DukeMedicine

Duke Raleigh Hospital
DUKE UNIVERSITY HEALTH SYSTEM

Douglas B. Vinsel
President

May 31, 2011

Craig R. Smith, Chief
Certificate of Need Section
North Carolina Division of Health Service Regulation
701 Barbour Dr.
Raleigh, NC 27603

Re: Comments on applications for Inpatient Acute Care Beds in Wake County

Dear Mr. Smith:

This letter forwards the comments of Duke University Health System, Inc. d/b/a Duke Raleigh Hospital on the applications for inpatient acute care beds submitted by Rex Hospital, Novant Health/Holly Springs Hospital, and WakeMed.

Sincerely,

Douglas B. Vinsel
President, Duke Raleigh Hospital

Enclosures

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**COMMENTS ON APPLICATIONS FILED FOR DEVELOPMENT IN ATTENTION
ACUTE CARE BEDS IN WAKE COUNTY**

Duke University Health System, Inc. d/b/a Duke Raleigh Hospital submits these comments regarding the six applications filed on April 15, 2011 by Rex Hospital, WakeMed, and Novant Health/Holly Springs Hospital for the development of inpatient acute care beds within Wake County.

Duke Raleigh recognizes that the 2011 State Medical Facilities Plan establishes a need determination for 101 acute care beds in Wake County. As set forth more fully below, however, more recent hospital licensure data would generate a much lower need for new bed capacity in Wake County. The 2012 draft acute care bed tables presented to the Acute Care Committee of the State Health Coordinating Council on May 20, 2011, would generate a need for only 29 beds based on current capacity (even without the additional 101 beds in the 201 SMFP), a deficit created solely by WakeMed's utilization at its two existing facilities. Rex's deficit has disappeared, and WakeMed's has decreased significantly. In light of this more current information, any applicant's utilization projections should be carefully scrutinized to ensure that the proposed projects do, in fact, reflect a real need in Wake County and will not simply lead to the unnecessary duplication of services.

Moreover, Duke Raleigh encourages the Certificate of Need Section to consider how best any needed capacity can be developed and provided. Rex and Novant both propose to build additional small hospitals in a market that already has several competing freestanding inpatient facilities. This approach would not serve the needs of the county or provide the best-quality or most efficient care. The correlation between hospital size and patient outcomes has long been recognized. For example, a 1992 study published in the Journal of the American Medical Association found that death rates in rural or suburban hospitals with fewer than 100 beds were 25 percent higher than in large, non-teaching hospitals in cities and 29 percent higher than in major teaching hospitals. (See "Study Says Bigger Hospitals Give Better Care," New York Times, Oct. 8, 1992). As an example of a specific procedure with this correlation, recent research has shown that outcomes from Whipple operations are correlated to the experience of the hospital and the surgeon. Hospitals with high volume procedures have death rates below 5% while hospitals performing fewer operations have a higher complication rate a death rate closer to 15-20%. The American Cancer Society recommends the Whipple operation should be performed in a center that is experienced and does high volume of surgical procedures to ensure the best outcomes.[1]

A recent study published in the New England Journal of Medicine reiterated that "admission to higher-volume hospitals has been associated with a reduction in mortality for numerous surgical conditions and medical procedures," and went on to analyze a similar correlation of hospital size and outcomes for myocardial infarction, heart failure,

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1 http://www.surgery.usc.edu/divisions/tumor/pancreasdiseases/web%20pages/pancreas%20resection/whipple%20operation.html

and pneumonia. See Ross et al, "Hospital Volume and 30-Day Mortality for Three Common Medical Conditions," New England Journal of Medicine, 2010: 362: 1110-1118 (March 25, 2010). The study found a reduction in the rate of death for these conditions for patients admitted to a hospital that handled a large condition-specific volume of patients each year, although the curve flattened once the annual volume reached 100 cases, "suggesting that the benefit of an increased volume of patients at a hospital would be most pronounced at low-volume hospitals." The authors suggested that "policymakers may attempt to increase volume at only the smallest-volume hospitals, perhaps by ensuring that small hospitals are not located within close proximity to one another."

While small hospitals can provide excellent care in many cases, and are necessary and appropriate in many settings, such as rural counties without the volume to support a larger facility, a proliferation of small hospitals in Wake County is not efficient or cost-effective. Wake County can and does support a number of larger and more efficient hospitals. The fracturing of hospital services would lead to the unnecessary duplication of services, even within an existing health care system such as Rex, and does not improve access, quality, or competition. For example, by proposing two new hospitals within the county, Rex will have to duplicate – twice over – its own existing emergency services, call coverage, and other support services.

By establishing the target occupancy rates for various hospital sizes, the acute care bed methodology recognizes that larger hospitals can be used more efficiently. That is, 101 beds divided between 2 facilities with less than 100 beds each would be considered fully utilized with an average daily census of 67.36. By contrast, those 101 beds would be considered fully utilized at a hospital with 400 or more beds with an average daily census of 78.78. Because larger hospitals have more flexibility to accommodate swings in average daily census, the same number of beds actually provides greater capacity and flexibility. Moreover, small hospitals often have to refer their high-acuity patients to larger hospitals with more comprehensive services in any event. These referrals and transfers can lead to delays in care, longer length of stay, and higher costs. Accordingly, health care reform efforts are appropriately centering on access to primary care and creating medical homes, not the proliferation of acute care hospitals.

Experience in the Triangle reflects the trend toward consolidated rather than decentralized acute inpatient services. Franklin County has one acute care hospital, which, accordingly to 2011 License Renewal Applications, treated 1041 inpatients from Franklin County and performed 88 inpatient surgeries on Franklin County residents. By contrast, WakeMed, WakeMed Cary, Rex Hospital, and Duke Raleigh Hospital treated a total of 2751 inpatients from Franklin County, and performed a total of 1018 inpatient surgeries on Franklin County residents. WakeMed alone treated more inpatients from Franklin County – 1498 – than Franklin Regional Medical Center. Immediate proximity to hospital services is obviously not the most important factor to those patients. In a county where residents already live in reasonable proximity to several options for acute care hospital services, creating a multiplicity of new small hospitals is not the best way to increase acute care bed capacity.

Specific Comments Regarding Application filed by Novant Health, Inc.

The application filed by Novant to create a 50-bed hospital in Holly Springs does not meet the needs of the county for several reasons. As set forth above, Wake County does not need additional small hospitals. Novant's proposal raises additional concerns, however.

Lack of Right to Develop Operating Rooms

Novant's application is dependent on converting two operating rooms originally approved for the development of a freestanding ambulatory surgery center. Without those converted operating rooms, a hospital would not be viable. However, Novant's rights to develop and convert those rooms for its proposed hospital are questionable at best. First, the decision approving Novant's application to develop the ambulatory operating rooms has been appealed, and any CON would not issue until the conclusion of all appeals. Moreover, the administrative law judge hearing the petition for contested case has issued a recommended decision reversing the approval of Novant's application, and recommending approving an application filed by WakeMed instead. See Recommended Decision, 10 DHR 5274 and 5275 (May 17, 2011). At the exhaustion of the appeal process, Novant may well end up without any operating rooms to relocate to its proposed hospital.

Even if Novant's CON were already issued and its rights to develop the ambulatory operating rooms assured, the proposed conversion to hospital-based rooms would still raise grave concerns. Novant originally prevailed in a competitive review with three other applicants to develop the operating rooms based on its proposal to develop ambulatory services. It argued that its application was competitively superior based on its projected revenues and costs, which were lower than the other applicants as a direct result of proposing to provide outpatient rather than inpatient services. Its projections and assumptions were all based on ambulatory services. The other three applicants all proposed to develop one or more inpatient rooms (Rex proposed both inpatient and ambulatory rooms), and were disapproved. It would be unfair for Novant to prevail against other applicants in the earlier OR review based in part on its lower projected costs and revenues for an ambulatory surgery center, only now to propose to convert them to provide inpatient surgical services, with significantly higher costs, charges, and revenues, which other applicants were not approved to provide. By transitioning two of the three ORs from ambulatory surgery to inpatient arena, Novant is significantly changing the scope of the conditionally approved application into a situation where the cost of surgical care will increase. This is evident when comparing the average reimbursement from the ambulatory surgery CON to the average reimbursement of outpatient surgery at the proposed Holly Springs Hospital. **The average reimbursement in FY 2015 for outpatient surgeries at the Holly Springs Hospital is $7,111 while the average reimbursement in FY 2015 for the proposed ambulatory surgery center was $1,459.**

It should be noted that the recommended decision in the operating room appeal also raised many concerns that similarly exist with Novant's hospital proposal: unreasonable market share projections, lack of relevant physician support in the immediate service area, highly unreasonable payor mix projections, and overstated "geographic access" claims.

Duplication of Services

Even if Novant eventually obtains a CON for the operating rooms it proposed for its ambulatory surgery center, approving the hospital project would effectively allow the creation of a freestanding surgery center with one OR and one procedure room as well as the proposed hospital, both in Holly Springs. While both located on the same campus, this further duplicates services and is not an effective development of health care services. The tables on page 86 and 87 purport to show a need for 2.6 ORs at the hospital and 0.9 ORs at the surgery center by the third year of the project. Given that Novant proposed 2 hospital ORs and 1 ambulatory surgery OR, it seems it would be more effective to have them all located in one facility to ensure more appropriate utilization of all ORs. Additionally, Novant's financial projections for the hospital are based on the assumption that enough volume to fill 2.6 ORs will be accommodated in 2 ORs. If this is not achieved, the actual volumes will be lower, and thus reimbursement will be lower, calling into question the financial feasibility of the project.

Geographic Need

Novant's claim that Holly Springs needs its own hospital is fundamentally flawed. Although the small town of Holly Springs does not have its own hospital, residents of Holly Springs nonetheless have appropriate access to acute care services, and growth in that area alone does not justify an additional hospital in that part of the county.

Novant provides erroneous information about population growth within Wake County (see table at page 128 of the application), with the 2011 column for the census tracks equating to the 2017 population and the 2017 column equating to the 2016 population. Correcting the table is as follows:

Census Tract	**Town**	**2011**	**2017**	**CAGR**
Census Tract 532	Holly Springs	34,708	42,014	3.2%
Census Tract 531.01	Fuquay Varina	17,850	22,098	3.6%
Census Tract 531.03	Wake County	9,262	10,377	1.9%
Census Tract 531.04	Wake County	11,391	13,960	3.4%
Census Tract 534.04	Holly Springs/Apex	15,263	17,826	2.6%
Census Track 529	Wake County	22,086	26,965	3.4%
Total HSH Primary Service Area Population		110,560	133,240	3.2%
Wake County Population		947,459	1,112,574	2.7%
Percent of Total Wake County Population		**11.7%**	**12.0%**	

This corrected table shows that the Holly Springs area will represent 12% of Wake County population (as compared to 14% as stated on page 127), up only .3 of a

percent over 6 years (as compared to 2.4 as illustrated on page 128). Additionally, the net effect of the growth in Holly Springs is a total population increase of approximately 23,000 residents, as compared to an increase of more than 165,000 residents county-wide. While the growth rate may be higher in some of the census tracks than in the county as a whole, because the base volume is significantly lower the absolute growth in Holly Springs is also relatively low.

The table on page 140 illustrates that "the proposed location for HSH provides decreased travel time for all residents of the defined PSA Service Area." With the exception of a few areas in the proposed service area, however, the proposed location will decrease travel time by only 0 – 7 minutes from WakeMed Cary, plus one area where WakeMed Cary is actually one minute closer. In the entire proposed service area, the average time saved from all profiled locations is just over 5 minutes – not a significant time savings that would warrant the creation of an entire facility. In the recommended decision issued in 10 DHR 5274 and 5275 regarding Novant's ambulatory surgery center, the administrative law judge found that "Given its proposed location in the upper corner of the service area, the Holly Springs Surgery Center would be located much closer to WakeMed Cary Hospital than to the majority of its proposed service area. The proposed location undermines to a degree HSSC's argument that the project will greatly increase access to surgical services by residents of Southern Wake County." (Recommended Decision, p. 27). The same situation exists with Novant's hospital application.

Lack of Physician Support

Documented physician support for Novant's hospital is insufficient. While Novant provides letters of support from surgeons in multiple surgical specialties, many of them are from areas far from Holly Springs, including Durham and Wake Forest. It is not reasonable to expect those physicians to generate significant volumes at a small hospital in Holly Springs, far from their practices (and presumably, the patients they see). Additionally, many of Novant's physician support letters come from primary care physicians, who are generally not a significant source of referrals nor the providers who will treat patients once admitted.

Unreasonableness of Financial Projections

Novant's Average Reimbursement tables starting on page 81 have a note that "Surgical case reimbursement estimates include reimbursement for all surgical department expenses and also for all associated ancillary and support service expenses (i.e., lab, pharmacy, imaging inpatient room & board, etc.) related to the surgical case." However, below these tables, it states "The HSH projected average reimbursement for the most common surgical procedures that the applicant anticipates will be performed in HSH shared use surgical operating rooms covers only the facility fee, which typically includes these items:

* OR Time Charges
* Recovery Room Time Charges

* Pharmaceuticals
* Implants (i.e. for general surgery, orthopedic surgery, plastic surgery, and ophthalmology cases)"

This statement is followed with an answer to question 9 stating "The following providers will provide pre-operative services and professional services that will not be included in the HSH facility charges." This list includes: Lab Services, Imaging Services, Anesthesiology, and Surgeons. This inconsistency calls into question what the reimbursement tables actually are illustrating and makes it difficult to know if cross-applicant comparisons can be appropriately made.

Unreasonableness of Utilization Projections

Novant repeatedly compares its projects for Holly Springs with historical trends at Presbyterian Hospital Huntersville (PHH) or "utilization patterns at existing Novant Health community hospitals." The use of PHH, or other Novant Health community hospitals, as a primary source for establishing methodology is flawed. While the demographic and other market forces may be similar between Huntersville and Holly Springs, and services to be provided at Holly Springs similar to its other community hospitals, some essential factors are different. Presbyterian and Novant are established brands within the Mecklenburg and Forsyth markets, with existing physician referral patterns and existing patients. In its main two other markets, Novant has only one other large competing health system (Carolinas in Mecklenburg and NC Baptist in Forsyth). Novant is entering a market with a small physician presence and three large, established health systems. In Wake County and surrounding counties, Novant will be competing with three large health systems with multiple hospital locations (WakeMed, UNC/Rex, and Duke University). Novant should expect volume ramp up and referral pattern shifts to occur over a longer period of time as patients and physicians become more aware and knowledgeable about the Novant brand. Many of the identified medical directors or other providers for the Holly Springs facility generally practice outside of Wake County (ED Medical Director, ICU Medical Director, Women's Medical Director, Neonatal Medical Director, Vascular Surgery, Regional Surgical, GI/Hepatology Consultants, Pathology) and will not have established patient relationships that would generate referrals to the hospital.

The market share assumptions are also not consistent throughout the application:

- Pages 172 – 174 show volume and market share assumptions for inpatient and outpatient surgery which is inconsistent with volume stated previously
- 2017 market share for inpatient surgical services for PSA is 25% and on page 156 but 19.1% on page 172
- 2017 market share for outpatient surgical services for PSA is 25% and SSA is 9.5% on page 156 but 19.1% and 8.7% respectively on page 174
- Outpatient surgical volumes on page 86 each year is 861, 1325, and 1602 but on page 174 it is 834, 1293, and 1565

Similarly, Novant claims that "The percentage of HSH projected patient origin by county of residence is the same for acute care days of care, ICU days of care, surgical services, C-Section services, obstetric services, outpatient GI endoscopy services, emergency department visits, outpatient visits, and ancillary services." Novant Application, page 215. However, the methodology used to establish volume projections for each of these services included varying patient origin elements, with some sections having no in-migration and/or smaller percentage of patients coming from the SSA. Those changes would imply differences in patient origin.

Unreasonableness of Payor Mix

Novant's projected payor mix was developed looking at overall payor mix for existing Wake County hospitals and comparing to similarly-sized Novant Health community hospitals. It did not take into consideration the historical payor mix from patients from that service area. Comparing the applications from Rex and Novant, both intended to be located in Holly Springs, illustrates how unrealistic Novant's projections are:

Facility-Wide	Novant	Rex
Medicaid	11.6%	6.1%
Self-Pay	12.2%	4.7%

Normal Newborn/OB	Novant	Rex
Private	44.9%	84.6%
Medicaid	52.5%	12.7%

In its ambulatory surgery center application in 2010, Novant also made very aggressive projections about the volumes of Medicaid and/or self-pay patients. In the recommended decision against the approval of that application, the administrative law judge found "[Mr. Johnson] testified, however, that while he knew Holly Springs to be one of the most affluent parts of Wake County, he believed that having the Novant charity care policy in place 'would somewhat change the normal payer mix,' even though the population as a whole was more affluent and therefore would not qualify for charity care." Additionally, "Mr. Smith determined that Holly Springs is located in one of the most affluent parts of Wake County." Recommended Decision, p. 32. The decision also finds "Mr. Johnson's testimony regarding the Novant charity care policy was not reasonable or credible and was unsupported by any facts or evidence....HSSC's financial projections are not credible, reliable or reasonable." Recommended Decision, p. 34. Novant's payor mix projections in the hospital application are similarly not credible, reliable, or reasonable.

For all these reasons, Novant's proposed project would not meet the needs of Wake County.

Specific Comments Regarding Application filed by Rex Hospital

The three applications filed by Rex Hospital, to create two new hospitals in Holly Springs and Wakefield and to add beds to its main campus hospital, do not meet the needs of the county for several reasons.

No Need for Multiple Separate Hospitals

Rex's application for its main campus provides the very reason that its other two applications are fundamentally flawed: **"Rex believes these assumptions are reasonable as patients are likely to travel longer distances for inpatient care compared to ED care given the emergency nature of the service."** (Rex Application, p. 160) By this logic, Rex should have considered the need for freestanding emergency departments rather than full hospitals that duplicate the services it already provides at its main campus. As set forth above, Wake County does not need a proliferation of small suburban hospitals.

Moreover, it is unclear if the cost of Rex's main hospital project is in addition to its previously approved project for Cardiovascular and Surgical Services, another project in which Rex emphasized the benefits and needs for centralized and efficient acute care services. Rex recently received approval for the expansion of their Cancer Center on campus, which included the addition of infusion chairs. In their 2010 application, Rex discusses their plans for developing multi-specialty clinics, the collaboration between disciplines (medical, surgical, and radiation oncology), and the incorporation of research with UNC. The project more than doubled the size of the medical oncology clinic (from 11 to 24 exam rooms) and doubled the infusion clinic (from 20 to 40 chemotherapy bay). The cancer pharmacy is developed as a result of the infusion center and the need to ensure expertise in development of chemotherapy drugs.

A few quotes from that prior application illustrate the contradictions inherent in Rex's current applications:

- Page 37, "Growth of the Hematology/Oncology clinic is critical to Rex's ability to provide sufficient capacity of high quality medical oncology services."
- Page 43. "The multi-disciplinary clinics will be introduced to Wake County providing the most comprehensive and quality encounter for both patients and providers. This will help expedite and streamline often complex and confusing diagnostic and treatment steps. **The goal of the multi-disciplinary clinic is to provide patients with one location in which to access the three main disciplines involved in cancer care: medical and radiation oncology, and surgery."**
- Page 68, "It is important to understand that the need for the expanded Hematology / Oncology clinic is based on the qualitative need for adequate space to accommodate growth in other services provided in the Cancer Hospital and **on the qualitative need from the patient's perspective to have all of his or her cancer care needs available in one location."**

- Page 91, "It is important to note that the need to relocate an existing piece of X-ray equipment from the main hospital building to the Cancer Hospital is not based on any statistical need. Rather, **it is driven by the need to consolidate and re-organize oncology services at Rex for the purpose of improving patient convenience and work flow."**
- Page 95, "Because Rex proposes to enhance the services it already provides at its existing hospital location, **the provision of those services at any other area would not meet the need for expanded cancer services at Rex."**
- Page 97 (alternatives), "Rex considered replacing the Cancer Center in entirely new construction as opposed to utilizing the existing facility. **However, to do so would not be the most cost-effective alternative to the proposed project.** As proposed, Rex can utilize the existing facility by renovating portions of the facility and expanded the existing facility vertically. Moreover, Rex can utilize the existing ancillary and support resources that exist in the main hospital building as well as the Cancer Center. **To replace the Cancer Center from the ground up would require an unnecessary duplication of resources."**

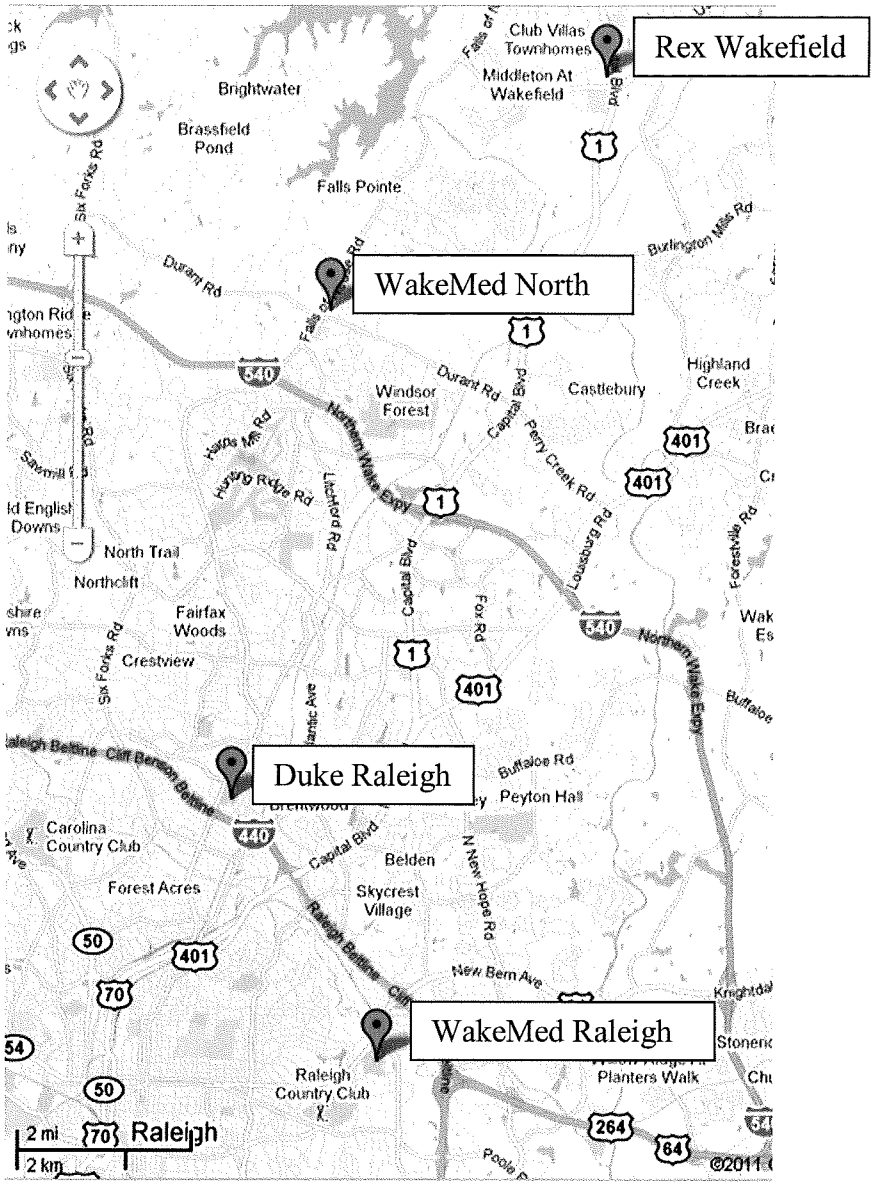
Now, in direct contrast to those earlier claims, Rex proposes to decentralize services again, including by moving a linear accelerator away from its proposed new cancer center to the proposed hospital in Holly Springs as well as developing additional infusion chairs within a satellite cancer center.

In its applications, Rex did not address an alternative of developing more than 11 beds on the main campus. Rex's plan to build two new hospitals of 40 and 50 beds, and shifting 23,000 patient days to these hospitals, is not the most cost effective alternative. Rex could pursue building their patient tower as proposed in the main application to increase capacity at the hospital and renovate existing rooms.

No Geographic Need for Services

As set forth above in response to Novant's application, the Holly Springs area does not need its own acute care hospital. The same concern holds true for Rex's application for Holly Springs.

Rex's Wakefield application even further highlights the duplication of services that would be created by an entirely new hospital. As shown on the map below, the Wakefield area already has ready access to acute care hospital services. WakeMed North has been approved for 61 beds (approximately 5.6 driving miles) which are under development, and Duke Raleigh Hospital (approximately 11.2 driving miles) currently runs an average daily census of approximately 100, leaving a capacity of 86 additional beds. Rex states on page 43 "The services included in the proposed hospital are not currently available in the proposed service area in spite of the fact that in 2009 WakeMed was approved to develop 41 inpatient beds at its northern Wake County facility which has yet to be developed." However, in a news release on April 13th, WakeMed announced that it will break ground on its 61-bed acute care hospital in fall 2011.



Rex further states that their project will provide "all of the following acute care services, **for the first time**, to northern Wake County residents in a convenient local setting, including... **obstetric services** and **Level I neonatal services**..." Rex also states on page 146, "Since the majority of births occur in a hospital setting, Rex believes it is important to have a hospital with maternity services in the rapidly growing community of Wakefield." These are all services already planned at the WakeMed North Hospital.

To the extent that Rex bases its projections on the need for emergency services in that part of Wake County, WakeMed North already operates an emergency department and Duke Raleigh is currently expanding their emergency department.

Rex compares number of beds per population for the Wakefield service area to Union, New Hanover, Onslow, Cabarrus, and Johnston counties. Using this analogy, Rex

argues that the Wakefield service area has a need for approximately 195 beds in 2013. However, the flaw in this argument is that these counties each currently have 1 acute care hospital serving the community in areas where there are few other hospitals close by, whereas Wake County already has 4, soon to be 5, hospitals serving the county and in close proximity to the Wakefield community. Rex also compares counties with a smaller population than the proposed Wakefield region in which there are 2 or more hospital facilities. Rex does not, however, demonstrate the surplus of beds within these communities. Each hospital within these counties is operating with a surplus of licensed acute care beds as compared to the 2013 bed need adjusted for target occupancy. It is flawed to make arguments such as that made by Rex without also illustrating the oversupply of beds within these communities. Again, in an era of health reform changes, it is unwise to make huge investments in developing new hospitals when history demonstrates the underutilization of beds in similarly sized regions with more than one hospital.

The addition of duplicative services in an area with sufficient acute care resources is not merely an academic problem; rather, it has a direct impact on the volumes of existing providers. As an example, when the WakeMed North emergency department opened in August 2005, there was a drop in ED visit volumes at Duke Raleigh Hospital (a decrease of 1,000 visits between FY 2006 Q1 and Q2). Although volumes eventually recovered due to Duke Raleigh's efforts at expanding services, an immediate volume and financial effect was seen. Adding not one (WakeMed North) but two (Rex Wakefield) acute care hospitals in the area in the near future would have a significant detrimental effect on Duke Raleigh, a hospital that already has capacity to accommodate increased volumes. On page 151, Rex indicates that Duke Raleigh had 1,197 discharges from the Wakefield service area. This region represents over 18% of Duke Raleigh's inpatient volume.

Utilization Projections Are Unreasonable

Errors in Methodology

The table on page 108 of Rex's application, illustrating the Acute Care Bed Need Methodology for Wake County updated with 2010 Thomson Reuters Data, contains several errors, and as a result, inaccurately portrays bed need. The data table is replicated here:

Facility	Licensed Acute Care Beds	Adjustments	Thomson Reuters 2010 Acute Care Days	County Growth Rate Multiplier	4 Year Growth	2014 Projected ADC	2014 Beds Adj. for Target Occupancy	Proj. 2014 Deficit or Surplus	2014 Need Determination (Excluding 101 Beds)
Duke Raleigh	186	0	29,358	1.0301	33,050	91	136	(50)	
Rex	431	8	126,613	1.0301	142,534	391	519	80	
WakeMed Cary	156	0	43,364	1.0301	48,817	134	187	31	
WakeMed Raleigh	575	53	140,698	1.0301	158,390	434	555	(73)	
2010 SMFP		101							
									39

Source: 2012 Draft Table 5A: Acute Care Bed Need Projections; all others from Rex Application page 108.

1) As compared to the 2012 Draft Acute Care Bed Need Projections, Rex understates the 2010 days of care at Duke Raleigh Hospital, WakeMed Raleigh, and WakeMed Cary while slightly overstating its own days. Utilizing instead the

days reported in the Draft Table, and incorporating the stated days by the Wake Heart physicians, the revised table would be:

Facility	Licensed Acute Care Beds	Adjustments	Thomson Reuters 2010 Acute Care Days	County Growth Rate Multiplier	4 Year Growth	2014 Projected ADC	2014 Beds Adj. for Target Occupancy	Proj. 2014 Deficit or Surplus	2014 Need Determination (Excluding 101 Beds)
Duke Raleigh	186	0	30,695	1.0301	34,555	95	142	(44)	
Rex	431	8	126,389	1.0301	142,281	390	518	79	
WakeMed Cary	156	0	44,647	1.0301	50,261	138	193	37	
WakeMed Raleigh	575	53	144,529	1.0301	162,702	446	571	(57)	
2010 SMFP		101							
									60

Source: 2012 Draft Table 5A: Acute Care Bed Need Projections; all others from Rex Application page 108.

2) Rex inaccurately utilizes the County Growth Rate Multiplier from the 2010 SMFP (1.0301). WakeMed Raleigh and Rex Hospital both experienced a decline in volume and days of care between 2009 and 2010. As a result, the correct county growth rate multiplier as stated in the Draft Table to be 1.0172, further reducing the 2014 Need Determination.

3) Rex's stated 2014 Need Determination of 39 beds combines the deficit at Rex (80) and the surplus at the WakeMed hospitals (41) and excludes the existing surplus at Duke Raleigh Hospital. Rex cannot include the surplus at WakeMed Raleigh while excluding the surplus at Duke Raleigh Hospital. Accounting for the errors stated above and excluding the 101 additional beds from the 2011 SMFP, the actual 2014 need determination for Wake County would be -3 beds when Duke Raleigh's surplus is excluded or -54 beds when Duke Raleigh's surplus is included.

Excluding Duke Raleigh

Facility	Licensed Acute Care Beds	Adjustments	Thomson Reuters 2010 Acute Care Days	County Growth Rate Multiplier	4 Year Growth	2014 Projected ADC	2014 Beds Adj. for Target Occupancy	Proj. 2014 Deficit or Surplus	2014 Need Determination (Excluding 101 Beds)
Duke Raleigh	186	0	30,695	1.0172	32,862	90	135	(51)	
Rex	431	8	126,389	1.0172	135,311	371	493	54	
WakeMed Cary	156	0	44,647	1.0172	47,799	131	183	27	
WakeMed Raleigh	575	53	144,529	1.0172	154,732	424	543	(85)	
2010 SMFP		101							
									(3)

Source: 2012 Draft Table 5A: Acute Care Bed Need Projections; all others from Rex Application page 108.

Including Duke Raleigh

Facility	Licensed Acute Care Beds	Adjustments	Thomson Reuters 2010 Acute Care Days	County Growth Rate Multiplier	4 Year Growth	2014 Projected ADC	2014 Beds Adj. for Target Occupancy	Proj. 2014 Deficit or Surplus	2014 Need Determination (Excluding 101 Beds)
Duke Raleigh	186	0	30,695	1.0172	32,862	90	135	(51)	
Rex	431	8	126,389	1.0172	135,311	371	493	54	
WakeMed Cary	156	0	44,647	1.0172	47,799	131	183	27	
WakeMed Raleigh	575	53	144,529	1.0172	154,732	424	543	(85)	
2010 SMFP		101							
									(54)

This adjustment is supported by the draft need determination for the 2012 State Medical Facilities Plan, which (even without the adjustment for 101 beds in this review) would create a need for only 29 beds, driven exclusively by utilization at WakeMed's facilities and reflecting a surplus at Rex Hospital. Rex's argument for their need of additional acute care beds rests solely on the assumption that the 21 Wake Heart and Vascular physicians will in fact shift all of their volume from WakeMed Raleigh to Rex, and continue to practice at their current level, an assumption that is not reasonable based on Rex's historical experience with physician recruitment.

The 4% decline in days of care for Wake County hospitals in 2010 drastically shifts the current need determination down from 101 beds. Duke Raleigh Hospital currently has capacity for additional patients and an additional 61 beds have yet to be built in Wake County (41 incremental at WakeMed North Healthplex, 12 incremental at WakeMed Raleigh, and 8 incremental at Rex Hospital). With that additional capacity still to be implemented, Rex's proposals would create an unnecessary duplication of existing and approved services.

Projections at Main Campus

Rex Hospital proposes adding 11 additional acute care beds to its main hospital and anticipates substantial growth due to the affiliation with the 21 Wake Heart and Vascular physicians. Rex assumes that all 21 Wake Heart & Vascular Associates' physicians will shift all of their cases to Rex Hospital. However, with the exception of a few cardiologists identified by Rex in their application, Rex assumes no other changes in physician patterns. WakeMed Raleigh is currently operating near capacity and limited capacity of inpatient beds as well as operating room time may lead physicians to seek partnerships with other hospitals with excess capacity. As the Wake Heart & Vascular physicians shift volume to Rex Hospital, freeing up some capacity at WakeMed, other physicians may now find it more beneficial to refer patients to WakeMed or other area hospitals.

Rex's track record in achieving projected volumes from the recruitment of physician groups is telling: In Exhibit 32 of its main hospital application, Rex states that "it is important to consider the impact of these Wake Surgical physicians, as their cases performed at other facilities are not captured in Rex's historical data and would otherwise not be captured in the projected growth. In Rex Single OR, Rex Holly Springs ORs, and Rex Phase III, Rex stated that Wake Surgical physicians would shift all of their non-Rex cases, 326 inpatient cases and 1,696 outpatient cases, to Rex beginning in FFY 2010. **This shift has been delayed to some extent and is not yet complete. In FFY 2010, Wake Surgical physicians shifted zero inpatient cases and 238 outpatient cases from other facilities to Rex.**" (emphasis added). Additionally, Rex states "In Rex Single OR, Rex Holly Springs ORs, and OMCC, this group of physicians provided letters of support committing to shift 2,530 cases from non-Rex facilities to Rex. While this shift is in the process of occurring, Rex believes that the letters of support included with the previous three applications is sufficient demonstration of the physicians' intent to shift cases." Rex may continue to be optimistic that these physicians will shift all their volume to Rex, but it certainly has not happened yet. Any similar assumptions that Wake Heart & Vascular Associates will shift all their volume should be viewed skeptically.

It is also confounding that Rex proposes to add 11 acute care beds at its main campus while projecting that its total volumes at that campus will decrease after the opening of its other two proposed facilities. Page 151 illustrates the declining volume for the proposed 11 new Med/Surg beds.

	2009	2010	2011	2012	2013	2014	2015	2016	2017
Rex Hospital	107,765	101,382	103,793	106,261	108,789	111,376	114,024	116,736	119,512
Level IV NICU				880	1,777	1,812	1,830	1,830	1,830
Wake Heart			4,760	9,747	14,968	20,433	26,148	26,770	27,407
Carolina Cardio			-1,170	-1,198	-1,227	-1,256	-1,286	-1,316	-1,347
Shift Holly Springs							-6,069	-9,372	-12,866
Shift Wakefield							-5,143	-7,930	-10,870
Rex Hospital	107,765	101,382	107,383	115,690	124,307	132,365	129,504	126,718	123,666
ADC	295	278	294	317	341	363	355	347	339
Capacity	68.5%	64.4%	68.3%	72.2%	77.6%	82.6%	78.8%	77.1%	75.3%

	2009	2010	2011	2012	2013	2014	2015	2016	2017
Rex Hospital	107,765	101,382	107,383	115,690	124,307	132,365	129,504	126,718	123,666
Rex Holly Springs							6,744	10,414	14,295
Rex Wakefield							5,715	8,812	12,078
Rex Total	107,765	101,382	107,383	115,690	124,307	132,365	141,963	145,944	150,039
ADC	295	278	294	317	341	363	389	400	411
Capacity	68.5%	64.4%	68.3%	72.2%	77.6%	82.6%	72.0%	74.0%	76.1%

Additionally, the volume projections for the emergency department are expected to decline after the opening of the two new hospitals such that, by the third year of the project, ED visits at the main hospital is equal to that of the FFY 2010 ED visits. Nonetheless, Rex also wants to build an 11-room ED for cardiovascular patients without demonstrating the need for additional space within the ED. On Page 164, Rex's application states that "Rex's existing ED currently operates 47 rooms. As such, in FFY 2017, the ED will treat 1,036 patients per room. According to the American Institute of Architects, an ED with approximately 50,000 ED visits should provide between 1,250 to 1,667 visits per room." If Rex does not build the 11 room ED, it will accommodate 1,308 visits per room, within the lower portion of the recommended range, thereby not justifying the need for an additional 11 rooms.

Projections at Wakefield

Rex's projections at Wakefield are similarly flawed. In FFY 2010, the first full year of operation of the ambulatory surgery facility, outpatient surgical volume was 1,121 procedures in the 3 ORs at Rex Healthcare at Wakefield. However, by 2012, Rex anticipates a volume of 3,977 outpatient surgeries, with no subsequent annual growth. This is growth by a factor of four. Rex does not provide any information as to how they justify this drastic increase.

Rex states on page 93 "As Rex Healthcare of Wakefield currently and will continue to operate three dedicated outpatient operating rooms and that the inpatient volume of Rex Hospital Wakefield is projected to fully utilize the single shared operating room proposed in this project, Rex has assumed that the hospital will only conduct inpatient cases, though it will be available for outpatient cases if needed." It is not reasonable to provide only one shared operating room for 40 acute care beds, as there would be no flexibility in the event of unexpected or emergent surgery needs. In contrast, Rex is proposing to relocate three shared operating rooms for both inpatient and outpatient surgeries to Holly Springs to accompany their 50 proposed acute care beds.

Issues with Proposed Cardiovascular Emergency Department

Rex is proposing to develop a dedicated heart and vascular emergency department at its main hospital campus. This proposal is unnecessary and inefficient.

Rex is proposing a heart and vascular emergency department for three reasons:

1. Heart emergencies require immediate care within 90 minutes of presentation with cardiac symptoms – proximity to interventional services
2. Dedicated team of cardiac emergency specialists
3. Wake County is one of the largest in the State and appropriate size to support a dedicated cardiac emergency department

Rex states they would be the first in North Carolina to have a separate heart ED. In fact, they would be one of just a few across the country. There are many reasons, however, why hospitals choose not to establish "disease-specific" EDs. Patients who suspect they may have heart emergency will be expected to enter at the heart ED. If a patient goes to the heart ED but needs non-cardiovascular interventions, they will be transported to the main ED and vice versa. This creates inefficiencies in caring for patients, in which the potential confusion for patients and EMS as to where to go. Additionally, the transport time between EDs does not make up for the potential time savings for patients requiring interventional procedures. Rex does not provide historical information indicating the number of patients who present at the ED who require interventional procedures nor any information indicating less than optimal outcomes resulting from patients at the main ED not being able to receive international procedures in a timely manner. It does not provide any evidence of how long it takes for a patient to be transported for interventional procedure currently versus in the new facility. While a dedicated cardiovascular team is beneficial, it would be more efficient and cost-effective not to build an 11-room ED and instead to develop a dedicated cardiovascular team and section within the existing ED, while also providing swing space for patients who are not cardio but require care when there is less cardio volume. The time-limiting step for cardiovascular patients requiring interventions is not the transport time to the lab.

For all these reasons, Rex's applications fail to meet the needs of Wake County.