Adult Psychiatric Inpatient Capacity Demand Analysis for the State of Vermont

Presentation to the House Committee on Corrections and Institutions
Feb. 6, 2019

Eve Hoar, MBA, Network Director Strategic and Business Planning

THE
University *of* **Vermont**
H E A L T H   N E T W O R K

Inpatient Mental Health Facility Planning

- Spring 2018: Green Mountain Care Board order
    - Invest $21M to "measurably increase inpatient mental health capacity in Vermont"
    - Build in 3-4 years

- Design and create a UVM Health Network inpatient psychiatric facility/unit on the Central Vermont Medical Center Campus that will substantially improve access to inpatient mental health care as part of an integrated system of care in Vermont.

- Anchor planning in data-driven, evidence-based process.

- Create opportunities to share information publicly, including community forums, legislative briefings, media relations, public reporting, etc.

Commitment to Community Engagement

10/1/18 – present

Date	Tactic	Audiences
10/4/2018	Presentation: PIC Modeling Analysis	Community Collaborative
10/5/2018	GMCB Meeting	Green Mountain Care Board and Staff
10/12/2018	Presentation: PIC Modeling Analysis	VAHHS Board meeting
10/12/2018	Presentation: PIC Modeling Analysis	VAHHS CMO Meeting
10/15/2018	Presentation: PIC Modeling Analysis	Howard Center (Catherine Simonson and Charlotte McCorkel)
10/15/2018	GMCB Report Distribution	Green Mountain Care Board
10/16/2018	PIC overview	Program Quality Meeting
10/16/2018	CVMC Community Town Hall	CVMC key influencers and public
10/23/2018	Presentation: PIPs Follow-up Deep Dive	Rep. Anne Donahue, Ward Nial and Daniel Towle
10/25/2018	GMCB Report Distribution	PIPs Committee; UVMMC Program Quality Committee
10/26/2018	Meeting with Legislators	Rep. Lori Houghton and Rep. Ben Jickling

Date	Tactic	Audiences
11/6/2018	AHS Meeting	AHS Secretary
11/27/2018	Legislative Update	Rep. Mary Hooper
11/28/2018	GMCB Hearing	Green Mountain Care Board
12/5/2018	AHS Meeting	AHS Secretary and key staff
12/20/2018	Inpatient Psych Presentation	Vermont Medical Society
12/20/2018	PIPS Meeting	Community Stakeholders Group
1/4/2019	VAHHS ED Medical Directors	ED Medical Directors
1/8/2019	Meeting with Peer Advocates	Elaine Toohey , Vicki Warfield and Ward Nial
1/15/2019	GMCB Report Distribution	Green Mountain Care Board, PIPS
1/17/2019	UVMMC Community Leaders Breakfast	AHS, GMCB, PIPS, Community members
1/24/2019	Inpatient Psych Presentation	VAHHS Designated Hospitals

Analysis Scope

Objective:

Estimate the number of <u>additional</u> beds needed for adult inpatient psychiatry, focusing particularly on the problem of psychiatric patients waiting in EDs statewide for bed placement

Key Assumption:

Currently existing adult inpatient bed capacity across the state remains in place (i.e., IMD issue for VPCH, Brattleboro Retreat is set aside while quantifying the incremental bed requirement issue)

Adult IP Psych Capacity: Current State
200 Adult Beds in VT

Location	Type	Age	Subject to IMD Waiver	Capacity
Brattleboro Retreat Osgood 2 (LGBT)	In-Patient	Adults 18+	✓	15
Brattleboro Retreat Osgood 3 (Emerging Adult)	In-Patient	Adults 18+	✓	14
Brattleboro Retreat Tyler 1 (Co-Occurring)	In-Patient	Adults 18+	✓	22
Veterans Affairs – White River Jct	In-Patient	Adults 18+		12
Brattleboro Retreat Tyler 2 (Acute Adult)	In-Patient	Adults 18+	✓	24
Brattleboro Retreat Tyler 4 (Level 1 Adult)	In-Patient-Level1	Adults 18+	✓	14
Central Vermont Medical Center	In-Patient	Adults 18+		15
Rutland Regional Medical Center PSIU (acute care)	In-Patient	Adults 18+		17
Rutland Regional Medical Center PSIU South Wing (Level 1 acuity)	In-Patient-Level1	Adults 18+		6
University of VT Medical Center Shep 3	In-Patient	Adults 18+		12
University of VT Medical Center Shep 6	In-Patient	Adults 18+		16
Windham Center (Springfield)	In-Patient	Adults 18+		10
Vermont Psychiatric Care Hospital	In-Patient-Level1	Adults 18+	✓	25
TOTAL				200

63 Focused Beds

Brattleboro Retreat: 65% VT

137 General Beds

45 Level One
92 General IP Psych

5

Adult IP Psych Capacity: Current State

- 200 Adult IP Psych Beds today:
  - 137 "general" beds
    - 45 Level One
    - 92 General IP Psych

46% (63 beds) of general beds under IMD reimbursement

- 95% or higher occupancy, 100% for Level 1 Beds (DMH reports, June 2018)
- Increase in patient acuity driving longer average length of stay (ALOS)
- Constrained to meet mental health needs for additional patients

VAHHS Mental Health Data: ALOS = 23 days for discharged patients, 151 days for non-discharged patients

| Hospital | Mental Health Inpatient Discharges (MDC = 19) | | | | | | | | |
| | Discharges | | | Total Patient Days | | | ALOS | | |
	2015	2016	2017	2015	2016	2017	2015	2016	2017
CVMC	379	370	408	4,013	3,979	4,572	10.6	10.8	11.2
Rutland	583	486	523	7,381	6,340	6,239	12.7	13.0	11.9
Springfield	357	329	322	2,383	2,700	2,349	6.7	8.2	7.3
UVMMC	502	497	530	8,599	8,859	10,750	17.1	17.8	20.3
Total	**1,821**	**1,682**	**1,783**	**22,376**	**21,878**	**23,910**	**12.3**	**13.0**	**13.4**

THE University of Vermont HEALTH NETWORK

Adult Inpatient Psychiatric Patients: Sources

ED

IP Med/Surg Bed

Direct Admit from Community

Direct from Community 10%

IP Med/Surg 10%

ED 80%
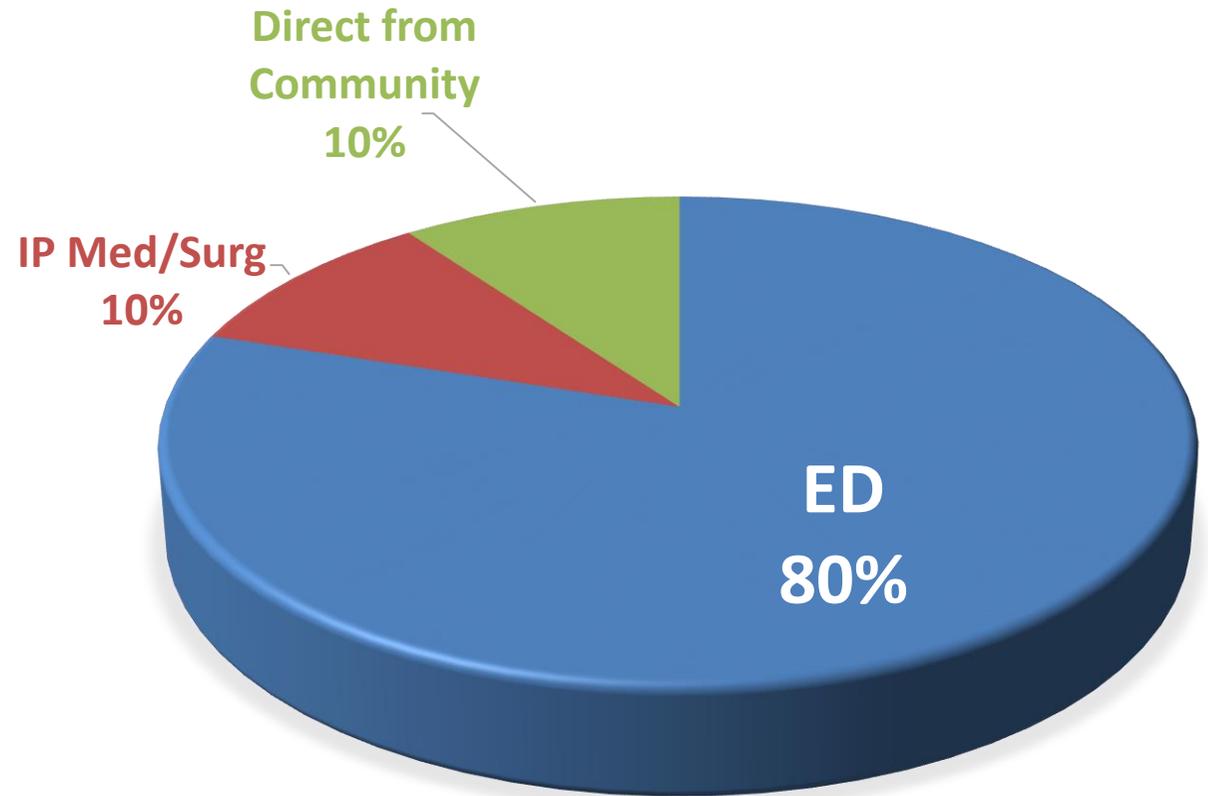
UVMMC Adult IP Psych Patients May 2017-April 2018

THE University *of* Vermont
HEALTH NETWORK

ED Psych Patient Volumes High, Significant Number of Longer Stays
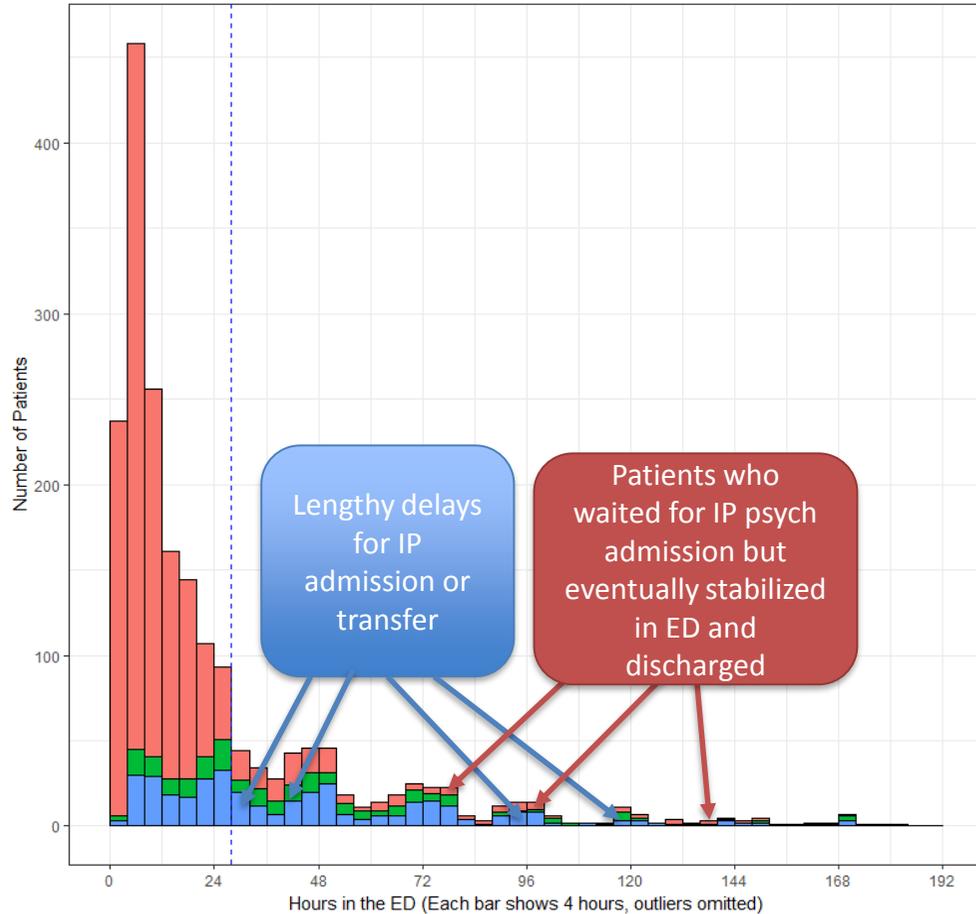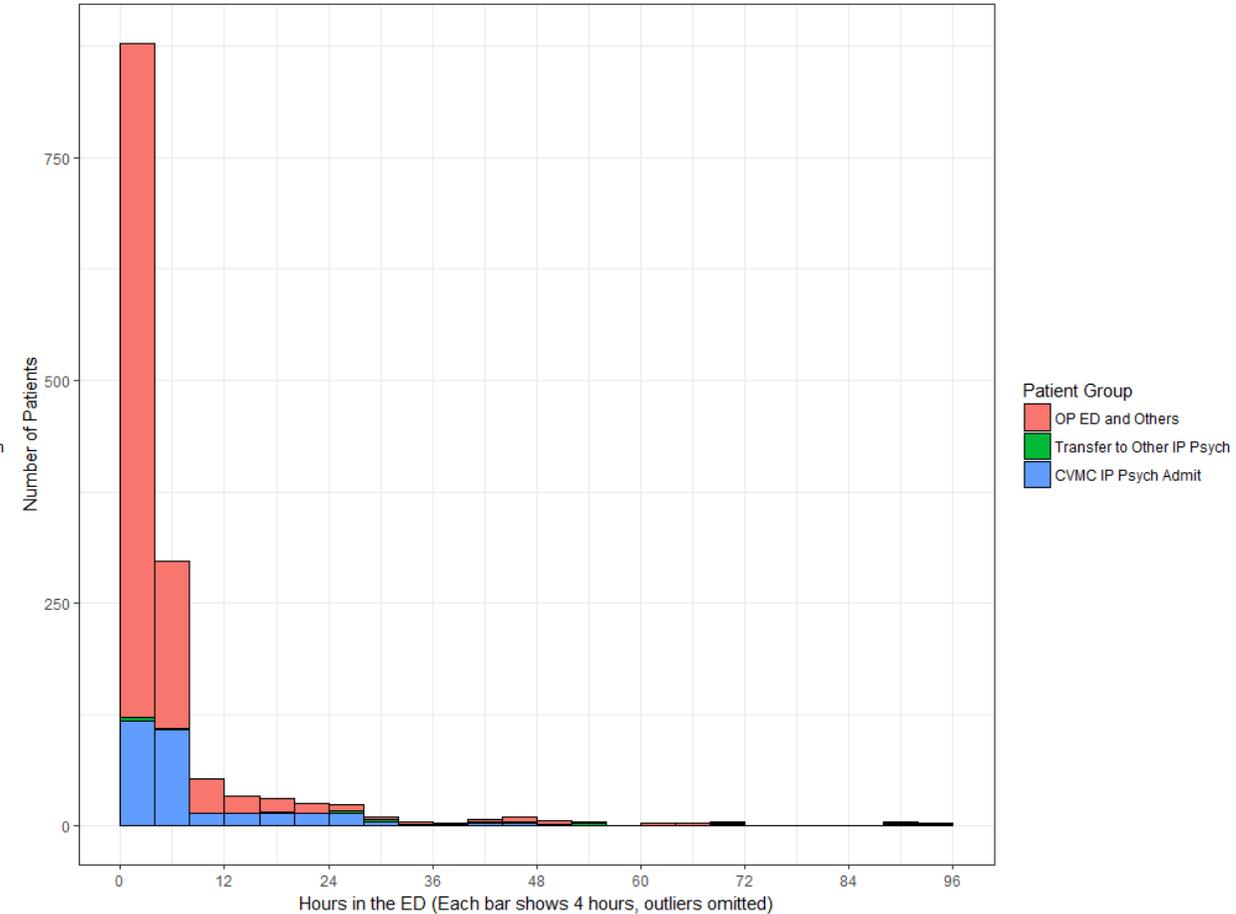
Note: while outliers are not shown on the graphs above for improved readability, models and simulations include all patients, including outliers.

Additional Adult IP Psych Bed Need: Our Approach

What is the number of <u>additional</u> beds to address the needs of adult patients needing IP psychiatric care?

- Timely placement in IP Psych bed
- Include impact of forecasted growth for next 5-10 yrs

? Beds to reduce delays **+** **?** Beds for unmet need **+** **?** Beds for forecasted IP Psych growth **=** **X** Additional beds needed

Results from Delay Models: 5-9 Beds Needed

IP Admit Delay Model: Add'l Need

UVMMC	1 - 3 beds
CVMC	0.5 bed
Rutland est	*0.5 bed*
Springfield est	*0.5 bed*
Total	**3 - 4 beds**

Transfer Model: Additional Need

Total Statewide Need: 2 – 5 beds

Model Totals: 5 -9 beds
To reduce ED wait time to 8 hrs or less for patients who were admitted for IP Psych care

- **IP Admission Delays Model**
  - Take actual IP admissions
  - Admit on arrival <=8 hr
  - Discharge after actual LOS
  - Move PT who can't be admitted w/o wait to new bed need
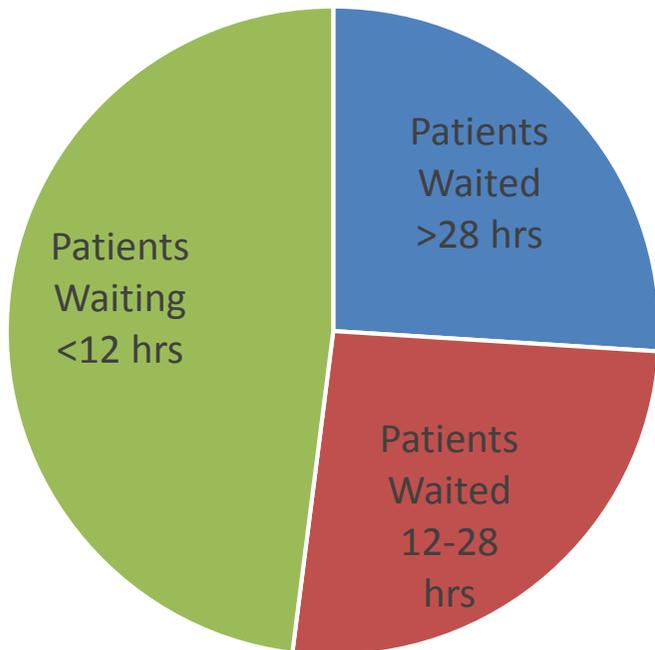
- **Transfer Delays Model**
  - Similar approach to above
  - Model statewide for all EDs
  - Includes additional capacity needed at VPCH, Brattleboro Retreat
  - Estimated LOS based on VAHHS IP Psych LOS Data (all patients)

Patients with Psych Assessment Discharged from ED

Patients Waiting <12 hrs

Patients Waited >28 hrs

Patients Waited 12-28 hrs

ED patients with mental health evaluations discharged from the ED

1. **Those who waited >28 hours**
   - For most patients in this group, ED LOS is comparable to low-acuity IP stay LOS
   - Would have been admitted to IP Psych or transferred if a bed was available

   Include 100% of these patients in unmet need

2. **Those who waited between 12 and 28 hours**
   - Chart review of sample indicated that approx. 20% of these patients were recommended for IP psychiatric care
   - These 20% would have been admitted to IP Psych or transferred if bed available
   - The remaining 80% of these patients would still be treated in the ED

   Include 20% of these patients in unmet need

3. **Those who waited 12 hours or less***
   - Assumed that these patients received appropriate ED care for their mental health condition

   Exclude these patients

   *Does not include patients in the ED who did not receive a psych assessment

617 Additional IP Psych Patients from EDs across VT in 12 month period

| Hospital	Data Source	ED Wait Time		Total
		28 + Hours[1]	12-28 Hours[2]	
UVMMC	Internal Data - May 2017-April 2018	160	59	219
CVMC		33	8	41
Porter	VUHHDS 2017 Outpatient Data (Data collected by VAHHS)	9	3	12
Brattleboro		38	19	57
Rutland		55	51	106
Southwest		47	17	64
Springfield		36	13	49
Other VT Hospita		46	23	69
Total		**424**	**193**	**617**

[1] 100% of all patients waiting 28 hrs or more

[2] Approximately 20% of all ED psych patients who waited in the 12-28 hr range

THE University *of* Vermont
HEALTH NETWORK

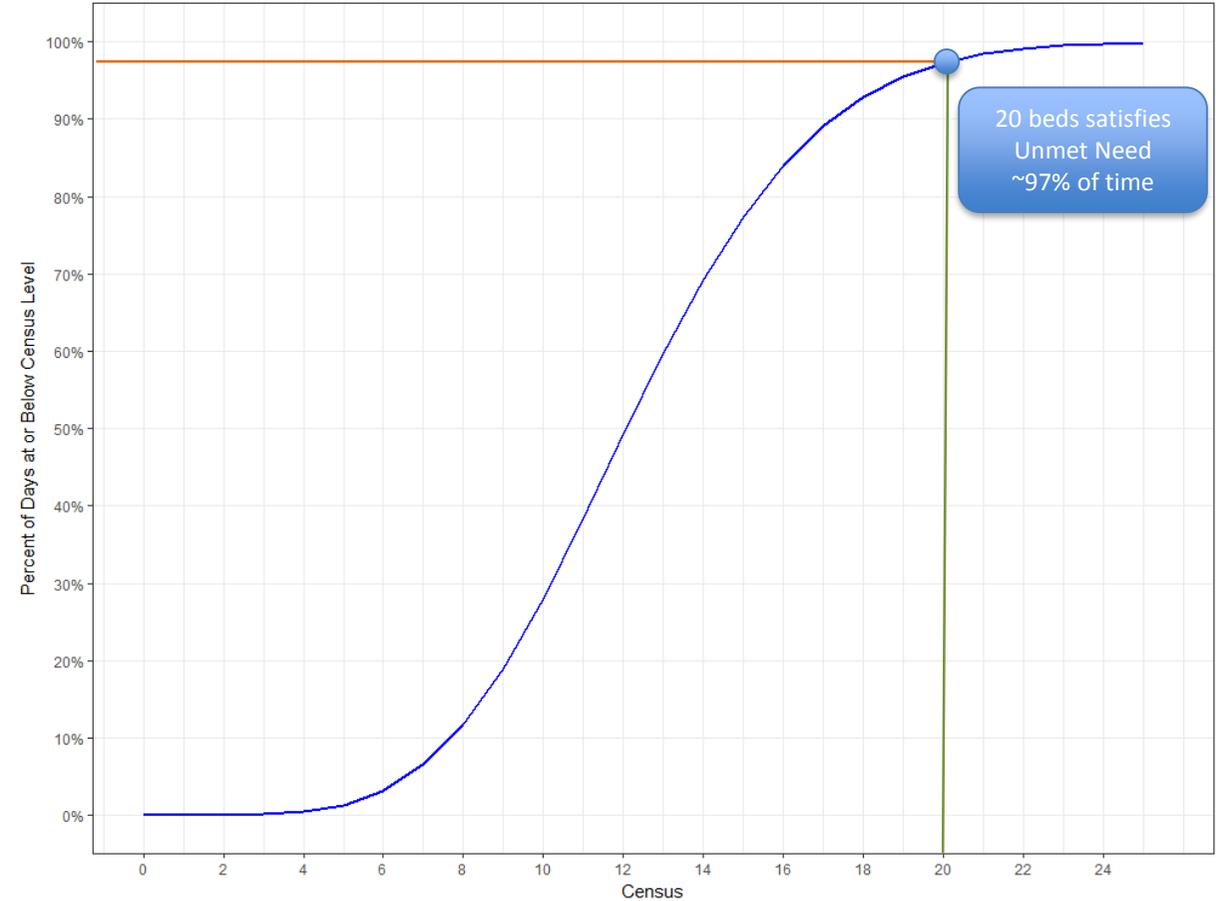# Additional Census Distribution: 1000 Simulations

Full State Distribution of Additional Need - Patients Not Currently Admitted
New Census Histogram - LOS excludes Level I Beds
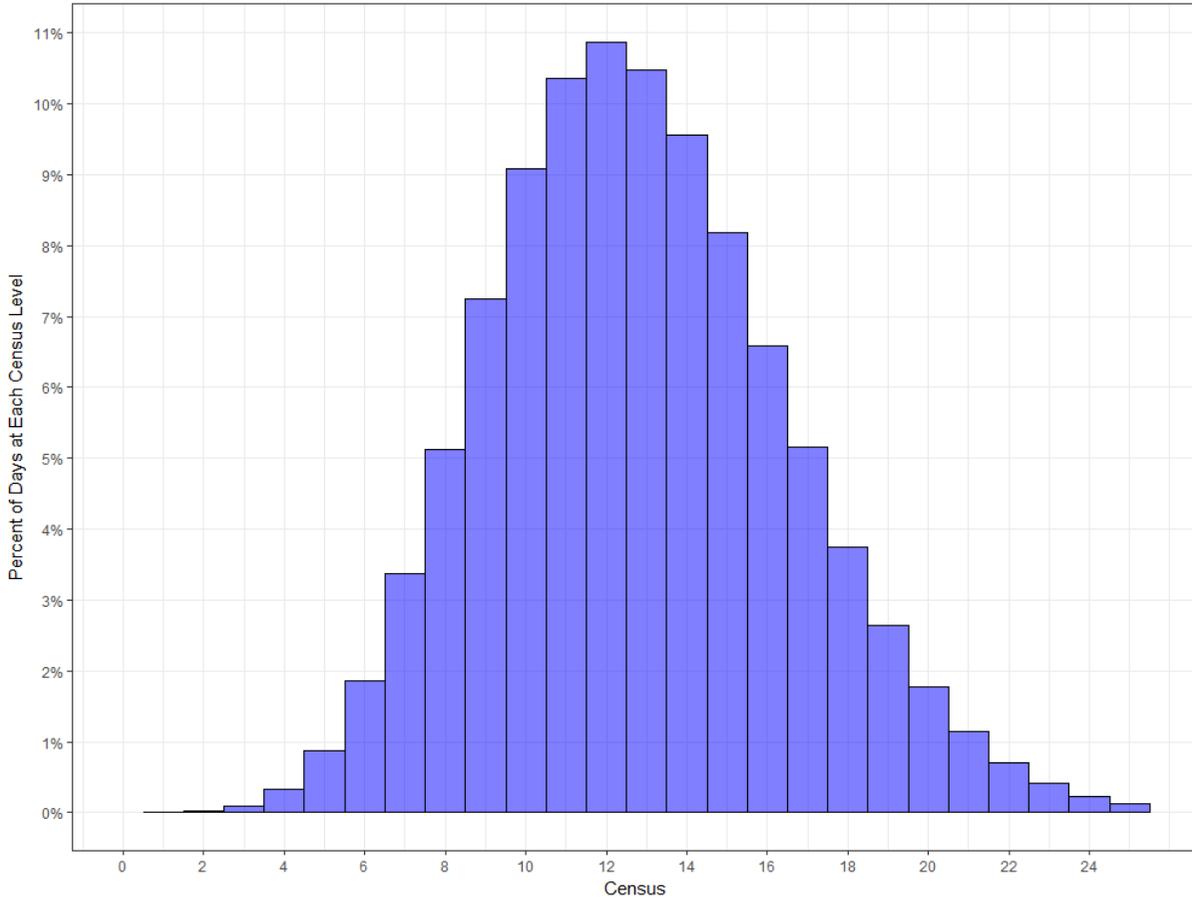
Cumulative Additional Need
Percent of Days at or Below Each Census Level - LOS excludes Level I Beds

20 beds satisfies Unmet Need ~97% of time

Estimated Current Additional Bed Need: 23-29 Beds

5-9
Beds to reduce delays

+

18-20
Beds for unmet need

+

?
Beds for forecasted IP Psych growth to 2027

=

?
Additional beds needed

THE **University** *of* **Vermont**
HEALTH NETWORK

14

Model Results: No Wait for IP Admission for 98%

Estimated Wait Times for Impacted Patients - Currently Waiting Prior to Admission or Never Admitted - with 26 Additional Beds

Wait Time for Admission	Patients Currently Admitted	Expected New Admissions	Total	Percent of Total Admissions
No Wait	1,024	523	1,547	98%
<= 8 Hours		6	6	0%
8-24 Hours		21	21	1%
24-48 Hours		8	8	1%
48 + Hours		1	1	0%

* Patients Currently Admitted includes all patients transferred to another IP Psych facility after staying more than 8 hours in a Vermont ED (697 patients), and patients waiting and ultimately admitted at UVMMC and CVMC (301 and 26 respectively). We expect that numbers for Rutland and Springfield will be similar to CVMC.

System-wide Occupancy Rate 88%

Simulation Results: +26 IP beds
>55% reduction in patient hours* in EDs

Vermont Acute Care Hospital ED Psych Volumes with New Beds Added
Total Annual ED Hours Patients with Psychiatric Primary Diagnosis

Combined Outpatient ED Change - Brattleboro, CVMC, Rutland, Springfield, Southwest, and UVMMC

Excludes impact of patients admitted to same hospital

| Patient Disposition | Patients Affected | Patient Hours in ED | | Change |
		Current State	26 Additional Beds	
Admitted: New Bed	478		2,268	
Admitted: Transfer	810	31,410	6,480	-79%
OP ED	4,865	59,973	32,335	-46%
Grand Total	**6,153**	**91,382**	**41,083**	**-55%**

* Does not include reduction in wait time for patients admitted to IP bed in same facility due to data availability.

16

Estimate of Additional Bed Need

5-9 Beds to reduce delays

+

18-20 Beds for unmet need

+

6 Beds for forecasted IP Psych growth

=

29-35 Additional beds needed

4% growth for Adult Psych IP Days to 2022

Questions…..