

Psychiatric Bed Need: 2024 Update

Paul Delamater (pld@email.unc.edu)

Department of Geography, University of North Carolina at Chapel Hill

February 29, 2024

Summary

The psychiatric bed need was implemented using 2022 as the base year and 2027 as the planning year. This implementation is in an off-cycle year, as the CON Commission decided to delay the bed need methodology given the results from the prior run (in 2023). This report contains the updated adult and pediatric bed need values, as well as descriptive information about the data and comparisons to the results from previous updates.

Utilization Data and Patient Day Predictions

The number of adult psychiatric patient days used in 2022 was much lower than the number used in 2019 (2020 was very low as well), while the number of pediatric psychiatric patient days used in 2021 and 2022 were both higher than in 2019. For reference, the adult and pediatric patient days from 2013–2022 are shown in Figure 1 (only data from the last five years was used in the methodology). Overall, it appears that adult patient days have been lower following COVID-19 pandemic, but it is unclear why pediatric patient days did not have a similar pattern.

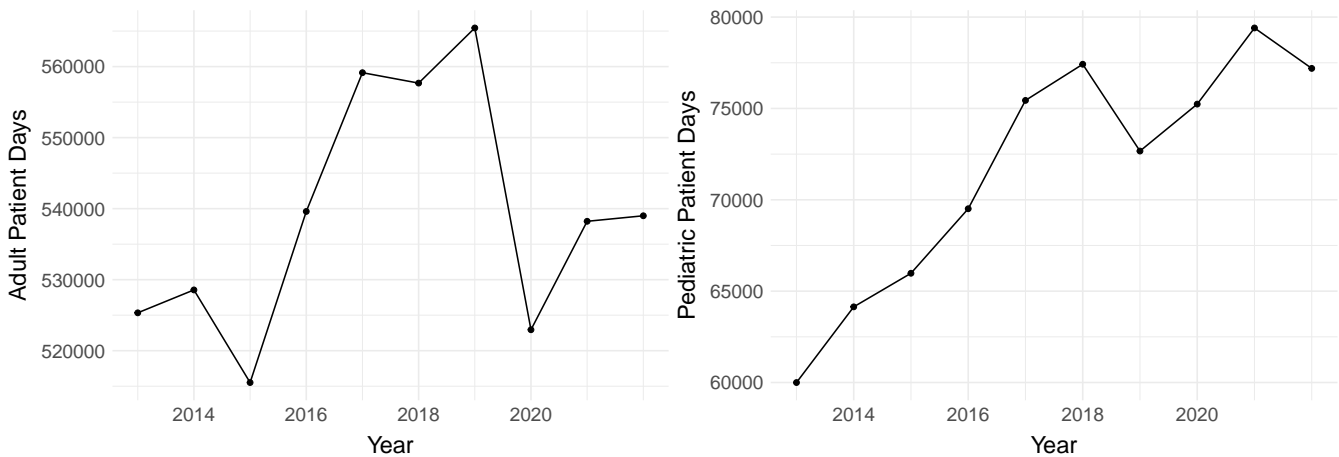


Figure 1: State level adult (left) and pediatric (right) psychiatric patient days.

Bed Need Results

The linear model fit of patient day utilization over time for both the pediatric ($R^2 = 0.15$) and adult ($R^2 = 0.36$) patient day models were lower than the 0.5 threshold required to use the results from models. Thus, a three-year average was used per the methodology. The projected number of adult patient days in the planning year is 533,389 and the projected number of pediatric patient days in the planning year is 77,278. These values are very similar to utilization in the base year.

The results of the adult and pediatric bed need are presented in Tables 1 and 2. For the adult bed need, only HSA 7 and HSA 8 show a need for beds; all the others have a projected surplus of beds in the planning year falling between 3 beds (HSA 3) and 296 beds (HSA 1). Statewide, there is a projected 375 bed surplus in the planning year.

For the pediatric bed need, the results show that HSAs 1, 2, 4, and 6 are have more current beds than projected beds needed. HSAs 3, 5, 7, and 8 all demonstrate a need for additional beds in the planning year. There is a projected 28 bed surplus for pediatric beds at the state level in the planning year.

Table 1: Updated results from adult psychiatric bed need methodology (Planning year: 2026).

HSA	BEDS NEEDED	CURRENT BEDS	DIFFERENCE
1	992	1,288	296
2	167	197	30
3	176	179	3
4	333	386	53
5	112	135	23
6	154	165	11
7	95	60	-35
8	63	57	-6
<i>State</i>	<i>2,092</i>	<i>2,467</i>	<i>375</i>

Table 2: Updated results from pediatric psychiatric bed need methodology (Planning year: 2026).

HSA	BEDS NEEDED	CURRENT BEDS	DIFFERENCE
1	145	182	37
2	24	30	6
3	29	6	-23
4	53	67	14
5	18	14	-4
6	20	33	13
7	13	0	-13
8	8	6	-2
<i>State</i>	<i>310</i>	<i>338</i>	<i>28</i>

Comparison to Past Results

The results from the prior seven implementations of the psychiatric bed need methodology (planning years 2015, 2017, 2020, 2022, 2024, 2026 [not implemented], and 2027) are presented in Tables 3 (adult) and 4 (pediatric). Overall, the projection for adult beds was lower than recent updates (completed in 2019 and 2021), which can be attributed to the substantial downturn in utilization over the last three years (of data). The projection for pediatric beds is slightly less than in the previous update (due to the somewhat large dip in utilization in 2019 and 2020). It is unclear whether the psychiatric bed utilization is in a new “steady” state following the COVID-19 pandemic, or if there will be an eventual “bounce back” to utilization levels from 5-6 years ago (especially for adult utilization). One other potential issue that may be at play is artificial depression of adult patient day utilization due to staffing issues; if this is the case, utilization “should be higher” because there is unmet need for services in the population. However, the methodology does not account for potential unmet need, as this is quite difficult to estimate and model, and hence justify its inclusion in a methodology.

Table 3: Past results from adult psychiatric bed need methodology (PY = Planning year).

HSA	PY2015	PY2017	PY2020	PY2022	PY2024	PY2026	PY2027
1	1,084	1,044	1,051	1,107	1,169	1,008	992
2	169	163	187	185	197	170	167
3	188	179	183	194	207	179	176
4	300	289	324	370	386	337	333
5	143	144	140	128	134	115	112
6	95	110	106	165	184	157	154
7	48	30	30	101	120	96	95
8	64	62	77	65	75	64	63
<i>State</i>	<i>2,091</i>	<i>2,021</i>	<i>2,098</i>	<i>2,315</i>	<i>2,472</i>	<i>2,126</i>	<i>2,092</i>

Table 4: Past results from pediatric psychiatric bed need methodology (PY = Planning year).

HSA	PY2015	PY2017	PY2020	PY2022	PY2024	PY2026	PY2027
1	113	114	122	173	163	142	145
2	15	16	18	30	26	23	24
3	17	19	20	35	33	29	29
4	32	35	40	61	59	52	53
5	12	13	13	25	21	18	18
6	14	16	16	26	23	20	20
7	8	9	9	17	15	13	13
8	6	7	7	10	9	8	8
<i>State</i>	<i>217</i>	<i>229</i>	<i>245</i>	<i>377</i>	<i>349</i>	<i>305</i>	<i>310</i>