

**2016-2017 Operating Room Methodology Workgroup
Draft Models for Discussion at December 13, 2016 Meeting**

Model	Need Determination*	Case Time Basis	Full Utilization	Availability	
				Hours Per Day	Days Per Year
1	26 (25)	Median by Tier	80%	1: 9 2: 9 3: 8 4: 8	260 (all tiers)
2	17 (16)	Median by Tier	80%	1: 10 2: 9 3: 8 4: 8	1: 260 2: 260 3: 260 4: 234
3	26 (22)	Median by Tier	75%	1: 10 2: 9 3: 8 4: 8	1: 260 2: 260 3: 260 4: 234
4	69 (46)	Facility specific	75%	1: 10 2: 9 3: 8 4: 8	1: 260 2: 260 3: 260 4: 234
5	51 (31)	Facility specific, 1 SD outlier substitution	75%	1: 10 2: 9 3: 8 4: 8	1: 260 2: 260 3: 260 4: 234

* Numbers in parentheses represent reductions in the needs if AC-3 ORs are included in the planning inventory.

TIERS

- The tiers used in the calculations are:
 - 1: > 40,000 total surgical hours
 - 2: 15,000-40,000 total surgical hours
 - 3: < 15,000 total surgical hours
 - 4: AMSU
- To determine the tiers, total surgical hours were calculated for hospitals using the number of inpatient and ambulatory cases and average case times as reported on the 2016 LRA. The distribution of total surgical hours was examined to determine break points. Tiers were assigned at the break points. The tier assignment is the same for all models.
- In Models 1-3 the tier assignment is applied to both the case time and availability calculations. In Models 4-5, the tier is only applied to availability.

CASE TIME BASIS

- Median by Tier: The median of the case time for the tier was used in place of a facility's case time.
- Facility Specific: The facility's case times were used in calculations based on the average case time reported on the LRA.
- Facility Specific, with Outlier Substitution: For facilities with average case times greater than 1 standard deviation (SD) their tier, the case time equaling 1 standard deviation was substituted for the reported average case time.

AVAILABILITY: HOURS PER DAY & DAYS PER YEAR

- Hours per Day: Reflects the median daily availability by tier.
- Days per Year: Assumes that facilities in Tiers 1-3 are available 260 days per year (5 days per week x 52 weeks). For Tier 4, the days per year are assumed to be 234 (4.5 days per week x 52).
- Model 1 uses the hours per day and days per year from the 2007 Workgroup.
- Models 2-5 modify the hours per day for Tier 1 and days per year for Tier 4.

NEED DETERMINATION CALCULATION

The deficits and/or surpluses are calculated for every facility. Deficits and surpluses are totaled for each owner of multiple facilities in each OR service area. Need determinations are generated irrespective of surpluses or deficits at facilities of other owners. For example, if one facility in a group of facilities under common ownership (FCO) has a surplus of 4 ORs and another facility in the same FCO group has a deficit of 7 ORs, then the deficit for that owner is 3 ORs. If a separately owned facility in the same service area has a surplus of 1 OR, then the need determination is still 3 ORs. Unlike the current OR methodology, surpluses do not offset deficits in calculating service area need. Facility/owner deficits are rounded based on the number of ORs in the service area (as done in the current methodology).

Numbers in parentheses represent reductions in the deficits/needs if AC-3 ORs are included in the planning inventory. Negative numbers indicate a surplus of ORs.

MODEL 1 (Tiered Case Times, Duplicates 2007 Model)

Primary Name	Facility/Owner Deficits (accounting for AC-3 ORs)	Facility/Owner Need (accounting for AC-3 ORs)	Service Area	Service Area Need Determination (accounting AC-3 ORs)
Asheville Eye Surgery Center	1.48	1	Buncombe/Madison/Yancey	1
Graystone Eye Surgery Center	1.56	2	Catawba	2
Duke University Health System (Duke University Hospital: 16 AC-3 ORs)	1.23 (-14.77)	1 (0)	Durham	2 (1)
North Carolina Specialty Hospital	0.97	1		
North Carolina Baptist Hospital (7 AC-3 ORs)	5.68 (-1.32)	6 (0)	Forsyth	6 (0)
The Eye Surgery Center of the Carolinas	1.67	2	Moore†	2
New Hanover Regional Medical Center	11.54	12	New Hanover†	12
University of North Carolina Hospitals	0.58	1	Orange	1
Rex Hospital	1.31	1	Wake	1
Totals (Total including AC-3 ORs)				27 (20)

MODEL 2 (Tiered Case Times, 80% Utilization)

Primary Name	Facility/Owner Deficits (accounting for AC-3 ORs)	Facility/Owner Need (accounting for AC-3 ORs)	Service Area	Service Area Need Determination (accounting AC-3 ORs)
Asheville Eye Surgery Center	1.76	2	Buncombe/Madison/Yancey	2
Gateway Surgery Center	0.55	1	Cabarrus	1
Graystone Eye Surgery Center	1.95	2	Catawba	2
North Carolina Specialty Hospital	0.97	1	Durham	1
North Carolina Baptist Hospital (7 AC-3 ORs)	1.02 (-5.98)	1 (0)	Forsyth	1 (0)
SouthPark Surgery Center	1.02	1	Mecklenburg	1
The Eye Surgery Center of the Carolinas	2.18	2	Moore†	2
New Hanover Regional Medical Center	6.99	7	New Hanover†	7
Totals (Total including AC-3 ORs)				17 (16)

MODEL 3 (Tiered Case Times, 75% Utilization)

Primary Name	Facility/Owner Deficits (accounting for AC-3 ORs)	Facility/Owner Need (accounting for AC-3 ORs)	Service Area	Service Area Need Determination (accounting AC-3 ORs)
Asheville Eye Surgery Center	1.94	2	Buncombe/ Madison/Yancey	2
Gateway Surgery Center	0.86	1	Cabarrus	1
Graystone Eye Surgery Center	2.22	2	Catawba	2
North Carolina Specialty Hospital	1.30	1	Durham	1
North Carolina Baptist Hospital (7 AC-3 ORs)	3.82 (-3.18)	4 (0)	Forsyth	4 (0)
SouthPark Surgery Center	1.49	1	Mecklenburg	1
The Eye Surgery Center of the Carolinas	2.53	3	Moore†	3
New Hanover Regional Medical Center	9.72	10	New Hanover†	10
Rex Hospital	0.60	1	Wake	2
Duke Raleigh Hospital	0.94	1		
Totals (Total including AC-3 ORs)				26 (22)

MODEL 4 (Facility Case Times, 75% Utilization)

Primary Name	Facility/Owner Deficits (accounting for AC-3 ORs)	Facility/Owner Need (accounting for AC-3 ORs)	Service Area	Service Area Need Determination (accounting AC-3 ORs)
Orthopaedic Surgery Center of Asheville	1.10	1	Buncombe/ Madison/Yancey	1
Gateway Surgery Center	0.94	1	Cabarrus	1
Duke University Health System (Duke University Hospital: 16 AC-3 ORs)	18.53 (2.53)	19 (3)	Durham	22 (6)
North Carolina Specialty Hospital	2.89	3		
North Carolina Baptist Hospital (7 AC-3 ORs)	13.15 (6.15)	13 (6)	Forsyth	13 (6)
Surgical Center of Greensboro	4.50	5	Guilford	5
Carolinas HealthCare System	11.46	11	Mecklenburg	13
Charlotte Surgery Center	1.38	1		
SouthPark Surgery Center	1.36	1		
New Hanover Regional Medical Center	1.97	2	New Hanover†	2
University of North Carolina Hospitals	6.69	7	Orange	7
Vidant Medical Center	1.33	1	Pitt/Greene/ Hyde/Tyrrell	1
Duke Raleigh Hospital	2.67	3	Wake	3
Watauga Medical Center	0.75	1	Watauga	1
Totals (Total including AC-3 ORs)				69 (46)

MODEL 5 (Facility Case Times, 75% Utilization, +1 SD Used for >1 SD Outliers)

Primary Name	Facility/Owner Deficits (accounting for AC-3 ORs)	Facility/Owner Need (accounting for AC-3 ORs)	Service Area	Service Area Need Determination (accounting AC-3 ORs)
Gateway Surgery Center	0.94	1	Cabarrus	1
Duke University Health System (Duke University Hospital: 16 AC-3 ORs)	13.46 (-2.54)	13 (0)	Durham	16 (3)
North Carolina Specialty Hospital	2.66	3		
North Carolina Baptist Hospital (7 AC-3 ORs)	11.29 (4.29)	11 (4)	Forsyth	11 (4)
Carolinas HealthCare System	8.57	9	Mecklenburg	11
Charlotte Surgery Center	1.38	1		
SouthPark Surgery Center	1.36	1		
New Hanover Regional Medical Center	1.97	2	New Hanover†	2
University of North Carolina Hospitals	5.94	6	Orange	6
Vidant Medical Center	1.33	1	Pitt/Greene/ Hyde/Tyrrell	1
Duke Raleigh Hospital	2.67	3	Wake	3
Totals (Total including AC-3 ORs)				51 (31)

† Counties that generated need in the 2017 SMFP