

**Technology and Equipment Committee
Agency Report
Petition for Special Need Adjustment for Fixed Cardiac Catheterization
Equipment in Wake County in the
Proposed 2015 State Medical Facilities Plan**

Petitioner:

Rex Healthcare
4420 Lake Boone Trail
Raleigh, NC 27607

Contact:

Erick Hawkins
System Vice President, Heart and Vascular Services
(919) 784-4586
Erick.Hawkins@rexhealth.com

Request:

Rex Healthcare (Rex) respectfully petitions the State Health Coordinating Council (SHCC) to create an adjusted need determination for one additional unit of fixed cardiac catheterization equipment in Wake County in the 2015 *State Medical Facilities Plan*.

Background Information:

The Proposed 2015 State Medical Facilities Plan (SMFP) provides two standard need determination methodologies for cardiac catheterization equipment. Methodology One is the standard methodology for determining need for additional fixed cardiac catheterization equipment and Methodology Two is the need determination methodology for shared fixed cardiac catheterization equipment. Application of these methodologies to utilization data in the Proposed 2015 SMFP does not generate a need determination for fixed or shared fixed cardiac catheterization equipment in Wake County.

Chapter Two of the North Carolina Proposed 2015 SMFP allows persons to petition for an adjusted need determination in consideration of “unique or special attributes of a particular geographic area or institution...,” if they believe their needs are not addressed by the standard methodology. Rex has submitted a petition to add a need determination for one unit of fixed cardiac catheterization equipment in Wake County. Rex is requesting the adjusted need determination based on “the unique utilization trends faced by Rex”.

There are several providers in Wake County that offer cardiac catheterization services. Wake County has a total of 17 cardiac catheterization machines in the Proposed 2015 SMFP. Of those, Rex has a current total inventory four machines. Using the standard methodology of 80% utilization, the number of calculated machines for Wake County and Rex is 11.89 and 4.19

respectively. Thus, in the Proposed 2015 SMFP Rex has a 0.19 machine deficit and Wake County has a 5.11 machine surplus as seen in Table 1 below.

		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Duke Raleigh Hospital	Total Number of Procedures	0	1288*	202	357	262	770	967	701	366	447
	No of Machines in Inventory	0	0	1	1	2	2	2	2	3	3
	Machines required based on 80% Utilization	0.00	1.07	0.17	0.30	0.22	0.64	0.81	0.58	0.30	0.37
Rex Hospital	Total Number of Procedures	4,206	3,897	4,015	3,646	3,616	3,489	3,002	3,132	3,875	5,029
	No of Machines in Inventory	2	2	3	3	3	4	4	4	4	4
	Machines required based on 80% Utilization	3.50	3.25	3.35	3.04	3.01	2.91	2.50	2.61	3.23	4.19
WakeMed	Total Number of Procedures	11,709	11,984	11,698	11,657	12,312	12,108	12,618	12,130	10,535	8,570
	No of Machines in Inventory	5	7	8	9	9	9	9	9	9	9
	Machines required based on 80% Utilization	9.76	9.99	9.75	9.71	10.26	10.09	10.52	10.11	8.78	7.14
WakeMed-Cary	Total Number of Procedures	567	498	405	418	393	325	382	325	282	222
	No of Machines in Inventory	1	1	1	1	1	1	1	1	1	1
	Machines required based on 80% Utilization	0.47	0.42	0.34	0.35	0.33	0.27	0.32	0.27	0.23	0.19
County Totals	Total Number of Procedures	16,482	17,667	16,319	16,077	16,582	16,692	16,969	16,287	15,057	14,268
	No of Machines in Inventory	8	10	13	14	15	16	16	16	17	17
	Machines required based on 80% Utilization	13.74	14.72	13.60	13.40	13.82	13.91	14.14	13.57	12.55	11.89

Note: The number of machines assigned to each facility is not based on the number that were actually operated by the facility, but the number of machines listed in the inventory for each facility in each year's state medical facility plan.

*Duke Raleigh reported 1288 procedures on the 2006 HLRA, but no fixed cardiac catheterization machine was reported in the plan as in use and procedures were not reported as mobile.

2006-2014 SMFP's; Proposed 2015 SMFP

Analysis/Implications:

In the face of steady increases and aging of the population, in NC cardiac catheterization has remained fairly stable over the last decade. Table 2 illustrates the compound annual growth rate (CAGR) and the overall change in the weighted procedures for both Wake County and NC from 2004 to 2013. In Wake County, the last 10 years of data shows an average annual CAGR of -1.09%, a decline, while the NC CAGR over the same time period had an average annual decline of - 2.02%. This indicates a slow and steady reduction in the number of procedures in both regions, with Wake County experiencing a slower decline than the state overall. These figures add up significantly when looking at the cumulative change percentage. In the last 10 years Wake County and NC have experienced declines greater than 10% and 18%, respectively.

		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	CAGR 2004-2013	CHANGE
Wake	Total Procedures (weighted)	15,919	17,667	16,319	16,077	16,582	16,692	16,969	16,287	15,057	14,268	-1.09%	-10.37%
	Annual Change		10.99%	-7.63%	-1.48%	3.14%	0.66%	1.66%	-4.02%	-7.55%	-5.24%		

		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	CAGR 2004-2013	CHANGE
NC	Total Procedures (weighted)	134,801	129,104	118,892	113,643	119,910	115,865	115,017	114,567	112,060	109,885	-2.02%	-18.48%
	Annual Change		-4.23%	-7.91%	-4.41%	5.51%	-3.37%	-0.73%	-0.39%	-2.19%	-1.94%		

2014 SMFP

Table 3 below serves to further evaluate the actual changes in procedure volumes as compared to Table 2. When analyzing the Wake County and statewide data over the same time frames as those used in the petition, excluding FFY 2014, the picture looks a little different. While the CAGR from 2004-2013 indicates a slow, steady decline, the more recent numbers as shown in Table 3 indicate a steeper drop in Wake County with a CAGR of -4.32% as compared to the statewide CAGR of -1.38%. Thus, demonstrating that Wake, in recent years, has experienced a sharper decline in utilization than the state as a whole.

		2011	2012	2013	CAGR 2011-2013	CHANGE
Wake	Total Procedures (weighted)	16,287	15,057	14,268	-4.32%	-12.40%
	Annual Change		-7.55%	-5.24%		

		2011	2012	2013	CAGR 2011-2013	CHANGE
NC	Total Procedures (weighted)	114,567	112,060	109,885	-1.38%	-4.09%
	Annual Change		-2.19%	-1.94%		

2014 SMFP

The petition provides procedure data at Rex Healthcare from 2011 through 2014 to demonstrate increased and unique utilization rates. An important point to note is that although the petitioner reports procedure volumes from FY2014, this information is not used in this analysis per the practice of the agency. Analysis is conducted on only data used prior to and in the current Proposed 2015 State Medical Facilities Plan. The plan's data year is FY2013.

Despite the decline in total procedures in Wake County, the data presented in Rex's petition suggests they have had unique utilization trends in recent years. The petition cites an increase in procedure volume as a result of the professional affiliation with Wake Heart & Vascular Associates (WHV). However, the utilization data demonstrates a few points pertinent to the discussion.

First, as seen in Table 4, Rex has only one year in the last five recent years of utilization greater than 80%. Application of the methodology does generate a deficit for this facility for this one year, but it is difficult to forecast the changes and trends in healthcare utilization based on one year's worth of data.

Additionally, this one year of utilization creates the deficit of 0.19 machines for Rex. The standard methodology considers procedure volume and number of machines of the entire service area. Thus, Rex's deficit is offset by a surplus of machines in Wake County as a whole. Table 5 demonstrates there is a 56% utilization rate in this service area. According to Table 5 there has been a drop in the last three years of utilization from 68% to 56%. Therefore, approval of this petition may introduce duplication of health services into Wake County, further eroding the already declining utilization rates.

Finally, both Rex Hospital and WakeMed operated at over 80% capacity for five and eight years, respectively, of the 10 year time frame (Table 4). In some of those years, utilization was well over 100% for both facilities. The petitioner argues that utilization greater than 80% poses difficulties for both providers and patients. While higher facility utilization does come with challenges, previous historical trends have demonstrated several years' volumes over 80% have occurred in Wake County.

		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Duke Raleigh Hospital	Total weighted procedures	0	1,288*	202	357	262	770	967	701	366	447
	No of Machines	0	0	1	1	2	2	2	2	3	3
	Procedures for 100% Utilization	0	0	1,500	1,500	3,000	3,000	3,000	3,000	4,500	4,500
	Utilization	0%	0%	13%	24%	9%	26%	32%	23%	8%	10%
Rex Hospital	Total weighted procedures	4,206	3,897	4,015	3,646	3,616	3,489	3,002	3,132	3,875	5,029
	No of Machines	2	2	3	3	3	4	4	4	4	4
	Procedures for 100% Utilization	3000	3000	4,500	4,500	4,500	6,000	6,000	6,000	6,000	6,000
	Utilization	140%	130%	89%	81%	80%	58%	50%	52%	65%	84%
WakeMed	Total weighted procedures	11,709	11,984	11,698	11,657	12,312	12,108	12,618	12,130	10,535	8,570
	No of Machines	5	7	8	9	9	9	9	9	9	9
	Procedures for 100% Utilization	7500	10500	12,000	13,500	13,500	13,500	13,500	13,500	13,500	13,500
	Utilization	156%	114%	97%	86%	91%	90%	93%	90%	78%	63%
WakeMed Cary	Total weighted procedures	567	498	405	418	393	325	382	325	282	222
	No of Machines	1	1	1	1	1	1	1	1	1	1
	Procedures for 100% Utilization	1500	1500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
	Utilization	38%	33%	27%	28%	26%	22%	25%	22%	19%	15%

Note: The number of machines assigned to each facility is not based on the number that were actually operated by the facility, but the number of machines listed in the inventory for each facility in each year's state medical facility plan.

*Duke Raleigh reported 1288 procedures on the 2006 HLRA, but no fixed CC machine was reported in the plan as in use and procedures were not reported as mobile.

2006-2014 SMFP's; Proposed 2015 SMFP

		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Wake County	Total weighted procedures	16,482	17,667	16,319	16,077	16,582	16,692	16,969	16,287	15,057	14,268
	No of Machines	8	10	13	14	15	16	16	16	17	17
	Procedures for 100% Utilization	12,000	15,000	19,500	21,000	22,500	24,000	24,000	24,000	25,500	25,500
	Utilization	137%	118%	84%	77%	74%	70%	71%	68%	59%	56%

2006-2014 SMFP's; Proposed 2015 SMFP

Other factors to consider regarding this petition include the changing capability of facilities. Recently, based on changes in recommended guidelines for interventional procedures, a facility located in a contiguous county was approved to perform interventional procedures, even though it does not have an open heart surgery program on site. A similar request in a different county located near Wake County is being evaluated by the Agency. This may have some impact on procedure volumes in Wake County and could potentially accelerate the decline of cardiac catheterization procedures performed in Wake County. Therefore, changes in medical practice makes predicting utilization for facilities difficult.

Consistent data trends over more than one year would be essential to ensure cardiac catheterization services are not being duplicated in Wake County. Additionally, if cardiac catheterization procedure volumes continue to decline as anticipated, Rex's volume may decrease as well. In essence, this could lower the facility's overall utilization below 80% and below the methodology's deficit threshold.

Agency Recommendation:

Given available information and comments submitted by the August 15, 2014 deadline date for comments on petitions and comments, and in consideration of factors discussed above, the agency recommends denial of the petition. The current declining trend in cardiac catheterization volumes, the surplus of machines in Wake County, the changes in regulations and medical practice, indicate approving the proposed change would result in unnecessary duplication of services. The Agency supports the standard methodology for fixed cardiac catheterization equipment.