Acute Care Services Committee
Agency Report
Adjusted Need Determination Petition for
Two Dedicated Pediatric Operating Rooms
Proposed 2013 State Medical Facilities Plan

Petitioner:
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Request:
WakeMed Health and Hospitals is requesting an adjusted need determination in the 2013 State Medical Facilities Plan (SMFP) for two dedicated pediatric operating rooms.

Background Information:
The Operating Room (OR) need methodology consists of several steps, which result in the number of ORs needed in OR service areas. The methodology involves calculating the number of surgical hours projected for the target year, the number of ORs required to meet the projected need, and the number of new ORs needed given the current inventory and adjustments. The Proposed 2013 SMFP need methodology for ORs, does not distinguish between pediatric and adult ORs when calculating and projecting need for additional ORs in a service area.

Chapter Two of the SMFP allows persons to petition for an adjusted need determination in consideration of "…unique or special attributes of a particular geographic area or institution…," if they believe their needs are not appropriately addressed by the standard methodology. The WakeMed petition points out that the current OR methodology does not "distinguish between the various patient types served in surgical operating rooms."

WakeMed states that pediatrics refers to a population, not a distinct surgical specialty, and "... runs the gamut from tiny neonates to adolescents." Pediatric surgery "is a catch-all term that encompasses the full range of pediatric surgical specialties, regardless of body type." The petitioner describes aspects of operating room design and operation as being distinctive for children's surgery, such as

- operating room temperature, size and environment;
- instrumentation and equipment;
- infection control;
- anesthesia; and
- pre- and post-operative care and facilities.

Data provided by the petitioner included total population growth in Wake County, pediatric population growth in Wake County, and the numbers of surgical cases for patients age 0-17 who reside in Wake County. The petitioner states that despite the need, there are no ORs in Wake County dedicated solely to pediatric surgery. The petitioner requests a special need determination for two dedicated pediatric ORs in Wake County.

Analysis/Implications:

As indicated above, the OR standard methodology does not differentiate between pediatric and adult surgical cases or between pediatric and adult ORs. The OR methodology has been studied and reviewed several times since it was first included in the 1991 SMFP. In January 2011, Chairman Wainwright established a workgroup to investigate whether or not the methodology should include need determinations for both pediatric and adult ORs. The group met four times and recommended that the OR methodology include weighting pediatric surgeries to project need for pediatric ORs. After careful consideration of the workgroup's recommendations, Acute Care Services Committee members concluded that designation of pediatric ORs was more of an individual hospital action rather than a statewide issue covered in the SMFP. In suggesting that hospitals file adjusted need petitions for pediatric ORs, the Committee asked that "such petitions should address issues related to pediatric surgical case types, pediatric surgical case times (*i.e.*, in deference to average adult case times), and appropriate age groupings" (9/28/2011 State Health Coordinating Council Acute Care Services Report). The State Health Coordinating Council concurred and approved the Committee's recommendations at its 9/28/2011 meeting.

The petitioners provided Wake County population figures, surgical OR utilization for Wake County, and Truven Health Analytics (formerly Thomson Reuters) patient origin data for surgical patients ages 0-17. The Agency's experience with surgical case data from Truven Health Analytics involves using procedure classes developed by the federal Healthcare Cost and Utilization Project for ICD-9-CM discharge procedure codes. Surgical cases from the Truven Health Analytics data are those cases that have one or more ICD-9-CM procedures "considered valid operating room procedures by the Diagnosis Related Group (DRG) grouper" (from http://www.hcup-us.ahrq.gov/ toolssoftware/ procedure/ procedure.jsp), but the procedures were not verified as having been performed in an OR.

Further exploration into North Carolina and Wake County population figures, data not included in the petition, shows that although the Wake County population ages 0 through 17 is expected to increase, the Wake County population ages 18 and older is growing at a much greater rate (North Carolina Office of State Budget and Management, http://www.osbm.state.nc.us/demog/prsage.html).

Figure 1

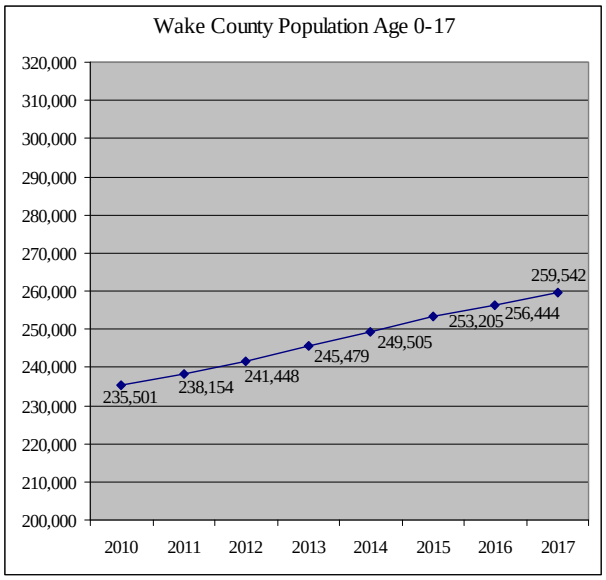
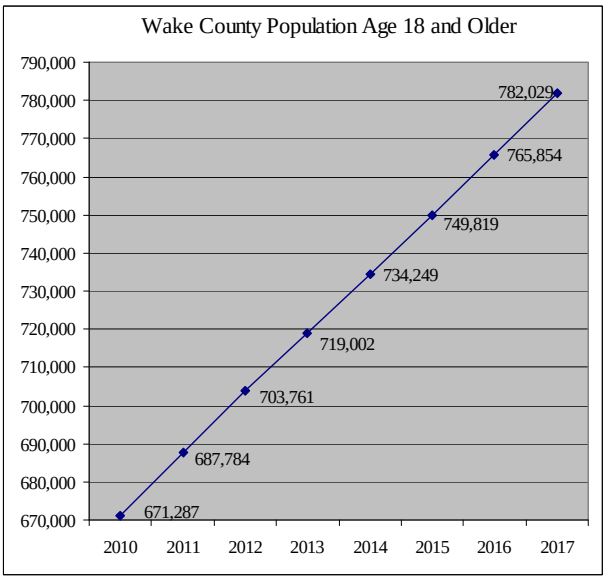


Figure 2



Figures 1 and 2 demonstrate visually the growth in the two Wake County populations for the same time period, while Table 1 provides the calculated growth rate from one year to the next. The calculation uses the following formula, using the growth rate from 2010 to 2011 as an example:

Rate of Growth = (Year 2011 population – Year 2010 population) ÷ Year 2010 population

Table 1

	From 2010 to 2011	From 2011 to 2012	From 2012 to 2013	From 2013 to 2014	From 2014 to 2015	From 2015 to 2016	From 2016 to 2017
Rate of Growth-Wake County Population Ages 0-17	1.13%	1.38%	1.67%	1.64%	1.48%	1.28%	1.21%
Rate of Growth-Wake County Population Ages 18 and Older	2.46%	2.32%	2.17%	2.12%	2.12%	2.14%	2.11%

(calculated using population figures from North Carolina Office of State Budget and Management, http://www.osbm.state.nc.us/demog/prsage.html)

During the same time period, the percentage of North Carolina residents ages 0 through 17 is projected to decrease from 23.85 percent in 2010 to 23.04 percent in 2017 (Table 2). Likewise, the percentage of North Carolina residents ages 18 and older is expected to increase (Table 2).

Table 2								
	2010	2011	2012	2013	2014	2015	2016	2017
NC Population Ages 0-17	2,283,846	2,282,018	2,291,633	2,307,360	2,325,803	2,344,082	2,360,527	2,374,797
NC Population Ages 18 and Older	7,291,819	7,387,226	7,489,389	7,579,241	7,667,080	7,753,222	7,841,837	7,931,280
Total NC Population	9,575,665	9,669,244	9,781,022	9,886,601	9,992,883	10,097,304	10,202,364	10,306,077
Percent NC Population Ages 0-17	23.85%	23.60%	23.43%	23.34%	23.27%	23.21%	23.14%	23.04%
Percent NC Population Ages 18 and Older	76.15%	76.40%	76.57%	76.66%	76.73%	76.79%	76.87%	76.96%

This population trend corresponds with the recent Statistical Brief: A Publication of the State Center for Health Statistics that reported a 9.8 percent drop in the fertility rate between 2007 and 2010 in North Carolina, "from 69.5 to 62.7 births per 1,000 women ages 15-44. This was a more rapid decline than any other three year period going back to 1990." (No. 38, June 2012, page 1). The publication also points out that nationally, birth rates and trends mirror North Carolina's.

The petitioner describes surgery-related needs unique to pediatric patients, and discusses differences between operating room set-ups for children and adults, including children's need for increased OR temperature and size, smaller instrumentation and equipment, and differing anesthesia requirements and pre- and post-operative care. Young children may indeed benefit from specially designed OR environments and smaller sized surgical equipment and tools, yet some of the concerns discussed in the petition may be related as much to the size of the patient as to his/her age. According to the National Health Statistics Reports (Number 10, 10/22/2008), the average height of a 13-year old male is 5 feet, 4 inches, with an average weight of 127 pounds. Thirteen-year old females weigh an average of 126 pounds and are, on average, 5 feet, 2 inches tall. Given these average heights and weights of 13-year olds, the following questions remain: (1) When is a patient old enough, tall enough or heavy enough to no longer benefit more from a specially designed pediatric OR than from a standard, adult OR? (2) Can the average 13-year old patient be just as well served in the environment of a standard OR? (3) Do all types of pediatric surgeries need to be performed in designated pediatric ORs? (4) What amount of time is involved in performing pediatric surgeries, and do surgical times vary depending on age, body size, or medical condition?

The petitioner states that a certificate of need (CON) application for designated pediatric ORs "would most likely result in disapproval", but does not provide information to substantiate the possible negative factors involved in such a decision. Applicants for OR need determinations currently can propose pediatric ORs. Providers who have existing ORs can designate existing ORs to be pediatric ORs without CON review, if the cost is under $2 million.

The Agency concurs with the Acute Care Services Committee that designation of ORs for pediatric surgery is best determined by individual providers, rather than by the standard OR methodology in the SMFP. This petition for an adjusted need determination for two designated pediatric ORs in Wake County in the 2013 SMFP contends that unique circumstances warrant additional resources be granted outside of the standard OR methodology. According to Truven Health Analytics surgical patient origin data provided by the petitioner, Wake County is listed as the residence of the largest number of pediatric patients, age 0 through 17, in the state. However, the Truven Health Analytics data shows the number of pediatric surgical cases from Wake County is declining, which is happening overall in the state as well. As discussed earlier, the rate of growth for the Wake County population age 0 through 17 is lower than the growth rate for Wake County residents age 18 and older, and the birth rate is declining in North Carolina.

The petitioner states that OR utilization in Wake County is reaching or exceeding capacity, but does not factor in the 13 additional ORs in the service area which have resulted from recent SMFP need determinations and CON-approved, but not yet developed ORs in Wake County. The petitioner states that dedicated pediatric ORs are needed because of the specialized surgical needs of children, yet the petitioner also states that "pediatric patients range from tiny neonates to full-grown adolescents." The questions outlined above point to the diversity within the pediatric population and their needs, which is not fully discussed in the context of the requested two dedicated ORs. The petitioner does not discuss a definition of "pediatric", beyond reference to the definition of patients younger than 18 suggested by the workgroup. Also, there is no discussion in the petition of the meaning of "dedicated" pediatric ORs. Would dedicated pediatric ORs be used *only* for children at *all* times? Would the ORs be counted or excluded as part of the facility's regular inventory?

Finally, the petition fails to indicate that providers can apply for pediatric ORs when OR need determinations occur in the SMFP. Also, within certain guidelines, providers can designate pediatric ORs from among their existing inventories of ORs without CON review.

Agency Recommendation:
The Agency concludes that the petition offered insufficient information to document unique circumstances in the Wake County OR service area. In view of this, information and comments submitted by the 8/17/2012 deadline, and in support of the standard OR methodology, the Agency recommends denial of the petition.