



Wake Forest University Baptist

DFS Health Planning
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Medical Facilities
PLANNING SECTION

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Dr. Dan A. Myers, Chairman
State Health Coordinating Council
Division of Health Service Regulation
2714 Mail Service Center
Raleigh, NC 27699-214

RE: Comments Regarding Table 6D Discussion Table for Operating Room Need Projections Using Tiered Data

Dear Dr. Myers,

I would like to take this opportunity on behalf of Wake Forest University Baptist Medical Center to thank the SHCC and State Medical Facilities Planners for all their time and effort in continuing to advance the OR Workgroup recommendation adopted in 2007. It is important for hospitals, physicians and other providers to work with the State to provide the most accurate and credible data in all areas to ensure that appropriate planning takes place and that the healthcare needs of the citizens of North Carolina are met. However, for many reasons, I believe that the OR Workgroup recommendation for the 2009 State Medical Facilities Plan continues to need further refinement. A summary of the original recommendation is provided below:

Recommendation 2 – Hospital tiers: Recommend DFS develop capacity to further refine the OR methodology incorporating all three Basic Principles governing the development of the State Medical Facilities Plan using facility specific total surgical hours, as reported in the license renewal data, to develop tiers of like institutions. This would allow calculation of median resource hours per day and case times per tier group, to be considered by the Acute Care Services Committee, for replacing the current use of 9 hours of OR availability, 3 hours for inpatient cases, and 1.5 hours for outpatient cases.

I am respectfully submitting comments concerning the tiering methodology described above. My concerns are outlined in the following comments:

First, NCBH proposes the tiers be reorganized to allow for a separate recognition of the Academic Medical Centers (AMC) in North Carolina. By proposing to currently group the AMCs along with large community hospitals, the median number of resource hours and inpatient and ambulatory case times do not accurately reflect the true level of case times utilized by AMCs.

The methodology should be revised to recognize the unique characteristics of surgery patients treated at Academic Medical Centers. These characteristics include the following: AMC patients have a higher acuity index, AMC patients are non-typical due to the investigational nature of their care, AMC patient complexity equates to higher throughput times, and other factors such as the fact that many AMCs are also Level I trauma centers, two of which are also designated burn centers. All of these characteristics create a unique set characteristics associated with AMCs.

A detailed look at the data further reflects the difference between AMCs and larger community hospitals in North Carolina. A calculation of median resource hours as well as inpatient and ambulatory case times using the 2008 License Renewal Application data was performed to identify the differences as depicted below:

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North Carolina Baptist Hospital

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Table 1- AMC OR Tier Calculations

Facility	County	Resource Hours	2007 Inpatient Cases	Inpatient Case Time	Estimated Inpatient Hours	2007 ambulatory cases	ambulatory case time	estimated ambulatory hours	total estimated hours
NCBH	Forsyth	9.40	12208.00	4.43	54122.13	16717.00	2.27	37891.87	92014.00
Duke	Durham	11.50	16131.00	4.27	68826.60	18894.00	2.62	48915.97	117741.57
UNC	Orange	10.60	11105.00	4.83	53674.17	13525.00	3.33	45083.33	98757.50
CMC Pitt County Memorial Hospital	Mecklenburg Pitt	11.50 10.50	17293.00 10336.00	3.48 2.70	60237.28 27907.20	12300.00 8302.00	2.20 2.12	27080.00 19889.23	87297.28 47596.43
MEDIAN		10.60		4.27			2.27		

Median Hours per OR per Year Calculation:

$$\text{Capacity} = \text{Median \# of resource hours (10.6)} \times 260 \text{ days of availability} \times 80\% \text{ capacity (.8)} = 2204.8$$

Table 20 - Remaining Tier 1 (Large Community Hospital) OR Calculations

Facility	County	Resource Hours	2007 Inpatient Cases	Inpatient Case Time	Estimated Inpatient Hours	2007 ambulatory cases	ambulatory case time	estimated ambulatory hours	total estimated hours
Rex	Wake	10	9096	2.7	24559.2	17767	2	27835	52394
Mission	Buncombe	10	13384	2.82	37,698	19947	1.43	35738	73771
Moses Cone WakeMed	Gulford	9.8	13263	2.38	31,610	17872	1.55	32021	69710
Raleigh	Wake	11.1	8198	2.93	24,047	13407	1.83	24021	47317
New Hanover	New Hanover	10.1	9258	2.50	23,145	18782	1.28	33651	59959
FMC	Forsyth	9.5	10424	2.67	29,882	8298	1.75	11284	40905
Presby Cape Fear	Mecklenburg	8.4	5562	2.28	12,700	14405	1.75	25809	41614
Valley CMC-	Cumberland	9.5	7261	2.68	19,484	7199	1.67	12898	33532
Mercy, Pineville	Mecklenburg	9.8	3086	3.23	9,913	10460	2.03	18741	27453
MEDIAN		9.8		2.7			1.67		

Median Hours per OR per Year Calculation:

$$\text{Capacity} = \text{Median \# of resource hours (9.8)} \times 260 \text{ days of availability} \times 80\% \text{ capacity (.8)} = 2038.4$$

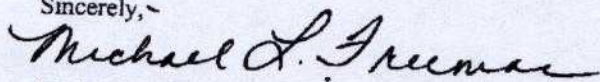
The data above shows that AMCs have significantly higher inpatient and ambulatory case times, especially for inpatient surgeries. In fact, by separating Tier 1 into two tiers, an AMC Tier and a Tier 1 comprised of only large community hospitals, both sets of OR Need projections for 2011 are adjusted to be more in line with actual utilization. In addition Table 6E in the draft 2009 SMFP, also depicts a higher room utilization percentage for 2007 and actual room utilization for AMCs, further supporting the difference between AMCs and large community hospitals.

A detailed set of comparative data tables are attached as Exhibit 1 to demonstrate the calculations for the current OR methodology, the proposed methodology set forth in Discussion Tables 6D and an alternative methodology separating out AMCs from Tier 1.

Second, the overall tiering methodology as it is currently calculated actually reduces the projected OR need in 2011 for all Tier 1 hospitals. I believe this speaks to that fact that the State Planning methodology needs to place more focus on the different characteristic of hospital and ambulatory surgery centers. As stated above, calculating the median case time for a larger group of facilities that are very different from one another in terms of the types and complexity of patients treated undermines the original intent and purpose of the tiering methodology, which was to better reflect true surgical utilization.

In conclusion, Wake Forest University Baptist Medical Center welcomes the prospect of continuing to revise the current operating room need methodology, but we are concerned with the integrity of the current proposed tiering methodology. We want the data to accurately reflect true utilization and resources for all North Carolina hospitals and ambulatory surgical centers. At a minimum, these discussions should address the issues raised in my comments to assure the appropriateness of any revised operating room need methodology data. Thank you for the opportunity to voice my concerns through these comments.

Sincerely, ~



Michael L. Freeman
Vice President, Medical Center Strategic Planning
Wake Forest University Baptist Medical Center

STEP 1. CURRENT OR METHODOLOGY

Facility Name	County	Inpatient Cases (exclude dedicated C-section room)	Inpatient Case Time	Total Inpatient Hours	Ambulatory Cases	Ambulatory Case Time	Total Amb Case Hours	Combined Hours	Growth Factor	Projected Hours	Hours per OR Per Year	Projected ORs needed in 2011	2009 Adjusted Planning Inventory
NCBH	Forsyth	12208	3	36624	18717	1.5	25075.5	61699.5	5.89	65395.30005	1872	34.93	36
Duke	Durham	16131	3	48393	18684	1.5	28041	76434	6.98	81769.0932	1872	43.88	48
UNC	Orange	11105	3	33315	13625	1.5	20287.5	53602.5	4.81	56180.78025	1872	30.01	38
CMC	Mecklenburg	17239	3	51717	12300	1.5	18450	70167	12.18	78713.3406	1872	42.05	38
Pitt County Memorial Hospital	Pitt	10336	3	31008	9302	1.5	13953	44961	7.49	48332.62539	1872	25.82	24
Rax	Wake	9096	3	27288	17787	1.5	26650.5	53938.5	15.07	62067.03195	1872	33.16	27
Mission	Burcombe	13384	3	40152	26583	1.5	39874.5	80026.5	5.55	84467.97075	1872	45.12	44
Moses Cone	Guilford	13283	3	39789	17872	1.5	26808	66597	5.76	70432.9872	1872	37.62	53
WakeMed Raleigh	Wake	8198	3	24594	13407	1.5	20110.5	44704.5	15.07	51441.46615	1872	27.48	25
New Hanover	New Hanover	9258	3	27774	18782	1.5	28173	55947	9.26	61127.8822	1872	32.85	28
FMC	Forsyth	10424	3	31272	6298	1.5	9447	40719	5.99	43158.0681	1872	23.05	27
Presby	Mecklenburg	5562	3	16686	14405	1.5	21607.5	38293.5	12.18	42957.6483	1872	22.86	29
Cape Fear Valley	Cumberland	7261	3	21783	7199	1.5	10798.5	32581.5	1.77	33158.19255	1872	17.71	15
CMC-Mercy/Pineville	Mecklenburg	3066	3	9198	10460	1.5	15690	24888	12.18	27919.3594	1872	14.91	19

STEP 2. PROPOSED METHODOLOGY AS SHOWN IN DISCUSSION TABLE 6D

Facility	County	2007 Inpatient Cases	Inpatient Case Time	Estimated Inpatient Hours	2007 ambulatory cases	ambulatory case time	estimated ambulatory hours	total estimated hours	growth factor 2011	projected surgical hours: 2011	hours per OR per year	Projected ORs needed in 2011	2009 Adjusted Planning Inventory
NCBH	Forsyth	12208	2.84	34961	18717	1.79	29851	64642	5.99	68514	2080	32.84	38
Duke	Durham	16131	2.84	45,839	18,694	1.79	33483	79332	0.07	84867	2080	40.8	48
UNC	Orange	11105	2.84	31557	13525	1.79	24232	55789	4.81	58471	2080	28.11	38
CMC	Mecklenburg	17293	2.84	48987	12300	1.79	22038	71025	12.18	79674	2080	38.3	38
Pitt County Memorial Hospital	Pitt	10336	2.84	29371	9302	1.79	16666	46038	6.93	49228	2080	23.67	24
Rax	Wake	9096	2.84	25848	17787	1.79	31833	57680	15.07	66370	2080	31.81	27
Mission	Burcombe	13384	2.84	38,033	19947	1.79	35738	73771	5.13%	77559	2080	37.29	44
Moses Cone	Guilford	13263	2.84	37689	17872	1.79	32021	69710	5.76	73725	2080	35.44	53
WakeMed Raleigh	Wake	8198	2.84	23296	13407	1.79	24021	47317	15.07	54446	2080	26.18	25
New Hanover	New Hanover	9258	2.84	26308	18782	1.79	33651	58959	9.26	65512	2080	31.5	28
FMC	Forsyth	10424	2.84	29822	6298	1.79	11284	40905	5.99	43356	2080	20.84	27
Presby	Mecklenburg	5562	2.84	15805	14405	1.79	25809	41814	12.18	46862	2080	22.44	29
Cape Fear Valley	Cumberland	7261	2.84	20633	7199	1.79	12898	33532	1.77	34127	2080	16.41	15
CMC-Mercy/Pineville	Mecklenburg	3066	2.84	8713	10460	1.79	18741	27453	12.18	30796	2080	14.81	19

STEP 3- CALCULATION OF PROPOSED METHODOLOGY- BASED ON DISCUSSION TABLE BD

Recommendation 2 - Hospital tiers: Recommend DFS develop capacity to further refine the OR methodology incorporating all three Basic Principles governing the development of the State Medical Facilities Plan using facility specific total surgical hours, as reported in the license renewal data, to develop tiers of life institutions. This would allow calculation of median resource hours per day and case times per tier group, to be considered by the Acute Care Services Committee, for replacing the current use of 9 hours of OR availability, 3 hours for inpatient cases, and 1.5 hours for outpatient cases.

Facility	County	Resource Hours	2007		Estimated Inpatient Hours	2007		estimated ambulatory hours	total estimated hours
			Inpatient Cases	Case Time		ambulatory cases	ambulatory case time		
NCBH	Forsyth	9.4	12208	4.43	54122.13333	16717	2.27	37891.8667	92014
Duke	Durham	11.5	16131	4.27	69825.8	18,894	2.62	48915.9667	117741.57
UNC	Orange	10.6	11105	4.83	53674.16667	13525	3.33	45083.3333	98757.5
CMC	Mecklenburg	11.5	17293	3.48	60237.28333	12300	2.20	27060	87297.283
Pitt County Memorial Hospital	Pitt	10.5	10336	2.70	27807.2	9302	2.12	19689.2333	47596.433
Rex	Wake	10	9096	2.70	24559.2	17767	1.57	27834.9667	52394.167
Mission	Buncombe	10	13384	2.82	37,698	19947	1.43	36738	73771
Moses Cone	Guilford	9.6	13263	2.38	31,610	17872	1.55	32021	69710
WakeMed Raleigh	Wake	11.1	8198	2.93	24,047	13407	1.83	24021	47317
New Hanover	New Hanover	10.1	9258	2.50	23,145	18782	1.28	33651	58959
FMC	Forsyth	9.5	10424	2.87	29,892	6298	1.75	11284	40905
Presby	Cape Fear Valley	8.4	5562	2.28	12,700	14405	1.75	25809	41614
Cape Fear Valley	Cumberland	9.5	7261	2.68	19,484	7199	1.67	12896	33532
CMC-Mercy Pineville	Mecklenburg	9.8	3066	3.23	9,913	10460	2.03	18741	27453
MEDIAN		10			2.841667			1.79166667	

Median Hours per OR per Year Calculation:
 Capacity = Median # of resource hours (10) x 260 days of availability x 80% capacity (.8) = 2080

Facility	County	Resource Hours	2007		Estimated Inpatient ambulatory case hours	2007		estimated ambulatory hours	total estimated hours	growth factor 2007-2011	projected surgical hours: 2011	median hours per OR per year	Projected ORs needed in 2011	2009 Adjusted Planning Inventory
			Inpatient Cases	Case Time		ambulatory case time	ambulatory hours							
NCBH	Forsyth	9.4	12208	2.84	34670.72	16717	1.79	28923.43	64594.15	5.89	69463.33959	2080	32.92	38
Duke	Durham	11.5	16131	2.84	45812.04	18,694	1.79	33462.26	79274.3	6.98%	84807.64614	2080	40.77	48
UNC	Orange	10.6	11105	2.84	31538.2	13525	1.79	24209.75	55747.95	4.81	59429.4264	2080	28.09	38
CMC	Mecklenburg	11.5	17293	2.84	49112.12	12300	1.79	22017	71129.12	12.18	79792.64682	2080	38.36	38
Pitt County Memorial Hospital	Pitt	10.5	10336	2.84	29354.24	9302	1.79	16850.58	46004.82	6.93	49182.95403	2080	23.65	24
Rex	Wake	10	9096	2.84	25832.64	17767	1.79	31802.93	57635.57	15.07	66321.2504	2080	31.89	27
Mission	Buncombe	10	13384	2.84	38,011	19947	1.79	35738	73771	5.13%	77559	2080	37.29	27
Moses Cone	Guilford	9.6	13263	2.84	37,687	17872	1.79	32021	69710	5.78	73725	2080	35.44	44
WakeMed Raleigh	Wake	11.1	8198	2.84	23,282	13407	1.79	24021	47317	15.07	54446	2080	26.18	25
New Hanover	New Hanover	10.1	9258	2.84	26,293	18782	1.79	33651	58959	8.26	85512	2080	31.50	28
FMC	Forsyth	9.5	10424	2.84	29,894	6298	1.79	11284	40905	5.99	43356	2080	20.84	27
Presby	Cape Fear Valley	8.4	5562	2.84	15,796	14405	1.79	25809	41614	12.18	48682	2080	22.44	29
Cape Fear Valley	Cumberland	9.5	7261	2.84	20,621	7199	1.79	12898	33532	1.77	34127	2080	16.41	15
CMC-Mercy Pineville	Mecklenburg	9.8	3066	2.84	8,707	10460	1.79	18741	27453	12.18	30796	2080	14.81	19
MEDIAN		10			2.84				1.79					

STEP 4 - NEW AMC METHODOLOGY SEPARATE TIER 1 ACADEMIC MEDICAL CENTERS USING MEDIAN RESOURCE HOURS AND INPATIENT/AMBULATORY CASE TIMES

Facility	County	Resource Hours	2007			2007			estimated			total		
			Inpatient Cases	Inpatient Case Time	Estimated Inpatient Hours	ambulatory cases	ambulatory case time	ambulatory hours	ambulatory hours	estimated hours	estimated hours	total hours	total hours	
NCBH	Forsyth	9.40	12208.00	4.43	54122.13	16717.00	2.27	37691.87	92014.00	2.27	48915.97	117741.57	117741.57	117741.57
Duke	Durham	11.50	16131.00	4.27	68825.60	18694.00	2.62	48915.97	117741.57	2.62	48915.97	117741.57	117741.57	
UNC	Orange	10.60	11105.00	4.83	53674.17	13525.00	3.33	45083.33	98757.50	3.33	45083.33	98757.50	98757.50	
CMC	Mecklenburg	11.50	17293.00	3.48	60237.28	12300.00	2.20	27080.00	87297.28	2.20	27080.00	87297.28	87297.28	
Pitt County Memorial Hospital	Pitt	10.50	10336.00	2.70	27907.20	9302.00	2.12	19689.23	47596.43	2.12	19689.23	47596.43	47596.43	

MEDIAN 10.60 4.27 2.27

Median Hours per OR per Year Calculation:
 Capacity = Median # of resource hours (10.6) x 280 days of availability x 90% capacity (.8) = 2204.8

Facility	County	Resource Hours	2007			2007			estimated			total			growth factor 2007-2011	projected surgical hours: 2011	median hours per OR per year	Projected ORs needed in 2011	2009 Adjusted Planning Inventory
			Inpatient Cases	Inpatient Case Time	Estimated Inpatient Hours	ambulatory cases	ambulatory case time	ambulatory hours	ambulatory hours	estimated hours	estimated hours	total hours	total hours						
NCBH	Forsyth	9.40	12208	4.27	52128.16	18717	2.27	37947.59	90075.75	5.98	95471.28	2204.8	43.30	36					
Duke	Durham	11.50	16131	4.27	68879.37	18694	2.27	42435.38	111314.75	0.07	119084.52	2204.8	54.01	48					
UNC	Orange	10.60	11105	4.27	47418.35	13525	2.27	30701.75	78120.10	4.81	81877.68	2204.8	37.14	48					
CMC	Mecklenburg	11.50	17293	4.27	73841.11	12300	2.27	27921.00	101762.11	12.18	114156.73	2204.8	51.78	38					
Pitt County Memorial Hospital	Pitt	10.50	10336	4.27	44134.72	9302	2.27	21115.54	65260.26	6.93	69772.10	2204.8	31.85	24					

MEDIAN 10.6 4.27 2.27

