COMMENTS REGARDING CERTIFICATE OF NEED APPLICATIONS FILED FOR INPATIENT REHABILITATION BEDS IN HSA IV

Submitted by: WakeMed
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OVERVIEW

A total of four certificate of need applications were filed in the March 1, 2011 review cycle requesting inpatient rehabilitation beds in Health Service Area (HSA) IV, pursuant to a need determination for 14 additional inpatient rehabilitation beds in the 2011 State Medical Facilities Plan (SMFP):

- WakeMed d/b/a WakeMed Rehab Hospital (J-8631-11) – Proposal to add 14 inpatient rehabilitation beds at its existing location, for a total capital cost of $2,422,165/Wake County;

- Duke University Health System d/b/a Duke Raleigh Hospital (J-8629-11) – Proposal to develop a 14-bed inpatient rehabilitation unit at Duke Raleigh Hospital for a total cost of $4,060,700/Wake County;

- University of North Carolina (UNC) Hospitals (J-8630-11) – Proposal to develop 6 inpatient rehabilitation beds at its existing location for a total cost of $8,023,700/Orange County;

- Johnston Memorial Hospital d/b/a/ Johnston Health (J-8633-11) – Proposal to develop an 8-bed inpatient rehabilitation unit at Johnston Medical Center in Smithfield for a total cost of $2,177,291/Johnston County.

All of the applications seeking approval in this review cycle are in agreement on the need for additional inpatient rehabilitation beds in HSA IV. The decision before the CON Section is how these additional resources can be most effectively deployed in meeting the needs of HSA IV residents.

Two of the applications came from existing providers of inpatient rehab beds in HSA IV, and the other two proposals were submitted by community hospitals seeking to develop inpatient rehab services. Only one of the existing providers, WakeMed Rehab Hospital, proposes to develop all 14 inpatient rehabilitation beds allocated in the 2011 SMFP.

WakeMed believes that inpatient rehabilitation is a regional resource that is most effectively provided in facilities offering a range of specialized tertiary services, including cardiology, orthopaedics, neurology, neurosurgery, trauma, and pediatrics. The synergy that these services provide greatly enhances the provision of inpatient rehabilitation care, and allows for better coordination of care throughout the continuum.

The WakeMed proposal to add inpatient rehabilitation beds at WakeMed Rehab Hospital in Wake County is superior to the other proposals under review, and represents the best choice for the residents of HSA IV. WakeMed believes that inpatient rehabilitation is a regional healthcare resource, and therefore should be allocated on a regional basis. These comments will show that WakeMed's proposal more effectively meets the CON Review Criteria and Rules for Inpatient Rehabilitation services. WakeMed contends that its proposal is deserving of greater consideration, given the points highlighted below. In addition, there are serious deficiencies in the other three proposals that render them nonconforming with applicable CON Rules and Criteria. The bases for these conclusions are set forth in the following discussion.

COMMENTS REGARDING DUKE RALEIGH HOSPITAL
PROJECT NO. J-8629-11

Duke Raleigh Hospital proposes to develop 14 inpatient rehabilitation beds in renovated space at its existing location in Raleigh. Duke Raleigh argues that an inpatient rehab unit will allow it to better treat its existing orthopaedic and neuroscience patients, and would allow other Duke Health System patients to remain within the Duke network for post-acute care.

Specifically, the Duke Raleigh application is nonconforming with a number of CON Review Criteria, as follows.

Review 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.

Need for Project Not Demonstrated

Duke Raleigh failed to adequately document the need for its proposal and therefore fails to satisfy Review Criterion 3. The application contains virtually no quantitative methodology or analysis that documents the need for inpatient rehabilitation services at Duke Raleigh. Instead, Duke Raleigh relies on anecdotal statements and unsubstantiated information to make the case for its project. Without any objective analysis of data, the Agency cannot determine how Duke Raleigh justifies need for the project.

Projections found in the Duke Raleigh application mention that it "referred 221 patients to inpatient rehabilitation facilities in CY 2010" (pages 20 and 36), which equates to approximately 4 patients per week. In addition, Duke Raleigh notes that it referred 33 patients to skilled nursing facilities "due to inability to secure a rehab bed in a timely manner" (page 20) – this equates to less than one patient per week. Later on Application page 20, Duke Raleigh states that the 60 patients of Wake, Johnston and Franklin Counties who were discharged to inpatient rehab facilities outside the Duke University Health System (slightly over one patient per week) "would choose to remain in within the health system and seek care closer to home at Duke Raleigh Hospital's inpatient rehabilitation unit" – however, there is no justification provided to support this statement.

On Application page 37, Duke Raleigh justifies the project in part by stating:

> *With well over 300 known avoidable patient days per year for Duke University Hospital and Duke Raleigh Hospital acute care patients, the impact on acute care bed availability and health care costs are significant.*

This statistic of "avoidable patient days" in the Duke system equates to less than one patient day per calendar day (300 ÷ 365 = 0.82) across the 924 licensed acute care beds at Duke University Hospital and 186 beds at Duke Raleigh Hospital, and hardly supports the need for the proposed Duke Raleigh project. Rehab beds at Durham Regional have more than enough capacity to absorb these patient days.

On Application pages 25-26, Duke Raleigh provides some quantitative assessment of the projected growth in Stroke, Amputation, and Total Joint Replacement patients. Missing is any discussion of the need for other patient types Duke Raleigh projects to serve in Section IV, including:

- Traumatic brain injury;
- Non-traumatic brain injury;
- Neurological;
- Lower-extremity fractures;
- Other Orthopaedic;
- Major multiple trauma; and,
- Cardiac.

Cannot Verify Demographic Information

On application page 23, Duke Raleigh provides projected population data for each county in HSA IV, using data from Thomson Reuters' Market Planner Plus, a proprietary source of healthcare and demographic information. The Thomson Reuters population data differs considerably from population estimates from the Office of State Budget and Management (OSBM), State Demographer's Office. Because Thomson Reuters is a proprietary data provider, the Agency cannot verify the accuracy or reasonableness of its estimates. Therefore, the Agency cannot determine whether Duke Raleigh's population projections are reasonable.

No Discussion of Durham Regional Rehab Program

Largely absent from Duke Raleigh's application is information regarding the 30-bed inpatient rehabilitation program at Durham Regional Hospital, which is managed by Duke University Health System. In the 2011 SMFP, Durham Regional's rehab beds were utilized at 65.0 percent during 2009, well below target occupancy of 80 percent. The Duke Raleigh application treats the Durham Regional rehab program as if it does not exist, although it clearly has excess capacity to serve the Duke system's rehab-eligible patients. On Application page 27, it states that "[t]he addition of inpatient rehabilitation services at Duke Raleigh Hospital will fill a gap in the provision of a full continuum of care within the hospital and the health system." What is not clear is how this supposed gap cannot be filled by Durham Regional's inpatient rehab beds. Duke University Hospital delicensed 24 inpatient rehab beds in 2006, after not operating these

beds for a number of years. This fact, coupled with Durham Regional's rehab utilization, would indicate that there is no identified need for additional rehab beds in the Duke system.

No Projected Patient Origin in Application

Duke Raleigh completely omitted Question III.5, thereby failing to provide its projected patient origin and assumptions for inpatient rehabilitation services in Section III of the application. Likewise, Duke Raleigh did not provide a response to 10A NCAC 14C .2802(e). Therefore, the Agency cannot determine the population to be served, and must find Duke Raleigh nonconforming.

In addition, on Application page 29, Duke Raleigh states that is providing the patient origin "for patients referred to a skilled nursing facility during CY 2010." However, this information is not contained in the application.

Project Will Not Serve All of HSA IV

Based on Duke Raleigh's description of its need for inpatient rehabilitation beds, it is apparent that Duke Raleigh's primary goal with this project is serving its own patients, and not providing regional service to residents of HSA IV. Based on the anecdotal information described above (which are not supported by any data analysis or documentation), Duke Raleigh can, at best, justify a need for only about 6 inpatient rehab patients per week, well below the number of beds they are seeking [calculation: (221 Duke Raleigh inpatient rehab referrals + 33 Duke Raleigh SNF referrals + 60 Duke Univ. Hospital rehab referrals) ÷ 52 = 6].

Without inclusion of this critical information, the Duke Raleigh application cannot be found conforming with Review Criterion 3, in that it did not adequately define the population to be served.

Review 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.

Most Effective Alternative Not Considered

While Duke Raleigh proposes to develop its inpatient rehab unit in existing space, it does not plan to convert any acute care beds to rehabilitation beds. With an acute care utilization consistently well below 50 percent[1], it appears odd that Duke Raleigh proposes to maintain all 186 licensed acute care beds. Conversion of acute care beds to rehabilitation would allow Duke Raleigh to better utilize some of its excess acute care capacity.

[1] According to its 2011 Hospital License Renewal Application, Duke Raleigh operated only 139 of its 186 acute care beds in Fiscal Year 2010.

In the alternatives described in response to Application Section III.3, Duke Raleigh discussed: (1) maintaining the status quo; (2) developing a 14-bed freestanding rehabilitation hospital; and (3) developing 14 rehabilitation beds at Duke Raleigh Hospital. However, Duke Raleigh did not discuss the alternative of developing fewer than 14 rehab beds, which would likely be less costly and more highly utilized than the chosen alternative.

For these reasons, the Duke Raleigh application is nonconforming with Review Criterion 4.

Review 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.

Volume Projections Not Justified

The Duke Raleigh proposal does not conform with Review Criterion 5. Duke Raleigh did not adequately demonstrate how it projected inpatient rehab utilization. Therefore, its operational projections, and by extension its financial projections, are not based on reasonable assumptions, thereby calling into question the financial feasibility of the project.

On Application page 6, Duke Raleigh states that the proposed project will necessitate the relocation of the dialysis, infusion, and ostomy clinics "to a more patient-friendly location", and that upfit costs have been included in the project cost. However, Duke Raleigh does not disclose where these services will be relocated, nor do the line drawings for the project contained in Exhibit XI.3 indicate the new sites for relocated services. Therefore, it is impossible to determine if the $10,000 allotted for "renovations moving allowance", found in the assumptions to Project Capital Cost in Section VIII.1.(c) is sufficient.

Review 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 Duke Raleigh application does not conform to Review Criterion 6, in that it will unnecessarily duplicate inpatient rehabilitation services in Wake County. Duke Raleigh proposes a second alternative for inpatient rehabilitation beds in Raleigh, yet history indicates that locating two inpatient rehab programs in the same city, particularly when owned and managed by separate entities, tends to result in a detrimental effect on utilization of both programs. Please see discussion for Review Criterion 18a below for more details regarding experiences of inpatient rehab programs in Winston-Salem and Hickory.

Review Criterion 7

The applicant shall show evidence of the availability of resources, including health manpower and management personnel, for the provision of the services proposed to be provided.

Inadequate Staffing to Serve Traumatic Brain Injury Patients

Although it proposes to serve Stroke and Traumatic Brain Injury patients in its rehabilitation unit, Duke Raleigh did not provide staffing information for a neuropsychologist, either by employment or by contract. Neuropsychology is the primary service for cognitive disorders, and is a vital component in the recovery of patients suffering from these conditions. According to Licensure requirements for inpatient rehab found in 10A NCAC 13B .5412(5), inpatient rehabilitation facilities proposing to serve Traumatic Brain Injury patients must provide the consulting services of a neuropsychologist.

Therefore, the Duke Raleigh proposal does not conform to Review Criterion 7.

Review Criterion 8

The applicant shall demonstrate that the provider of the proposed services will make available, or otherwise make arrangements for, the provision of the necessary ancillary and support services. The applicant shall also demonstrate that the proposed service will be coordinated with the existing health care system.

No Evidence of Ancillary/Support Services

The Duke Raleigh application did not include correspondence from Duke Raleigh's administration verifying the availability of ancillary and support services to be provided to patients on the rehab unit, per the requirements of 10A NCAC 14C .2802(c)(1) and (2). The Duke Raleigh application also provided no discussion of coordination of services with providers of durable medical equipment (DME), who are nor did the application contain correspondence to or from local DME providers or the North Carolina Division of Vocational Rehabilitation, as required in response to Application Section II.4.(c). Duke Raleigh did not provide correspondence to or from psychologists, psychiatrists or audiologists expressing willingness to contract with the facility, even though these positions were identified as contract staff in Application Section VII.

For these reasons, the Duke Raleigh application is nonconforming with Review Criterion 8.

Review 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.

On Application page 14, in response to 10A NCAC 14C .2802(b)(1), Duke Raleigh makes the claim that another provider of inpatient rehabilitation services in Wake County will improve competition and accessibility. In reality, there is evidence to demonstrate that: (1) smaller rehab programs tend to be less well-utilized than their larger counterparts, and, (2) co-locating two inpatient rehab programs in the same city has a detrimental on both programs.

Small Rehab Programs Have Lower Utilization

Twenty-six inpatient rehabilitation facilities are currently in operation in North Carolina, with 981 licensed beds. Programs range in size from 7-119 beds, located across the state in both community hospitals and regional tertiary referrals centers. An analysis of these programs shows noteworthy differences in average utilization by bed size. There appears to be a correlation between number of licensed rehab beds and percent utilization. Larger inpatient rehabilitation programs, particularly those associated with regional tertiary hospitals and/or State-designated trauma centers, are better utilized, can draw from a larger referral base, and have more resources available to serve the needs of an HSA's population.

A total of 6 rehab facilities are licensed for less than 20 beds; the 2009 average utilization for these providers was 55.1 percent.

Table 1
2009 Utilization at Inpatient Rehabilitation Providers with Less than 15 Beds
Source: 2011 State Medical Facilities Plan

HSA	Facility	Beds	2009 Patient Days	2009 Utilization
II	Hugh Chatham	12	1,870	42.7%
III	Rowan Regional	10	2,392	65.2%
III	Stanly Regional	10	1,826	50.0%
III	CMC Levine Children's	13	2,606	54.9%
IV	Maria Parham	11	2,755	68.6%
V	Scotland	7	1,262	49.4%
TOTAL/AVG UTIL		**63**	**12,711**	**55.1%**

By contrast, inpatient rehabilitation facilities with 60 or more rehab beds had significantly higher utilization in 2009; the 7 facilities in this category were utilized at 65.2 percent.

Table 2
2009 Utilization at Inpatient Rehabilitation Providers with 60 or More Beds
Source: 2011 State Medical Facilities Plan

HSA	Facility	Beds	2009 Patient Days	2009 Utilization
I	Care Partners	80	16,373	56.1%
II	Whitaker Rehab	68	13,402	54.0%
III	Carolinas Rehab	119	32,097	73.9%
IV	WakeMed Rehab	84	27,961	91.2%
V	New Hanover Regional	60	10,205	46.6%
V	Southeastern Regional	78	18,456	64.8%
VI	Pitt Hospital Regional	75	19,168	70.0%
TOTAL/AVG UTIL		**564**	**137,662**	**65.2%**

Two Rehab Programs in Same City Are Duplicative

WakeMed believes that inpatient rehabilitation is a regional resource, and that locating two or more separately-owned inpatient rehab programs in the same community has a negative effect on both programs. An analysis of 2009 data provided in the 2011 SMFP provides confirmation that, when two separately-owned inpatient rehabilitation providers are located in the same city, the effect is detrimental to both programs, as is illustrated below for the cities of Winston-Salem and Hickory.

Table 3
2009 Utilization at Inpatient Rehabilitation Providers Located in the Same City
Source: 2011 State Medical Facilities Plan

City	Facility	Beds	2009 Patient Days	2009 Utilization
Winston-Salem	NC Baptist	39	5,865	41.2%
Winston-Salem	Whitaker Rehab	68	13,402	54.0%
Total for Winston-Salem		**107**	**19,267**	**49.3%**
Hickory	Catawba Valley	20	1,530	21.0%
Hickory	Frye Regional	29	1,934	18.3%
Total for Hickory		**49**	**3,464**	**19.4%**

Neither program in the cities listed above has a critical mass of beds and services that allows it to obtain higher utilization. Both programs must compete for licensed therapists, therapy assistants, and rehabilitation nurses, which are very well-paid and in short supply. Inpatient rehabilitation is a specialty service requiring specialized staff and resources. A full-service inpatient rehab program must employ physical, occupational and recreational therapists, speech-language pathologists, social workers, rehab case managers, admissions staff, psychologists, nurses specifically trained to work with rehab patients, patient educators, nutritionists, and financial personnel knowledgeable of reimbursement requirements. The program staff works hand-in-glove with physicians specializing in Physical Medicine and Rehabilitation, who in turn work closely with their colleagues in other medical specialties such as neurology, neurosurgery, trauma surgery, general surgery, orthopaedic surgery, urological surgery, cardiology and pediatrics to ensure that patients' medical needs are addressed and resolved throughout their inpatient stay. Competition for specialized staff does not benefit consumers.

Physicians specializing in Physical Medicine and Rehabilitation must either compete with one another for referrals, or be spread across two programs, which diminishes their efficiency. When inpatient rehabilitation programs are located too closely together, competition neither enhances patient care nor the financial viability of either program.

10A NCAC 14C .2800 – Criteria and Standards for Rehabilitation Services

The Duke Raleigh proposal does not conform to the following CON Rules:

- 10A NCAC 14C .2802(c)(1) -- The application did not include correspondence from Duke Raleigh Hospital verifying the availability of support services for inpatient rehabilitation.

- 10A NCAC 14C .2802(c)(2) – The application did not include correspondence from Duke Raleigh Hospital verifying the availability of ancillary services for inpatient rehabilitation.

- 10A NCAC 14C .2802(e) – The application did not include the projected patient origin or assumptions for inpatient rehabilitation services, as required by this Rule. Duke Raleigh's response to this Rule refers the reader to Application Section III.4.(b), which is not provided. (Note: In the Certificate of Need Application Form for Inpatient Rehabilitation Beds, projected patient origin and assumptions are specifically requested in Sections III.5.(a) and (b) – these questions were completely omitted from the Duke Raleigh application.)

- 10A NCAC 14C .2803(b) – This Rule states:

  An applicant proposing to establish new rehabilitation beds shall not be approved unless occupancy is projected to be 80 percent for the total number of rehabilitation

> *beds to be operated in the facility no later than two years following completion of the proposed project.*

While it would initially appear that Duke Raleigh complies with this Rule, because its projected utilization in Year 2, Quarter 4 will be 80.7 percent (its 4th Quarter, assumed to be April 1 – June 30, will have 91 calendar days[2]), the Rule does not expressly state that the applicant's utilization must reach 80 percent utilization by the end of the fourth quarter of the second year following project completion. Duke Raleigh's full Year 2 utilization will be only 76.0 percent, which is below the required 80 percent threshold. Therefore, Duke Raleigh does not conform to this Rule.

Conclusion

In summary, Duke Raleigh's CON application is missing critical information required to make an informed decision regarding the approvability of its proposal. Further, its need methodology relies more upon on hearsay, rather than actual data, to justify the project. Approval of a second inpatient rehab program in Raleigh would be duplicative of existing resources. For these reasons, the Duke Raleigh project should be disapproved.

[2] Note: If Duke Raleigh's 4th Quarter had 92 calendar days, its Year 2 Quarter 4 utilization would be 79.8 percent.

COMMENTS REGARDING UNC HOSPITALS
PROJECT NO. J-8630-11

UNC Hospitals proposes to develop 6 additional inpatient rehabilitation beds at its existing location in Chapel Hill in Orange County, for a total of 36 beds. UNC cites its high rehab utilization in recent years, as well as the pressing need to continue to train medical students and residents in physical medicine and rehabilitation, as justification for its proposed project.

Specifically, the UNC application is nonconforming with a number of CON Review Criteria, as described below.

Review 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.

Western vs. Eastern HSA IV

Part of UNC's justification for its proposed project is the supposed need to provide additional inpatient rehab services to residents of "western" HSA IV. UNC notes the rapid growth in both total population and in persons ages 65 and above in western HSA IV counties. UNC defines "western HSA IV" as Chatham, Granville, Lee, Orange and Person Counties, stating on Application page 45 that "[if] all 14 beds were awarded to the eastern region of HSA IV, the result would be an imbalance of beds, creating a hardship for patients in the western HSA IV counties." UNC gerrymanders Durham County into "eastern" HSA IV, although it is clearly located farther west than Granville County.

Nonetheless, UNC's definitions of "western" and "eastern" HSA IV are totally arbitrary. In reality, there are no physical boundaries or barriers, either natural or man-made, which separate HSA IV into regions. HSA IV is an irregularly shaped area, but closer examination of geography using the website www.geomidpoint.com shows that the true geographic center of HSA IV is actually located near the town of Wake Forest in northern Wake County[3]. WakeMed Rehab Hospital is located very close to this geographic center. Please see Attachment 1.

Although it is a moot point, using UNC geographic definitions, inpatient rehabilitation beds in HSA IV are already nearly equally distributed, with a slight edge in rehab beds per 100,000 population to the *"western"* HSA IV counties. See the table below.

[3] According to www.geomidpoint.com, the geographic center of HSA IV is located at Latitude 35.98817, Longitude –78.704352; the nearest address these coordinates is listed as 5112 Durham Rd., Wake Forest, NC 27587.

Table 4
Population Growth and Distribution in HSA IV Counties 2011-2015,
Compared with Distribution of Existing and Proposed Inpatient Rehabilitation Beds
Using UNC Hospitals' Definitions of "Western" and "Eastern" HSA IV Counties
Source of Population Data: OSBM, taken from WakeMed Application page 61

County	2011 Total Population	2011 Licensed Rehab Beds[4]	2011 Rehab Beds Per 100,000 Pop.	2015 Total Population	Pop. Change 2011-2015	2015 Rehab Beds Per 100,000 Pop. IF UNC & JOHNSTON APPROVED[5]	2015 Rehab Beds Per 100,000 Pop. IF WAKEMED APPROVED[6]
"WESTERN" HSA IV							
Chatham	64,753			69,434	7.2%		
Granville	58,284			60,768	4.3%		
Lee	60,205			63,576	5.6%		
Orange	135,182			141,560	4.7%		
Person	38,789			40,018	3.2%		
Total	**357,213**	**30**	**8.40**	**375,356**	**5.1%**	**9.59**	**7.99**
"EASTERN" HSA IV							
Durham	277,031			298,826	7.9%		
Franklin	61,393			65,779	7.1%		
Johnston	178,933			200,269	11.9%		
Vance	43,599			43,572	-0.1%		
Wake	947,459			1,057,534	11.6%		
Warren	19,805			19,565	-1.2%		
Total	**1,528,220**	**125**	**8.18**	**1,685,545**	**10.3%**	**7.89**	**8.25**

Using data from the N.C. Office of State Budget and Management (OSBM), the total population of "western" counties is projected to grow by 5.1 percent during the period 2011-2015. By contrast, the population of the "eastern" counties is projected to grow 10.3 percent during the same period, more than double the rate of the "western" counties, due largely to the fact that three of HSA IV's fastest growing counties are located in the eastern region. Awarding rehab beds to the complementary UNC and Johnston Medical Center applications would only serve to widen the disparity in the distribution of rehab beds per 100,000 population. On the other hand, awarding the beds to an applicant such as WakeMed, which proposes to develop all 14 rehab beds in the center of the region's population growth, would ensure near-equal distribution of rehab beds throughout the HSA.

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[4] Using UNC's definitions, 30 beds at UNC are located in "western" HSA IV, while 30 beds at Durham Regional, 11 beds at Maria Parham and 84 beds at WakeMed Rehab are located in "eastern" HSA IV.

[5] In this scenario, 36 rehab beds would be located in "western" HSA IV (30 + 6 additional beds at UNC), and 133 rehab beds in "eastern" HSA IV (125 + 8 new beds at Johnston Medical Center).

[6] In this scenario, 30 rehab beds would be located in "western" HSA IV, and 139 rehab beds in "eastern" HSA IV (125 + 14 additional beds at WakeMed Rehab Hospital).

Discrepancies in Projected Case Volumes

There are discrepancies in UNC's projected inpatient rehabilitation cases in both Section II and Section IV. On Application page 73, UNC projects 739 rehab cases in Year 2. However, on Application page 75, UNC lists 728 cases in Year 2. This inconsistency is too large to be a rounding error and calls into question the validity of UNC's projections. The table below highlights discrepancies in UNC's data, particularly for Year 2.

Table 5
Variances in Projected Case Volume in UNC Hospitals' CON Application

Page No.	Information Presented	Year 1 Oct-2013 - Sept -2014	Year 2 Oct-2014 – Sept-2015	Year 3 Oct-2015 – Sep-2016
36	Patient Origin	702	728	N/A
39	Project Year Projections	702	738	748
61	Projections by Project Year	702	739	748
67	Patient Origin	702	728	N/A
73	Project Year Projections	702	739	748
74-75	Projections by Patient Type	702	728	748
122	Pro Formas - Form C	702	728	748

These variances in Year 2 case volume occur with sufficient frequency to call into question the soundness of UNC's projections.

No Basis for Need Methodology

While UNC explained that its projected inpatient rehab case volumes were based closely on historic patient origin, it did not project demand for inpatient rehabilitation services for any of the HSA IV counties or counties which comprise larger proportions of rehab patients. In one iteration of its need methodology, discussed on Application pages 56-57, UNC simply increases its rehab patient days by the 2011 SMFP's HSA IV annual growth rate of 4.43 percent. However, for the need methodology actually used to project rehab cases and days, explained on Application pages 58-61, UNC applies a method that attempts to correlate its acute care bed capacity to rehab bed capacity, yet which has no mathematical basis and cannot be replicated. By extension, UNC's volume projections are suspect, as they were clearly not based on reasonable assumptions.

Historic Utilization and Available Capacity

On Application page 55, UNC states that its inpatient rehabilitation program "achieved the highest percentage growth in patient days of care for the period 2004 to 2009", with a 37.94 percent increase in patient days, compared with a 16.76 percent increase for WakeMed Rehab. During this period, UNC's utilization increased from 61.6 percent in 2004 to 85.0 percent in

2009. For the same years, WakeMed Rehab was utilized over 90 percent in *each* year – WakeMed Rehab's 16.76 percent increase in patient days is due to the addition of 16 rehab beds in the late 2000s (Project No. J-7485-06). Without this additional bed capacity, WakeMed Rehab could not have increased its patient days. However, WakeMed has both added capacity and filled that capacity.

The same table on UNC Application page 55 indicates that while UNC may have had the highest *statistical* growth in patient days from 2004-2009, WakeMed Rehab had the highest *numerical* increase in patient days. WakeMed Rehab's utilization increased 4,013 patient days from 2004-2009, compared with only 2,559 days at UNC. As evidenced on WakeMed Application page 60, WakeMed Rehab has been utilized above 80 percent in every month since October 2005.

A second table on UNC Application page 55 compares utilization percentages and average daily census (ADC) at UNC and WakeMed Rehab. UNC attempts to demonstrate that it has, based on ADC, fewer available beds than does WakeMed Rehab, that it needs additional rehab beds to support "51 additional CON-approved acute care beds in development", and that UNC "has a compelling need to add inpatient rehabilitation beds to provide continuity of care and accommodate the increase in acute care patient discharges with conditions that will qualify for inpatient rehabilitation services". WakeMed, for its part, has opened 102 acute care beds in its system in the last two years, and is planning to seek Agency approval for additional acute care beds allocated in the 2011 SMFP. WakeMed reasons that its needs are no less compelling from an acute care bed capacity standpoint, and greater from a population growth and accessibility standpoint.

UNC Will Not Serve a Full Range of Rehab Patients

While UNC is an existing provider of inpatient rehabilitation services, it does not appear to serve a full range of rehab patients. In particular, UNC states that it will serve both adult and pediatric patients, yet UNC projects only 1 pediatric patient in each of Years 1-3. There is no analysis or methodology provided to explain how UNC arrives at its projected 1 pediatric patient per year. Further, information contained in UNC's Admissions policy for the Rehabilitation Center, found on Exhibit page 76, states that to meet admission criteria, a pediatric patient must "be at least 14 years of age, and of adult weight." This statement is repeated verbatim in the Rehabilitation Center's Scope of Services policy, found on Exhibit page 288. The specific language of these policies indicates that UNC does not currently serve, nor does it propose to serve, pediatric patients ages 14 and under, as defined in 10A NCAC 14C .2801(8).

By contrast, WakeMed Rehab identifies need for pediatric rehab patients in HAS IV, quantifies that need, and projects pediatric patients in its need methodology in Section IV.

For these reasons, the UNC application does not conform with Review Criterion 3.

Review 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 its Application Section III.3, UNC outlines four options that were considered, including maintaining the status quo, adding 14 beds at its existing location, adding rehab beds at its proposed campus in Hillsborough, and the chosen alternative to add 6 beds at its existing location. However, UNC's chosen alternative is neither the least costly nor most effective choice.

UNC's Capital Cost is Significantly Higher Than Other Applicants

UNC's projected capital cost is $8,023,700, approximately double the capital cost of the next highest applicant. On a per-bed basis, the UNC project will cost $1,337,283, by far the most expensive alternative proposed in the review. UNC's construction cost is also the most expensive, at $5,517,700, or $919,617 per bed. Please see the table below.

Table 6
Comparison of Applicants' Capital Cost, Construction Cost and Cost Per Bed

Applicant	Total Capital Cost	Construction Cost	Number of Beds Proposed	Total Capital Cost Per Bed	Construction Cost Per Bed
Duke Raleigh	$4,060,700	$2,257,600	14	$290,050	$161,257
Johnston	$2,117,291	$1,622,383	8	$272,161	$202,798
UNC	**$8,023,700**	**$5,517,700**	6	**$1,337,283**	**$919,617**
WakeMed Rehab	$2,422,165	$1,670,231	14	$173,012	$119,302

Given the low number of beds proposed to be added, and the corresponding capital cost, the UNC project is a poor return on investment and is neither the least costly nor most effective alternative.

Even if one omits the costs associated with renovating portions of the North Building and Carolina Crossing, UNC's construction cost per square foot for the 7th Floor, where the additional rehab beds will be located, is considerably higher than that of other applicants. The architect's Certified Cost Estimate provided on Exhibit page 449 shows a construction cost of $383.64 per square foot on the 7th Floor, significantly higher than that of the other applicants in the review. Please see the table below.

Table 7 Comparison of Applicants' Construction Costs Per Square Foot			
Applicant	**Square Feet to Be Renovated**	**Construction Cost Per Square Foot**	**Total Construction Cost**
Duke Raleigh	14,637	$161.07	$2,257,600
Johnston	9,097	$178.34	$1,622,383
UNC *(by project component):*			
- 7th Floor – Original Hospital	10,663	**$383.64**	$4,090,753
- 7th Floor – Main Hospital	1,192	**$383.64**	$457,299
- 1st Floor – North Building	2,369	$134.23	$317,991
- Carolina Crossing	5,600	$116.36	$651,616
Total	19,824	$278.33	$5,517,700
WakeMed Rehab	7,329	$227.89	$1,670,231

The renovation costs for the North Building and Carolina Crossing actually serve to mask the true renovation costs per square foot required within the UNC Rehabilitation Unit.

Other Alternatives For Growing Physical Medicine & Rehabilitation Department

With its current and projected financial losses in inpatient rehabilitation (see discussion of Review Criterion 5 below), a more effective alternative would have been for UNC to develop relationships with existing providers of inpatient rehab to train its physical medicine student and resident physicians. Such an alternative would allow UNC residents to receive clinical training without the need for UNC to incur any capital expenditures. It is not clear how the addition of only 6 beds will allow for any significant expansion of UNC's Physical Medicine & Rehabilitation department.

UNC did not discuss the option of seeking clinical training arrangements with existing providers of inpatient rehabilitation services in lieu of adding bed capacity, which would be less costly yet allow the Physical Medicine & Rehabilitation department to expand its training opportunities. UNC medical students and residents in other disciplines already complete clinical rotations at non-UNC hospitals.

For these reasons, the UNC application does not conform with Review Criterion 4.

Review 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.

In addition to its glaringly high capital cost (see above), the UNC application contains financial projections which indicate that its project is not financially viable. In fact, the addition of 6 rehabilitation beds does little, if anything, to improve the UNC rehab program's financial feasibility. Please see the following table, which contains financial data calculated from UNC's pro formas, Forms C and D.

Table 8
Summary of UNC Hospitals' Inpatient Rehabilitation Financial Statements

Metric	Most Recent Fiscal Year - FY 2010	FY 2011	FY 2012	FY 2013	Project Year 1	Project Year 2	Project Year 3
Total Net Income (Loss)	($1,755,122)	($3,372,869)	($3,223,266)	($3,063,979)	($3,822,534)	($4,617,922)	($4,444,695)
Total Cases	586	618	618	621	702	728	748
Net Income (Loss) Per Case	($2,995)	($5,458)	($5,216)	($4,934)	($5,445)	($6,343)	($5,942)
Total Patient Days	8,930	9,192	9,401	9,444	10,667	11,072	11,365
Net Income (Loss) Per Pt. Day	($197)	($367)	($343)	($324)	($358)	($417)	($391)

The information above indicates that UNC's net losses, particularly on a per case/per patient day basis, actually will be greater following project completion, and will be significantly greater following project completion than during the most recent fiscal year. In FY 2010, UNC's rehab program incurred a net loss of $1,755,122, which is projected to grow to $4,617,922 in Year 2, an increase of 263 percent. On a per-case basis, UNC's net loss for inpatient rehab was $2,995 per case in FY 2010, and this loss is projected to increase to $6,343 per case in Project Year 2, a 211 percent increase. UNC Hospitals would be better served, at least from a financial standpoint, by opting to forego expansion of its inpatient rehabilitation program. It does not serve the taxpayers of North Carolina well to allow expansion of a financially ailing program, when such an expansion would only exacerbate that program's losses.

For these reasons, the UNC application does not conform with Review Criterion 5.

Review Criterion 9

An applicant proposing to provide a substantial portion of the project's services to individuals not residing the health service area in which the project is located, or in adjacent health service areas, shall document the special needs and circumstances that warrant service to these individuals.

In response to Section III.5, UNC Hospitals provides its projected patient origin. UNC proposes to treat rehab patients from 58 North Carolina counties, plus out of state patients. Residents of HSA IV counties will comprise approximately 56 percent of UNC's rehab inpatients, with the remaining 44 percent originating from other areas. UNC did not justify its service to non-HSA IV

counties, nor did it project demand for any of the counties it serves, in its need methodologies. By contrast, WakeMed Rehab's need methodology clearly justified its service to a 19-county geographic area inclusive of HSA IV, which comprises approximately 95 percent of WakeMed Rehab's patients.

For these reasons, UNC does not conform with Review Criterion 9.

Review 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 UNC application does not conform with Review Criterion 12. Please see the discussions for Review Criteria 4 and 5. The UNC Hospitals project capital cost is considerably more expensive than other proposals in this review, and this capital cost clearly has a negative effect on the service's financial feasibility. Following project completion, UNC's net losses will increase significantly, exceeding its losses in the historic and interim years. This calls into question the reasonableness of the UNC project, and whether other less capital-intensive alternatives should have been considered.

Review Criterion 14

The applicant shall demonstrate that the proposed health services accommodate the clinical need of health professional training programs in the area, as applicable.

For UNC, its nonconformity relates to the discussions proffered for Review Criteria 4 and 5 (see above). UNC did not demonstrate in its application that the addition of 6 rehab beds would be sufficient to accommodate clinical training needs. Rather than expanding the bed capacity of its existing, but financially troubled, program at UNC Hospitals for a significant capital expenditure, UNC should strongly consider establishing new health professional training programs with one or more existing providers of inpatient rehabilitation. Such arrangements would be more cost effective, would allow UNC students and medical residents to obtain valuable training and experience in established settings, and would bring UNC's research and teaching expertise to the community.

Review 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 addition of 6 inpatient rehabilitation beds at UNC Hospitals would have little impact on competition in HSA IV. UNC's location in the far western portion of HSA IV is inconvenient for the majority of the region's residents; UNC is not centrally located in the HSA, and is located away from the highest areas of population growth. The UNC proposal is not a cost effective solution to the burgeoning inpatient rehab utilization in HSA IV, as required by this Criterion. Please see discussion for Review Criteria 4 and 5 above.

10A NCAC 14C .2800 – Criteria and Standards for Rehabilitation Services

The UNC Hospitals proposal does not conform with the following Rule:

- 10A NCAC 14C .2802(d): This Rule states:

  An applicant proposing to add rehabilitation beds to an existing facility shall show the current rehabilitation patient origin by county of residence for the 12 month period immediately preceding the application. All assumptions, including the specific methodology by which patient origin is projected shall be clearly stated. [Emphasis added.]

  The UNC application provides historic patient origin for the period July 1, 2009 – June 30, 2010, which is not the most recent 12-month period immediately preceding submittal of the application, as is required by this Rule. More than seven months separate this time period from the applicant's date of submission.

Conclusion

In conclusion, the UNC Hospitals application represents a poor use of health care expenditures, given the proposal's extraordinarily high capital costs and negative financial return. An increase of only 6 beds would appear to offer only minimal benefit to medical teaching and research, and does not merit the project's high capital cost.

COMMENTS REGARDING JOHNSTON MEDICAL CENTER
PROJECT NO. J-8633-11

Johnston Health proposes to develop a new 8-bed inpatient rehabilitation unit at Johnston Medical Center (JMC) in Smithfield. JMC's new inpatient rehab program will be managed by the UNC Department of Physical Medicine and Rehabilitation. JMC considers its proposal to be "complementary" to UNC Hospitals' application for 6 rehab beds.

Like its complementary applicant UNC Hospitals, JMC arbitrarily splits HSA IV into regions in an attempt to show the benefit of approving rehabilitation beds in disparate areas of the HSA. JMC furthers the gerrymandering argument to designate Johnston County its primary service area, as part of the unique "southern" HSA IV region, which has no inpatient rehabilitation beds. Using JMC's logic, approval if its application, along with the UNC proposal, will ensure geographic distribution of HSA IV's inpatient rehabilitation beds.

JMC's primary argument, like Duke Raleigh's, is that it can better care for its own patients in a community setting. JMC takes this justification one step further by arguing that because Johnston County has no rehabilitation beds, then rehab beds must somehow be needed.

Review 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.

JMC predicates its need for the project on the fact that Johnston County has no inpatient rehabilitation beds, and that residents of Johnston County must travel outside the county to seek care at existing rehabilitation facilities. This alone is not a sufficient reason to award inpatient rehab beds to JMC.

Population Growth in Johnston County

In Section III.1, JMC cites the rapid population growth of Johnston County, which is projected by the State Demographer's Office to have the highest *percentage* population increase among HSA IV counties from 2011-2015 (11.9 percent, versus 11.6 percent for Wake County). While this is true, Wake County has the largest population in HSA IV, and is projected to experience the highest *numeric* increase in population in the region from 2011-2015 according to OSBM. Wake County is expected to add 110,075 residents, compared with 21,336 residents for Johnston County. Moreover, the greatest growth in Johnston County's population has been in the northwestern part of the county in the Clayton area, which is closest to Wake County and nearly equidistant between WakeMed Rehab and JMC. By contrast, the Smithfield area's population, where the project will be developed, remained flat between 2000 and 2010. Please

see Attachment 2 for a March 12, 2011 article published in the Raleigh *News & Observer* discussing 2010 Census data and population changes in Clayton and Smithfield

Eastern vs. Western HSA IV

In Section III.1, JMC discusses the current distribution of inpatient rehabilitation beds in HSA IV. According to JMC, two existing programs, UNC Hospitals and Durham Regional Hospital, currently operate rehab programs in "western" HSA IV, and Maria Parham Medical Center operates a program in located "northern" HSA IV. WakeMed Rehab Hospital is characterized as being located in "central" HSA IV. By process of elimination, JMC concludes that there no inpatient rehab beds located in either "eastern" or "southern" HSA IV. (Paradoxically, UNC Hospitals' application describes both Durham Regional and WakeMed Rehab as being located in "eastern" HSA IV.)

The JMC application proposes to serve primarily Johnston County, with 84.5 percent of projected patients being Johnston County residents. Aside from Wake County, which comprises 6.3 percent of its projected cases, JMC does not quantify any material level of service to the other counties in HSA IV. Inpatient rehabilitation beds are allocated regionally, at the HSA level, in the annual State Medical Facilities Plan, therefore it is important that applicants demonstrate how their programs will provide service to residents of the entire HSA.

Unrealistic Projected Utilization

In Section III, JMC provides a methodology which projects utilization of 64.2 percent in Year 1, increasing to 85.4 percent by Year 3. These projections are completely unrealistic and unreasonably high, given that JMC: (1) will be a new entrant for inpatient rehabilitation services in HSA IV; (2) will operate one of the smallest programs in the state; (3) will offer only a limited range of services; and, (4) will be based in a community hospital with few tertiary services. In spite of these factors, JMC's projections would give it one of the highest utilization levels in the state in only its third year of operation. JMC's projections are overly aggressive, as it assumes that all residents of Johnston County who need inpatient rehabilitation will immediately shift to JMC, and that longstanding referral patterns will suddenly change. The 2011 SMFP shows that only three rehab programs in the state operated above 80 percent occupancy in 2009. JMC's assumptions regarding project utilization are not congruent with actual experience of existing providers.

Inpatient Rehabilitation is a Regional Service

On Application page 57, JMC cites a *News & Observer* article from 2005, where WakeMed President & CEO Dr. William Atkinson states his belief that more patients should be treated "...closer to home, partly because surrounding counties, particularly Wake County, do not have capacity for this growing patient population." It should be noted that the context of that article dealt with the development of a community hospital in Harnett County. WakeMed believes that specialized health care services, such as inpatient rehabilitation and open heart surgery,

are best provided in regional facilities, where there are sufficient staffing, clinical expertise, and resources to ensure the provision of quality care at the highest level. Many of the Johnston County patients that JMC refers to in its discussion of need would likely have been patients in Wake County acute care hospitals, for neuro, cardiac, trauma, and orthopaedic care, prior to being referred to a rehab hospital.

For these reasons, the JMC application does not conform with Review Criterion 3.

Review 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.

JMC's capital cost for its proposed project is $2,117,291, which is the lowest among all applicants in the review. JMC is taking advantage of unused acute care bed space in its existing facility to accommodate its 8-bed rehab unit.

JMC is Not a Full-Service Program

However, JMC is not the most effective alternative being proposed. Because it proposes only 8 beds, JMC does not propose to treat a full range of rehabilitation specialties, opting to treat rehab patients with lower acuities. Rehab patients with higher acuities will not be served at JMC. Specifically missing from JMC's list of proposed rehab patient types are:

- Traumatic brain injury;
- Spinal cord injury;
- Arthritis; and,
- Pediatrics.

With only an 8-bed unit, JMC would be severely limited as to both the number of and types of rehab patients it can serve. Such a small unit will be hard-pressed to develop any meaningful level of clinical specialization. In Section IV, JMC projects the following patient mix in Year 2 (from Application page 98):

Table 9 Johnston Medical Center Projected Rehabilitation Categories and Patients Per Category		
Patient Type	**Year 2 Number of Patients**	**Percent of Total Year 2 Patients**
Stroke	51	28.5%
Non-Traumatic Brain Injury	9	5.0%
Neurological	9	5.0%
Fracture of Lower Extremity	23	12.8%
Joint Replacement of Lower Extremity	21	11.7%
Other Orthopaedic	9	5.0%
Amputation-Lower Extremity	8	4.6%
Amputation-Other	1	0.6%
Osteoarthritis	0	0.0%
Rheumatoid-Other Arthritis	0	0.0%
Cardiac	12	6.7%
Pulmonary	3	1.8%
Pain Syndrome	2	1.1%
Miscellaneous	31	17.3%
Total	179	100.1%

More than one-half of JMC's patients are projected to have Stroke or Lower Extremity (Fracture, Amputation and Joint Replacement) diagnoses. JMC's second-highest patient category is listed as "Miscellaneous", for which no definitions or details are provided. Do these Miscellaneous patients meet the qualifications for admission to rehab programs under the CMS "60 Percent Rule"? If this category of patients and its associated patient days were eliminated, JMC's Year 2 utilization would be only 68.3 percent [calculation: (2402 Total days – 498 Miscellaneous days) ÷ 2920 available days = 0.6828, rounded to 68.3%]. Thus, it is difficult to discern the true extent of JMC's level of specialization. At face value, JMC's projections indicate only a limited level of service to the residents of HSA IV.

Assuming these proportions are approximately distributed evenly throughout Year 2, at any given time JMC would have 2 Stroke patients, 2 Lower Extremity patients, 1 Miscellaneous patient, and 1 patient from either the Neurological, Orthopaedic or Cardiac categories. With only 8 beds and this proposed patient mix, JMC will have little opportunity to develop a depth of clinical knowledge that will benefit its patients and sufficiently challenge its staff to grow professionally.

Other Alternatives Not Considered

JMC listed a number of alternatives in Section III.3, including developing a different number of beds at JMC-Smithfield, as well as developing rehabilitation beds at JMC-Clayton. Given the rapid population in the Clayton area of Johnston County, developing a rehab unit at JMC-Clayton arguably would provide greater access to Johnston County residents.

For these reasons, JMC does not conform to Review Criterion 4.

Review 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.

No Current Financial Statements for Johnston Health

The JMC application includes audited financial statements for the year ending September 30, 2009, but no financial statements, or even an unaudited report, for the most recent full fiscal year ending September 30, 2010. Moreover, JMC's pro formas includes no Form B for the entire organization, which would provide historic and projected results for the system. While the proposed project forecasts a slight profit, the overall financial condition of parent company Johnston Health cannot be assessed. An article published in the Smithfield *Herald* on March 9, 2011, discussed the 2010 audit report and indicated that Johnston Health experienced a loss of $3.9 million in FY 2010, up from a loss of $3.1 million in FY 2009. Kevin Leder, from the accounting firm Larson Allen, was quoted as follows: "They're still not generating enough money to pay back their debt service." Please see Attachment 3. Statements such as this, coupled with missing FY 2010 financial information, call into question Johnston Health's ability to fund the proposed project in addition to its other capital obligations.

Discrepancies in Average Length of Stay

JMC's volume projections in Section IV contain discrepancies in the average lengths of stay (ALOS) in each of Years 1-3, many of which cannot be attributed to rounding errors.

Table 10
Johnston Medical Center
ALOS by Patient Type, As-Shown vs. Calculated

	Year 1		Year 2		Year 3	
Patient Type	**ALOS As Shown (p. 96-97)**	**ALOS Calculated**	**ALOS As Shown (p.98-99)**	**ALOS Calculated**	**ALOS As Shown (p.100-101)**	**ALOS Calculated**
Stroke	16.1	16.0	16.1	16.1	16.1	16.1
Non-Traumatic Brain Injury	13.9	**14.6**	13.9	**14.6**	13.9	**13.6**
Neurological	14.0	13.7	14.0	13.7	14.0	14.2
Fracture of Lower Extremity	13.3	13.6	13.3	13.6	13.3	13.5
Joint Replacement-Lower Extrem.	9.6	9.7	9.6	9.5	9.6	9.4
Other Orthopaedic	11.9	**13.0**	11.9	12.0	11.9	**13.4**
Amputation-Lower Extremity	14.0	**15.0**	14.0	**14.5**	14.0	**15.0**
Amputation-Other	12.7	**0.0**	12.7	**7.0**	12.7	**8.0**

Table 10 Johnston Medical Center ALOS by Patient Type, As-Shown vs. Calculated						
	Year 1		Year 2		Year 3	
Patient Type	**ALOS As Shown (p. 96-97)**	**ALOS Calculated**	**ALOS As Shown (p.98-99)**	**ALOS Calculated**	**ALOS As Shown (p.100-101)**	**ALOS Calculated**
Osteoarthritis	12.5	**0.0**	12.5	**0.0**	12.5	**0.0**
Rheumatoid-Other Arthritis	12.0	**0.0**	12.0	**0.0**	12.0	**0.0**
Cardiac	11.3	**11.8**	11.3	11.3	11.3	**11.8**
Pulmonary	11.9	**13.5**	11.9	11.7	11.9	12.0
Pain Syndrome	11.1	**13.0**	11.1	**8.5**	11.1	**8.5**
Miscellaneous	12.9	**13.8**	12.9	**13.7**	12.9	**13.8**

The number of, as well as extent of, these differences in ALOS call into question the validity of JMC's projections.

Patient Days Projected, But No Cases

In its projections in Section IV, JMC lists patient days for patient types for which it did not project any cases, as shown below. This information was provided on Application pages 96-101.

Table 11 Johnston Medical Center Projected Cases and Patient Days for Selected Patient Categories			
	Amputation-Other	**Osteoarthritis**	**Rheumatoid-Other Arthritis**
Year 1 Cases	0	0	0
Year 1 Patient Days	4	1	4
Year 2 Cases	1	0	0
Year 2 Patient Days	7	1	6
Year 3 Cases	1	0	0
Year 3 Patient Days	8	1	6

JMC does not explain how it would have patient days, but no cases, in some categories.

The net effect is that JMC's volume projections are unreliable, and thus its financial projections for the project are also unreliable. Therefore, the JMC application does not conform with Review Criterion 5

Review Criterion 7

The applicant shall show evidence of the availability of resources, including health manpower and management personnel, for the provision of the services proposed to be provided.

Insufficient Therapist Staffing

JMC's projected staffing for therapists, including physical and occupational therapists, as well speech-language pathologists, does not appear to meet the requirements set forth in 42 CFR 412.622(a)(3)(ii), which mandates than an inpatient rehabilitation therapy program provide "at least 3 hours of therapy (physical therapy, occupational therapy, speech-language pathology, or prosthetic/orthotic therapy) per day at least 5 days per week." JMC's projected staffing in Year 2 appears to fall short of this standard. This is calculated based on the following assumptions:

1. In its Year 2, JMC projects 2,402 patient days, for an ADC of 7 rehab patients [calculation: 2402 ÷ 365 = 6.6, rounded to 7). Assuming each patient receives at least 180 minutes (3 hours) of therapy per day, this equates to 1,260 total therapy minutes to be provided per day [calculation: 7 patients x 180 minutes = 1260].

2. Using WakeMed's own experience and considering the patient mix JMC has proposed, approximately 35 percent of JMC's inpatient rehab patients would require speech-language pathology (SLP) services. This would equal approximately 3 patients receiving SLP per day in Year 2 [calculation: 7 patients x 0.35 = 2.45, rounded to 3].
   On average:
   a. Three-fourths (75%) of SLP patients will require 60 minutes of therapy per day.
   b. One-fourth (25%) of SLP patients will require 30 minutes of therapy per day.
   c. For this exercise, it is assumed that 2 patients will receive *60 minutes* of SLP per day, and 1 patient will receive *30 minutes* of SLP per day.

3. Projected SLP treatment time is subtracted from 180 minutes to obtain the PT/OT treatment time per patient per day:
   a. 2 patients will receive 120 minutes of PT/OT per day [calculation: 180 total therapy minutes – 60 SLP minutes = 120], based on SLP requirements in Step 2c.
   b. 1 patient will receive 150 minutes of PT/OT per day [calculation: 180 total therapy minutes – 30 SLP minutes = 150], based on SLP requirements in Step 2c.
   c. 4 patients will receive 180 minutes of PT/OT per day, as they will not require any SLP services.

4. Total therapy treatment time is the sum of PT/OT and SLP minutes per day:
   a. 2 patients: 120 minutes PT/OT + 60 SLP minutes *(from Steps 2c and 3a).*
   b. 1 patient: 150 minutes PT/OT + 30 SLP minutes *(from Steps 2c and 3b).*
   c. 4 patients: 180 minutes PT/OT only *(from Step 3c).*

   PT/OT treatment calculation: (2 x 120) + (1 x 150) + (4 x 180) = 1,110 minutes per day
   SLP treatment calculation: (2 x 60) + (1 x 30) = 150 minutes per day
   Total Therapy Minutes Per Day: 1,110 + 150 = 1,260 minutes/day *(matches Step 1).*

5. Therapist work productivity based on industry standards:
    a. A well-utilized PT or OT can perform 360 minutes of therapy per day, assuming 24 treatment units per day of 15 minutes each [24 x 15 = 360].
    b. A well-utilized SLP can perform 300 minutes of therapy per day, assuming 20 treatment units per day of 15 minutes each [20 x 15 = 300].

6. Assuming JMC's patients require 1,110 PT/OT treatment minutes per day *(from Step 4)*, JMC should staff a combination of 3.08 PT/OT FTEs in Year 2 [calculation: 1110 ÷ 360 = 3.08].
    a. According to Table VII.1 on Application page 126, JMC proposes to staff a total of 2.50 PT/OT FTEs in Year 2 (0.50 Occupational Therapist, 1.00 Physical Therapist, 1.00 PT Assistant).

7. Assuming JMC's patients require 150 minutes of SLP treatment minutes per day *(from Step 4)*, JMC should staff 0.50 SLP FTEs in Year 2 [calculation: 150 ÷ 300 = 0.50].
    a. According to Table VII.1 on Application page 126. JMC proposes 0.50 SLP FTE in Year 2.

8. Conclusion: In total, JMC would require 3.58 therapist FTEs in Year 2 (3.08 PT/OT + 0.50 SLP) to provide 180 minute of therapy per patient per day, *but proposes to staff only 3.00 FTEs* (2.00 PT + 0.50 OT + 0.50 SLP). Thus, JMC does not meet the requirements of 42 CFR 412.622(a)(3)(ii).

Thus, JMC does not conform with Review Criterion 7.

Review Criterion 8

The applicant shall demonstrate that the provider of the proposed services will make available, or otherwise make arrangements for, the provision of the necessary ancillary and support services. The applicant shall also demonstrate that the proposed service will be coordinated with the existing health care system.

JMC provides correspondence from its Administration indicating that ancillary and support services will be made available by JMC. The application also provides correspondence from prosthetic and orthotic services, as well as vocational rehabilitation. However, JMC did not provide a letter indicating the availability of durable medical equipment (DME) services to its patients. Therefore, JMC does not conform with Review Criterion 8.

Review 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.

Aside from giving Johnston County residents in need of low acuity inpatient rehabilitation services an alternative closer to home, it is unclear how the JMC project will significantly enhance competition in HSA IV. Approval of the JMC application would result in one of North Carolina's smallest inpatient rehab programs, in an era where tightening reimbursement and more stringent admissions requirements are creating operational difficulties for smaller programs. For an 8-bed unit, a reduction in average daily census of only 1-2 patients would have a dramatic impact on both utilization and profitability. Larger programs, with greater economies of scale, are better able to weather changes in utilization and/or reimbursement.

Utilization Constraints in Smaller Rehab Programs

As WakeMed demonstrated in its comments regarding the Duke Raleigh application (Project No. 8629-11), smaller inpatient rehab programs tend to have lower utilization than programs with a greater number of beds. The difficulties that a 14-bed program would have in maintaining sufficient utilization to maintain profitability and also remain compliant with CMS' "60 Percent Rule" would be magnified in an 8-bed program. To illustrate this point, JMC projects 2.402 patient days in Year 2, which equates to an average daily census of 6.6 patients. To remain compliant with the 60 Percent Rule, at least 4 patients must have diagnoses that meet CMS' criteria for inpatient rehabilitation. With lower bed capacity, there is considerably less flexibility for a provider to remain compliant with Federal regulations yet maintain a viable utilization rate. Because approximately one in six JMC rehab patients will be in the vaguely defined Miscellaneous category (see discussion of Review Criterion 4), there is some uncertainty regarding whether JMC can maintain compliance with these regulations.

An analysis of inpatient rehabilitation programs statewide shows noteworthy differences in average utilization by bed size. There appears to be a correlation between number of licensed rehab beds and percent utilization. Larger inpatient rehabilitation programs, particularly those associated with regional tertiary hospitals and/or State-designated trauma centers, are better utilized, can draw on a larger referral base, and have more resources available to serve the needs of an HSA's population.

A total of 6 facilities are licensed for less than 15 beds; the 2009 average utilization for these providers was 55.1 percent.

Table 12
2009 Utilization at Inpatient Rehabilitation Providers with Less than 15 Beds
Source: 2011 State Medical Facilities Plan

HSA	Facility	Beds	2009 Patient Days	2009 Utilization
II	Hugh Chatham	12	1,870	42.7%
III	Rowan Regional	10	2,392	65.2%
III	Stanly Regional	10	1,826	50.0%
III	CMC Levine Children's	13	2,606	54.9%
IV	Maria Parham	11	2,755	68.6%
V	Scotland	7	1,262	49.4%
TOTAL/AVG UTIL		**63**	**12,711**	**55.1%**

By contrast, inpatient rehabilitation facilities with 60 or more rehab beds had the highest utilization in 2009; these 7 facilities in this category were utilized at 65.2 percent.

Table 13
2009 Utilization at Inpatient Rehabilitation Providers with 60 or More Beds
Source: 2011 State Medical Facilities Plan

HSA	Facility	Beds	2009 Patient Days	2009 Utilization
I	Care Partners	80	16,373	56.1%
II	Whitaker Rehab	68	13,402	54.0%
III	Carolinas Rehab	119	32,097	73.9%
IV	WakeMed Rehab	84	27,961	91.2%
V	New Hanover Regional	60	10,205	46.6%
V	Southeastern Regional	78	18,456	64.8%
VI	Pitt Hospital Regional	75	19,168	70.0%
TOTAL/AVG UTIL		**564**	**137,662**	**65.2%**

JMC is Not Centrally Located

With its proposed location at JMC-Smithfield, the JMC proposal offers little in the way of improved accessibility to residents of HSA IV. While some residents of Johnston County may experience greater convenience, JMC's location is actually farther away from residents of counties near the North Carolina/Virginia border, who would be unlikely to be referred to JMC.

This data indicates that the JMC application does not conform with Review Criterion 18a.

Conclusion

The JMC application would do little to enhance the provision of inpatient rehabilitation in HSA IV. JMC proposes a limited service mix, its projections contain discrepancies, and its proposed therapy staffing appears too low to meet Federal requirements. Further, the JMC project will not enhance competition in HSA IV. For these reasons, the JMC application should be disapproved.

COMMENTS REGARDING WAKEMED REHAB HOSPITAL
PROJECT NO. J-8631-11

WakeMed Rehab Hospital proposes to develop 14 inpatient rehabilitation beds at its current location at WakeMed Raleigh Campus in Wake County, for a total of 98 beds. WakeMed Rehab Hospital's utilization has been above 90 percent for each of the last ten years, in spite of the fact that WakeMed Rehab added 16 rehab beds in the late 2000s. Clearly, with utilization at this level, it is imperative that WakeMed Rehab Hospital be allowed to expand to continue meeting the needs of Wake County, HSA IV, and central and eastern North Carolina.

It should be noted that approval of any of the other applicants in this review will not assuage WakeMed Rehab Hospital's high utilization and need for more beds.

On a comparative basis, the WakeMed Rehab Hospital application best meets the needs of HSA IV residents, given the following factors:

- WakeMed Rehab Hospital's current utilization is the highest among inpatient rehabilitation facilities in both HSA IV and North Carolina;

- WakeMed Rehab's need methodology projects the need for a 19-county geographic area, which encompasses approximately 95 percent of WakeMed Rehab patients, one that minimizes the proportion of projected patients from unidentified areas.

- As a comprehensive rehabilitation program, WakeMed Rehab's service mix has a greater degree of depth and breadth than any other provider in this review.

- WakeMed Rehab is the only applicant in this review that proposes to serve a tangible number of pediatric rehabilitation patients ages 14 and under, and which provided a methodology for analyzing pediatric rehab need.

- WakeMed Rehab supports its inpatient program with a number of outpatient rehab facilities, wellness programs and home health. WakeMed Rehab's continuum of services is unmatched among providers in the review.

- WakeMed Rehab currently serves, and will continue to serve, residents in all counties of HSA IV.

- WakeMed Rehab already coordinates with a number of existing providers in the health care delivery system. WakeMed is the only applicant in the review to provide correspondence from all identified providers of ancillary and support services.

- The WakeMed Rehab proposal has support from a large number of physicians and surgeons, representing a broad base of specialties who both admit and provide consultation to rehab inpatients.

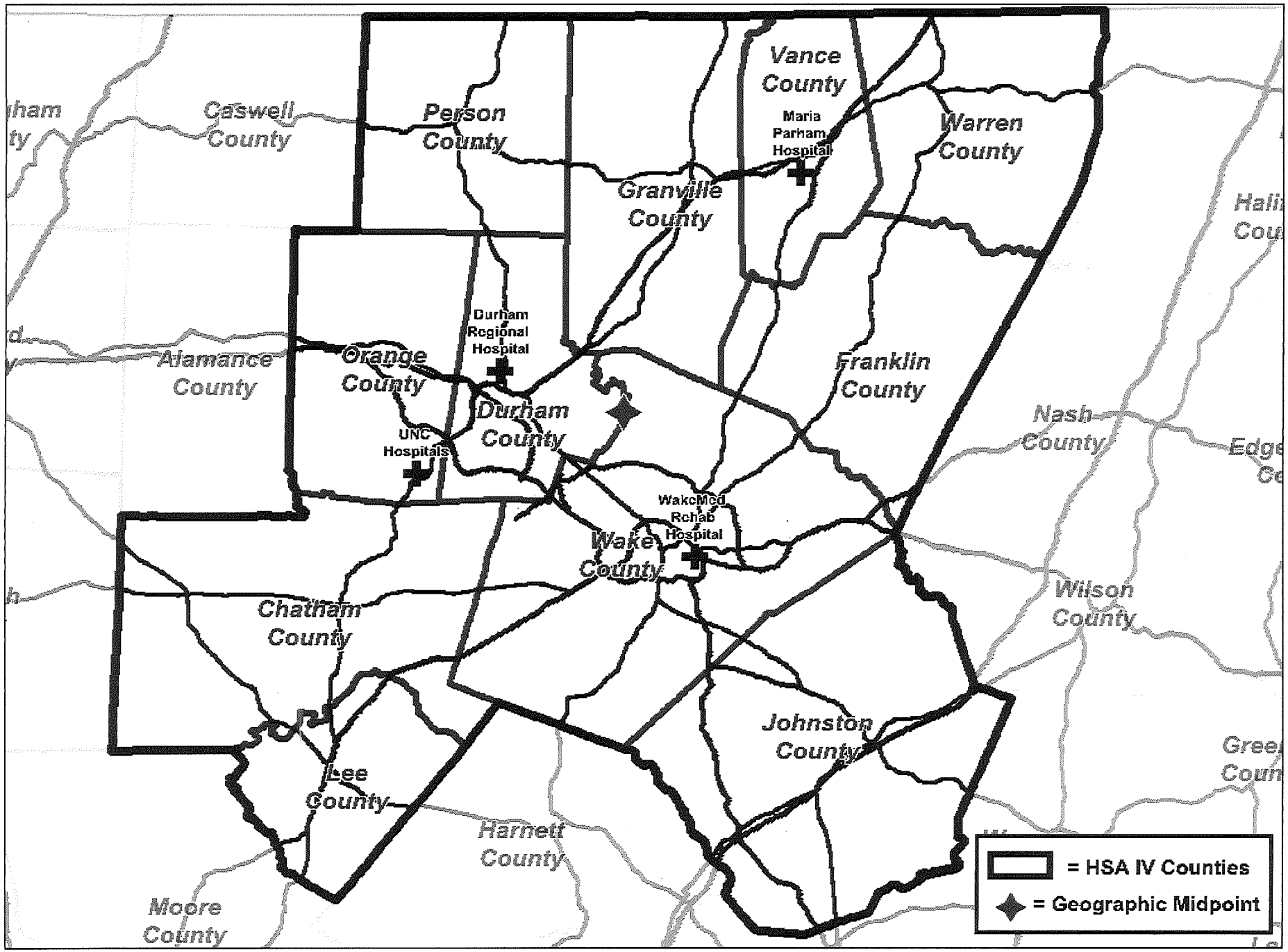
- WakeMed Rehab is located in Wake County, the center of HSA IV's population growth and contiguous to HSA IV's population centers in Durham and Johnston Counties.

- WakeMed Rehab Hospital is located near the geographic center of HSA IV, and is accessible to all HSA IV residents.

- The WakeMed Rehab application has the lowest total capital cost and lowest construction cost, on a per-bed basis, among all applicants in this review (see Table 6 above).

For these reasons, the WakeMed Rehab proposal offers the best solution for meet the inpatient rehab needs of HSA IV residents, and should be approved.

HSA IV COUNTIES SHOWING EXISTING INPATIENT REHABILITAION PROVIDERS, AS WELL AS GEOGRAPHIC MIDPOINT OF THE HSA FROM www.geomidpoint.com



ATTACHMENT 1

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Town of Smithfield stuck on small

BY MARTHA QUILLIN AND COLIN CAMPBELL - Staff Writers
PUBLISHED IN: JOHNSTON COUNTY

SMITHFIELD While Smithfield's residents seem to enjoy the pace of life they find in this Johnston County town, some wouldn't mind if the pace of growth got a bit of the lead out.

In 10 years, Smithfield's population grew by just 99 people, according to the 2010 census, making it one of the slowest-growing municipalities in the Triangle and an anomaly in burgeoning Johnston County.

By comparison, the population of Clayton, 12 miles west of Smithfield, nearly doubled between 2000 and 2010.

Clayton, which has attracted thousands of new residents who work in Raleigh but don't want to live there, now has more than 16,000 residents, compared with10,966 in Smithfield, the county seat.

"We've got to do a better job of marketing this town," said Rick Childrey, president of the Greater Smithfield-Selma Area Chamber of Commerce.

By day, Childrey said, about 50,000 people work in Smithfield's schools, government offices, retail stores, hospital, manufacturing plants and lumber yards. But when the workday ends, the population drops by four-fifths.

"Most of the people who work in Smithfield don't live here," Childrey said. "They go home to somewhere else."

Throughout Smithfield's history, it has been a place where more people work than sleep. Chartered in 1777, it became a center of commerce for farmers from the surrounding area. It's home to the county courthouse and dozens of busy law offices. From the late 1800s into the 1990s, it had textile mills and one of the biggest tobacco markets in the world.

Losing its moneymakers

Smithfield still has a strong retail presence, anchored by Walmart and Carolina Premium Outlets, a shopping center that draws area residents and travelers from Interstate 95.

But the town has shed at least 5,000 jobs in the past 20 years, Childrey said. It lost the textile mills and tobacco warehouses.

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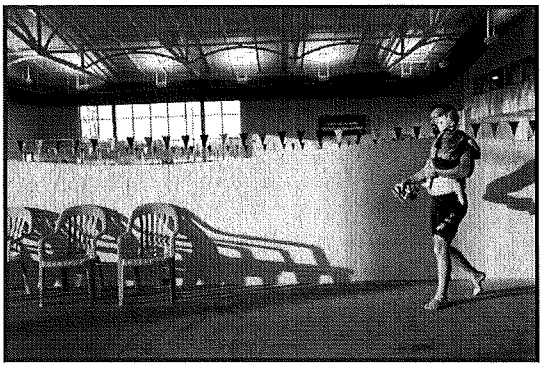
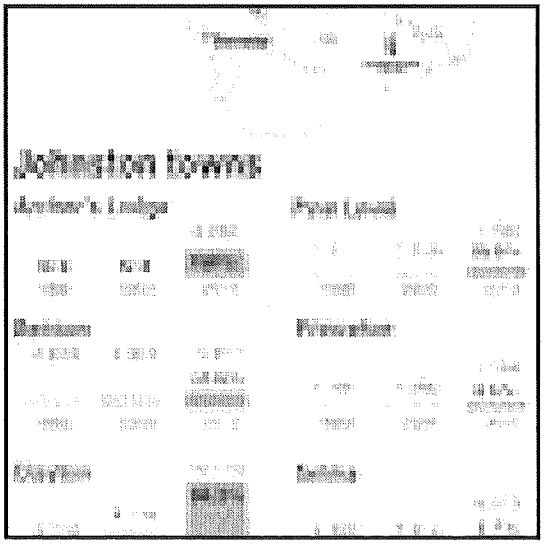


TAKAAKI IWABU - tiwabu@newsobserver.com

Gerard Pelletier and his 18-month-old son Garrison visit Smithfield Recreation and Aquatics Center Tuesday. Town officials hope the center, along with a town beautification project and better marketing, will attract new residents.

0310 Census tractsjohnston.eps



At first glance, it appears from the 2010 census that Smithfield actually lost more than 500 residents over the past 10 years. But an error in the 2000 census, in which 643 people were incorrectly counted as living inside the town, means in 2000 Smithfield had 10,867 residents. In April 2010, it had 10,966, or 99 more.

Without new industry, it's hard to attract new residents. The last subdivision built in Smithfield was the upscale Holt Lake development on the south side of town, now a decade old.

"We have an aging population, and we have not captured a new-housing market," Mayor Daniel Evans said.

Smithfield's housing stock consists mostly of older, smaller homes, with a high percentage of rental housing. Young families locate elsewhere, Evans said.

In Clayton's shadow

Many choose home sites in the county, where they don't have to pay city taxes, or in Clayton, now the county's most populous town. From there, it's a 20-minute drive on Interstate 40 to a job in Raleigh, and another short hop to Research Triangle Park. This week, the Clayton Town Council approved another 150-home subdivision.

"If I'm dealing with somebody from out of state, it seems that Clayton is foremost on their minds, and Smithfield is maybe an afterthought," said local real estate agent Whit Whitley.

Relatively high utility rates also hurt Smithfield's cause, Whitley said.

Schools are another factor in a family's decision to relocate. Evans said the town needs to combat a negative perception of Smithfield's four public schools, where at least 60 percent of students are at grade level but lag behind others in the county.

In some ways, the town seems determined not to be left behind.

In 2009, it opened the Smithfield Recreation and Aquatics Center, with an indoor pool and exercise space, ball fields and playgrounds.

It sits next to the Buffalo Creek Greenway, which connects to the Neuse Riverwalk downtown, together forming a three-mile walking path.

An effort to renew

Recently, the Chamber hired a landscaper to draw up plans for sprucing up two main entrances into town, from U.S. 70 and U.S. 70 Business.

Private donations would pay the $100,000 cost of planting camellias, magnolias, and day lilies along the roadways.

For $50, residents can also have the public works department plant a crepe myrtle in their name.

A new farmers market opens downtown next month.

Tim Johnson, director of parks and recreation for the town and a lifelong Smithfield resident, believes local leaders when they say Smithfield's time just hasn't come. The community of Wilson's Mills, between Smithfield and Clayton, has begun to see some new residential development, mostly along the U.S. 70 Bypass. The same road could eventually bring new people to Smithfield.

"Some people say it just hasn't gotten here yet," Johnson said.

David Kirkman is in no hurry for that time to arrive. He moved to Smithfield 14 months ago to run the Howell Theater, where he shows second-run movies for $2.50 a seat. It's not often that the theater's 450 seats are full.

"I don't see the problems here that we had in Delaware," Kirkman said. Except for driving to Raleigh twice a month for supplies and to visit his brother Chuck, who owns the theater, Kirkman doesn't often leave town.

"I love it here," he said. "I would be content to be in Smithfield for the rest of my life."

Childrey of the Chamber says that's how people feel about Smithfield once they get here.

"There are so many options available within the Triangle," he said. "We just need to become an option, too."

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Hospital moving in right direction
Auditor notes rising revenue

BY PAUL A. SPECHT, Staff Writer

An auditor has given mixed marks to Johnston Health's financial performance in the fiscal year that ended last Sept. 30.

Kevin Leder of the accounting firm LarsonAllen noted that operating revenue climbed 9.7 percent in 2010, thanks to patient volumes in Clayton and Smithfield. But expenses rose too, by 10 percent, leaving Johnston Health with a loss of $3.9 million in 2010, up from a loss of about $3.1 million the year before.

"The loss increased, but there are reasons to be optimistic," Leder said.

Higher patient volumes show that Johnston Health is starting to see a return on its investment in new buildings in Clayton and Smithfield, Leder said. "That will continue even more this year," he said.

A stubborn problem is the hospital's debt, which shrank by just $300,000 last year, to $157.8 million from $158.1 million. "They're

still not generating enough money to pay back their debt service," Leder said.

Still, the auditor was optimistic. Johnston Health "does have a way to go to get where it wants to be," he said. "But operationally and cash flow-wise, this was a step in the right direction."

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