destabilizing episode (medical or psychiatric origin, i.e. seclusion/ restraint episode, fall). • Off campus appointment requiring escort by ward staff.	Shift Acuity Level 3	ADL flowsheet. Progress notes for destabilizing event. Patient chart for S/R. Treatment plan or addendum. Prescribed Treatment Orders
• 1:1 ordered (or escort/monitor required 6 hours of more during shift using 1 staff).	Shift Acuity Level 4	Prescribed Treatment Orders Progress notes
• 2:1 ordered (or escort/monitor required 6 hours of more during shift using 2 staff).	Shift Acuity Level 5	Prescribed Treatment Orders Progress notes

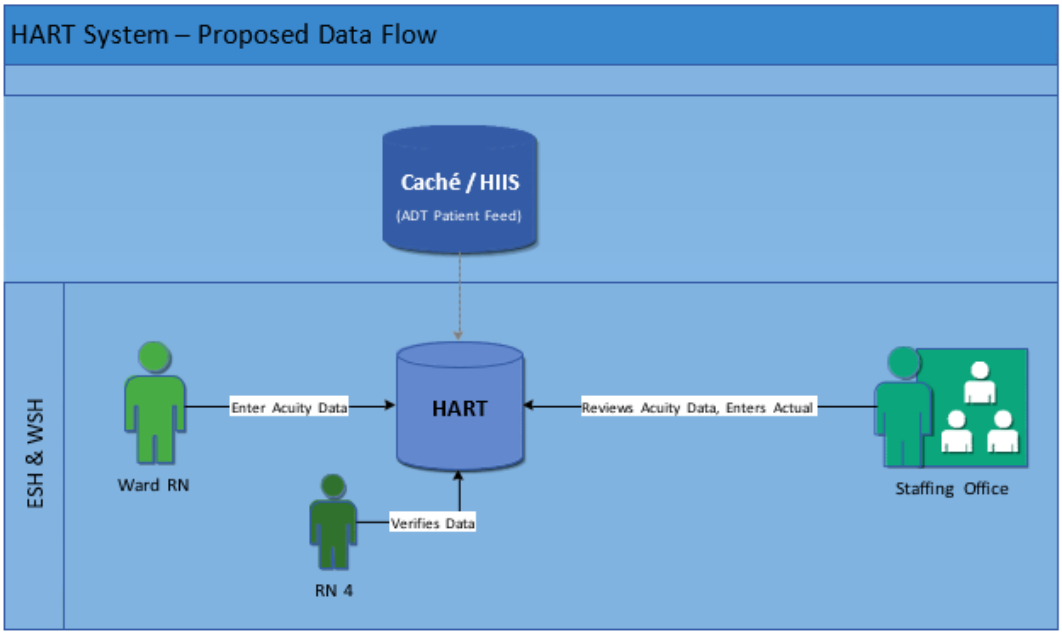
The HART application is being developed to document, track, and report patient acuity. Associated nursing care hour(s) have been assigned to each patient acuity level and will be utilized to calculate acuity level staffing needs. Acuity level staffing numbers will be set by adding all associated nursing care hours for the patient acuity level scores on each ward during each shift, and dividing that sum by eight. Eight represents the number of hours worked by nursing staff for each shift.

Hospital staff will exclusively use the HART application to store baseline staffing numbers, calculate acuity level staffing numbers, and enter actual staffing numbers assigned to each ward for each shift by the staffing office. This will occur in "real time". Functionality to modify the baseline staffing number for a specific ward and shift will only be available to the hospital CEO with approval from the Assistant Secretary for the Behavioral Health Administration.

HART timeline detailed below:



HART system use and data flow detailed below:



Baseline, acuity level, and actual numbers will be stored in the new HART application via a database managed by BHA IT. The data stored will be used by DSHS' Research and Data Analysis (RDA) group to deliver reports as needed. These enhancements will create data-driven documentation that can be used by leadership to better understand and estimate staffing needs.
The new HART application will capture, (1) baseline staffing numbers by ward and shift, (2) all patient acuity levels assessed for each ward and shift used with associated nursing care hours to create acuity level staffing numbers, and (3) actual staffing numbers assigned to each ward for each shift.

The HART application will enhance current state clinical process and technical support through the following expected benefits:

- Standardized patient acuity assessment practice
- Standardized terminology surrounding patient acuity scores
- Standardized acuity reports
- Uniform data between ESH and WSH
- Improved overall data quality through standard process
- Improved tracking and trending of patient acuity and the associated staffing practices
- Improved staff morale: better support, less burnout

Once implemented, nurses will quickly enter the patient data into the computer, then the charge nurse or unit manager can run a report. There may be many patients with high acuity - or just the opposite. When the report indicates that patient acuity is likely to be high on the next shift or next day, the unit manager may decide a “float nurse” is needed. The acuity system can also help the manager decide exactly where to place float nurses and others, so that the patients with the greatest needs are in the care of the most experienced nurses or those with specialized skills. This reflects the need to focus on both tasks, as well as on the cognitive skills and knowledge that are crucial to expert nursing care – patient assessments, nursing interventions, and patient advocacy.

A single statewide acuity model and static model will be implemented consistently in both state hospitals. The acuity model will be a 24/7 model for all staffing needs that adjusts for seasonal patterns, vacancy levels, on-call and non-clinical time. It will incorporate acuity assessment methodology to evaluate and adjust staffing to meet patient care and safety needs at the ward level. The static/overall state hospital staffing model will include all positions and functions of the facilities. Metrics and facility performance will continue to be established, tracked, monitored, and monthly staffing and expenditures at the state hospitals are reported, including overtime and use of locums, to the functional categories identified in the recommended staffing plan.

The recommended model provides, for the first time, a single statewide hospital organizational structure that would be implemented consistently in both hospitals. The synergy created as the hospitals worked together to build a unified structure will be replicated for future collaboration that leads to better care, enhanced quality, improved safety, and greater efficiency.

NEXT STEPS

Staffing based on patient acuity is central to ensuring quality patient outcomes, a stable nursing workforce, and financial viability. Acuity-based staffing systems valuably augment nursing knowledge and judgment, and assure accurate and safe staffing. A strategic nurse workforce plan with technology enables a new level of CNO and CFO partnership that supports delivery of the highest possible quality of care, safety and cost management. Next steps and some estimated completion dates include but are not limited to:

1. Define, plan, and implement HART IT solution, decision-making, and collaboration within nursing and the scheduling office. ESH implementation by November 18, 2019 & WSH implementation by December 2, 2019.

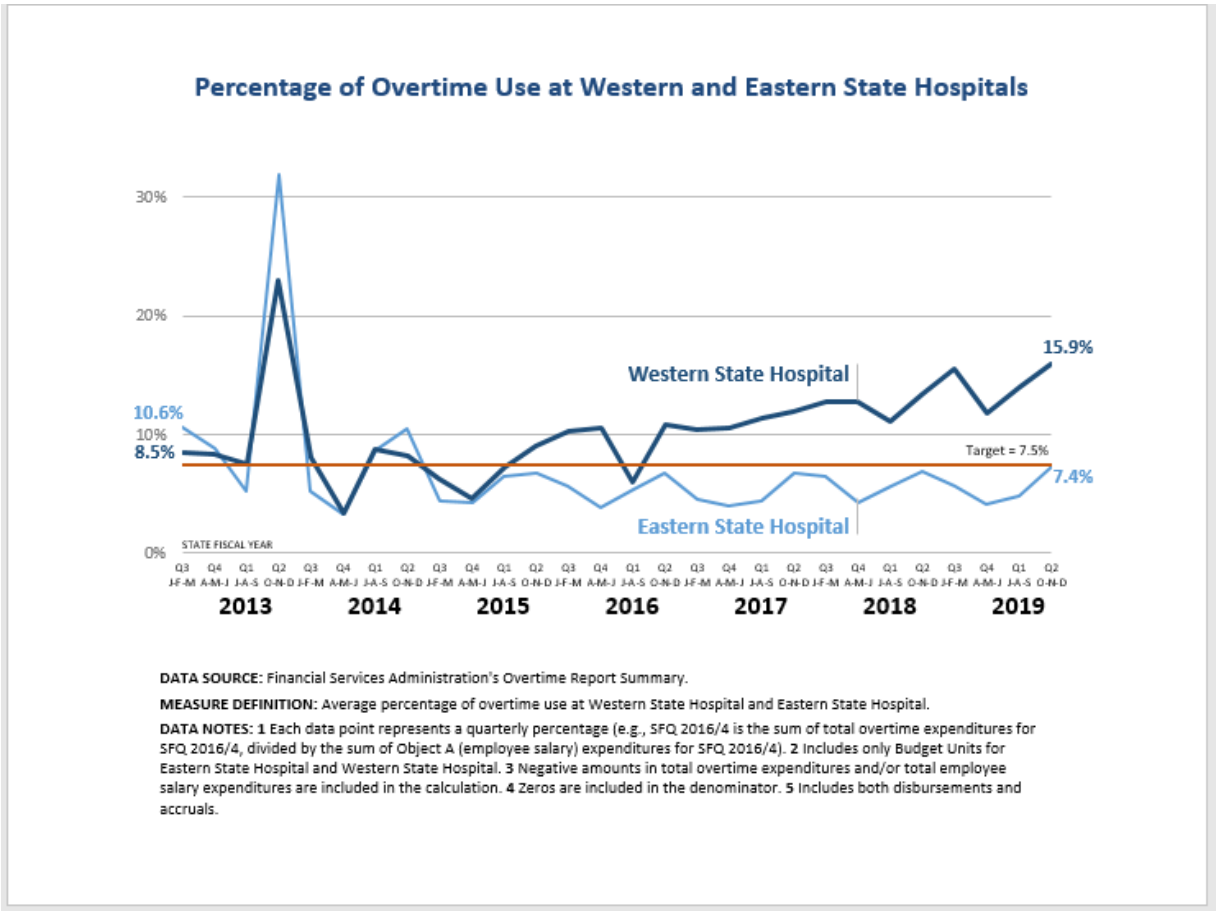
2. Develop a program and educate nursing and scheduling on the value and the use of the acuity-based tool by October 31, 2019.

3. Validate precision of the acuity data and methodology.

4. Future decision packages for requesting additional direct care staff, including additional resources for a float pool to help close the gap on nursing shortages and reduce the use of overtime will be supported by validation of HART data provided by RDA.

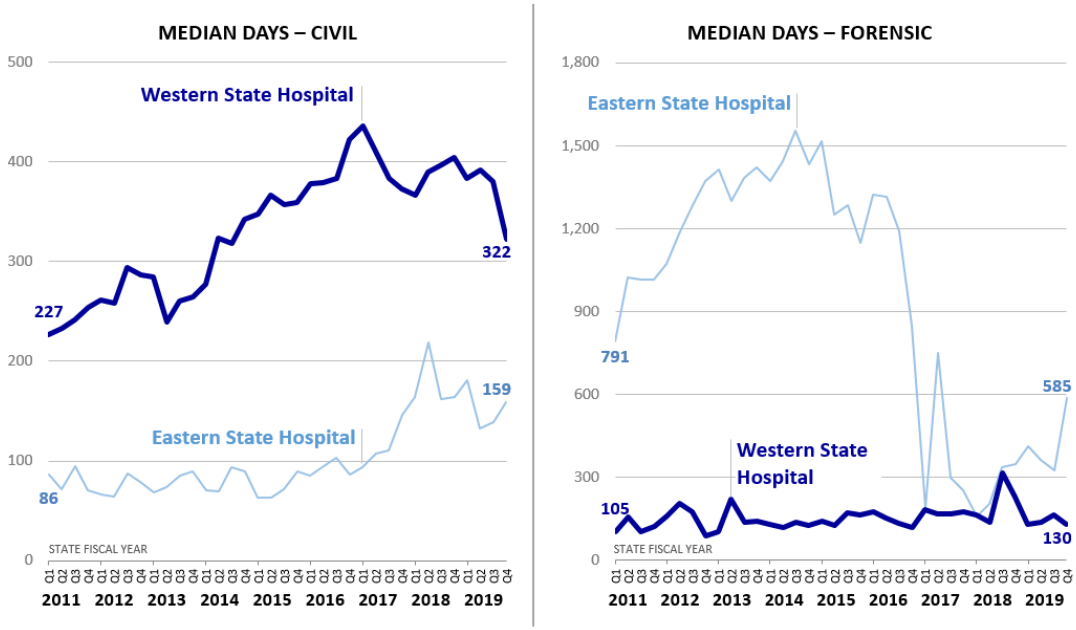
PERFORMANCE METRICS

Because a fully-integrated implementation of the acuity staffing tool (HART) and the hospital-wide staffing model has not yet taken place, there are no performance metrics related to and informed by the tool to share at this time. However, the following data reflects baseline information the department currently collects and reports upon:



State Hospital Median Length of Stay by Fiscal Year Quarter and Legal Status

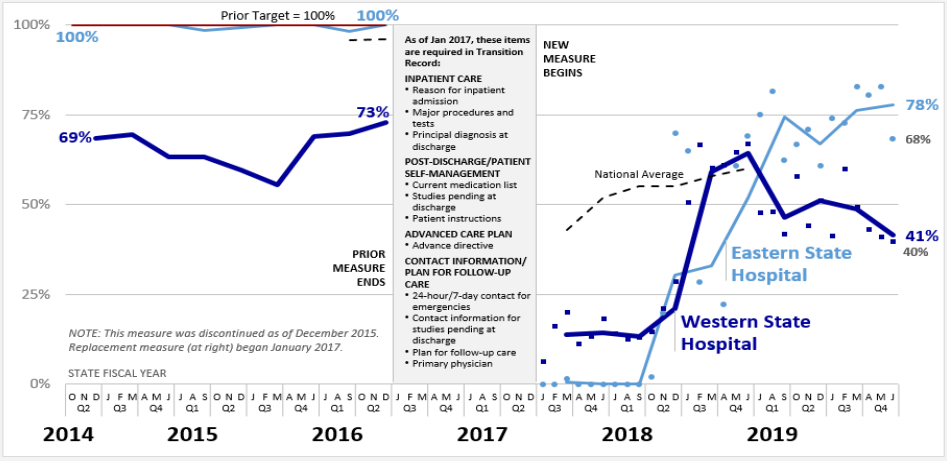
Excludes time spent in other inpatient facilities prior to admission at the hospital



DETAIL: Residential days at the hospital on the first day of each fiscal quarter. No prior inpatient days at Evaluation and Treatment or Community Hospital are counted in the Length of Stay. Legal status reported for the first day of the quarter. Patients who change status (e.g. Forensic to Civil) have their LOS continued in the new status and are reported based on their legal status on the reporting date.

SOURCE: DSHS Research and Data Analysis Division, Integrated Client Databases. BHSS SH Daily Census.

Overall rates of post discharge continuing care plans created at Eastern State Hospital and Western State Hospital



DATA SOURCE: Reports from Eastern State Hospital and Western State Hospital. National average from NRI's HBIPS Comparative Statistics Report (HAP and BHC).

MEASURE DEFINITION: Overall rates of post discharge continuing care plan. Dots equal monthly data (suppressed where number is less than 10). Lines indicate quarterly trend; small Ns are included in quarterly average.

DATA NOTES: 1 This measure has been discontinued as a Hospital-Based Inpatient Psychiatric Services Measure. Related replacement measures will be available when data is compiled for January-March 2017. **2** Overall rate calculations: Numerator: Inpatients for whom the post discharge continuing care plan is created and contains all of the following: reason for hospitalization, principal discharge diagnosis, discharge medications and next level of care recommendations. Denominator: Inpatient discharges. **3** Included populations: Patients referred for next level of care with mental disorder diagnoses.

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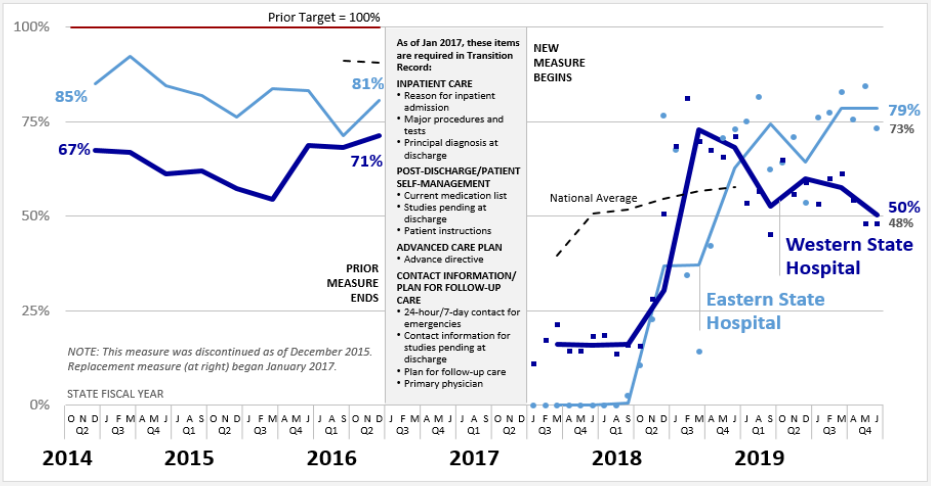
Overall rates of post discharge continuing care plans transmitted to next level of care provider upon discharge at Eastern State Hospital and Western State Hospital



DATA SOURCE: Reports from Eastern State Hospital and Western State Hospital. National average from NRI's HBIPS Comparative Statistics Report (HAP and BHC).

MEASURE DEFINITION: Overall rates of post discharge continuing care plan transmitted to next level of care provider upon discharge. Dots equal monthly data (suppressed where number is less than 10). Lines indicate quarterly trend; small Ns are included in quarterly average.

DATA NOTES: 1 This measure has been discontinued as a Hospital-Based Inpatient Psychiatric Services Measure. Related replacement measures will be available when data is compiled for January-March 2017. **2** Overall rate calculations: Numerator: inpatients for whom the post discharge continuing care plan was transmitted to the next level of care clinician or entity. Denominator: inpatient discharges. **3** Included populations: Patients referred for next level of care with mental disorder diagnoses.

http://emis.dshs.wa.gov/Report/View?definition=BH8*197901-999906*20654&format=excel

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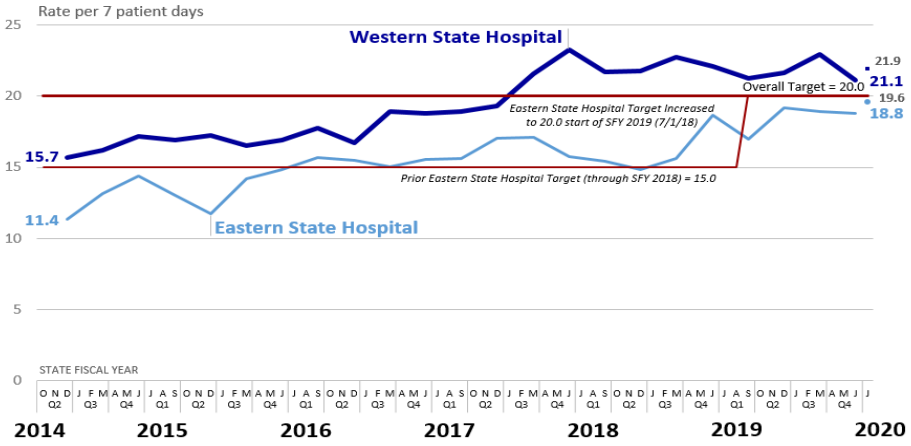
Quarterly rates of active treatment hours delivered per 7 patient days at Eastern State Hospital and Western State Hospital for all patients



DATA SOURCE: Reports from Eastern State Hospital and Western State Hospital.

MEASURE DEFINITION: Active treatment hours delivered (per 7 patient days) during the reporting quarter, at each of Eastern State Hospital and Western State Hospital. Includes both civil and forensic patients.

DATA NOTES: 1 The rate is calculated by dividing the number of active treatment hours delivered in a given quarter by the number of patient days utilized by a state hospital in that quarter; and then multiplying the quotient by seven. **2** Active treatment hours are distinctly tracked for each of the state hospitals, for purposes of calculating quarterly rates by facility.

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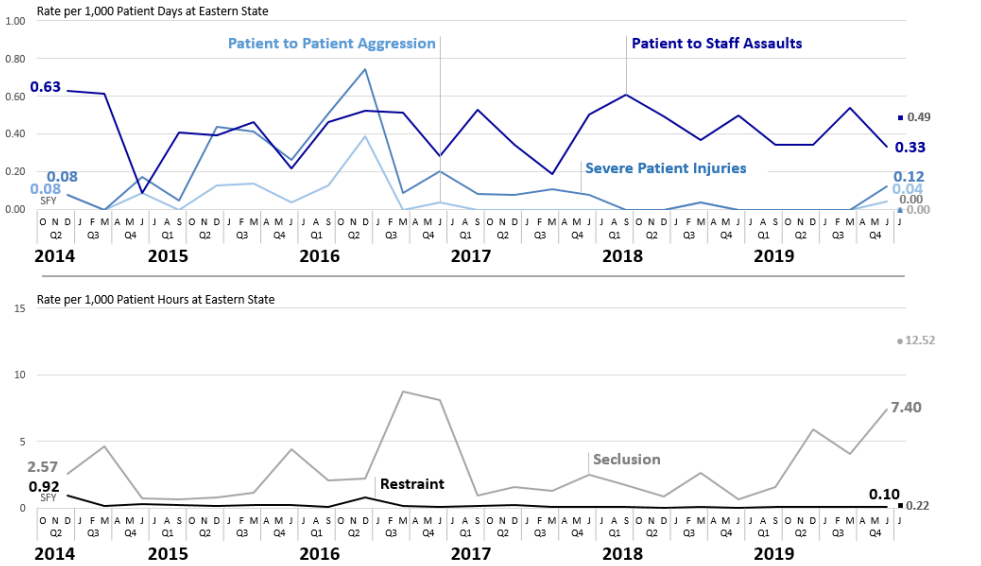
Rate of Aggression, Injury, Assault, Seclusion and Restraint at Eastern State Hospital

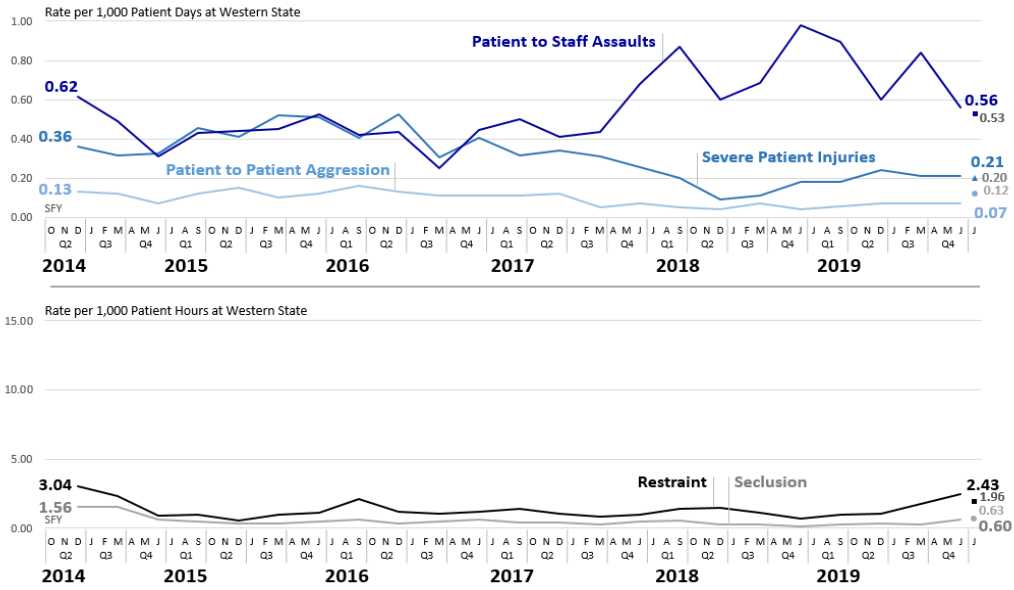


NOTE: Incidents are distinctly tracked for each of the state hospitals, for purposes of mapping rates by facility. **2** An injury occurs when a patient suffers physical harm or damage, excluding the result of a disease process. Severe patient injuries include all patient injuries with a severity level of "3" or higher (3 = medical intervention; 4 = hospitalization; 5 = death). http://emis.dshs.wa.gov/Report/View?definition=AB3.2*197907-999906*10666&format=excel | http://emis.dshs.wa.gov/Report/View?definition=ABX.7*197901-999906*10691&format=excel | http://emis.dshs.wa.gov/Report/View?definition=ABX.8*197901-999906*10692&format=excel

SOURCES: Reports from Eastern State Hospital and Western State Hospital. http://emis.dshs.wa.gov/Report/View?definition=ABX3.1*197901-999906*10686&format=excel | http://emis.dshs.wa.gov/Report/View?definition=ABX4.1*197901-999906*10687&format=excel

SP 3.2 (AB3.2), ABX.7, ABX.8, ABX3.1, ABX4.1

Rate of Aggression, Injury, Assault, Seclusion and Restraint at Western State Hospital



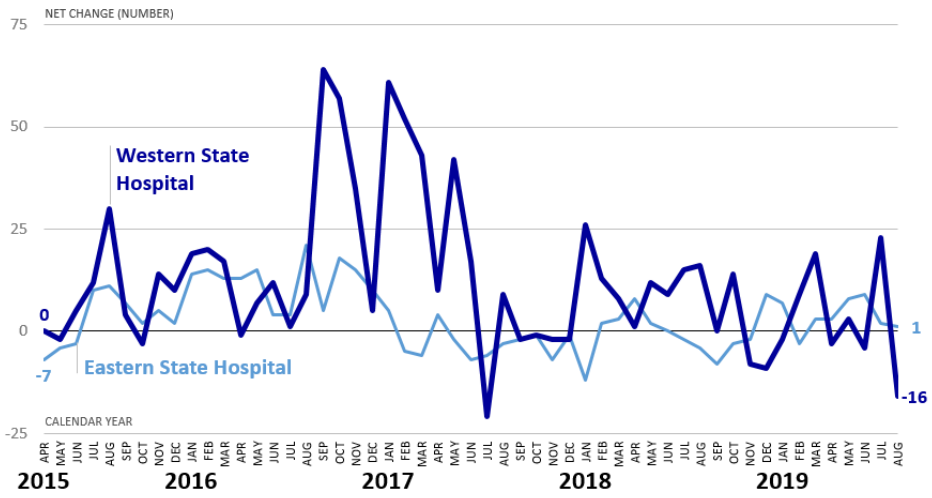
NOTE: Incidents are distinctly tracked for each of the state hospitals, for purposes of mapping rates by facility. **2** An injury occurs when a patient suffers physical harm or damage, excluding the result of a disease process. Severe patient injuries include all patient injuries with a severity level of "3" or higher (3 = medical intervention; 4 = hospitalization; 5 = death). http://emis.dshs.wa.gov/Report/View?definition=AB3.2*197907-999906*10666&format=excel | http://emis.dshs.wa.gov/Report/View?definition=ABX.7*197901-999906*10691&format=excel | http://emis.dshs.wa.gov/Report/View?definition=ABX.8*197901-999906*10692&format=excel

SOURCES: Reports from Eastern State Hospital and Western State Hospital. http://emis.dshs.wa.gov/Report/View?definition=ABX3.1*197901-999906*10686&format=excel | http://emis.dshs.wa.gov/Report/View?definition=ABX4.1*197901-999906*10687&format=excel

SP 3.2 (AB3.2), ABX.7, ABX.8, ABX3.1, ABX4.1

Net Change in Number of State Hospital Employees

Adequate Staffing to Ensure Quality Care



DATA SOURCE: DSHS Human Resources Division, Human Resource Management System.

MEASURE DEFINITION: Net change of employees is calculated by gains (new hires) for the month minus losses (attrition).

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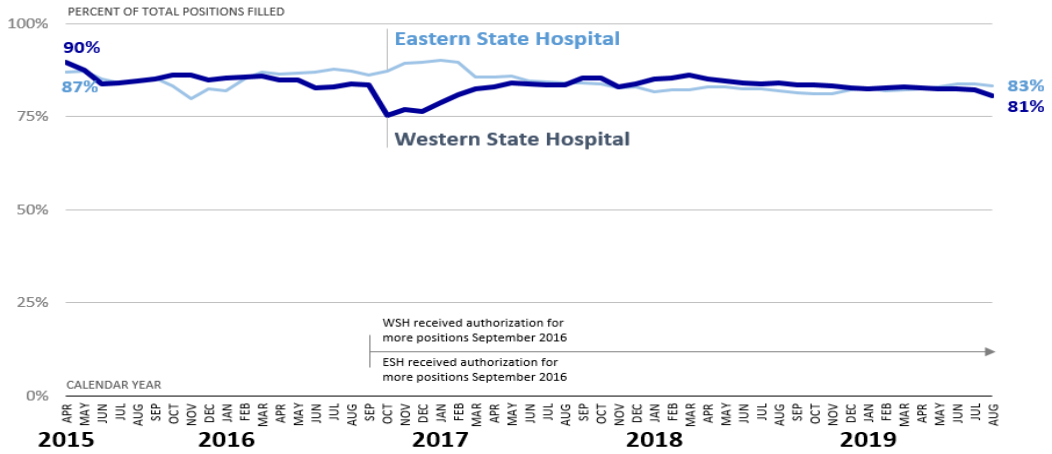
Percent of Filled State Hospital Positions

Adequate Staffing to Ensure Quality Care



DATA SOURCE: DSHS Human Resources Division, Human Resource Management System.

MEASURE DEFINITION: Net change of employees is calculated by gains (new hires) for the month minus losses (attrition).

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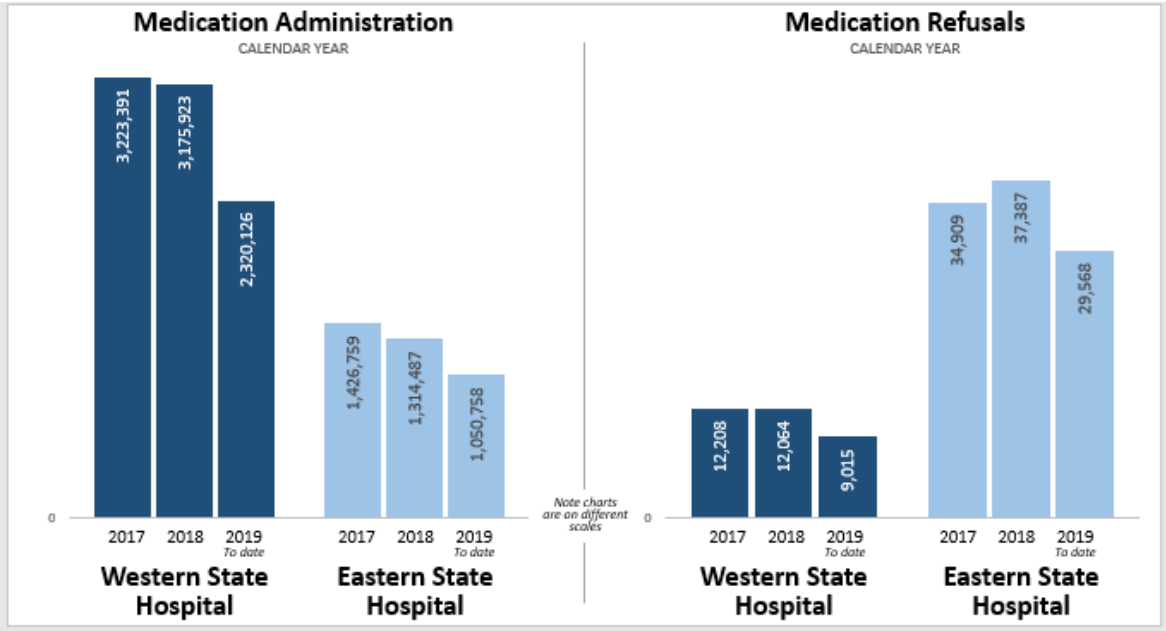
Medication Administration
CALENDAR YEAR
3,223,391
3,175,923
2,320,126
1,426,759
1,314,487
1,050,758
0
2017
2018
2019
To date
Western State Hospital
Eastern State Hospital
Note charts are on different scales
Medication Refusals
CALENDAR YEAR
12,208
12,064
9,015
34,909
37,387
29,568
0
2017
2018
2019
To date
Western State Hospital
Eastern State Hospital