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COMMENTS REGARDING CERTIFICATE OF NEED APPLICATIONS FILED FOR 101 ACUTE CARE BEDS IN WAKE COUNTY

Submitted by WakeMed
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Overview of CON Applications for Acute Care Beds in Wake County

A total of six CON applications were submitted for the May 1, 2011 review cycle requesting acute care beds in Wake County, pursuant to a need for 101 acute care beds identified in the 2011 North Carolina State Medical Facilities Plan (SMFP):

- WakeMed d/b/a WakeMed Raleigh Campus (J-8660-11) – Proposal to add 79 acute care beds to its WakeMed Raleigh Campus at a total cost of $57,512,000. WakeMed Raleigh is located at 3000 New Bern Avenue in Raleigh.

- WakeMed d/b/a WakeMed Cary Hospital (J-8661-11) – Proposal to add 22 acute care beds to its WakeMed Cary Hospital at a total cost of $2,146,000. WakeMed Cary is located at 1900 Kildaire Farm Road in Cary.

- Rex Hospital, Inc. d/b/a Rex Healthcare (J-8667-11) – Proposal to develop 11 acute care beds at the main campus of Rex Hospital at a total cost of $278,897,514. Rex Hospital is located at 4420 Lake Boone Trail in Raleigh.

- Rex Hospital, Inc. d/b/a Rex Healthcare (J-8669-11) – Proposal to develop a new hospital with 50 acute care beds in Rex Healthcare at Holly Springs at a total cost of $136,629,862. The facility is proposed to be located at 704 Avent Ferry Drive in Holly Springs.

- Rex Hospital, Inc. d/b/a Rex Healthcare (J-8670-11) – Proposal to develop a new hospital with 40 acute care beds in Rex Healthcare at Wakefield at a total cost of $102,282,666. The facility is proposed to be located at 11200 Governor Manly Way in Raleigh.

- Holly Springs Hospital II, LLC (J-8673-11) – Proposal to develop a new hospital with 50 acute care beds at a total cost of $77,700,273. The facility is proposed to be located at 1621 Little Moccasin Lane in Holly Springs.

All of the applicants seeking approval in this review cycle are in agreement on the need for additional acute care bed capacity in Wake County. The decision before the CON Section is how these additional resources can be most effectively deployed in meeting the needs of Wake County residents and patients from other counties in North Carolina who utilize Wake County facilities.

The WakeMed proposals to add acute care beds at WakeMed Raleigh Campus and WakeMed Cary Hospital are superior to the other proposals under review. In addition, there are serious deficiencies in the other four proposals that render them non-conforming with applicable CON criteria. The bases for these conclusions are set forth in the following discussion.

Geographic Access

Both Rex and Novant argue at great length in their applications regarding the need for improved geographic access to acute care services in Wake County, dividing the county into smaller markets and discussing the lack of acute care beds in those smaller markets. The definition of these markets is arbitrary and the absence of a hospital within a self-defined collection of ZIP codes does not mean that the residents are not already well served by existing providers.

It is also important to note that the methodology for acute care bed need is not a population-based methodology based on the needs of a county's specific population. Instead, it evaluates the previous year's utilization of acute care facilities located within a county and projects future bed need based on that utilization. Patient days included in the methodology are for all clinically-appropriate patients utilizing the facilities and do not exclude patients who reside outside the county.

Wake County is home to four acute care hospitals: Duke Raleigh Hospital, Rex Hospital, WakeMed Cary Hospital, and WakeMed Raleigh Campus, three of which are applying for additional acute care beds. Based on the data provided in their responses to Question III.4(a)., each hospital receives varying percentages of its inpatients from Wake County, as shown in the table below. Some of this variation is due to the breadth of services provided at each facility and the number of patients from outside Wake County who seek and benefit from these services, including specialized care such as open heart surgery, neonatology, neurosurgery, oncology services, etc.

Wake County Inpatients as % of Total

Hospital	% of Total
Rex Hospital	80.6%
WakeMed Cary	86.4%
WakeMed Raleigh	61.7%

As a tertiary referral center and the only Level I trauma center in Wake County, WakeMed Raleigh Campus has the highest proportion of patients coming from outside Wake County, approximately 38%, to utilize its services. Likewise, Rex Hospital, which is a major provider of cancer care, has a higher percentage of out-of-county patients (nearly 20%) than does WakeMed Cary (nearly 14%). The expansion of highly-utilized facilities with a broad range of services benefits Wake County residents in addition to regional patients, because it provides access to more specialty care than do small suburban hospitals with limited services. It is evident from this patient origin data that a significant number of patients who are now seen at

Wake County facilities travel much further to get to these hospitals than do the residents of Holly Springs or Wakefield. Sequestering beds in small community hospitals does not address the needs of patients using tertiary care centers, including out-of-county patients, and will leave tertiary care centers like WakeMed Raleigh Campus without sufficient inpatient capacity.

In many suburban communities, comprehensive outpatient facilities are more critical to the local population than minimally-sized inpatient hospitals. This provides access to the care most frequently needed by the community in a more cost-effective manner.

Comments on Rex Hospital-Main Campus (Rex Hospital)
Project No. J-8667-11

Comments on Rex Hospital-Holly Springs (Rex-Holly Springs)
Project No. J-8669-11

Comments on Rex Hospital-Wakefield (Rex-Wakefield)
Project No. J-8670-11

Rex submitted three applications to address the need for 101 acute care beds in Wake County: The applications rely on many common arguments and identical need projections. Additionally, the three applications are premised on Rex shifting patients from its main campus to the proposed Holly Springs and Wakefield facilities. As a consequence, the comments on these projects will be combined.

Criterion 3: The applicant shall identify the population to be served by the proposed project, and shall demonstrate the need that this population has for the services proposed, and the extent to which all residents of the area, and, in particular, low income persons, racial and ethnic minorities, women, handicapped persons, the elderly, and other underserved groups are likely to have access to the services proposed.

Rex has failed to adequately demonstrate the need for its projects. Rex's need methodology is completely predicated on the supposed 100% shift of Wake Heart & Vascular Associates' ("WHV") inpatient volume to Rex Hospital by 2014. When this occurs, Rex maintains the true acute care bed deficit in Wake County will exist at Rex Hospital. According to Rex, this singular event (the full impact of which will not be known for several years) trumps all other historical information at the disposal of the Agency and State Health Coordinating Council (SHCC). In making this hypothesis, Rex asks the Agency to accept its premise completely, but to also accept all other assumptions that are used by the SHCC to develop projections for acute care bed need. There are many flaws with this theory, which are addressed below.

Rex Operates Below Performance Threshold

Based on data provided in its most recent Hospital License Renewal Applications on file at DHSR, Rex Hospital has been operating below its target occupancy threshold of 75.2 percent each year since FY 2005. In FY 2010, Rex operated at 64.4 percent utilization. This utilization does not support the notion that Rex shows the greatest deficit of acute care beds among the hospitals located in Wake County.

Impact of Physician Relationships

Rex's argument that the SMFP need methodology should consider physician relationships in acute care bed need determinations is flawed, because need methodologies are based on past performance and facts, not conjecture. Physician relationships are fluid and change day-by-day. Moreover, while it is true that Rex Healthcare now employs the largest cardiology group in Wake County (Wake Heart and Vascular Associates or WHV) and that some of WHV's cases will undoubtedly shift to Rex facilities, it is not the Agency's purview to evaluate acute care bed need using intangible factors such as shifts in physician relationships. The SHCC, in developing the annual SMFP, determines acute care bed need based on verifiable data reported to DHSR. Additional changes in practice patterns will undoubtedly occur between now and FFY 2017, which will also affect hospital utilization. Therefore, it is not reasonable for the State to include projected shifts in physician utilization when calculating its need methodology.

On August 1, 2009, Rex added 17 employed surgeons to its medical staff[1] and in last year's CON applications to add three operating rooms in Wake County, two in Holly Springs and one at the main campus, Rex stated that numerous physicians had committed to shifting business to Rex facilities. As shown in the following table, it does not appear that the proposed gains in procedures materialized, as the ending 2010 numbers of patient days and surgical cases were less than the comparable 2009 volumes. Even though Rex was negatively impacted by the economic recession, as were other Wake County facilities, given the large commitment by physicians to shift volume, it would have been expected that the number of cases at the Rex main campus and Rex Cary would have at least remained relatively flat, rather than declining by 6.1% each.

[1] Page 162, Rex-Holly Springs application.

Trends in Utilization at Rex Healthcare Facilities

Category/Facility	2008	2009	2010
Acute Patient Days	105,270	107,765	101,382
Surgery Cases			
Rex Hospital			
Inpatient	9,762	9,849	8,975
Outpatient	20,479	21,276	20,245
Total Rex Hospital	30,241	31,125	29,220
Rex Cary	3,193	2,945	2,765
Rex-Wakefield	N/A	346	1,164
Total Rex Healthcare	33,434	34,416	33,149

Sources: Rex Hospital Licensure Renewal Applications, 2009-2011

While Rex may argue that the business did not shift because the Rex CON applications were not approved, physicians submitted letters of support stating that they would be shifting "as many as" 4,300 outpatient procedures (the sum of the commitments stated in 21 letters) to the Rex Cary ambulatory surgery center, and that this shift was not predicated on approval of the Holly Springs operating rooms. Rex may also argue that the shift was projected based on physicians purchasing an interest in the joint venture proposed for the Rex Cary facility and that it was delayed, thereby delaying the shift in business. WakeMed submits that this is an example of how difficult it is to predict physician behavior; therefore, shifts in physician relationships cannot be used as an underlying factor in calculating the need methodology. Even Rex states in its Holly Springs application, "This shift has been delayed to some extent and is not yet complete", when referencing the previously projected shift in business due to the employment of Wake Surgical physicians[2].

Impact of Wake Heart and Vascular Associates

The central premise of Rex's acute patient days projections in its three CON application is the employment of the 21 WHV physicians, effective March 2011, per page 142 in the Rex Hospital application. As detailed on page 143 of the Rex Hospital application, Rex assumes that by FFY 2015, WHV will shift 100% of its inpatient days to Rex facilities and therefore, by FFY 2017, Rex will achieve 76.1% overall occupancy for its three hospitals. It should be noted that of the 21 employed WHV physicians, only 19 submitted letters of support for the Rex projects and 4 of the 19 letters stated that they will refer patients "when appropriate", rather than committing to shift 100% of their volume to Rex.

WakeMed has performed an analysis to demonstrate that it is unreasonable to assume that WHV will shift 100% of its business, because Rex Hospital will not have enough cardiac

[2] Page 691, Rex-Holly Springs application.

catheterization (cath) labs in operation to accommodate 100% of Wake Heart's business by 2017. The data for this analysis comes from the Thomson Reuters ("Thomson") database which was available to Rex. While Rex states on page 142 in the Rex Hospital application: "Please note that older utilization data for these physicians was not available as their utilization at WakeMed facilities only appears in the Thomson Reuters database beginning in FFY 2009 and is absent in prior years", that simply is not true. While many facilities began reporting physician data using NPIs (National Provider Identifier) in FFY 2008, it was not a requirement until FFY 2009 and many facilities, including WakeMed, were still reporting UPINs (unique physician identification number). A data query using NPIs in years prior to FFY 2009 would not have returned any WakeMed data for WHV physicians, but a query using UPINs would have returned the appropriate data.

Using the ICD9 procedure codes listed on the 2011 Licensure Renewal Application for diagnostic and interventional cardiac cath procedures[3], WakeMed pulled case volumes for the following primary physician identification numbers (ID) from the Thomson Reuters database for non-Rex facilities located in Wake County. Please note that WakeMed pulled data for FFY 2008, because that was the last year that facilities reported all procedures using ICD9 procedure codes. Since then, facilities are required to report CPT codes for outpatient procedures and the outpatient data has not been as reliable. Each patient is reported as one case, regardless of how many procedures they may have undergone. Only cases where the WHV physician was the attending or primary physician were included, since those are the cases that WHV physicians will have the ability to shift to other facilities.

[3] Diagnostic procedures: 37.21, 37.22, 37.23, 37.25; interventional procedures: 00.66, 99.10, 36.06, 36.07, 36.09, 35.52, 35.71, 35.96

WHV Cardiac Catheterization Cases by Physician, FFY 2008

Physician ID	Name	Diagnostic	Interventional	Total
G82994	Atkeson	170	71	241
G85951	Campbell	34	18	52
I32344	Chow	30	25	55
E74685	Cooper	38	17	55
1952309494	Falsone	17		17
G31487	Falsone	6	2	8
D32395	Foster	15	4	19
I62056	Gring	61	39	100
H08121	Hook	296	375	671
E76609	Jobe	425	402	827
C87561	Mann	112	221	333
C85744	Newman	513	279	792
C25774	Rose	278	120	398
I11816	Sachar	200	265	465
E61383	Schneider	369	357	726
G70386	Wesley	55	44	99
C87349	Zellinger	125	112	237
Total All Physicians		2,744	2,351	5,095

In order to test the validity of the Thomson Reuters database, WakeMed ran a separate report pulling all diagnostic and interventional cardiac cath cases performed at WakeMed Raleigh Campus in FFY 2008 and compared it to the data reported on its 2009 License Renewal Application (LRA). As shown in the following table, the Thomson Reuters database produced totals that were slightly less than what was reported on the LRA. Therefore, WakeMed believes that the FFY 2008 Thomson Reuters data is reasonably accurate and can be used for this analysis.

FFY 2008 Cardiac Cath Procedures Performed at WakeMed Raleigh Campus

Type of Procedure	LRA	Thomson	Difference	% Difference
Diagnostic	5,410	5,376	34	0.6%
Interventional	3,944	3,900	44	1.1%
Total	9,354	9,276	78	0.8%

WakeMed then calculated WHV's total weighted procedures by multiplying their diagnostic case volumes by 1.00 and their interventional case volumes by 1.75, per the 2011 SMFP. As shown in the following table, WHV physicians performed 6,858 weighted procedures in FFY 2008 at WakeMed Raleigh Campus and Duke Raleigh Hospital.

Wake Heart & Vascular Associates Cath Lab Procedures by Type

Type of Procedure	Cases	Diagnostic Equivalent Procedures	Total Weighted Procedures
Diagnostic	2,744	1.00	2,744
Interventional	2,351	1.75	4,114
Total	5,095		6,858

The cardiac cath methodology in the 2011 SMFP states that the capacity of a cardiac cath lab is 1,500 weighted procedures. Therefore, in FFY 2008, Rex would have needed 4.6 cardiac cath labs to accommodate 100% of WHV's procedures performed at other Wake County facilities (6,858 weighted procedures divided by 1,500 procedures = 4.6). These numbers do not include cardiac cath procedures performed by any other physicians, which if included, would have meant that Rex would have needed an even greater number of cardiac cath labs in order to accommodate all the physicians performing procedures there.

Based on utilization at hospitals with high-performing cardiac cath labs, it is also not reasonable to assume that Rex will be able to exceed 1,500 procedures per cath lab. WakeMed examined statewide data from the 2011 SMFP and found that High Point Regional Hospital reported the highest number of weighted procedures per cardiac cath lab at 1,388. WakeMed Raleigh Campus was the second highest in the state at 1,345 procedures per cath lab. Therefore, it is reasonable to assume that utilization of Rex's four cardiac cath labs will not exceed 1,500 procedures per lab, or 6,000 procedures beginning in FFY 2015.

Utilization of Hospitals with High-Performing Cardiac Cath Labs

Hospital	Planning Inventory	2009 Weighted Procedures	Procedures/ Machine
Frye Regional	4	5,171	1,293
High Point Regional Hospital	4	5,552	1,388
FirstHealth Moore Regional	5	6,331	1,266
New Hanover Regional	5	6,534	1,307
WakeMed Raleigh	9	12,108	1,345
State Total	140	115,865	828

Source: 2011 SMFP

Given that Rex will have only four cardiac cath labs when the project is completed in FY 2015, it is not reasonable to assume that the WHV physicians will be able to relocate 100% of their inpatient admissions to Rex facilities while having to perform cardiac cath procedures at other facilities. Patients may originally be scheduled for an outpatient procedure, but due to complications, have to be admitted. It is not good patient care to consistently schedule patients to have a procedure performed at one facility, then transfer them to another for their

inpatient stay. Therefore, WakeMed projected how many of their patients WHV would realistically be able to shift to Rex, based on Rex's ability to accommodate WHV's cath lab volumes.

- Beginning with the weighted volumes performed by WHV physicians in FFY 2008, WakeMed projected cardiac cath volumes through FFY 2017, using the 2.4% CAGR utilized by Rex in its projections for inpatient days. This CAGR is less than the 2.75% Rex used to grow cardiac cath volumes[4].
- WakeMed then calculated how many cardiac cath cases would shift to Rex each year, per the assumptions on page 143 of the Rex Hospital application.
- Next, WakeMed calculated Rex's cardiac cath lab capacity, based on three cardiac cath labs through FFY 2014 (capacity of 4,500 weighted procedures) and four cath labs (capacity of 6,000 weighted procedures) upon project completion in FFY 2015.
- Finally, WakeMed estimated how many WHV cardiac cases would have to be performed elsewhere, due to cardiac cath lab capacity constraints at Rex.

By FFY 2017, it is estimated that the WHV physicians will perform 8,491 weighted cath lab procedures. This exceeds Rex's capacity by 2,491 procedures, or by 29.3% of WHV's volume. Note that this does not include procedures performed by any other physicians currently practicing at Rex.

[4] Page 170, Rex Hospital application.

Projected WHV Cardiac Catheterization Procedures and Impact on Rex Cardiac Cath Labs

FFY	Projected WHV Total Weighted Procedures (a)*	Percentage WHV To Be Shifted to Rex (b)**	WHV Total Weighted Procedures To Be Shifted To Rex (c) = (a) X (b)	Capacity of Rex Cath Labs in Weighted Procedures (d)***	WHV Weighted Procedures that Can Be Shifted to Rex Cath Labs (e) = Minimum of (c) or (d)	"Excess" WHV Procedures: Cannot Be Shifted Due to Capacity Constraints (f) = (c) - (e)	Excess WHV Procedures as % of Total WHV Procedures (g) = (f)/(c)
2008	6,858						
2009	7,023	n/a	n/a				
2010	7,192	n/a	n/a				
2011	7,365	20%	1,473	4,500	1,473	0	0
2012	7,542	40%	3,017	4,500	3,017	0	0
2013	7,723	60%	4,634	4,500	4,500	134	2.9%
2014	7,908	80%	6,326	4,500	4,500	1,826	28.9%
2015	8,098	100%	8,098	6,000	6,000	2,098	25.9%
2016	8,292	100%	8,292	6,000	6,000	2,292	27.6%
2017	8,491	100%	8,491	6,000	6,000	2,491	29.3%

* Procedures inflated at 2.4% per year, per Rex Hospital Application, page 143.

** Rex Hospital Application, Page 143.

***Cath lab capacity based on 1,500 procedures per lab, as defined in 2011 SMFP. Assumes three operational cath labs until project completion in FFY 2015.

It is not reasonable to assume that the WHV physicians will admit 100% of their inpatients to Rex facilities, but perform nearly 30% of their cardiac cath procedures elsewhere. Therefore, WakeMed adjusted the shift in projected WHV patient days to Rex facilities in proportion to the WHV cardiac cath cases that could be accommodated at Rex. Please see the following table.

Projected WHV Inpatient Days That Cannot Shift to Rex Due to Cath Lab Capacity

FFY	Total Projected WHV IP Days (a)*	Percentage WHV To Be Shifted to Rex (b)*	WHV IP Days at Rex (c) = (a) X (b)	% WHV Cath Procedures That Cannot Be Shifted to Rex (d)**	WHV IP Days That Will Not Shift to Rex (e) = (c) X (d)
2011	23,802	20%	4,760	0	0
2012	24,368	40%	9,747	0	0
2013	24,947	60%	14,968	2.9%	433
2014	25,541	80%	20,433	28.9%	5,898
2015	26,148	100%	26,148	25.9%	6,774
2016	26,770	100%	26,770	27.6%	7,400
2017	27,407	100%	27,407	29.3%	8,040

* Rex Hospital Application, Page 143.

** From previous table.

When the WHV inpatient days are reduced proportionally based on Rex's cath lab capacity, WakeMed estimates that 8,040 inpatient days will not be shifted to Rex in FFY 2017. This reduces Rex Healthcare's total patient days to 141,999 patient days in FFY 2017. Based on its proposed licensed bed capacity of 540 acute care beds, it will be operating at 72% occupancy, which is below the performance standard of 75.2%, as stated in 10A NCAC 14C .3803.

Revised Total Patient Days at Rex

FFY	Total Rex Days (a)*	WHV IP Days That Will Not Shift to Rex (b)**	Revised Total Rex Days (c) = (a) - (b)	Revised Rex ADC (d) = (c) / 365	Licensed Bed Capacity (e)	Revised Occupancy Rate (f) = (d) / (e)
2011	107,383	0	107,383	294.2	439	67.0%
2012	115,691	0	115,691	316.1	439	72.0%
2013	124,307	433	123,874	339.4	439	77.3%
2014	132,365	5,898	126,467	346.5	439	78.9%
2015	141,963	6,774	135,189	370.4	540	68.6%
2016	145,943	7,400	138,543	378.5	540	70.1%
2017	150,039	8,040	141,999	389.0	540	72.0%

* Rex Hospital Application, Page 148.

** From previous table.

As a final step, WakeMed then revised its projected patient days based on the projected shift of WHV patient days to Rex. As the table below indicates, even if WHV shifts a substantial portion of its business to Rex, overall, WakeMed facilities are projected to operate above the performance threshold in FFY 2016, Year 3 of WakeMed Raleigh Campus' proposed project.

Revised Total Inpatient Days at WakeMed Facilities

Facility	# Beds 2016 (a)	Pt. Days (b)*	Reduce by WHV Shift to Rex (c)**	Revised Pt. Days (d) = (b)-(c)	Revised ADC (e) = (d)/366	Revised '% Occupancy (f) = (e)/(a)
WakeMed Cary Hospital	178	52,963	0	52,963	144.7	81.3%
WakeMed North	61	16,087	0	16,087	44.0	72.1%
WakeMed Raleigh Campus	646	194,453	19,370	175,083	478.4	74.1%
Total	885	263,503	19,370	244,133	667.0	75.4%

*Source: Pages 54-55, WakeMed Raleigh Campus CON Application.
** From previous tables. 26,770 – 7,400 = 19,370.

Please note that WakeMed considers this to be a very conservative analysis, given that the volumes of cases performed by physicians in other practices besides WHV were not included above. As previously noted, it is likely that WHV will not be able to shift this large a portion of its business to Rex; therefore, WakeMed will likely experience a smaller impact. As a result, its systemwide occupancy rate in FFY 2016 is likely to be higher than shown above.

Including the Impact of Other Cardiologists

Rex notes in its application that WakeMed recently employed the physicians in Carolina Cardiology Consultants and that their business would be shifting to WakeMed facilities in future years. WakeMed was able to obtain case volumes that these physicians performed at Rex Hospital in FY 2010 and then subtracted those volumes from the cases reported on Rex's 2011 LRA. The remaining cases are those performed by other physician groups currently practicing at Rex Hospital.

Estimating the Impact of WakeMed Employment of Carolina Cardiology Consultants on Rex Cath Lab Capacity

	Carolina Cardiology Consultants			Rex Hospital 2011 LRA			Remaining Cases at Rex		
Type of Procedure	Cases	Diagnostic-Equivalent Procedures	Total Weighted Procedures	Cases	Diagnostic-Equivalent Procedures	Total Weighted Procedures	Cases	Diagnostic-Equivalent Procedures	Total Weighted Procedures
Diagnostic	387	1.00	387	1,558	1.00	1,558	1,171	1.00	1,171
Interventional	161	1.75	282	825	1.75	1,444	664	1.75	1,162
Total	548		669	2,383		3,002	1,835		2,333

Source: Carolina Cardiology Consultants' logs from Rex cath labs. Data are for the physicians who were not employed by Rex Healthcare.

As can be seen from the above data, approximately 3,000 weighted cath lab procedures were performed at Rex Hospital in FFY 2010. Of these, 669 were performed by Carolina Cardiology Consultants, who are now employed by WakeMed and who may be shifting their cases to WakeMed over the next couple of years. The remaining 2,333 procedures were performed by other physicians practicing at Rex Hospital.

WakeMed then projected the number of procedures that will be performed by these other physicians at Rex Hospital through FFY 2017, using the 2.4% CAGR that Rex used for inpatient days. After adding in the projected WHV procedures as shown in the previous analysis, it can be seen that Rex will only be able to accommodate approximately 54% of WHV's volume.

Projected Total Cardiac Catheterization Procedures to be Performed Rex Cardiac Cath Labs

FFY	Projected Total Weighted Procedures from Other Cardiologists (a)*	Projected WHV Total Weighted Procedures (b)*	Total Weighted Procedures To Be Performed at Rex (c) = (a) + (b)	Capacity of Rex Cath Labs in Weighted Procedures (d)**	WHV Weighted Procedures that Can Be Shifted to Rex Cath Labs (e) = Minimum of (c) or (d)	"Excess" WHV Procedures: Cannot Be Shifted Due to Capacity Constraints (f) = (c) - (e)	Excess WHV Procedures as % of Total WHV Procedures (g) = (f)/(c)
2010	2,333						
2011	2,389	7,365	9,754	4,500	4,500	5,254	53.9%
2012	2,446	7,542	9,988	4,500	4,500	5,488	54.9%
2013	2,505	7,723	10,228	4,500	4,500	5,728	56.0%
2014	2,565	7,908	10,473	4,500	4,500	5,973	57.0%
2015	2,627	8,098	10,725	6,000	6,000	4,725	44.1%
2016	2,690	8,292	10,982	6,000	6,000	4,982	45.4%
2017	2,755	8,491	11,246	6,000	6,000	5,246	46.6%

* From previous tables.

**Cath lab capacity based on 1,500 procedures per lab, as defined in 2011 SMFP. Assumes three operational cath labs until project completion in FFY 2015.

Following through in a similar fashion to the previous analysis, the table below shows the impact in WHV's projected inpatient days and how many likely cannot be shifted due to cath lab capacity constraints.

Projected WHV Inpatient Days That Will Not Shift to Rex Due to Cath Lab Capacity - Includes Other Physician Volumes

FFY	Total Projected WHV IP Days (a)*	Percentage WHV To Be Shifted to Rex (b)*	WHV IP Days at Rex (c) = (a) X (b)	% WHV Cath Procedures That Cannot Be Shifted to Rex (d)**	WHV IP Days That Will Not Shift to Rex (e) = (c) X (d)
2011	23,802	20%	4,760	53.9%	2,564
2012	24,368	40%	9,747	54.9%	5,356
2013	24,947	60%	14,968	56.0%	8,383
2014	25,541	80%	20,433	57.0%	11,653
2015	26,148	100%	26,148	44.1%	11,520
2016	26,770	100%	26,770	45.4%	12,144
2017	27,407	100%	27,407	46.6%	12,785

* Rex Hospital Application, Page 143.

** From previous table.

Finally, the table below shows that Rex's three facilities will be operating at less than 70% occupancy in FFY 2017, well below the performance standard required by 10A NCAC 14C .3803 and below the target occupancy required to meet the standard established by Policy AC-5: REPLACEMENT OF ACUTE CARE BED CAPACITY in the 2011 SMFP.

Revised Total Patient Days at Rex - Based on Impact of Other Physician Volumes

FFY	Total Rex Days (a)*	WHV IP Days That Will Not Shift to Rex (b)**	Revised Total Rex Days (c) = (a) - (b)	Revised Rex ADC (d) = (c) / 365	Licensed Bed Capacity (e)	Revised Occupancy Rate (f) = (d) / (e)
2011	107,383	2,564	104,819	287.2	439	65.4%
2012	115,691	5,356	110,335	302.3	439	68.9%
2013	124,307	8,383	115,924	317.6	439	72.3%
2014	132,365	11,653	120,712	330.7	439	75.3%
2015	141,963	11,520	130,443	357.4	540	66.2%
2016	145,943	12,144	133,799	366.6	540	67.9%
2017	150,039	12,785	137,254	376.0	540	69.6%

* Rex Hospital Application, Page 148.

** From previous table.

Inconsistent Cath Lab Projections

While Rex's inpatient days projections assume that WHV will shift 100% of its inpatient business to Rex facilities, it does not include a comparable 100% shift in WHV cardiac catheterization procedures. As shown in the following table, Rex projects an increase of only 628 diagnostic-equivalent procedures in FFY 2017 over its FFY 2010 volumes, despite evidence provided in the Rex CON application that WHV "performs upwards of 6,000 cardiac caths annually."[5]

Projected Cardiac Catheterization Volumes

Year	Diagnostic	Interventional	Diagnostic-Equivalent Procedures
2010	1,558	825	3,002
2017	1,884	998	3,630
% Change	20.9%	21.0%	20.9%

Source: Page 171, Rex Hospital application.

WakeMed estimates that Rex would need approximately 7.5 cath labs (11,246 weighted procedures / 1,500 procedures = 7.5 labs) to accommodate 100% of the projected WHV volume, plus the estimated volume of the other physicians currently practicing at Rex (see the analysis under *Including the Impact of Other Cardiologists).*

Rex states "that the Thomson Reuters outpatient database is less reliable for this data by physician, and thus, comparable outpatient cardiac cath data could not be obtained." WakeMed demonstrated in the earlier tables that the FFY 2008 outpatient data is reasonably accurate and based on that data, Rex has projected that WHV will shift less than 10% of its cardiac cath procedures to Rex (628 increased diagnostic-equivalent procedures from FFY 2010 to FFY 2017 divided by 6,858 diagnostic-equivalent procedures in FFY 2008). This is completely inconsistent with its projections that include a 100% shift in inpatient volume. Moreover, the WHV physicians were employed by Rex as of March 2011, so their case volumes should have been available to Rex. Therefore, Rex's projections are unfounded and Rex should be found non-conforming with Criterion 3.

Flawed Utilization Projections

In its applications[6], Rex "revises" the 2011 SMFP's Wake County acute care bed need calculation, showing the alternate bed need calculations assuming that 100% of Wake Heart's inpatient days will shift to Rex. Aside from the general problems that arise from using such conjecture, Rex incorrectly counted the 23,249 patient days attributable to physicians with

[5] Page 168, Rex Hospital application.

[6] Pages 121-124, Rex-Wakefield application; pages 105-108, Rex Hospital application; pages 122-125 Rex-Holly Springs application

Wake Heart in FY 2010 as Rex patient days *as if this shift had already occurred.* When the 3.01 percent annual growth rate is applied to Rex's inflated patient day total, the result shows that it is Rex, not WakeMed, which has a bed deficit. This logic is flawed, in that it credits Rex with having more patient days in the baseline year than it actually did. Compounding this flawed logic is the fact that the 2011 SMFP's acute care bed need methodology for Wake County uses data from 2009, not 2010.

Likewise, Rex has based most of its justification for the main campus project on the shift of WHV business, stating: "As demonstrated in Section III.1.(b), Rex anticipates that this affiliation will lead to a significant increase in inpatient and outpatient heart and vascular services utilization at Rex. As a result of this increase in heart and vascular services utilization Rex believes that it is imperative to not only consolidate the services approved in the 2010 application, but also to consolidate the services with related inpatient and emergency services as well."[7]

On page 120 of the Rex Hospital application, Rex lists the inpatient dates by Service for FFY 2010, noting that Cardiology and Vascular Services ***"are the single highest volume service line provided at Rex on an inpatient basis"*** (emphasis added). Rex notes that the FY 2010 data have been modified to include 100% of the WHV volume, previously stated to be 23,249 inpatient days. If the WHV days are removed from that analysis and Rex's actual, historical data is examined, Cardiology and Vascular Services rank as the fourth highest service line, not the first. As shown in the previous analysis, WakeMed submits that due to Rex's cath lab capacity constraints, WHV will not be able to relocate 100% of its business to Rex. Also, physician relationships are constantly shifting and it is possible that other cardiologists currently practicing at Rex will shift their business to other hospitals in Wake County. Therefore, it is not reasonable for Rex to state that Cardiology and Vascular Services are the single highest volume service line provided at Rex and as a result, it is not reasonable to spend $278 million on volume that may or may not come to Rex.

ICU Projections

In its Rex-Holly Springs and Rex-Wakefield applications[8], Rex projects that the intensive care units (ICU) will be operating at 61% and 77% occupancy, respectively, in the third full year of operation. As shown in the following table, the ICUs at Rex Hospital, a tertiary hospital with a much broader range of specialized services than either of these small community hospitals proposes to offer, do not operate at such a high level of occupancy. Therefore, WakeMed questions the validity of Rex's projected ICU utilization.

[7] Page 28, Rex Hospital application
[8] Page 69, Rex-Holly Springs application; Page 68, Rex-Wakefield application

Rex Hospital ICU Utilization FFY 2010

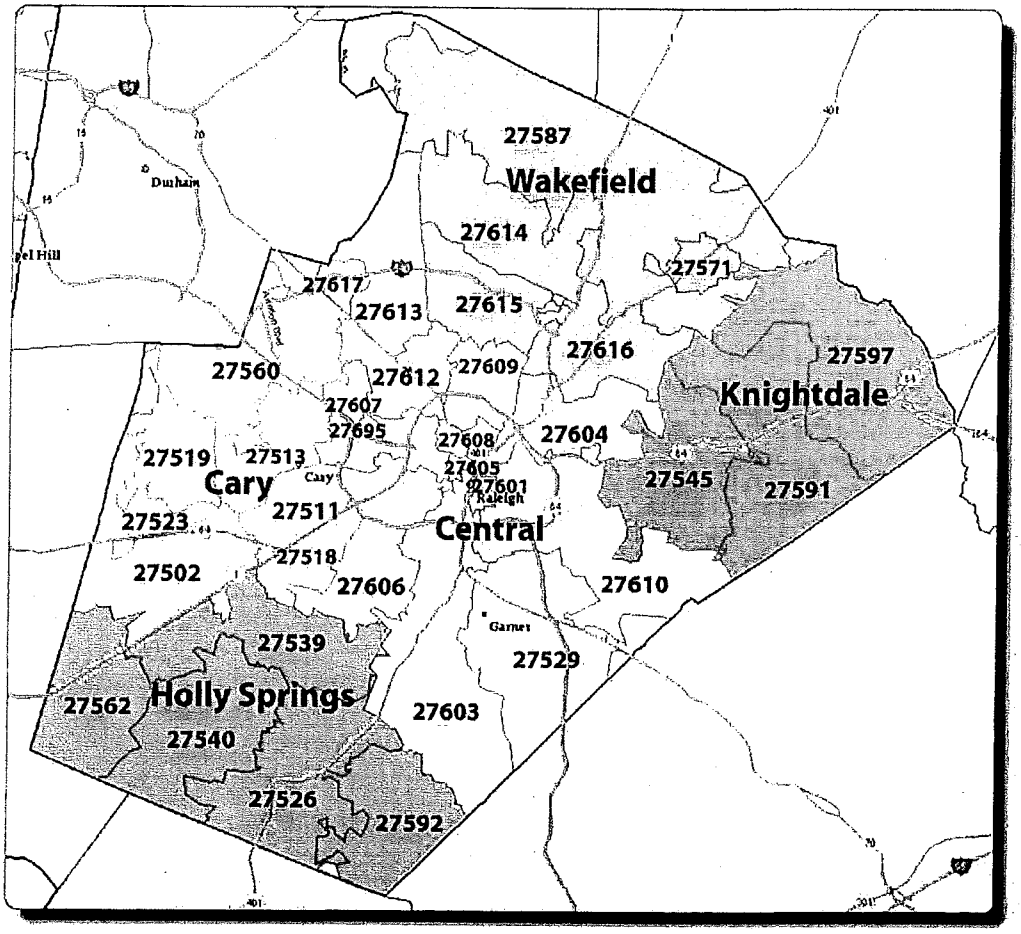
	Beds	Days	ADC	% Occupancy
Intensive Care Units	38	7,688	21.1	55%

Source: 2011 LRA

Errors in "Submarket" Logic

Rex failed to demonstrate that its projects adequately meet the needs of the population to be served by proposing to locate the bulk of the additional acute care beds in suburban markets. In Section III, each Rex application analyzes geographic access to acute care beds within the five defined Rex "submarkets" in Wake County: Wakefield, Knightdale, Central, Cary, and Holly Springs (see following map).

Wake County Submarkets



There is no health planning basis for dividing the county in this fashion. Rex notes that the Holly Springs submarket is projected to have greatest percentage of population growth between 2010 and 2015 (17.1%) followed by Wakefield (16.5%). Not surprisingly, Rex

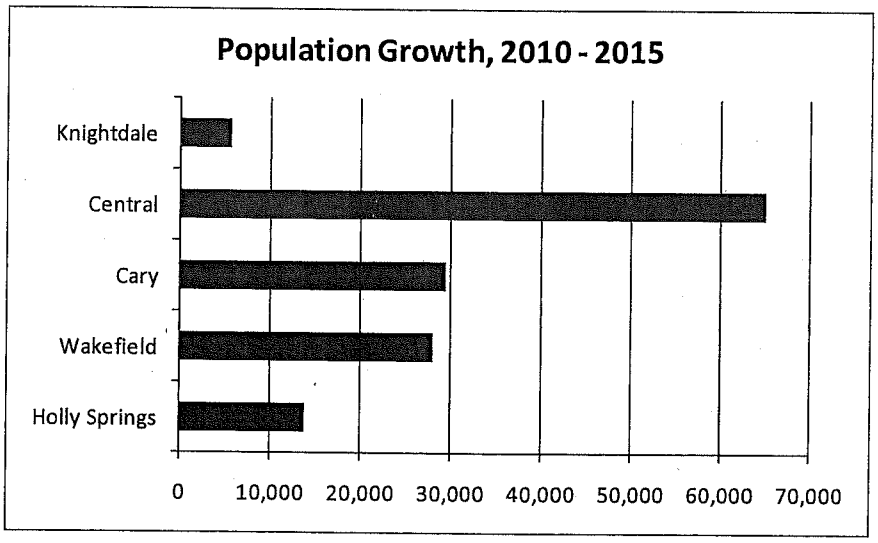
concludes that the greatest need for additional beds in Wake County is in the Holly Springs and Wakefield submarkets, based on acute care utilization originating from these areas in FY 2010, regardless of hospital. Conversely, it states that the Central submarket, which includes Garner as well as portions of north Raleigh, has a glaring bed surplus, given than nearly 85% of Wake County's existing and approved acute care beds reside in this region.

What Rex did not mention was that the 2010-2015 absolute growth in each of the Holly Springs and Wakefield submarkets is a fraction of the absolute growth projected for the Central submarket and also less than the growth projected for the Cary submarket. In fact, the absolute growth in the Central submarket is nearly five times as high as the growth in Holly Springs, and well over twice as high as absolute growth in Wakefield.

Current and Projected Population by Wake County Submarket

			Change from 2010-2015	
Submarket	**2010**	**2015**	**Absolute**	**%**
Holly Springs	81,403	95,288	13,885	17.1%
Wakefield	172,145	200,170	28,025	16.3%
Cary	190,520	220,015	29,495	15.5%
Central	425,396	490,446	65,050	15.3%
Knightdale	45,736	51,451	5,715	12.5%
Total	**915,200**	**1,057,370**	**142,170**	**15.5%**

Source: Rex Wakefield Application, p. 133



Rex also raises the argument that the populations of the proposed Holly Springs and Wakefield service areas are larger than several counties in North Carolina that reflect a bed need significantly greater than 50 under the SMFP methodology. Again, it must be emphasized that the submarket delineations that Rex has employed are arbitrary and are not meaningful in

analyzing bed need in Wake County. It is possible to segment almost any county in such a way as to carve out a region without a hospital in its boundaries.

Rex's chief assumption is that Rex patients in, for example, the Wakefield submarket would prefer to be hospitalized in a facility located in the Wakefield area, as opposed to a facility farther away. By developing community hospitals in the Holly Springs and Wakefield submarkets, Rex hopes to serve its patient base with greater convenience.

The principal problem with using submarkets to define local bed need is that this method assumes that persons residing in a given submarket are more likely to be admitted to a hospital within their own submarket, without regard to hospital service specialization, physician preference, or payor restrictions. This method assumes that a hospital in Submarket "A" has a service mix and clinical capabilities equal to the hospitals in any other submarket. If each hospital in a given county were of a similar size and level of specialization, as is the case with skilled nursing facilities, this logic might be true. However, because acute care hospitals typically have significant differences that affect admission patterns, one cannot assume that one hospital is interchangeable for another. For example, a small community hospital cannot match the clinical specialization of a tertiary facility offering services such as trauma, cardiovascular services, neonatology, etc.

As further justification in its Wakefield application, on pages 151-152, Rex includes a table showing the number of FFY 2010 discharges from the Wakefield submarket by hospital, showing that 37.4% of the patients were admitted to WakeMed Raleigh Campus and 35.1% were admitted to Rex. It opines "This high demand at Rex, despite its further distance compared to WakeMed, demonstrates that a significant percentage of patients in the Wakefield Service Area choose Rex over a closer facility". However, the submarket map clearly demonstrates that portions of the Wakefield submarket are closer to Rex than they are to WakeMed; and in fact, the difference in driving time from Rex-Wakefield to Rex Hospital is only four minutes longer than it is to WakeMed Raleigh Campus (24 minutes vs. 20 minutes, respectively, www.mapquest.com). WakeMed contends that this difference in driving time is immaterial and that any difference in admitting patterns is likely due to existing patient/physician relationships.

Access to Care

The most important question in assessing need for acute hospital services is whether patients have appropriate access to care. Access has several dimensions, including: geographic, financial, and programmatic.

The populations proposed to be served by Rex-Holly Springs and Rex-Wakefield are already located within reasonable distances of the existing hospitals in Wake County:

- Residents of the Holly Springs community are located approximately 10 miles from WakeMed Cary Hospital and residents of Apex are even closer to WakeMed Cary. Residents of the Holly Springs and Apex areas have immediate access to WakeMed Apex

Healthplex's emergency services and outpatient diagnostic and treatment services. Residents of the two Raleigh ZIP Codes included in the service area are as least as close to WakeMed Cary as they are to Rex-Holly Springs. Therefore, there will be no significant improvement in geographic access for the majority of the residents of Rex-Holly Springs proposed service area.

- WakeMed North is located less than 6 miles from Rex-Wakefield's site and patients in the southern portion of the service area are closer to WakeMed North and Duke Raleigh Hospital than to Rex-Wakefield. Duke Raleigh Hospital is the closest hospital and it is located less than 20 minutes away from Rex-Wakefield.

Rex provided no evidence that a large medically underserved population resides in the either the Holly Springs or Wakefield service areas. Both are suburban communities with a population that is wealthier than many inner city neighborhoods in Raleigh and have a high proportion of insured individuals.

With respect to programmatic access, Rex did not identify any special programs or services that it proposes for either Rex-Holly Springs or Rex-Wakefield that are not available at other Wake County hospitals. In fact, Rex excluded certain service lines in developing its utilization projections to reflect the more limited range of services that these facilities will provide.

All of these considerations demonstrate that no access problems exist today in the proposed service areas for either Rex-Holly Springs or Rex-Wakefield that would warrant the approval of a new, small community acute care hospital.

Access to Underserved

Rex states in its applications that its charity policy is more generous than WakeMed's[9]; however, the amount of charity care provided by a hospital is based on more than just a policy. It also depends on the location of the facility, the clinical needs of the patient, and whether the medical staff accepts charity patients. As shown seen in the table below, the applicants' proforma financial statements indicate that as a system, WakeMed provides significantly more charity care than does Rex, based on charity care as a percent of net revenue.

Comparison of Charity Care, Last Full Fiscal Year

Metric	Rex Healthcare	WakeMed Raleigh	WakeMed Cary	WakeMed Health & Hospitals*
Charity Care	$44,271,000	$132,845,271	$12,112,916	$243,297,000
Net Patient Revenue	$552,852,000	$546,164,575	$153,659,801	$884,637,000
Charity Care as % of Net Revenue	8.0%	24.3%	7.9%	27.5%
Source:	Form B	Form C	Form C	Form B

*Includes charity care provided by all entities within WakeMed.

[9] Pages 252-3, Rex Hospital application; page 286, Rex-Holly Springs; page 251, Rex-Wakefield.

As noted in WakeMed's applications in response to Question VI.2., cost report data provided to the Division of Medical Assistance (DMA) provides an apples-to-apples comparison of the amount of unreimbursed care provided by hospitals. As shown in the following summary data, WakeMed facilities provide significantly higher proportions of uncompensated care than Rex.

Comparison of % Unreimbursed Costs of Care

Facility	% Unreimbursed Care
WakeMed Raleigh Campus	12.46%
WakeMed Cary Hospital	8.67%
Rex Hospital	4.72%

Source: Division of Medical Assistance data. Included in WakeMed's applications, Question VI.2. Equals Total Unreimbursed/Uninsured Care Costs + Medicaid Cost Deficit as % of Total Facility Costs after Teaching & Enhanced Payments.

The statutory criteria in Criterion 13 and also Criteria 3 and 18a require the Agency to assess an applicant's past performance in comparison to the percent of the population in the proposed service area that is underserved and whether the applicant has satisfied any applicable requirements related to provision of uncompensated care or community benefits. Information is available to the Agency on the DMA web site concerning the extent of the population that is underserved. Information concerning the facility's past track record in providing unreimbursed care and care to Medicaid recipients is also available from DMA. This information demonstrates that Rex has historically not provided care to the medically underserved in proportion to the percentage of the population that is underserved. The failure to provide a proportionate level of care to the medically underserved is a basis for non-conformity with Criteria 13, 3 and 18a. Rex's applications do not justify the discrepancy between the amount of care it has provided to the medically underserved and the percent of the medically underserved population in Wake County. Rex's applications should be found non-conforming with Criteria 3, 13 and 18a.

Criterion 13(b) requires the Agency to evaluate whether any laws or regulations apply to an applicant with regard to uncompensated care or community benefit and whether the applicant has satisfied such requirements. As either a nonprofit or governmental entity, such requirements apply to Rex, and its application must demonstrate that it has satisfied such requirements. Rex's application does not include any new initiatives to address the gap between the historical level of uncompensated care that it has provided and the percent of such uncompensated care that would be proportionate to the percent of the medically underserved population in Wake County.

The following table shows that WakeMed facilities are projected to continue to provide significant amounts of charity care in the third year following project completion. It should be noted that WakeMed was the only applicant to adjust its charity care based on the health care

reform law, scheduled to go into effect in 2014. As a result, WakeMed assumed that 50% of former charity patients would qualify for Medicaid beginning in FFY 2014, thereby reducing its percent of charity care by approximately 50%.

Comparison of Projected Charity Care, Third Full Operating Year

Metric	Rex Main	Rex-Wakefield	Rex-Holly Springs	WakeMed Raleigh	WakeMed Cary
Charity Care	$15,422,904	$4,329,789	$5,434,811	$103,482,357	$9,310,738
Net Patient Revenue	$168,791,540	$53,632,689	$70,009,002	$710,192,617	$201,311,717
Charity Care as % of Net Revenue	9.1%	8.1%	7.8%	14.6%	4.6%
Source:	Form B	Form B	Form B	Form C	Form C

For all the reasons cited above, WakeMed believes that Rex Healthcare's applications should be found non-conforming with Criterion 3.

Criterion 4: Where alternative methods of meeting the needs for the proposed project exist, the applicant shall demonstrate that the least costly or most effective alternative has been proposed.

In the case of the Rex-Holly Springs and Rex-Wakefield applications, there are inefficiencies inherent in constructing 50- and 40-bed hospitals that seek to offer a broad array of services such as Rex has proposed. The fixed cost of construction cannot be effectively spread over such a small numbers of beds. The Rex-Holly Springs proposal calls for the development of 38 medical/surgical, 8 obstetric, and 4 intensive care beds, while the Rex-Wakefield project would develop 31 medical/surgical, 6 obstetric, and 3 intensive care beds. These small unit sizes result in inefficiencies in staffing. Rex proposes to mask these inefficiencies by proposing unreasonably high utilization rates. At more realistic occupancy levels, these projects would fail to generate sufficient revenues to cover expenses. Even in a growing market such as Wake County, it is difficult for a small community hospital to be "all things to all people" without incurring financial losses.

In 2008, WakeMed addressed the potential inefficiencies experienced at smaller hospitals by proposing to focus inpatient care at WakeMed North Healthplex on women's services. In this way, nursing units can be sized efficiently to achieve economies, without the need to duplicate all of the services required to operate a general hospital.

In both its Holly Springs and Wakefield applications, Rex rejected the alternative of maintaining the status quo, because of its stated goals "to provide more convenient access to acute care services for residents of Wake County and to provide additional acute care bed capacity at Rex Hospital"[10]. However, maintaining the status quo is certainly the most cost-effective

[10] Page 244, Rex-Holly Springs application; page 213, Rex-Wakefield application.

alternative, because residents of both areas will have access to comprehensive outpatient facilities in their local communities and will have to drive less than 20 minutes to a hospital, should they ever need inpatient care.

Finally, the Rex applications propose extraordinarily high capital costs, significantly higher than either of the WakeMed projects in the review. Please see the discussion under Review Criterion 12.

For the reasons noted above, Rex's applications should be found non-conforming with Criterion 4.

Criterion 5: Financial and operational projections for the project shall demonstrate the availability of funds for capital and operating needs as well as the immediate and long-term financial feasibility of the proposal, based upon reasonable projections of the costs of and charges for providing health services by the person proposing the service.

Given the unreliability of Rex's utilization projections, all three of Rex's applications must be found non-conforming with Review Criterion 5. These utilization projections were the basis for Rex's projected revenues and expenses. The impact of substituting more reasonable utilization projections on Rex's projected financial performance is unknown.

Criterion 6: The applicant shall demonstrate that the proposed project will not result in unnecessary duplication of existing or approved health service capabilities or facilities.

Both the Rex-Holly Springs and Rex-Wakefield proposals would duplicate existing and approved health services in southern and northern Wake County, respectively. In proposing these satellite facilities, Rex assumes that the projected utilization of both facilities will be greater than the historic utilization at Rex-Main Campus.

In particular, the Rex-Wakefield application will duplicate WakeMed's proposed development of an inpatient facility with a focus on women's health (Project I.D. Nos. J-7843-07 and J-8180-08), which is currently under development in northern Wake County. WakeMed North will transition from an outpatient-only facility to a 61-bed acute care hospital that includes obstetric services and is located only 5.6 road miles from the Rex-Wakefield site. Rex-Wakefield's proposed service area (see Rex-Wakefield Application pages 143-144) is nearly identical to that proposed for WakeMed North in J-8180-08. Approval of Rex-Wakefield, which proposes 6 licensed obstetric beds and 8 newborn bassinets, would duplicate WakeMed North's previously-approved obstetric services, and would also be duplicative of ancillary and support services that are already in place at WakeMed North.

Rex-Holly Springs is also duplicative of the obstetrics services offered at Rex Hospital and WakeMed Cary. With its 0.2% advantage in market share (32.5% market share for Rex Hospital vs. 32.3% for WakeMed Cary), Rex claims to be the "leading obstetrics provider" in the Rex-

Holly Springs service area[11] and projects achieving 29% market share by the third year of operation. As reported on their 2011 LRAs, Rex Hospital's and WakeMed Cary's obstetrics beds operated at 48% and 67%, respectively. Both facilities' obstetrics units are currently underutilized, yet Rex-Holly Springs neglects to discuss the impact its proposed facility will have on these units.

The Rex-Holly Springs and Rex-Wakefield applications will also duplicate existing emergency department services in southern and northern Wake County, respectively. Rex-Holly Springs would be located only 9.5 miles from WakeMed Cary Hospital and 7.8 miles from WakeMed Apex Healthplex, both of which offer full-service emergency departments; and the proposed Rex-Wakefield location would be only 5.6 miles from WakeMed North, which offers a full-service emergency department.

Criterion 12: Applications involving construction shall demonstrate that the cost, design, and means of construction proposed represent the most reasonable alternative, and that the construction project will not unduly increase the costs of providing health services by the person proposing the construction project or the costs and charges to the public of providing health services by other persons, and that applicable energy saving features have been incorporated into the construction plans.

The Rex applications, individually and collectively, are not consistent with Review Criterion 12. The combined capital costs of the Rex proposals are $517,810,042; on a comparative basis, Rex's projects represent the highest costs, both in total and on a per-bed basis, in this review. Please see the following table.

Comparative Project Costs, Acute Care Beds Proposals

Facility	Project Cost	Number of Beds	Cost per Bed	SF Constructed/ Renovated	Cost per SF
Rex Hospital-Main	$278,897,514	126*	$2,213,472	323,455	$862.25
Rex Hospital-Holly Springs	$136,629,862	50	$2,732,597	213,300	$640.55
Rex Hospital-Wakefield	$102,282,666	40	$2,557,067	166,210	$615.38
Rex Hospital Total	$517,810,042	216*	$2,397,269	702,965	$736.61
WakeMed Raleigh Campus	$57,512,000	79	$728,000	166,577	$345.26
WakeMed Cary Hospital	$2,146,000	22	$97,545	8,673	$247.43
WakeMed Total	$59,658,000	101	$590,673	175,250	$340.42
Holly Springs Hospital	$77,700,273	50	$1,554,005	141,750	$548.15

*Includes 115 replacement acute beds.

[11] Page 195, Rex- Holly Springs application.

The Rex projects are far and away the most expensive proposals in the review cycle. Each of the Rex satellite projects (Holly Springs and Wakefield) proposes capital costs that equate to more than $2.5 million per bed and more than $600 per square foot. A portion of this cost is due to the inclusion of imaging equipment and corresponding space in the proposed hospitals, rather than utilizing the equipment in Rex's adjacent outpatient facilities. The Rex-Main capital cost, which would add only 11 acute care beds, is projected at approximately $279 million. While Rex estimates that the capital cost to develop the 11 additional acute beds is only $182,303[12], it should be noted that the space necessary to develop those beds is dependent upon the development of the bed tower. By comparison, the WakeMed Cary project capital cost will be $97,545 per bed, while the WakeMed Raleigh project will be $728,000 per bed. WakeMed does not believe that it makes sense to commit to spend $279 million to attract patients to the Rex main campus, and then an additional $239 million more to draw patients away to new satellite hospitals.

The high costs associated with the Rex projects do not justify the dubious improvements in convenience to patients. Approval of Rex's applications, at a total cost of over $517 million, would represent a poor health planning decision.

Rex's high capital costs are reflected in its pro forma financial statements for the three projects, resulting in higher operating costs per adjusted patient day than those projected by the WakeMed projects. While the projected operating costs per adjusted patient day for Rex-Wakefield and Rex-Holly Springs are only 4.5% higher than that for WakeMed Raleigh, it should be noted that WakeMed Raleigh is a Level I Trauma Center, with significantly greater infrastructure requirements than those of a small community hospital. When compared to WakeMed Cary's projected operating costs per adjusted patient day, the Rex facilities are more than 34% greater. Therefore, the Rex applications must be found non-conforming with Criterion 12.

Comparison of Operating Costs and Net Revenue per Adjusted Patient Day

Metric	Rex Main	Rex Wakefield	Rex Holly Springs	WakeMed Raleigh	WakeMed Cary
Total Op Costs/Adj. Pt. Day	$2,943	$2,550	$2,506	$2,397	$1,870

Source: Question X.3., Third Full Fiscal Year

Criterion 18a: The applicant shall demonstrate the expected effects of the proposed services on competition in the proposed service area, including how any enhanced competition will have a positive impact upon the cost effectiveness, quality, and access to the services proposed; and in the case of applications for services where competition between providers will not have a favorable impact on cost effectiveness, quality, and access to the services proposed, the applicant shall demonstrate that its application is for a service on which competition will not have a favorable impact.

[12] Page 291, Rex Hospital application.

The three Rex proposals are inconsistent with this criterion in that they will offer no enhancements in competition that will have positive impacts on the cost effectiveness, quality, and access to the services. Wake County is already a highly competitive market with three large health systems (WakeMed, Rex, and Duke) and a significant number of physician groups and other health care providers offering a wide variety of services.

Rex proposes to spend more than half a billion dollars on projects that will bring minimal improvements in geographic access, while duplicating existing facilities and services. Neither Rex Hospital nor Rex-Cary meets current performance standards, yet Rex proposes to develop additional hospitals that will shift business away from those facilities. The approval of Rex's projects will result in underutilized hospitals that will negatively affect existing providers of services to its proposed service area population.

Rex also has numerous projects that are outstanding and it is unknown if demand will correlate to their projections of utilization. A more cost-effective proposal would have been to continue strengthening the performance of its existing inpatient and outpatient facilities before proposing additional acute bed capacity.

For these reasons, the Rex proposals do not conform with this Criterion.

Additional Comments on Rex Applications:

On page 117 of the Rex-Holly Springs application, Rex inaccurately states "...WakeMed has yet to develop its replacement hospital in Harnett County, which it applied for in 2005." There are multiple errors with this statement. WakeMed was a co-applicant for Harnett Health Central Campus, which is a new hospital, not a replacement hospital. While WakeMed manages Harnett Health System, it is not the governing body for the health system and does not control the timetable for the hospital's development. Moreover, the proposed service area for Rex-Holly Springs clearly includes portions of Harnett County, but Rex fails to address any impact it may have on the hospital currently being constructed in Lillington. There is no documentation of when the picture in the Rex application was taken and the site for the new hospital has been cleared. Finally, it appears that this photograph was taken from the road, and the hospital site is not easily visible from this point; therefore, one cannot be certain that the hospital site is actually captured by the photograph.

Rex's uses a 25% inmigration factor in its projections, but provides no details on the patient origin of those patients. This is a high percentage of "Other" patients from undocumented areas.

Rex proposes to relocate one of its linear accelerators from the Rex Hospital campus to create a satellite cancer center at Rex-Holly Springs, with infusion therapy services as well. Rex was recently approved to construct a new cancer hospital on its main campus (Project I.D. No. J-8470-10). The existing linear accelerators and infusion were part of the overall facility plan and

part of Rex's stated desire to develop a facility where patients could receive comprehensive cancer care in one setting. This proposal to relocate a linear accelerator and other cancer services to Rex-Holly Springs is in direct conflict with this goal of centralization. Rex is changing course with how it plans to provide cancer services before fully implementing the cancer hospital project that Rex represented was so badly needed approximately one year ago.

Likewise, Rex proposes to relocate four operating rooms from Rex Hospital to the Rex-Holly Springs and Rex-Wakefield facilities. In June 2010, Rex proposed a major renovation of its Same Day Surgery (SDS) area at Rex Hospital (Project I.D. No. J-8532-10). At that time, Rex cited the need to significantly expand the SDS and enlarge the operating rooms, yet less than one year later, Rex apparently no longer needs these operating rooms at Rex Hospital.

Comments on Holly Springs Hospital II, LLC
Project No. J-8673-11

Holly Springs Hospital II, LLC (HSH), owned by Novant Health, Inc., proposes to develop a community hospital with 50 acute care beds in Holly Springs in southwestern Wake County. HSH fails to demonstrate that it can effectively meet Wake County need for additional acute care services and based on a recent ruling issued by Administrative Law Judge Donald W. Overby, this project should be denied. On May 17, 2011, Judge Overby ruled in favor of WakeMed Cary Hospital in its appeal of the CON Section's decision to award Holly Springs Surgery Center, LLC (Project I.D. No. J-8471-10) three operating rooms in Wake County. The absence of operating rooms to transfer to the proposed hospital would render HSH's application unapprovable.

In addition, the HSH application is non-conforming with CON Review Criteria, as follows.

Criterion 3: The applicant shall identify the population to be served by the proposed project, and shall demonstrate the need that this population has for the services proposed, and the extent to which all residents of the area, and, in particular, low income persons, racial and ethnic minorities, women, handicapped persons, the elderly, and other underserved groups are likely to have access to the services proposed.

HSH does not adequately demonstrate the need for its project. In 2010, Novant submitted a CON application to develop a freestanding ambulatory surgery center with three operating rooms (ORs) in Holly Springs (Project ID No. J-8471-10). That application was approved on July 28, 2010 and is currently under appeal. WakeMed also submitted a CON application in the same review cycle, proposing to develop three shared inpatient/outpatient ORs at WakeMed Cary Hospital (Project ID No. J-8463-10). As part of its need analysis, WakeMed postulated that Wake County had a greater need for shared ORs than freestanding ORs and commented against the need for additional outpatient ORs in Wake County. In support of its proposal, Novant made multiple arguments regarding the superiority of developing freestanding ORs in Holly Springs, including:

- "The proposed freestanding surgical center will provide better access to outpatient/ambulatory surgical service for residents of southern Wake County who currently must leave southern Wake County to access any outpatient/ambulatory surgical services at other Wake surgical facilities."[13]
- "Freestanding Ambulatory Surgical Operating Rooms are more Productive than Hospital-Based Shared Surgical Operating Rooms in Wake County"[14]
- "Patients typically pay lower copayment/coinsurance for ambulatory surgical procedures performed in freestanding ambulatory surgery centers than for comparable procedures in a hospital setting....Efforts to control medical costs under health-care

[13] Page 44, J-8471-10 Holly Springs Surgery Center CON application.
[14] Page 1, April 19, 2010 Novant Health, Inc. Response to March 31, 2010 Written Comments Received from WakeMed

reform are expected to increase demand for ambulatory surgery centers, which are more economical to operate than hospitals."[15]

Novant's application was approved on the basis of what it submitted in its application. Now, merely fourteen months later, Novant proposes to relocate two of the three operating rooms to HSH and convert them to shared inpatient/outpatient ORs. WakeMed submits that this is a change of scope in the project for which it was approved and given that the previous project was approved on the basis of meeting the needs for outpatient operating rooms, it cannot simultaneously use those operating rooms to meet the needs of inpatients in Wake County, while reducing its proposed services to outpatients.

In its 2010 ORs application, Novant projected performing 3,310 Ambulatory Surgical Cases in PY 3, as shown in the following table.

Holly Springs Surgery Center
Projected Ambulatory Surgical Cases July 2014 - June 2017

	PY1	PY 2	PY 3
Ambulatory Surgical Cases	2,509	2,856	3,310

In the HSH application, on page 80, this data is replicated and Novant states: "Projected utilization for the one remaining operating room at HSSC was assumed to equal one third of the original projections for Project Year 3 for HSSC as included in the HSSC Application." One-third of the previously proposed HSSC cases calculates as:

	PY1	PY 2	PY 3
Revised HSSC Cases	836	952	1,103

If one adds the new projected outpatient surgery cases for the remaining OR at HSSC to the outpatient cases projected on either Page 80 of the HSH application or those shown in Exhibit 5, Table 48[16], it can be seen that Novant proposes to reduce the number of outpatient cases to be performed in the three ORs by at least 18% in PY 3 (see following table). This represents a significant reduction in services as previously proposed.

[15] Page 2, April 19, 2010 Novant Health, Inc. Response to March 31, 2010 Written Comments Received from WakeMed

[16] Please refer to later discussion under *Inconsistent Projections of Surgical Cases*.

	Page 80, HSH Application			Exhibit 5, Tables 48		
	PY1	PY 2	PY 3	PY1	PY 2	PY 3
HSH Outpatient Surgical Cases	861	1,325	1,602	834	1,293	1,565
HSSC ASC OR	836	952	1,103	836	952	1,103
Total Outpatient Surgical Cases	1,697	2,277	2,705	1,670	2,245	2,668
Original HSSC ASC Cases	2,509	2,856	3,310	2,509	2,856	3,310
Reduction in ASC Cases	-812	-579	-605	-839	-611	-642
% Reduction	32%	20%	18%	33%	21%	19%

A key assumption in HSH's utilization projections is the market share based on Novant's experience with its hospitals in Mecklenburg County. As supporting documentation, Novant discusses its reputation with local physicians and its ability to recruit physicians. However, Novant currently operates no licensed health care facilities in Wake County and the bulk of its physician support consists of physicians located in other counties; therefore, WakeMed submits that its projections are unreasonable.

For example:

- Novant projects that it will attain 40% market share in its primary service area (PSA) for obstetrics; however, it included only two letters of support from local obstetricians – one located in Chapel Hill (Dr. Michael Fried) and one located in Durham (Dr. Barrett Gunter). Based on the FY 2010 Thomson data, Dr. Fried apparently no longer practices obstetrics, because he was the attending physician for zero (0) obstetrics patients; and Dr. Gunter practices exclusively at Durham Regional Hospital. In addition, Dr. Gunter was the attending physician for only six Wake County obstetrics patients in FY 2010. A third obstetrician, Dr. Douglas Miyazaki, agreed to serve as HSH's medical director for obstetrics and to recruit obstetricians to serve the Holly Springs market; however, he is based in Winston-Salem. Therefore, WakeMed believes that Novant's market share assumptions for obstetrics are completely unfounded.
- According to Thomson Reuters data, in FFY 2010, the physicians of Regional Surgical Associates were the attending physicians of record for 1,093 patients. 100% of these patients were treated at facilities based in Durham County and only 36 (3.3%) were Wake County residents. Regional Surgical Associates currently maintain offices in northern Durham and Chapel Hill. Even if they were to open a satellite practice in Holly Springs, they apparently do not have an existing referral base for Wake County patients, which could take years to develop.
- Two local otolaryngologists submitted letters of support: Dr. Pankaj Gupta of Wake Ear, Nose & Throat Specialists and Dr. John Garside of North Carolina Eye, Ear, Nose & Throat. According to FY 2010 Thomson data, Dr. Gupta was the attending physician for only 66 patients, of which 49 were Wake County residents. While Dr. Garside was the attending physician for a much higher patient population (594), it should be noted that he submitted a letter of support for Rex's 2010 application for operating rooms in Wake

County[17]. In it, Dr. Garside stated his intent to invest in the Rex-Cary facility and noted his loyalty to Rex. Therefore, it unlikely that either of these physicians will bring significant volume to HSH.

Inconsistent and Unreasonable Projection Methodology and Assumptions

In its review of the HSH application, WakeMed found several discrepancies and inconsistencies in the data provided.

Inconsistent Projections of Surgical Cases

In the response to 10A NCAC 14C .2102 (c)(4), HSH shows the number of inpatient and outpatient surgical procedures projected to be performed during the first three years of operation[18], replicated in the following table. As the source for the data, HSH refers the reader to Exhibit 5, Table 48 (also summarized below); however, the outpatient surgery numbers in Table 48 do not match those on page 80, with no explanation for the discrepancy.

Holly Springs Hospital
Projected Inpatient and Outpatient Surgical Cases

	Page 80, HSH Application			Exhibit 5, Table 48		
	PY1	PY 2	PY 3	PY1	PY 2	PY 3
Inpatient Surgical Cases	608	758	849	608	758	849
Outpatient Surgical Cases	861	1,325	1,602	834	1,293	1,565
Total Surgical Cases	3,115	4,261	4,949	3,076	4,212	4,895

Also, the Total Surgical Cases shown above do not equal the sum of the inpatient and outpatient surgical cases. Again, there is no explanation for the discrepancy, which is fairly significant, as shown below. WakeMed surmises that Total Surgical Cases is mislabeled and that it actually represents the weighted surgical hours (3 hours per inpatient case plus 1.5 hours per outpatient case); however, it is not described in the narrative on either page 80 of the application or in Exhibit 5, Table 48.

	Page 80, HSH Application			Exhibit 5, Table 48		
	PY1	PY 2	PY 3	PY1	PY 2	PY 3
Add IP + OP Cases Above	1,469	2,083	2,451	1,442	2,051	2,414
Total Surgical Cases	3,115	4,261	4,949	3,076	4,212	4,895
Difference	-1,646	-2,178	-2,498	-1,634	-2,161	-2,481

[17] Page 296, Project I.D. No. J-8468-10.
[18] Page 80, HSH application

Note that the surgical cases volumes shown on Page 80 of the HSH application are also cited in the response to 10A NCAC 14C .2103; however, the utilization projections in the response to Question IV.2. match those provided in Exhibit 5, Table 48. Given the inconsistency in utilization projections, Novant should be found non-conforming with Criterion 3.

Overstated Use Rates per Methodology

It appears that the inpatient use rate that serves as the basis for the HSH inpatient projection methodology is overstated by approximately 24 percent. As a result, the patient days, which drive the occupancy rate, are overstated by 24 percent as well.

The following table provides the inpatient use rate that is used as the basis for Novant's projection methodology and can be found on page 159 of the HSH Application. Please note that on page 159, the line labeled "Population" should have been labeled "Total Cases" and vice versa. This mislabeling has been corrected in the table replicated below.

	2008	2009	2010
Wake County			
Total Cases	67,186	68,524	67,971
Population	866,438	892,409	919,938
Use Rate per 1,000 population	77.5	76.8	73.9
3 Year Average			76.1
Southern Wake County Zip Codes			
Total Cases	12,850	13,064	12,927
Population	155,224	164,104	168,494
Use Rate per 1,000 population	82.8	79.6	76.72
3 Year Average			79.7

Source: Thomson data Exhibit 5, Tables 8, 9; Exclusions: Psychiatry, Rehabilitation, Normal Newborn. Page 159 Holly Springs Hospital application

The 2010 use rate of 76.72 for southern Wake County Zip Codes was used as the basis of the utilization projections. However, one of the major assumptions of the projection methodology is described in response to Question VI.5[19], where the applicant states that:

"The HSH volume projections in Section III of this application are based in [sic] inpatient cases with a DRG weight of less than 2.0, which are clinically appropriate for a full-service community hospital. See applicant's response to Question III.1(b) for further explanation."

WakeMed was unable to replicate HSH's use rate calculation. Based on the assumptions above, WakeMed queried the Thomson Reuters data for the southern Wake County ZIP Codes per the Holly Springs Hospital application, including 27502, 27526, 27539, 27540, 27562, 27592, and 27603, and excluded normal newborns, psychiatry, substance abuse, and rehabilitation

[19] Page 248, HSH application.

patients. Inpatient discharges were then segmented based on the relative weight of the MSDRG/DRG weights. While different applicants will frequently have numbers that are slightly different from each other when using the Thomson Reuters data, they should be reasonably close and as can be seen in the following table, based on a population of 168,494 and DRG weights less than 2.0, WakeMed calculated a use rate that was significantly less than what HSH used in its methodology (61.83 vs. 76.72, respectively). In fact, the overall use rate calculated by WakeMed (74.84) that included cases where the DRG weight was 2.0 and greater is much closer to what was used by HSH in its projections (76.72).

	2010 Southern Wake County Zip Codes Inpatient Volume & ALOS			
DRG Weight	**Inpatient Discharges**	**Use Rate per 1,000 population**	**Inpatient Days**	**ALOS**
Less than 2.0	10,418	61.83	37,685	3.62
2.0 and greater	2,192	13.01	20,352	9.28
Total	12,610	74.84	58,037	4.60

Source: Thomson Reuters.
Exclusions: Psychiatry (MDC 19), Substance Abuse (MDC 20), Normal Newborns (MS-DRGs 794-795), Rehabilitation (MS-DRGs 945-946). Note that outliers were included.

As illustrated in the above table, the 2010 inpatient discharges for cases with a DRG weight less than 2.0 equal 10,418, as opposed to the 12,927 used to determine the use rate in HSH's application. This results in a 2010 inpatient use rate per 1,000 population of 61.83, as opposed to the overstated use rate of 76.72. The revised use rate was calculated as follows:

(10,418 inpatient discharges/168,494 southern Wake County ZIP codes) x 1,000 = 61.83

As previously stated, the applicant indicated that patients with a DRG weight of 2.0 are the appropriate population for a "full-service" community hospital. Based on this logic, the use rate of 61.83 is the appropriate rate to use for HSH's projections.

It is important to note that the ALOS assumption of 3.45 utilized by the applicant[20] is more consistent with the population of patients with a weight of 2.0 or less (ALOS = 3.62), as opposed to the entire population of patients in that service area. According to WakeMed's analysis, the ALOS experienced by the entire patient population in 2010 equaled 4.60, 9.28 for those patients with DRG weights 2.0 and greater.

The following table revises the utilization projections based on the use rate of 61.83. All other assumptions used coincide with the Holly Springs Hospital application as presented on pages 160-163 and 248.

[20] Page 162, HSH application

	Calendar Year			
	2014	**2015**	**2016**	**2017**
(1) Inpatient Use Rate per 1,000	61.83	61.83	61.83	61.83
(2) PSA Population	120,140	125,194	129,153	133,240
(3) Projected PSA Cases	7,428	7,741	7,986	8,238
(4) PSA HSH Market Share	19.60%	23.80%	28.00%	28.00%
(5) HSH PSA Inpatient Cases (75% of Total)	1,456	1,842	2,236	2,307
(6) HSH Total Projected Inpatient Cases	1,941	2,456	2,981	3,076
(7) ALOS	3.45	3.45	3.45	3.45
(8) HSH Inpatient Days	6,696	8,473	10,284	10,612
	Project Year			
		PY1: Jul 14 – Jun 15	**PY2: Jul 15 – Jun 16**	**PY3: Jul 16 – Jun 17**
(9) HSH Total Projected Inpatient Days		7,585	9,379	10,448
(10) Average Daily Census		20.8	25.6	28.6
(11) HSH Projected Occupancy Rate		41.6%	51.3%	57.2%

Note: Line items (1) – (9) are based on HSH application projection methodology assumptions as provided on pages 160-163, 248.

Thus, the Holly Springs Hospital application does not meet the performance threshold of 66.7% in Year 2 or Year 3 of the project, thereby failing to demonstrate that the population it proposes to serve has a need for 50 inpatient beds. Even if the ALOS was changed to the higher 3.62 as shown in WakeMed's analysis, the resulting HSH Projected Occupancy Rate would equal merely 60.1% in PY3, still below the required performance threshold.

Other Inconsistencies

Other inconsistencies found in the HSH application included:

- The 2011 and 2017 populations provided in the table on page 128 do not match the numbers in the table provided on page 128. While it appears to be a simple mistake of mislabeling column headings, such mistakes call into question the validity of Novant's other calculations.
- In response to Question VI.5 on page 248, the HSH application states the following: *"there are certain services that the applicant is not proposing to offer at the time of initial opening of Holly Springs Hospital and these services include: open heart surgery, cardiac catheterization, radiation therapy, etc."* This statement is inconsistent with the response to Question II.1(a) where the applicant mentions providing cardiac catheterization services via a contract with an existing mobile cardiac cath provider.[21]

[21] Page 30, HSH application.

Furthermore, projections for cardiac catheterization services are provided in the schedule on page 188.

Geographic Access to Acute Care Services

The Holly Springs Hospital Application provided no tangible evidence that the residents in the proposed service area do not have adequate access to acute care services. The HSH application cited the following reasons as evidence that residents in the proposed service area were not adequately served:

- Disparate Acute Care Bed Distribution in Wake County
- Distance Between Holly Springs and Existing Health Care Facilities
- Continuing Traffic and Congestion in the Primary Service Area
- Need for Additional Emergency Medicine Facilities

Disparate Acute Care Bed Distribution in Wake County

A major assumption of the HSH application is that acute care beds in Wake County are not appropriately distributed throughout the county. To support this assumption, Novant analyzed the distribution of hospital beds by dividing Wake into "North" and "South" regions using both U.S. Highway 70 and I-40 as guides to split the county. The results of this analysis are summarized on page 139 of the Holly Springs application. It should be noted that there are mathematical errors in the table shown on page 139 (the population totals were summed incorrectly); plus the citation in the CON application appears to be incorrect (it should be Exhibit 5, Table 96, not Table 98). WakeMed found additional inconsistencies and errors when it compared the summary numbers shown in Table 96 to the source table, Table 94. Therefore, WakeMed produced what it believes was the intended analysis:

North and South Wake County ZIP Codes - Methodology 1						
	Pop. 2011	Pop. 2016	Population Growth	Licensed and Approved Acute Care Beds	Acute Care Beds per 1,000 Population	Absolute Change in Pop. 2011-2016
Total South ZIP Codes - Includes Rex Hospital and WakeMed Cary	457,336	527,927	15.4%	595	1.1	70,591
Total North ZIP Codes - Includes WakeMed and Duke Raleigh	508,256	587,599	15.6%	814	1.4	79,343
Total	965,592	1,115,526	15.5%	1,409	1.3	149,934
North and South Wake County ZIP Codes - Methodology 2						
	Pop. 2011	Pop. 2016	Population Growth	Licensed and Approved Acute Care Beds	Acute Care Beds per 1,000 Population	Absolute Change in Pop. 2011-2016
Total South ZIP Codes - Includes WakeMed Cary	270,080	313,104	15.9%	156	0.5	43,024
Total North ZIP Codes - Includes WakeMed and Duke Raleigh and Rex	695,512	802,422	15.4%	1,253	1.6	106,910
Total	965,592	1,115,526	15.5%	1,409	1.3	149,934

Using the first methodology (U.S. Highway 70 as the boundary), "South" Wake County ZIP Codes had a bed-to-population ratio of 1.1, compared to "North" Wake's ratio of 1.4. Under the second methodology, using I-40 as a boundary, the "South" region had a bed-to-population ratio of 0.5 compared to the "North" region's ratio of 1.6. However, as shown by both methodologies in the corrected version of HSH's analysis, the "North" ZIP Codes have the greatest growth in numeric population and are also growing at rapid rates. This delineation of regions by Novant is completely arbitrary, and as can be seen on Map 2[22], both WakeMed Raleigh Campus and Rex Hospital are centrally located in Wake County and are easily accessible by both Wake County residents and residents in adjacent counties. Also, it is important to note that the beds at Wake County facilities are not just for Wake County residents, as residents from other counties utilize tertiary services in Wake County. As a result, a bed-to-population ratio using just the Wake County population is limited and does not address the needs of patients seeking specialized acute care services.

[22] Page 2536, HSH application

Distance Between Holly Springs and Existing Health Care Facilities

The distance between Holly Springs and existing health care facilities is another reason cited by the HSH project as a major reason for the need for inpatient beds in the Holly Springs area. The applicant presented an analysis of drive times between various road locations within its defined service area and its proposed site and selected providers, based on information obtained from MapQuest.com, which represents only a single driving estimate between two points. This analysis, which was conducted in 2008, can be found on page 140 and in Exhibit 22. This is the same drive time analysis that was provided in HSH's 2008 application (J-8190-08) and has not been updated. As in J-8190-08, the HSH application provided no discussion of why the intersections on page 140 were chosen and conveniently excluded Rex Hospital and Rex Healthcare Holly Springs in this analysis.

It is important to note that many of the travel distances and drive times provided show that Holly Springs Hospital will only save 1-2 minutes travel time over WakeMed Cary Hospital and WakeMed Apex Healthplex. On average, the travel time saved over WakeMed Cary Hospital was 5 minutes and the average mileage saved utilizing this analysis was 3.5 miles. WakeMed would argue that a 5-minute improvement in travel time to reach a community hospital that offers fewer services is immaterial and does not justify a $77.7M capital expenditure.

Continued Traffic Congestion in the Primary Service Area

On page 144 and in Exhibit 22 page 2599, HSH provided another drive time analysis, from the town halls of Holly Springs and Fuquay-Varina to WakeMed Cary Hospital and WakeMed Apex. Again, this is the same analysis provided in HSH's 2008 application. It was conducted on August 6-8, 2008 by an employee of the town of Holly Springs indicating the observed difference in travel times at "peak" and "non-peak" times. Limitations of this analysis include, but are not limited to the following:

- Definition of "peak" and "non-peak" times are not provided;
- It is based on only two trips between each location on successive days; and
- It has not been updated from 2008 to account for road improvements and any differences in traffic patterns.

These travel studies are unscientific and do not substantiate Novant's argument that there is a lack of access to acute care services by residents of the Holly Springs area.

Access to Emergency Medicine Facilities

The Holly Springs Hospital application references a 2009 report by the American College of Emergency Physicians (ACEP). On page 140 of the application, it is stated that this report recommended that North Carolina build more emergency medicine facilities. Not mentioned in the HSH application is that the report indicated that there has been improvement in North Carolina since 2006 in the number of Emergency departments per one million population. Also not mentioned is that the report stated that North Carolina had relatively few Level I or II

trauma centers per one million population when compared to the nation. The utilization of this argument as a basis for the proposed Holly Springs Hospital is irrelevant as the addition of the proposed Holly Springs Hospital will not increase access to Level I or II trauma centers, which was also indicated as a need per the ACEP report.

Access to the Underserved

Novant discusses in great length its charity care policy, stating that it believes "this is one of the most generous charity care policies in North Carolina."[23] However, based on DMA data provided in WakeMed's response to Question VI.2., it is clear that in aggregate, Novant does not provide the same level of access to charity patients as do WakeMed facilities.

Comparison of % Unreimbursed Costs of Care

Facility	% Unreimbursed Care
WakeMed Raleigh Campus	12.46%
WakeMed Cary Hospital	8.67%
Novant Hospitals	7.78%

Source: Division of Medical Assistance data. Included in WakeMed's applications, Question VI.2. Equals Total Unreimbursed/Uninsured Care Costs + Medicaid Cost Deficit as % of Total Facility Costs after Teaching & Enhanced Payments.

In addition, HSH's projected payor mix assumptions were based on their review of Licensure Renewal Applications for existing Wake County hospitals, plus the payor mix of other Novant community hospitals located near Charlotte and Winston-Salem[24]. WakeMed would argue that Novant's experience at hospitals located in other parts of the state is not relevant. Payor mix is based on local demographics, service mix, physician referral patterns, etc. Even within the same county, payor mixes can differ dramatically from one facility from another, as illustrated by the payor mixes of WakeMed Cary Hospital and WakeMed Raleigh Campus. Given that HSH relied on Thomson data to project its utilization, it had access to the payor mix of its proposed service area, yet chose not to use that information to project payor mix. Therefore, WakeMed believes that there is no basis for the payor mixes projected by HSH.

Criterion 4: Where alternative methods of meeting the needs for the proposed project exist, the applicant shall demonstrate that the least costly or most effective alternative has been proposed.

[23] Page 245, HSH application.
[24] Pages 257-262, HSH application.

HSH's proposal to develop a 50-bed hospital in Holly Springs is approximately $18 million more expensive than WakeMed's combined proposals to develop 101 beds. As shown in the following table, the cost per bed is nearly $1 million greater per bed for the HSH proposal.

Comparative Project Costs, Acute Care Beds Proposals

Facility	Project Cost	Number of Beds	Cost per Bed	SF Constructed/ Renovated	Cost per SF
Holly Springs Hospital	$77,700,273	50	$1,554,005	141,750	$548.15
WakeMed Raleigh Campus	$57,512,000	79	$728,000	166,577	$345.26
WakeMed Cary Hospital	$2,146,000	22	$97,545	8,673	$247.43
WakeMed Total	$59,658,000	101	$590,673	175,250	$340.42

This higher capital cost is then reflected in a higher operating cost per adjusted patient day. While Novant's operating cost per adjusted patient day is less than $100 greater than WakeMed Raleigh's, it should be noted that WakeMed Raleigh is a Level I trauma center and serves as a tertiary referral center for many counties in eastern North Carolina. As such, it has greater infrastructure requirements to support that level of services. When compared to WakeMed Cary Hospital, which still offers a greater array of services than is proposed at HSH, WakeMed Cary's operating cost per adjusted patient day is nearly $600 less per day.

Comparison of Operating Costs and Net Revenue per Adjusted Patient Day

Metric	Novant Holly Springs	WakeMed Raleigh	WakeMed Cary
Total Op Costs/Adj. Pt. Day	$2,464	$2,397	$1,869

Source: X.3. Project Year 3

Therefore, HSH has not proposed the least costly or the most effective proposal and should be found non-conforming with this criterion.

Criterion 5: Financial and operational projections for the project shall demonstrate the availability of funds for capital and operating needs as well as the immediate and long-term financial feasibility of the proposal, based upon reasonable projections of the costs of and charges for providing health services by the person proposing the service.

HSH is non-conforming with Review Criterion 5 because its financial projections are based on flawed utilization projections. The impact of substituting more reasonable utilization projections on HSH's projected financial performance is unknown.

Criterion 6: The applicant shall demonstrate that the proposed project will not result in unnecessary duplication of existing or approved health service capabilities or facilities.

The HSH proposal should be found non-conforming with Criterion 6 because it will unnecessarily duplicate services provided at WakeMed Cary Hospital (less than 11 miles away) and outpatient services currently being developed by Rex Healthcare Holly Springs (less than 2 miles away).

While WakeMed Cary Hospital's overall utilization exceeds performance standards, its obstetrics unit operated at only 67% last year; therefore, it has available capacity to serve Holly Springs market and southern Wake County. Likewise, WakeMed Cary's cardiac catheterization lab performed 368 diagnostic procedures in FFY 2010, well below capacity as defined by the SMFP.

Therefore, HSH should be non-conforming with this criterion.

Criterion 18a: The applicant shall demonstrate the expected effects of the proposed services on competition in the proposed service area, including how any enhanced competition will have a positive impact upon the cost effectiveness, quality, and access to the services proposed; and in the case of applications for services where competition between providers will not have a favorable impact on cost effectiveness, quality, and access to the services proposed, the applicant shall demonstrate that its application is for a service on which competition will not have a favorable impact.

The HSH proposal is inconsistent with this Criterion in that it will offer no enhancements in competition that will have positive impact on the cost effectiveness, quality, and access to the services. As noted above, HSH's project costs are higher than either of the projects proposed by WakeMed. HSH does not demonstrate that quality of its services will be superior to existing providers in Wake County. Finally, HSH does not offer any material improvements in geographic access in Wake County.

Wake County is already the most intensely competitive healthcare market in North Carolina, with three major systems vying for patients. The development of yet another competitor does nothing to change the already intense competitive pressures. Furthermore, the skimming of a more favorable payor mix by the Novant facility will have an unfavorable effect on the existing safety net providers, undermining the access those providers provide to the underserved.

Comments on WakeMed Raleigh Campus and WakeMed Cary Hospital
Project No. J-8660-11 and J-8661-11

WakeMed proposes to develop 79 acute care beds at WakeMed Raleigh Campus and 22 acute care beds at WakeMed Cary Hospital. On a comparative basis, these applications best meet the needs of Wake County residents, given the following:

- WakeMed's utilization and financial projections are based on reasonable assumptions, including no projected increase in market share.
- WakeMed proposes the lowest operating costs and net revenue per adjusted patient day, for all applicants in this review, as shown in the following table:

Comparison of Operating Costs and Net Revenue per Adjusted Patient Day

Metric	Rex Main	Rex Wakefield	Rex Holly Springs	Novant Holly Springs	WakeMed Raleigh	WakeMed Cary
Total Op Costs/Adj. Pt. Day	$2,943	$2,550	$2,506	$2,464	$2,397	$1,869
Total Net Rev./Adj. Pt. Day	$3,285	$2,611	$2,574	$2,728	$2,466	$2,177

Source: Question X.3.

- WakeMed's capital costs are the lowest among the applicants in the review seeking to acquire acute care beds, as shown in the following table:

Comparative Project Costs, Acute Care Beds Proposals

Facility	Project Cost	Number of Beds	Cost per Bed
WakeMed Raleigh Campus	$57,512,000	79	$728,000
WakeMed Cary Hospital	$2,146,000	22	$97,545
WakeMed Total	$59,658,000	101	$590,673
Rex Hospital	$278,897,514	11*	$25,354,319
Rex Healthcare of Holly Springs	$136,629,862	50	$2,732,597
Rex Healthcare of Wakefield	$102,282,666	40	$2,557,067
Rex Healthcare Total	$517,810,042	101	$5,126,832
Holly Springs Hospital II	$77,700,273	50	$1,554,005

Source: Question VIII.1.

* Does not include the 115 proposed replacement beds.

- WakeMed provides the greatest access to the medically underserved, as shown in the DMA data provided in the response to Question VI.2.

Comparison of % Unreimbursed Costs of Care

Facility	% Unreimbursed Care
WakeMed Raleigh Campus	12.46%
WakeMed Cary Hospital	8.67%
Rex Hospital	4.72%
Novant Hospitals	7.78%

Source: Division of Medical Assistance data. Included in WakeMed's applications, Question VI.2. Equals Total Unreimbursed/Uninsured Care Costs + Medicaid Cost Deficit as % of Total Facility Costs after Teaching & Enhanced Payments.

Collectively, the WakeMed proposals provide the greatest access to the underserved, based on its previous history of treating patients.

Comparison of Payor Mix for Underserved Populations, Third Full Year of Operation, Based on Gross Patient Revenue

Payor	Rex Main	Rex-Wakefield	Rex-Holly Springs	Rex All Projects	Novant Holly Springs	WakeMed Raleigh	WakeMed Cary	WakeMed All Projects
Medicare	62.5%	43.4%	40.3%	54.5%	47.6%	45.5%	39.1%	44.3%
Medicaid	2.6%	4.7%	5.7%	3.6%	6.6%	20.5%	8.8%	18.3%
Subtotal	65.2%	48.1%	46.0%	58.1%	54.3%	65.9%	47.8%	62.6%
Self Pay/ Charity	4.4%	6.0%	7.5%	5.4%	7.3%	3.4%	1.4%	3.1%
Total	69.6%	54.1%	53.5%	63.4%	61.6%	69.4%	49.2%	65.6%
Source:	Form B	Form B	Form B		Form B	Form C	Form C	

Please note that WakeMed was the only applicant to adjust its payor mix to account for the projected changes due to the health care reform law, due to go into effect in 2014. Charity care percentages were reduced and Medicaid percentages were correspondingly increased.

Finally, the WakeMed proposals are comparatively superior because they can be developed more quickly, as shown in the following table. The 101 beds proposed for WakeMed facilities are projected to be in service 10 -12 months sooner than the other applicants, with 22 of the 101 beds projected be in service nearly 2 years sooner.

Comparison of Opening Dates

Facility	Opening date
Rex- Main	October 1, 2014
Rex-Wakefield	October 1, 2014
Rex-Holly Springs	October 1, 2014
Novant-Holly Springs	July 1, 2014
WakeMed Raleigh	October 1, 2013
WakeMed Cary	October 1, 2012

Based on these reasons, WakeMed Raleigh Campus and WakeMed Cary Hospital have presented the most effective alternatives and should be approved by the Certificate of Need Section.