

**Acute Care Committee Agency Report  
Adjusted Need Determination Petition  
for the Johnston County Acute Care Bed Service Area  
in the 2024 State Medical Facilities Plan**

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***Petitioner:***

UNC Health Johnston  
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***Request:***

UNC Health Johnston (Johnston Health) requests that the *2024 State Medical Facilities Plan* (SMFP or “Plan”) include 24 additional acute care beds in the Johnston County service area.

***Background Information:***

Chapter Two of the SMFP notes that during the summer, the Agency accepts petitions that “involve requests for adjustments to need determinations in the *Proposed SMFP*. Petitioners may submit a written petition requesting an adjustment to the need determination in the *Proposed SMFP* if they believe that special attributes of a service area or institution give rise to resource requirements that differ from those provided by the standard methodologies and policies.” It should be noted that any person may submit a certificate of need (CON) application for a need determination in the *Plan*. The CON review could be competitive and there is no guarantee that the Petitioner would be the approved applicant.

Several steps are included in the acute care bed need methodology. In Steps 3 through 6 of the methodology, inpatient days of care (DOC) as reported to the Hospital Industry Data Institute are used to project DOC for the projection year. To do this, the methodology typically requires calculating the percentage change in inpatient DOC over the previous five reporting years to determine each service area’s Growth Rate Multiplier (GRM). When the GRM is negative, the inpatient DOC for the reporting year is the same as the projected DOC for the facility. When the GRM is positive, it is compounded for four years of growth and multiplied by the current year’s reported inpatient DOC to determine projected DOC. The projected DOC is divided by 365.25. This number is adjusted by an occupancy factor – based on a target occupancy percentage – to project the number of beds needed. A hospital’s target occupancy depends on its average daily census (ADC; *Proposed 2024 SMFP*, p. 34).

Normally, Step 3 would indicate the use of the DOC data from FY 2018 – 2022 to calculate each GRM for the *2024 SMFP*. However, for the *2024 SMFP*, the State Health Coordinating Committee (SHCC) has approved the use of DOC reported over the five fiscal years preceding the COVID-19 pandemic due to its continued impact on projection calculations. In other words, rather than calculate the GRM based on FY 2018 – 2022 utilization, in the *Proposed 2024 SMFP*, each service area's DOC for FY 2015 – 2019 was applied. In the *Proposed 2024 SMFP*, Johnston County's GRM is 1.0062.

As is typical, the final steps of the methodology determine the number of beds, if any, needed in a service area. In the case of a service area with a single hospital and no need determinations from prior *SMFPs*, a need is determined if the hospital has a projected deficit of beds that equal at least 20 beds or 10% of the hospital's planning inventory.

UNC Health Johnston, the only hospital operating in Johnston County, has a total of 176 licensed acute care beds in the planning inventory, which are located on two campuses – one in Smithfield and the other in the Clayton. The *Proposed 2024 SMFP* indicates a surplus of 11 beds and, therefore, no current need for additional acute care beds in the Johnston County service area.

***Analysis/Implications:***

The average length of stays (ALOS) has an indirect impact on the need determination methodology because longer lengths of stay can be associated with greater DOC. In this instance, changes in the ALOS during the 2015 – 2019 timeframe will be reflected in the DOC that are used in the adjusted GRM calculation in the *Proposed 2024 SMFP*. The Petitioner asserts that use of the adjusted GRM is not appropriate for Johnston County because in 2015, Johnston Health implemented a program to reduce ALOS. The program seemed effective during FY 2016 and 2017, but its impacts were not sustained. The Agency notes that if the acute care bed need methodology were applied using the unadjusted GRM, the calculated need determination for the Johnston County service area would have been 45 beds in the *Proposed 2024 SMFP*. This result is nine beds fewer than would have been calculated for the *2023 SMFP* because the unadjusted GRM for Johnston County is now lower than it would have been for analogous calculations last year.

The Petitioner notes that in the Agency's response to UNC Health Johnston's 2022 Summer petition, it posited that the 22.3% jump in days of care between FY 2020 and 2021 might have been a temporary, COVID-induced phenomenon that many hospitals experienced statewide. As shown in Table 1, in 2022, the number of DOC used in the need methodology only decreased by 51 days, which supports the Petitioner's assertion that the number of DOC is not immediately reverting to pre-COVID levels.

**Table 1. UNC Health Johnston Acute Bed Days of Care Used in Bed Need Methodology**

	Data Year							
	2015	2016	2017	2018	2019	2020	2021	2022
DOC	34,156	32,797	29,676	30,884	34,574	34,248	41,988	41,937
DOC Annual Change Rate		-3.98%	-9.52%	4.07%	11.95%	-0.94%	22.60%	-0.12%

Source: Data provided to statewide data processors: Truven Health Analytics (FY 2014 - 2017), IBM Watson Health (FY 2018 - 2019), and the Hospital Industry Data Institute (FY 2020 - 2021)

Data shown in Table 2 also supports the Petitioner’s assertion that the impacts of its program to decrease ALOS were not sustained. Average length of stays decreased dramatically in FY 2017, and subsequently increased each fiscal year between 2019 and 2022. Note that even though the need methodology excludes Level II-IV neonatal intensive care unit (NICU) beds, discharge data is reported as a total for the facility rather than by category on the License Renewal Applications (LRAs). Thus, calculation of ALOS in Table 2 requires use of facility DOC that are also inclusive of NICU DOC. As compared to the previous year’s data, ALOS during FY 2022 increased, but the growth was not extreme.

**Table 2. Acute Bed Days of Care (Inclusive of NICU DOC), Discharges, and Average Length of Stay, UNC Health Johnston**

	Data Year							
	2015	2016	2017	2018	2019	2020	2021	2022
DOC*	34,156	33,540	30,321	31,161	34,620	34,883	42,670	42,751
DOC Annual Change Rate		-1.8%	-9.6%	2.8%	11.1%	0.8%	22.3%	0.2%
# discharges**	8,934	8,827	9,161	9,457	9,906	9,439	9,727	9,489
ALOS	3.82	3.80	3.31	3.30	3.49	3.70	4.39	4.51
ALOS Annual Change Rate		-0.6%	-12.9%	-0.4%	6.1%	5.7%	18.7%	2.7%

\* Source: Data provided to statewide data processors: Truven Health Analytics (FY 2014 - 2017), IBM Watson Health (FY 2018 - 2019), and the Hospital Industry Data Institute (FY 2020 - 2021)

\*\* Source: 2016 - 2022 License Renewal Applications

The Petitioner argues that the increased ALOS can be attributed to the increased number of complex cases it serves. This calls into question whether the DOC that resulted from fluctuations in ALOS reflect a level of utilization that indicates a need for additional beds in the service area. Based on the data Johnston Health submitted annually to the statewide data processor, utilization trends indicate that adequate acute care bed capacity exists in the service area (Table 3). For FY 2021 and 2022, Johnston Health reported ADCs over 100, which indicates a target occupancy percentage of 71.4%. However, between FY 2016 - 2020, its ADC was under 100, which specifies a target occupancy percentage of 66.7%. Table 3 demonstrates that although utilization of its acute care beds has risen over the last six years, it has remained below occupancy thresholds the entire duration despite the fluctuation in ADC.

**Table 3: Utilization and Target Occupancy, UNC Health Johnston**

	Data Year						
	2016	2017	2018	2019	2020	2021	2022
DOC <sup>*/**</sup>	32,797	29,676	30,884	34,574	34,248	41,988	41,937
Licensed Acute Care Beds <sup>*</sup>	177	177	177	176	176	176	176
Capacity	64,649	64,649	64,649	64,284	64,284	64,284	64,284
Utilization	50.7%	45.9%	47.8%	53.8%	53.3%	65.3%	65.2%
Reported ADC <sup>***</sup>	94.5	83.3	85.0	95.4	96.1	117.9	120.0
Target Occupancy Percentage	66.7%	66.7%	66.7%	66.7%	66.7%	71.4%	71.4%

\* Excludes Level II, III, IV NICU DOC and beds

\*\* Source: Data provided to statewide data processors: Truven Health Analytics (FY 2014 - 2017), IBM Watson Health (FY 2018 - 2019), and the Hospital Industry Data Institute (FY 2020 - 2021)

\*\*\* Source: 2017 - 2023 Hospital License Renewal Applications

The Petitioner also indicates over 7,000 additional DOC for observation patients in acute care beds should be considered. While the Agency collects data on the number of observation patients and the number of unlicensed observation beds, it does not collect data on the number of days of care provided to these patients in acute care beds. Therefore, it is not possible to know empirically if UNC Health Johnston’s experience is unique or if hospitals across the state are similarly under-resourced. The ADC of observation patients is not reported on the Hospital LRA. According to the petition, the ADC for UNC Health Johnston’s observation patients treated in licensed acute care beds was 21 in FY 2022. If they had been included in the ADC totals for acute care beds, this would bring UNC Johnston’s total ADC to 141, which is lower than the number of licensed acute care beds at the facility.

Population growth can be a compelling rationale for developing additional acute care services within a particular service area, and Johnston County is one of the fastest growing counties in the State. Based on the North Carolina Office of Budget and Management’s (OSBM) population estimates and projections, Johnston County experienced a 3.4% average annual increase in total population between 2017 - 2022, while the State’s overall population grew 0.9%. Population projections indicate Johnston County’s growth will continue, but it will slow to 2.4% by 2027, and the State’s will have increased to 1.1%. Given that UNC Health Johnston’s reported utilization data indicates adequate access to acute care beds, Agency staff reviewed the DOC provided as compared to population to determine the relationship between the two factors. Based on UNC Health Johnston’s reported acute bed DOC and OSBM population estimates, between 2016 – 2022, an average of 16,560 DOC was provided per 100,000 of Johnston County’s population (Table 4). If the average calculation excludes the DOC for 2017 and 2018 (i.e., the years the ALOS-reducing program had impacts), then over the remaining years, an average of 17,152 DOC were provided per 100,000 of the population.

**Table 4. UNC Health Johnston’s Days of Care Per 100,000 Population**

	Data Year						
	2016	2017	2018	2019	2020	2021	2022
DOC*	32,797	29,676	30,884	34,574	34,248	41,988	41,937
Total Johnston Population**	191,674	197,453	204,099	211,110	217,033	226,661	233,435
DOC per 100,000 of population	17,111	15,029	15,132	16,377	15,780	18,525	17,965

\* Source: Data provided to statewide data processors: Truven Health Analytics (FY 2014 - 2017), IBM Watson Health (FY 2018 - 2019), and the Hospital Industry Data Institute (FY 2020 - 2021)

\*\*Source: NC OSBM

Using the higher average DOC figure and a target occupancy of 45,899 DOC (i.e., 71.4% occupancy of total bed capacity), we estimate Johnston County’s population would be 267,600 when it reaches UNC Health Johnston’s occupancy threshold (Table 5). According to OSBM’s projections, this will occur sometime after 2027 when the population is expected to reach 267,278. This suggests that the temporary impacts of UNC Johnston’s program to reduce ALOS is not suppressing a need determination in the *2024 SMFP*.

**Table 5. UNC Health Johnston’s Target Occupancy and Projected Population Estimates**

Licensed Acute Care Beds	176
Acute Care Bed Capacity	64,284
DOC based on 71.4% Target Occupancy	45,899
Average DOC per 100,000 of population*	17,152
Estimated Johnston Population at Target Occupancy	267,600

\* Based on average DOC across data years 2016, 2019, 2020, 2021, 2022

Annually, about half of all patients seek acute care services outside Johnston County (Table 6). This figure has been relatively constant over the last six years, during which occupancy has remained under the thresholds outlined in the need methodology. Thus, it does not appear adding more acute care beds to Johnston County’s inventory is necessary to improve access for Johnston County residents.

**Table 6: Outmigration of Johnston County Residents Seeking Acute Care Services**

	Data Year						
	2016	2017	2018	2019	2020	2021	2022
Percent Outmigration	53.4%	52.7%	52.4%	51.8%	51.1%	51.8%	52.1%

Source: Patient Origin Reports

***Agency Recommendation:***

The Petitioner has requested an adjusted need determination for 24 acute care beds in the Johnston County service area in the *2024 SMFP*. UNC Health Johnston's program to reduce ALOS has not had a significant impact on the service area need determination, and utilization and migration patterns do not indicate a strain on bed capacity within the service area. Further, it does not appear the growing population in Johnston County necessarily correlates with a need for acute care services beyond what the need determination methodology can detect. Thus, given the available information and comments submitted by the August 9, 2023 deadline, and in consideration of factors discussed above, the Agency recommends denial of the petition for an adjusted need determination for 24 acute care beds in the Johnston County service area in the *2024 SMFP*.