# Acute Care Services Committee
# Agency Report
# for Petition to Exclude Neonatal Intensive Care Unit (NICU) Beds from the Acute Care Bed Need Methodology
# Proposed 2023 State Medical Facilities Plan

***Petitioner:***
Duke University Health System, Inc.
3400 Wake Forest Road
Raleigh, NC 27609-7373

***Contact:***
Catharine W. Cummer
Duke University Health System
3100 Tower Blvd., Suite 1300
Durham, NC 27707
Catharine.cummer@duke.edu
(919) 668-0857

***Request:***
Duke University Health System requests the removal of Level II, III and IV Neonatal Intensive Care Unit (NICU) beds from the acute care bed need methodology in the *2023 State Medical Facilities Plan* (*SMFP or the "Plan"*).

***Background Information:***
Chapter Two of the *North Carolina 2022 SMFP* provides that "[a]nyone who finds that the North Carolina State Medical Facilities Plan policies or methodologies, or the results of their application, are inappropriate may petition for changes or revisions." Further, "[c]hanges with the potential for a statewide effect are the addition, deletion, and revision of policies or projection methodologies."

In hospitals that operate NICUs, the associated beds are a part of the facilities' total licensed acute care bed complement.[1] As such, NICU beds[2] currently are included in the acute care bed need methodology. Bassinets for normal newborn services are not included. The Agency's Acute and Home Care Licensure section does not designate a separate licensure category for NICU beds. However, annually, hospitals report on the facilities' License Renewal Applications (LRA) the number of licensed acute care beds that are "licensed" NICU beds and the number of those beds that were operational during the fiscal year.

[1] *2022 State Medical Facilities Plan*, p. 15
[2] Includes Level II, Level III and Level IV neonatal services as defined in rule 10A NCAC 14C .1401

According to the 2021 LRAs, there are 46 hospitals with 975 licensed NICU beds statewide. During FY 2020, 99% of beds in NICUs were operational. The percentage of operational licensed beds has been similarly high over the last five years. Of the total number of NICU beds, 79.1% were Level III and IV beds (Table 1).

**Table 1. NICU Beds by Service Level, FY 2020**

| | Level II | Level III | Level IV |
|---|---|---|---|
| Number of Hospitals with NICU Beds | 23 | 28 | 14 |
| Number of Licensed NICU Beds | 158 | 307 | 510 |
| Number of NICU Days of Care (DOC)* | 53,108 | 81,182 | 119,491 |
| NICU Beds % of Total NICU Beds | 16.2% | 31.5% | 52.3% |
| NICU DOC % of Total NICU DOC | 20.9% | 32.0% | 47.1% |

Sources: *2021 Hospital License Renewal Applications*; data submitted by NC hospitals to HIDI for FY 2020

* NICU DOC provided by the Hospital Industry Data Institute (HIDI) are reported according to both Diagnostic Related Group (DRG) and revenue code. Therefore, the total number of days of care reported by NICU service level (i.e., NICU bed Level I, III or III) may not match the total number of days of care reported to HIDI.

The Agency examined NICU bed data reported on the 2017-2021 LRAs and days of care (DOC) data regarding NICU services as submitted to the statewide data processor, The Hospital Industry Data Institute (HIDI). Over the past five years (FY 2016 – 2020), about 6% of all licensed acute care beds have been used to provide Level II-IV NICU services. Among hospitals that operate NICUs, about 7% of all acute care DOC have been provided in NICU beds. The DOC data are specific to newborn services with diagnosis codes indicating extreme immaturity or respiratory distress syndrome, prematurity, full-term neonate with major problems, and neonate with other significant problems.

In the original petition, the Petitioner defined patients to be served in NICU beds as "…1) neonates (newborn from birth to one month); and/or 2) patients transferred from another hospital at which the patients were receiving inpatient neonatal care (for example, patients transferred between Level IV NICU beds at one hospital and Level II neonatal beds at another hospital)." Subsequently, the Petitioner submitted to the Agency a comment revising the language to indicate the beds would only accommodate "…1) patients admitted as neonates (newborn from birth to one month); 2) patients transferred from another hospital at which the patients were receiving inpatient neonatal care (for example, patients transferred between Level IV NICU beds at one hospital and Level II neonatal beds at another hospital); and/or 3) patients readmitted for inpatient services in connection with previous inpatient neonatal care." [3]

[3] *Comments Regarding Petition for Adjustment Need Methodology for Inpatient Acute Care Beds/Neonatal Beds.* Submitted by Duke University Health System, Inc. to the Division of Health Service Regulation, North Carolina Department of Health and Human Services on March 16, 2022.

As indicated in the *2022 SMFP*, for a hospital to develop NICU beds, there must first be a need determination for acute care beds in the hospital's service area. A certificate of need (CON) is required to develop a NICU program utilizing existing acute care bed capacity.

***Analysis/Implications:***

Utilization of NICU Beds

The Petitioner asserts that NICUs across the State face capacity constraints. Agency staff examined utilization data and found that during FY 2016 – 2020, utilization of NICU beds in hospitals with NICUs has been between 72% – 75% (Table 2).

**Table 2. Licensed NICU Bed Utilization in Hospitals with NICUs, FY 2016 – 2020**

| | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|
| **Total Licensed NICU Beds** | 912 | 920 | 914 | 947 | 975 |
| **Total NICU DOC** | 239,689 | 245,208 | 250,196 | 251,274 | 255,288 |
| **Utilization, Licensed NICU Beds** | 72.0% | 73.0% | 74.9% | 72.6% | 71.7% |

Sources: *2017 – 2021 Hospital License Renewal Applications;* data submitted by NC hospitals to HIDI for FYs 1016 – 2020

However, at an individual hospital level, utilization can reach higher levels. During FY 2020, over a quarter of hospitals with NICUs experienced utilization levels of at least 75%. The Petitioner notes that meeting demand for neonatal beds can either require facilities to wait for a need determination for acute care beds to appear in the Plan or to re-designate pediatric or adult acute care beds as NICU beds. Between FY 2016 and FY 2020, five hospitals (11% of hospitals with NICUs) opted to use an increasing portion of their licensed acute care beds as NICU beds without increasing their total bed complement. The data generally suggest these facilities took this action because they were experiencing high utilization in existing NICU beds (Table 3).

**Table 3. Facilities with Increasing Number of NICU Beds, FY 2016 - 2020**

| | | 2016 | 2017 | 2018 | 2019 | 2020 | Total Licensed Acute Care Beds |
|---|---|---|---|---|---|---|---|
| Duke Regional Hospital | Licensed Beds | 11 | 11 | 10 | 13 | 14 | 316 |
| | % Utilization | 91.2% | 98.6% | 107.8% | 88.6% | 106.9% | |
| North Carolina Baptist Hospital | Licensed Beds | 40 | 40 | 40 | 65 | 80 | 802 |
| | % Utilization | 81.8% | 82.3% | 80.4% | 58.9% | 77.7% | |
| Cone Health* | Licensed Beds | 36 | 36 | 36 | 36 | 45 | 754 |
| | % Utilization | 75.4% | 77.5% | 74.5% | 79.1% | 75.8% | |
| Atrium Health Lincoln | Licensed Beds | 0 | 0 | 0 | 4 | 4 | 101 |
| | % Utilization | n/a | n/a | n/a | 3.1% | 1.9% | |
| UNC Nash Health Care | Licensed Beds | 9 | 9 | 9 | 9 | 12 | 262 |
| | % Utilization | 53.7% | 43.3% | 38.5% | 26.1% | 36.1% | |

Sources: *2017 – 2021 Hospital License Renewal Applications;* data submitted by NC hospitals to HIDI for FYs 1016 – 2020

* In 2016, Cone Health had 777 licensed acute care beds. During FY 2020 they delicensed 23 beds.

Impact of Removal of NICU Beds and DOC from Need Determination Methodology

Agency staff reviewed the impact of removing NICU Level II, III, and IV beds and their associated DOC from the acute care need methodology. Table 4 shows the need determination changes that would have appeared in the *2022 SMFP* if these NICU data had not been included. No need determinations in additional service areas would have occurred had the NICU beds been excluded. While the acute care bed need methodology would have resulted in need determinations for a few more beds in two of the service areas, the number of beds in the need determinations in the other service areas would have decreased. Changes in need determinations are reflections of the ratio of NICU DOC removed as compared to the number of acute care DOC remaining in the calculations. Also, in service areas where there are health systems, high utilization of NICU beds is often concentrated in the largest hospitals of the health systems. Removal of their NICU beds and DOC will therefore reduce the deficit in the health system and the need determination in the service area. In sum, in particular service areas, NICU beds accounted for a large portion of the bed need, suggesting that the actual need for new general acute care beds was not as high as the need determination indicated.

**Table 4. Acute Care Bed Need Determinations, *2022 SMFP***

| Service Area | Including NICUs | Excluding NICUs* | Change |
|---|---|---|---|
| Buncombe/Graham/Madison/Yancey | 67 | 75 | 8 |
| Cumberland | 29 | 43 | 14 |
| Durham/Caswell | 68 | 28 | -40 |
| Mecklenburg | 65 | 26 | -39 |
| Pitt** | 43 | 28 | -15 |
| Wake | 45 | 44 | -1 |
| **Total** | **317** | **244** | **-73** |

Sources: *2021 Hospital License Renewal Applications*; data submitted by NC hospitals to HIDI for FY 2020
* DOC used in the acute care bed need methodology excluding NICUs only reflects DOC in facilities that reported licensed NICU beds on the *2021 Hospital License Renewal Application*.
** The SHCC approved a petition to remove the need determination in the *2022 SMFP* for Pitt County.

Requirements for Neonatal Intensive Care Unit Beds

The standards set forth by the Facility Guidelines Institute[4] have been incorporated into the rules governing the construction of NICUs in the State.[5] According to these guidelines, designs are to be responsive to the specific needs of neonates, including in the areas of sound abatement and noise control, temperature needs, security, and spatial needs for equipment, services and family support. The Petitioner's claim that the need to have NICU bed availability is not predictable, but often dire when the it arises, is well-founded. According to data submitted to HIDI, about 80% of the DOC provided in NICU beds were delivered to neonates in need of Level III and Level IV services, the higher acuity levels of care. The Agency agrees with the Petitioner that in instances when a newborn requires higher acuity services and immediate transfer to a hospital with a NICU, the availability of those beds is critical.

Importantly, about a third of all hospitals in the State operate bassinets for normal newborns but do not report operating NICU beds. However, of these 31 hospitals, 29 reported NICU Level II or Level III DOC to HIDI in FY 2020. This suggests that hospitals are delivering newborns that unexpectedly need a higher level of care, and the potential for transfer to hospitals operating NICUs is not uncommon. In sum, and as asserted by the Petitioner, the physical conditions, equipment, resources and urgency required to serve neonates are distinct from those needed to provide services to pediatric and adult patients in other ICU beds. Therefore, serving neonates in any other acute care bed is both impractical and medically inappropriate.

***Agency Recommendation:***

The Petitioner has requested the elimination of Level II, III and IV NICU beds from the acute care bed need methodology. The Agency finds that: 1) hospitals across the State experience considerably high NICU utilization; 2) the need for NICU beds can compete with the need for

[4] Section 2.2 – 2.8: Neonatal Intensive Care Unit. *FGI Guidelines for Design and Construction of Hospitals, 2018*, www.fgiguidelines.org/guidelines-main/
[5] See rule 10A NCAC 13B. 6105.

general pediatric and adult acute care beds; 3) NICU service demands can be unpredictable; and 4) patients in need of NICU services cannot be accommodated in other general acute care beds. The Agency also finds that, despite their unique function, NICUs may have played a large role in generating the need determinations of a few service areas. It is the view of the Agency that the acute care bed need methodology should reflect the need only for acute care beds that can serve in multiple capacities. Given the available information and comments submitted by the March 16, 2022 deadline, and in consideration of the factors discussed above, the Agency recommends approval of the Petition to remove NICU beds and DOC from the acute care bed need methodology.