Psychiatric Bed Need Projections vs. Actual Utilization

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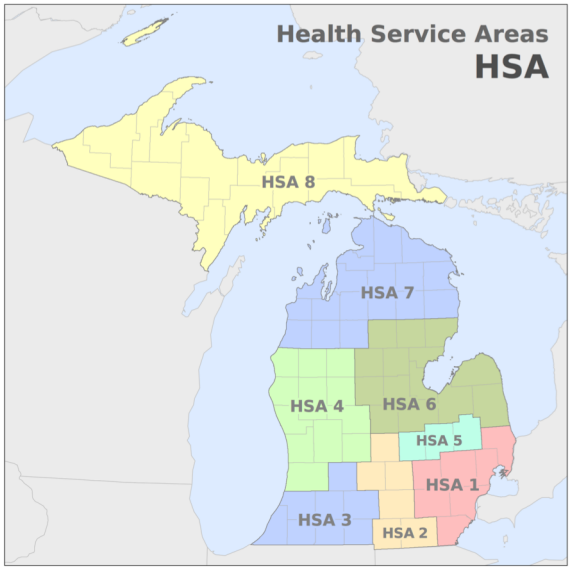
Psychiatric Bed Need Methodology

- Found in Sec.3.(1-3) in Review Standards
  - Pediatric (age 0-17) Bed Need, Sec.3.(1-2)
  - Adult (age 18+) Bed Need, Sec.3.(3)
- Planning Areas: the geographic units for which the pediatric and adult psychiatric bed need predictions
  - Same as Michigan's Health Service Areas (HSAs)



Pediatric Bed Need Methodology

- Summary
  - Determine utilization rate in base year
  - Multiply utilization rate by predicted population in planning year
  - Adjust for occupancy
  - Adjust for low occupancy (when necessary)

Pediatric Bed Need Methodology

- Summary of test
  - Determine utilization rate in base year
  - Multiply utilization rate by **observed** population in planning year
    - In the test, predicted population is replaced with observed population for the planning year
    - Our test represents a “best case” scenario, e.g., given perfect population information in the future, how does the method perform?
  - Compare predicted utilization in planning year to actual utilization in planning year
  - Given available data, we compared 2014 – 2017
    - 2009 => 2014; 2010 => 2015; 2011 => 2016; 2012 => 2017

Pediatric Bed Need Methodology

Plan Area	Proj PD 2014	PD 2014	Proj PD 2015	PD 2015	Proj PD 2016	PD 2016	Proj PD 2017	PD 2017
1	22,386	36,411	24,276	37,331	25,534	40,001	26,762	42,372
2	3,476	0	3,782	0	3,989	0	4,204	375
3	4,013	1,543	4,365	1,550	4,602	1,263	4,853	1,466
4	7,631	17,666	8,345	18,353	8,841	19,697	9,320	22,176
5	2,751	0	2,969	0	3,101	0	3,228	0
6	3,290	7,360	3,554	7,650	3,724	8,027	3,900	9,051
7	1,805	0	1,958	0	2,062	0	2,168	0
8	1,199	1,161	1,291	1,095	1,353	521	1,413	0
State	***46,552***	***64,141***	***50,539***	***65,979***	***53,206***	***69,511***	***55,847***	***75,440***

Pediatric Bed Need Methodology

YEAR	PD	POP	PD Rate (per 1000)
2009	49,613	2,372,603	20.91
2010	53,479	2,333,900	22.91
2011	55,896	2,300,182	24.30
2012	58,242	2,269,978	25.66
2013	59,998	2,245,718	26.72
2014	64,141	2,226,211	28.81
2015	65,979	2,205,616	29.91
2016	69,511	2,189,505	31.75
2017	75,440	2,176,649	34.66

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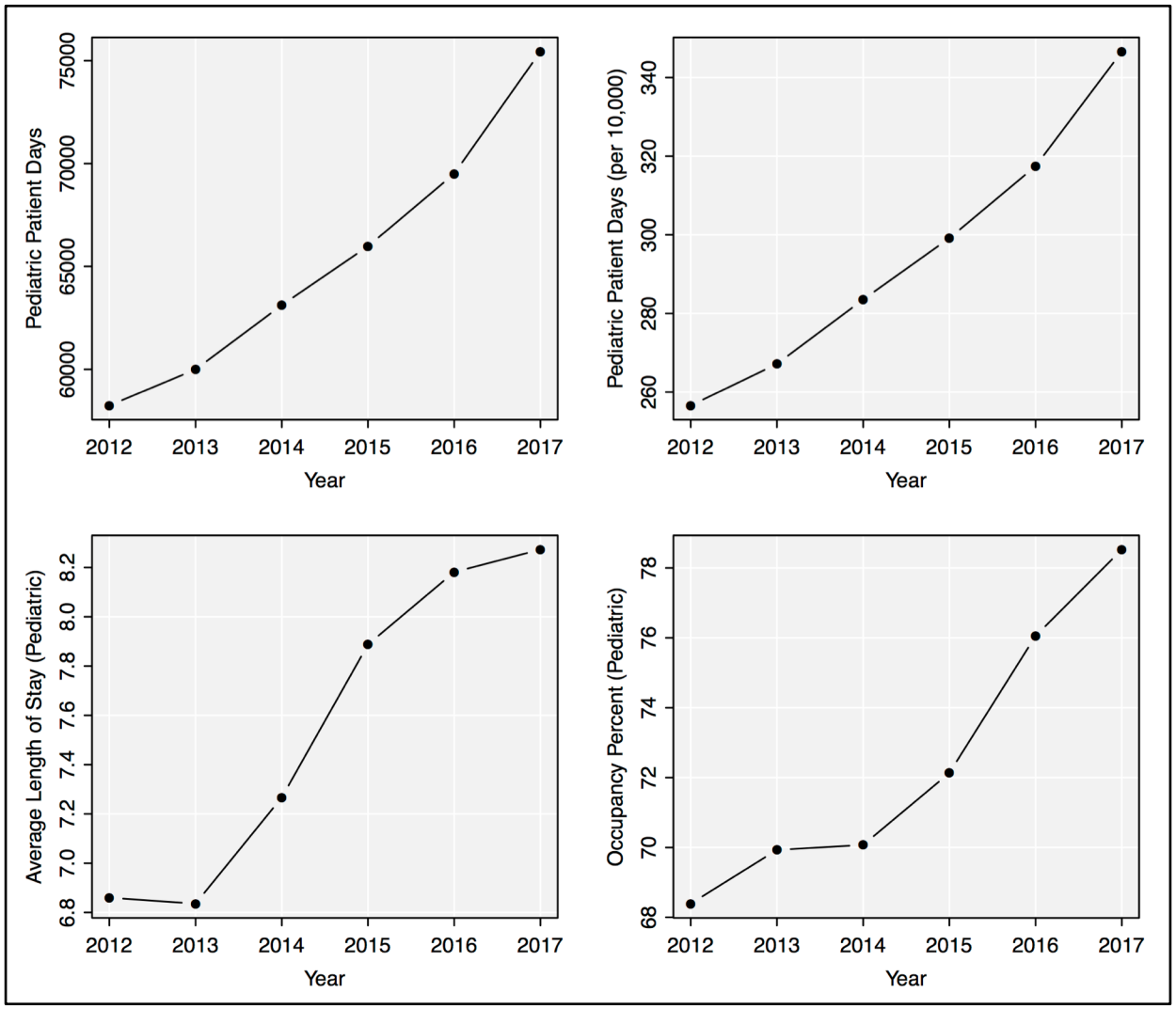


Pediatric Bed Need Methodology

- Take home message
  - Even with perfect predicted population information, the methodology is inaccurate
  - Due to changing utilization rates
    - Steadily rising from 2009 to 2017

Adult Bed Need Methodology

- Summary
  - Determine bed/person ratio in base year
    - Replace HSA ratio with “state” ratio when higher
  - Multiply bed/person ratio by predicted population in planning year
  - Adjust for low occupancy (when necessary)

Adult Bed Need Methodology

- Summary of test
  - Determine bed/person ratio in base year
    - Replace HSA ratio with “state” ratio when higher
  - Multiply bed/person ratio by **observed** population in planning year
    - In the test, predicted population is replaced with observed population for the planning year
    - Our test represents a “best case” scenario, e.g., given perfect population information in the future, how does the method perform?
  - Calculate the Occupancy Rate using observed patient days and predicted beds (should be near 75%)
  - Given available data, we compared 2014 – 2017
    - 2009 => 2014; 2010 => 2015; 2011 => 2016; 2012 => 2017

Adult Bed Need Methodology

HSA	Proj Beds 2014	Proj Bed Days 2014	PD 2014	Occupancy 2014
1	975	355,875	305,684	85.90
2	149	54,385	27,314	50.22
3	160	58,400	34,513	59.10
4	276	100,740	81,866	81.26
5	117	42,705	28,061	65.71
6	107	39,055	29,619	75.84
7	44	16,060	8,237	51.29
8	57	20,805	10,591	50.91
State	*1,885*	*688,025*	*525,885*	*76.43*

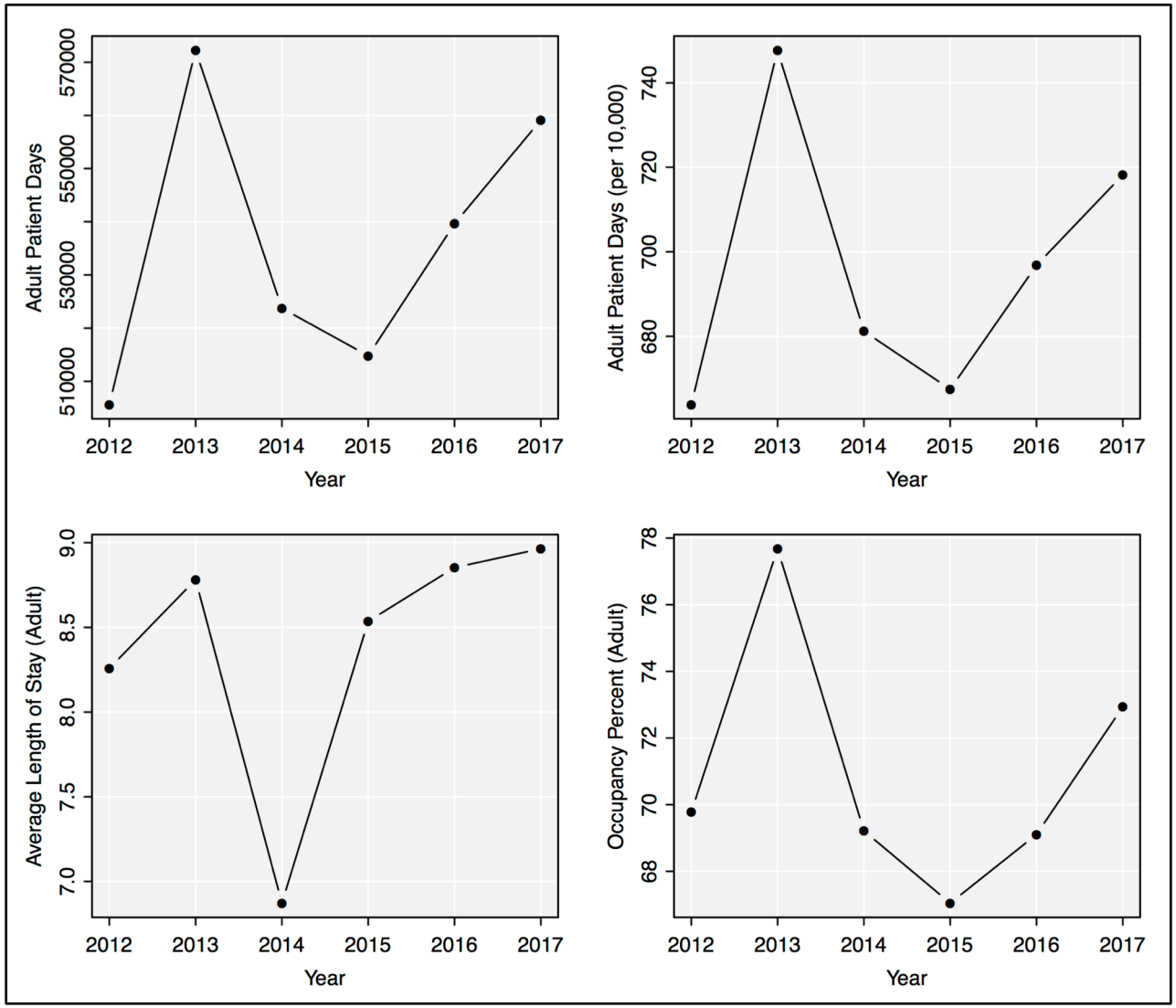
HSA	Proj Beds 2015	Proj Bed Days 2015	PD 2015	Occupancy 2015
1	977	356,605	293,804	82.39
2	148	54,020	25,452	47.12
3	160	58,400	32,695	55.98
4	278	101,470	83,570	82.36
5	117	42,705	29,724	69.60
6	107	39,055	30,656	78.49
7	44	16,060	8,259	51.43
8	57	20,805	10,643	51.16
State	*1,888*	*689,120*	*514,803*	*74.70*

Adult Bed Need Methodology

HSA	Proj Beds 2016	Proj Bed Days 2016	PD 2016	Occupancy 2016
1	968	354,288	314,934	88.89
2	148	54,168	26,683	49.26
3	160	58,560	31,930	54.53
4	282	103,212	84,671	82.04
5	116	42,456	30,257	71.27
6	107	39,162	31,662	80.85
7	30	10,980	8,818	80.31
8	57	20,862	10,651	51.05
State	*1,868*	*683,688*	*539,606*	*78.93*

HSA	Proj Beds 2017	Proj Bed Days 2017	PD 2017	Occupancy 2017
1	978	356,970	322,231	90.27
2	149	54,385	27,739	51.00
3	160	58,400	37,413	64.06
4	297	108,405	85,939	79.28
5	116	42,340	29,283	69.16
6	107	39,055	34,683	88.81
7	30	10,950	8,379	76.52
8	56	20,440	13,476	65.93
State	*1,893*	*690,945*	*559,143*	*80.92*

Adult Bed Need Methodology



Adult Bed Need Methodology

- Take home message
  - Using a ”bed based” methodology is not a good approach
  - Cannot detect high utilization (e.g., high occupancy) or low utilization

New Methodologies

- Ideas
  - Temporal trends (similar to acute care hospitals)
  - Normalize Adult and Pediatric approaches
  - Attempt to account for cross-HSA utilization

DRAFT 1

Psychiatric Beds and Services Workgroup

Options for Child/Adolescent Unit Initiation & Flexibility (Charge 2)

November 15, 2018

Context

- Per Dr. Delamater's Psychiatric Bed Need Methodology report (dated 10/17/18), both child/adolescent days per 10,000 population and Child/adolescent unit occupancy rates increased significantly between 2012 and 2017.
- Per the Michigan Psychiatric Admission Denial Database, for the period July-December 2017, children who experienced denials averaged 8.6 denials per denial event, with "at capacity" cited as the most frequent reason for denial
- Psychiatric unit capacity does not relate only to physical bed capacity; it also relates to availability of psychiatrist and other mental health staff
  - The "CARES" Task Force notes that there is a limited number of psychiatrists in Michigan, and increasing the number of psychiatric residencies will help mitigate this shortage
- The National Alliance on Mental Health notes that the lack of adequate mental health providers and beds inundates emergency rooms causing delays in care and negatively impacts the continuity essential for the care and treatment of these patients.
  - Beaumont Health sees approximately 20,000 mental health patients per year in its emergency centers, many of them child/adolescents. Some remain there for days due to inability to place them in psychiatric facilities- this is unacceptable from patient care standpoint.
  - This is why we're developing a new inpatient psychiatric hospital- to better serve patients across the continuum: inpatient, intensive day programs, outpatient

Proposal

- Allow established psychiatric facilities with large (TBD) adult programs to establish a limited number (TBD) of child/adolescent beds (TBD) regardless of the child/adolescent bed need formula
- Additional Project Delivery Requirements (beyond those in current standards)
  - Any facility approved under this provision would need to have an agreement with an existing facility with child/adolescent beds for joint appointment of child psychiatrists to the medical staff
  - Other project delivery requirements?
- Proposed Next Steps
  - Develop specific CON standard language for review by the Workgroup

Beaumont

Discussion

Beaumont