Petition to the State Health Coordinating Council Regarding a Special Need Determination for Neonatal Beds For the 2009 State Medical Facilities Plan

Petitioner: WakeMed
3000 New Bern Avenue
P.O. Box 14465
Raleigh, NC 27620-4465

Contact: W. Stan Taylor
Vice President, Corporate Planning & Managed Care
Phone: 919-350-8108

Statement of Requested Adjustment

WakeMed hereby petitions the State Health Coordinating Council (SHCC) requesting a special need determination for 18 neonatal beds for Wake County in the 2009 State Medical Facilities Plan (SMFP).

Reasons for Requested Adjustment

WakeMed requests an adjustment to the acute care bed need methodology in Chapter 5 of the 2009 SMFP, due to growing demand for neonatal beds in Wake County.

Current Acute Care Bed Need Methodology

The current acute care bed need methodology, found in Chapter 5 of the 2008 SMFP, does not distinguish between the various types of inpatient services that can be provided in acute care beds. In the methodology, general acute care, intensive care, adult, and pediatric and neonatal services are all grouped as "acute care beds", despite the fact that each patient type's levels of care and needs are disparate.

Page 4 of the annual Hospital License Renewal Application lists no fewer than 15 specific acute care bed "units", and hospitals may provide additional categories (please see Attachment 1). Yet, all licensed acute care beds are grouped as if one bed type. Level II and III beds are grouped with medical/surgical, obstetric, gynecology, pediatric, orthopedic, and oncology beds. Level IV neonatal beds, the highest designation in North Carolina, are categorized as "intensive care" beds.

Neonatal Beds Differ From Other Types of Acute Care Beds

DRG Definitions

Neonatal patients generally fall into DRG 385-390[1], which are distinguished from normal newborns (DRG 391). The following table contains descriptions for neonatal DRG's:

Table 1: Neonatal DRG Descriptions

DRG No.	Description
385	NEONATES, DIED OR TRANSFERRED TO ANOTHER ACUTE CARE FACILITY
386	EXTREME IMMATURITY OR RESPIRATORY DISTRESS SYNDROME, NEONATE
387	PREMATURITY W MAJOR PROBLEMS
388	PREMATURITY W/O MAJOR PROBLEMS
389	FULL TERM NEONATE W MAJOR PROBLEMS
390	NEONATE W OTHER SIGNIFICANT PROBLEMS

State Definitions

Although they are categorized as "acute care beds", neonatal beds are unique in nature and therefore do not readily conform with other categories of acute care beds. Neonatal beds are highly specialized resources that serve a limited, yet highly fragile, population.

The Certificate of Need Law, contained in N.C.G.S.§ 131E-176(15b) defines "neonatal intensive care services" as follows:

> *"...those services provided by a health service facility to high-risk newborn infants who require constant nursing care, including but not limited to continuous cardiopulmonary and other supportive care."*

The Criteria and Standards for Neonatal Services, found in 10A NCAC 14C .1400 *et seq.*, define Levels I thru IV neonatal services as follows:

> *"Level I neonatal services" means services provided by an acute care hospital to full term and pre-term neonates that are stable, without complications, and may include neonates that are small for gestational age or large for gestational age.*
>
> *"Level II neonatal service" means services provided by an acute care hospital in a licensed acute care bed to neonates and infants that are stable without complications but require special care and frequent feedings; infants of any weight who no longer require Level III or Level IV neonatal services, but still require more nursing hours than normal infants; and infants who require close observation in a licensed acute care bed.*

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[1] Beginning in FY 2008, Medicare implemented MS-DRGs, which are not included in the FY 2007 Thomson inpatient database.

"Level III neonatal service" means services provided by an acute care hospital in a licensed acute care bed to neonates or infants that are high-risk, small (approximately 32 and less than 36 completed weeks of gestational age) but otherwise healthy, or sick with a moderate degree of illness that are admitted from within the hospital or transferred from another facility requiring intermediate care services for sick infants, but not intensive care. Level III neonates or infants require less constant nursing care than Level IV services, but care does not exclude respiratory support.

"Level IV neonatal service" means neonatal intensive care services provided by an acute care hospital in a licensed acute care bed to high-risk medically unstable or critically ill neonates (approximately under 32 weeks of gestational age) or infants requiring constant nursing care or supervision not limited to continuous cardiopulmonary or respiratory support, complicated surgical procedures, or other intensive supportive interventions.

Level I neonatal care is generally provided in unlicensed newborn bassinets. In 10A NCAC 14C .1401(8), a "neonatal bed" is defined as follows:

"...a licensed acute care bed used to provide Level II, III or IV services."

Therefore, this Petition is centered around the provision of Levels II, III and IV care.

Performance Standards for Neonatal Beds

Neonatal beds have standards for utilization that are different from those in the general acute care bed methodology. According to 10A NCAC 14C .1403, a facility that wishes to add Level II beds must demonstrate that its existing neonatal beds are utilized at least 50% during the first year of operation, and at least 65% during the third year following project completion. A facility seeking additional Level III or Level IV beds must demonstrate that the projected occupancy of its total Level III and Level IV beds will be at least 75% during the third year following project completion.

These thresholds differ from the performance standards for acute care beds, contained in 10A NCAC 14C .3803(a), which mandate the following utilization levels by facility size in the third year following project completion:

Avg. Daily Census	Target Util. by Third Year
Less than 100	66.7%
100-200	71.4%
Greater than 200	75.2%

Another important distinction is that, unlike general acute care beds, there is no tiered capacity threshold for neonatal beds based on unit size. Thus, neonatal units of 2 beds or 20 beds are held to the same utilization standard.

Limitations Regarding Patients That May Be Served in Neonatal Beds

Newborns may suffer from a host of conditions that require neonatal inpatient care, including one of more of the following:

- Low birth weight (under 2500 grams) or Very low birth weight (under 1500 grams);
- Less than 36 weeks' gestation (for Level II care) or Less than 32 weeks' gestation (for Levels III or IV care);
- Hypoglycemia;
- Neonatal sepsis;
- Transient tachypnea;
- Low APGAR scores;
- High bilirubin;
- Congenital anomalies;
- Infant aspiration syndrome.

Level II, III and IV neonatal beds are reserved exclusively for newborn infants with major health problems or special care needs such as those listed above. *Adults and pediatric patients may not be admitted to neonatal beds*. Therefore, neonatal beds have less flexibility in terms what types of patients may fill these beds.

Need for Highly Specialized Support Services

Neonatal services require highly-specialized staffing and support services, and are typically found only in large, tertiary medical centers where there is sufficient demand, and where a critical mass of specialty services can be coordinated. To ensure that quality is maintained, neonatal programs require support and/or consultation from a number of ancillary and support services, including but not limited to:

- Neonatologists;
- Pediatric intensivists;
- General pediatricians;
- Pediatric surgeons;
- Neonatal nurse practitioners;
- Neonatal staff nurses;
- Respiratory therapists;
- Cardiopulmonary services;
- Clinical dietitians; and
- Social services staff.

Longer Lengths of Stay

While some neonatal patients spend only a few days in a Level II, III or IV bed, the most critically ill infants may spend weeks or months in a neonatal unit. Data from Thomson indicates that, statewide, patients with DRGs 385-390 had a average length of stay of 7.9 days in FY 2007, ranging from 2.6 days for DRG 390 to 41.0 days for DRG 386. Length of stay is influenced by the patient's initial condition(s), and response to therapeutic measures while in the neonatal unit. Because length of stay cannot be predicted from patient to patient, utilization is widely variable.

Review Disadvantages in Comparison to other Acute Care Bed Types

In competitive reviews of acute care beds, the highly specialized nature of neonatal beds, coupled with the specific population they serve as well as their higher charges and costs relative to other forms of acute care beds, put prospective applicants for this service at a disadvantage. Generally, the CON Section is predisposed to award bed allocations to applicants who propose the least costly alternative, and that propose to serve the greatest number of patients. Neonatal patients are subject to lengthy inpatient stays, which generate significantly higher total charges than general medical/surgical patients. In a competitive review with proposals for medical-surgical beds, neonatal bed applications would appear considerably more expensive, and would appear to serve a very limited patient population.

DATA SUPPORTING NEED FOR ADDITIONAL NEONATAL BEDS IN WAKE COUNTY

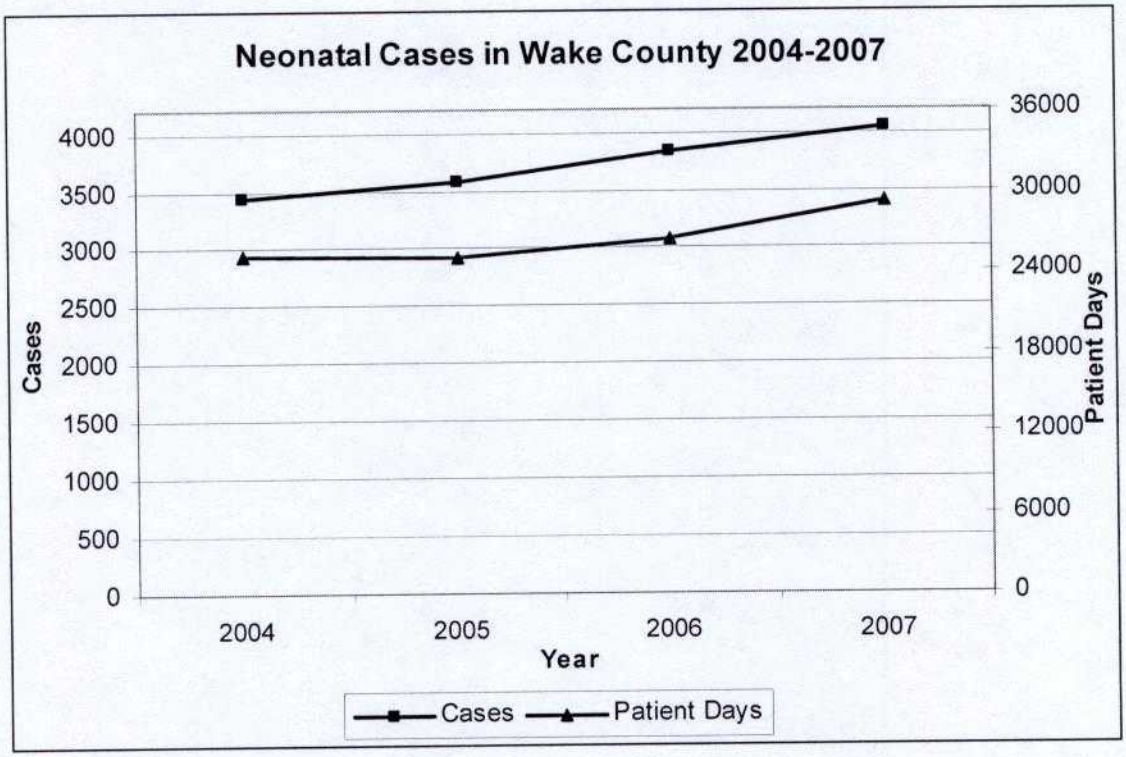
Total Population Growth in Wake County

The N.C. State Office of Management and Budget estimates that 867,228 people reside in Wake County in 2008. This total population is projected to increase to 1,019,246 residents by 2013, an increase of 17.5%. By comparison, the State's total population is projected to grow by 7.9% during the same time period. Based on current projections, Wake County is slated to become North Carolina's most populous county by 2016. Population growth in Wake County will strain existing providers of neonatal intensive care services, as existing resources will be insufficient to meet demand. Neonatal providers in neighboring counties, located in academic medical centers, treat patients from a wide geographic area and will be unable to meet the need in Wake County.

Trends in Neonatal Patients in Wake County

The volume of neonatal patients in Wake County is increasing. Data obtained from the Thomson N.C. Statewide Inpatient Database show that, in 2004, there were 3,445 neonatal cases (DRG 385-390) originating in Wake County, with 25,162 corresponding patient days. By 2007, this had increased to 4,051 cases and 29,133 days – this represents a 17.6% increase in cases, and 15.8%% increase in patient days.. Please see the following table and corresponding graph.

Table 2: Total Neonatal Cases and Days from Wake County, 2004-2007 Source: Thomson						
	FY 2004	**FY 2005**	**FY 2006**	**FY 2007**	**Percent Change, 2005-07**	**Annual Rate of Growth**
Neonatal Cases	3,445	3,573	3,831	4,051	17.6%	4.13%
Neonatal Patient Days	25,162	25,079	26,351	29,133	15.8%	3.73%



Clearly, there is an increasing trend in neonatal volume in Wake County. In 2007, neonatal patients from Wake County filled, on average, approximately 80 beds per day [calculation: 29,133 patient days ÷ 365 = 79.82 average daily census]. This is approximately 42% higher than the number of neonatal beds currently located in the county.

Utilization of Existing Providers Wake County of Neonatal Services

Three Wake County acute care hospitals offer neonatal beds, as follows:

Table 3: Current Inventory of Neonatal Beds in Wake County				
Facility	**No. of Level II Beds**	**No. of Level III Beds**	**No. of Level IV Beds**	**Total Neonatal Beds**
WakeMed Raleigh Campus	0	24	12	36
Rex Hospital	0	12	0	12
WakeMed Cary Hospital	0	8	0	8
Total	0	44	12	56

Data submitted to the Division of Health Service Regulation in annual License Renewal Applications indicate that, in total, the existing neonatal beds were utilized at 84.9% in FY 2006 and 84.4% in FY 2007. The Level III beds were utilized at 82.7% in FY 2006 and 82.8% in FY 2007. Utilization of the Level IV beds was 93.0% and 90.0% in FYs 2006 and 2007, respectively. These occupancy levels are well above the performance standards set forth in 10A NCAC 14C .1403(2) and (3), and indicate that additional neonatal beds are needed in Wake County. Neonatal beds in Wake County are so highly-utilized that patients are being referred to facilities outside Wake County because of the lack of available beds.

Increasing neonatal case volume, coupled with rising utilization among providers of neonatal beds in Wake County, means that an increasing proportion of patients must rely on out-of-county facilities for available neonatal beds.

Ratio of Neonatal Beds to Population

Compared with other major urban centers in North Carolina, Wake County has a lower ratio of neonatal beds to population, despite having a birth rate that is similar with that of other urban counties. While information regarding live births for 2007 has not yet been published by the State Center for Health Statistics, data obtained from Thomson indicate that Wake County had an estimated 2007 birth rate of 16.57 births per 1000 population, with 13,799 live births (in DRG 385-391). Of these, 4,051 births, or 29.4% of total, were considered neonatal cases (DRG 385-390), the highest number of neonatal cases statewide.

With only 56 neonatal beds, Wake County has a ratio of 6.72 beds per 100,000 population, far lower than any of the other ten most populous counties in North Carolina. Yet, Wake County's neonatal cases per 100,000 population ranks higher than most other urban counties, with the exception of Durham and Mecklenburg Counties.

Table 4: 2007 Neonatal Beds and Neonatal Cases Per 100,000 Population For Ten Most Populous Counties in North Carolina Sources: Thomson and N.C. State Demographer's Office					
County	**2007 Total Population**	**Total Neonatal Beds**	**Neonatal Beds per 100,000 Pop.**	**Total Neonatal Cases (DRGs 385-390)**	**Neonatal Cases per 100,000 Pop.**
Mecklenburg	862,835	147	17.04	3,915	486.4
Wake	**832,875**	**56**	**6.72**	**4,051**	**453.7**
Guilford	460,784	42	9.11	1,980	429.7
Forsyth	338,480	79	23.34	1,395	412.1
Cumberland	313,600	44	14.03	1,012	322.7
Durham	254,588	71	27.89	1,430	461.7
Buncombe	225,870	51	22.58	641	283.8
Gaston	201,094	16	7.96	727	361.5
New Hanover	189,856	33	17.38	625	329.2
Onslow	169,466	18	10.62	731	431.4

Need for Additional Level IV Neonatal Beds in Wake County

The State considers Level III and Level IV units to be fully utilized at 75% occupancy. Existing providers of neonatal services in Wake County are being utilized well above this level. Given that Wake County neonatal patients filled 80 beds per day during 2007, but only 56 neonatal beds are located within the county, there is clearly a need for additional neonatal bed capacity in Wake County.

Using historical utilization data for neonatal services at WakeMed Raleigh Campus, WakeMed Cary Hospital and Rex Hospital, existing providers of neonatal services in Wake County could justify a total of 63 neonatal beds at their *FY 2007 utilization levels* [calculation: 17,242 patient days ÷ 365 = 47.2 ÷ 0.75 = 62.98, rounded 63]. Increasing neonatal case volume, coupled with rising utilization among providers of neonatal beds in Wake County, means that more patients must rely on out-of-county facilities for available neonatal beds.

If Wake County's neonatal cases continue to grow at a rate of 4.13% per year and patient days continue to grow at a rate of 3.73% per year (see Table 2 above), it is estimated that Wake County residents will need approximately 99 neonatal beds per day by 2013. Assuming 75% of these patients remain in Wake County facilities, this translates to a need for 18 additional neonatal beds by 2013. Please see Table 5 below.

Table 5:
Wake County Neonatal Bed Utilization Trend and Beds Needed Through 2013

Year	Wake Co. Neonatal Cases *(increased 4.13% per year after 2007)*	Wake Co. Neonatal Pt. Days *(increased 3.73% per year after 2007)*	Avg. Daily Census (Pt. Days ÷ 365)	Avg. Daily Census Assuming 75% of Pts. Remain at Wake Co. Facilities	Surplus/ (Deficit) Based on 56 Beds
2004-actual	3445	25162	68.9	51.7	**4.3**
2005-actual	3573	25079	68.7	51.5	**4.5**
2006-actual	3831	26351	72.2	54.1	**1.9**
2007-actual	4051	29133	79.8	59.9	**(3.9)**
2008	4218	30220	82.8	62.1	**(6.1)**
2009	4392	31348	85.9	64.4	**(8.4)**
2010	4574	32518	89.1	66.8	**(10.8)**
2011	4763	33731	92.4	69.3	**(13.3)**
2012	4960	34990	95.9	71.9	**(15.9)**
2013	5165	36296	99.4	74.6	**(18.6)**

Adverse Effects of Denying or Delaying Petition

Should this Petition be denied, WakeMed believes that the consequences could be significant for Wake County. With Wake County's population expected to continue to grow at a high rate, and overall utilization of neonatal beds on the rise, demand for neonatal beds is expected to grow. As demand for neonatal services continues to grow, larger proportions of patients will be forced to seek care in out-of-county facilities. The closest neonatal programs outside Wake County, at Duke University Hospital and UNC Hospitals, were utilized at 93.8% and 75.7%, respectively, during 2007.

Alternatives to This Proposal

WakeMed has considered several alternatives to this proposal.

Status Quo

WakeMed has considered no action should this Petition be denied, in which case no additional neonatal beds would be made available to the residents of Wake County.

Develop Additonal Neonatal Beds Through SMFP General Acute Bed Methodology

WakeMed Raleigh Campus and WakeMed Cary Hospital have been awarded acute care beds via SMFP need determinations in recent years. However, these beds were earmarked for adult intensive care and medical-surgical patients, given that these were

judged to be the most critically needed new beds. Also, neonatal beds were deemed too expensive to warrant approval during competitive CON reviews. For these reasons, WakeMed has not pursued additional neonatal beds allocated to Wake County through the annual SMFP.

Convert Approved General Medical-Surgical Beds to Neonatal

WakeMed has received State approval for a total of 102 acute care beds since 2005. However, due to pressing capacity constraints at its Raleigh and Cary inpatient facilities, none of these beds were allocated to neonatal services. WakeMed is increasing the number of adult medical-surgical and intensive care beds at both campuses. Projections indicate that these beds will exceed their utilization projections within three years of opening.

No Evidence of Unnecessary Duplication of Services

Providers of neonatal services in Wake County are well-utilized, and additional beds would not duplicate existing services.

Summary

Based on the information provided in this Petition, WakeMed respectfully requests that the State Health Coordinating Council grant a special need determination of 18 neonatal beds in Wake County for inclusion in the 2009 State Medical Facilities Plan. Doing so will ensure that an adequate supply of neonatal beds will be in place to meet growing demand within Wake County.

Attachment 1

All responses should pertain to **October 1, 2006 through September 30, 2007.**

D. Beds by Service (Inpatient – Do Not Include Observation Beds or Days of Care) [Please provide a Beds by Service (p. 4) for each hospital campus (see G.S. 131E-176(2c))]

Please indicate below the number of beds usually assigned (set up and staffed for use) to each of the following services and the number of census inpatient days of care rendered in each unit. NOTE: If your facility has a designated unit(s) for chemical dependency treatment and/or detoxification, please complete the patient origin sheet pertaining to Psychiatric and Substance Abuse Services. If your facility has a Nursing Facility unit and/or Adult Care Bed unit please complete the supplemental packet for Skilled Nursing Facility beds.

Licensed Acute Care (provide details below) *Campus* _____	**Licensed Beds as of September 30, 2007**	**Staffed Beds as of September 30, 2007**	**Annual Census Inpt. Days of Care**
Intensive Care Units			
a. Burn *			*
b. Cardiac			
c. Cardiovascular Surgery			
d. Medical/Surgical			
e. Neonatal Beds Level IV ** (Not Normal Newborn)			**
f. Pediatric			
g. Respiratory Pulmonary			
h. Other (List)			
Other Units			
i. Gynecology			
j. Medical/Surgical ***			***
k. Neonatal Level III ** (Not Normal Newborn)			**
l. Neonatal Level II ** (Not Normal Newborn)			**
m. Obstetric (including LDRP)			
n. Oncology			
o. Orthopedics			
p. Pediatric			
q. Other (List) _____			
1. Total General Acute Care Beds/Days (a through q)			
2. Comprehensive In-Patient Rehabilitation			
3. Inpatient Hospice			
4. Detoxification			
5. Substance Abuse / Chemical Dependency Treatment			
6. Psychiatry			
7. Nursing Facility			
8. Adult Care (Home for the Aged)			
9. Other			
10. Totals (1 through 9)			

* Please report only Census Days of Care of DRG's 504, 505, 506, 507, 508, 509, 510 and 511.

** Per C.O.N. rule definition. Refer to Section .1400 entitled Neonatal Services. (10A NCAC 14C)

*** Exclude Skilled Nursing swing-bed days. (See swing-bed information next page)