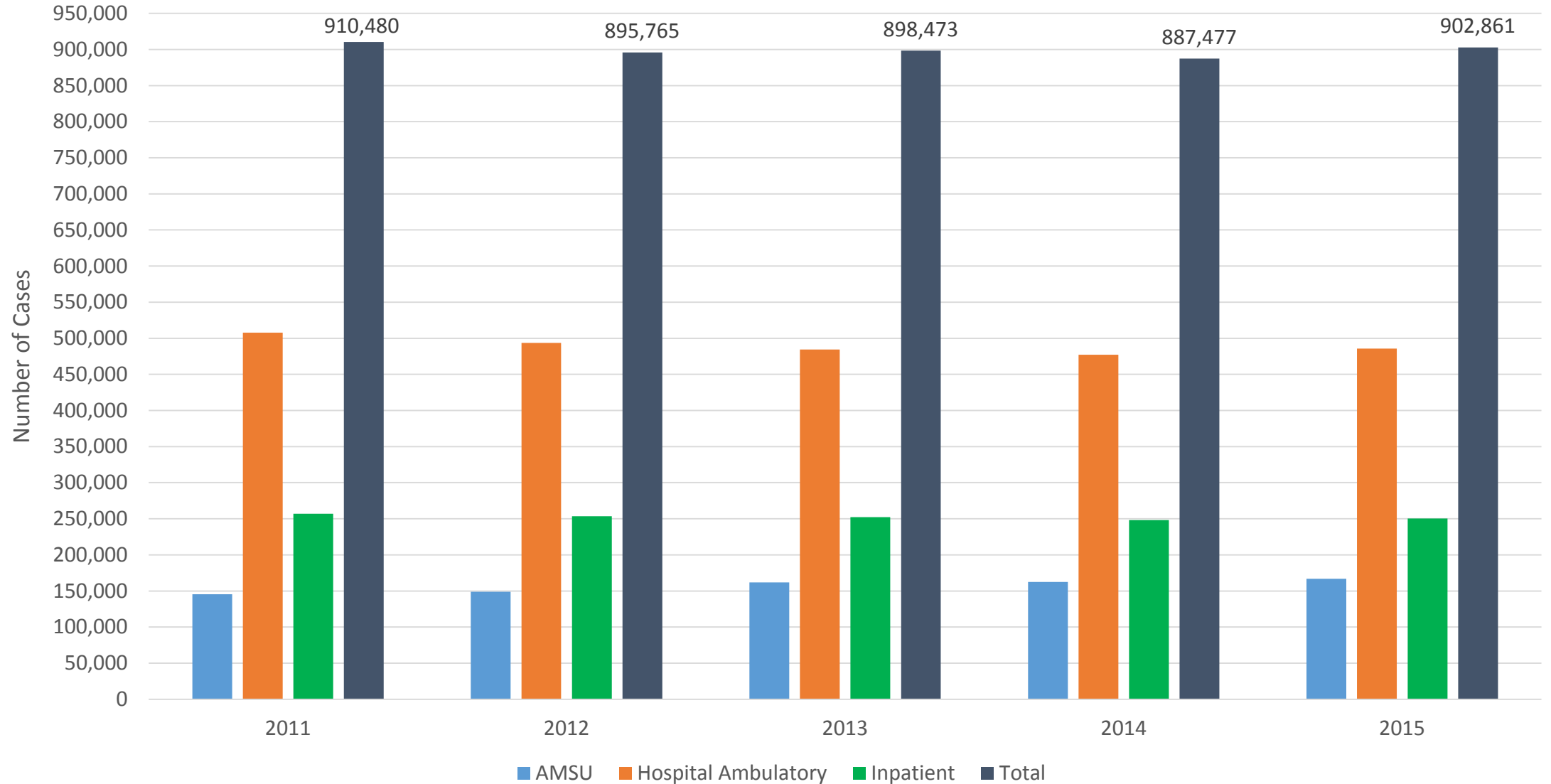


Operating Room Methodology Workgroup

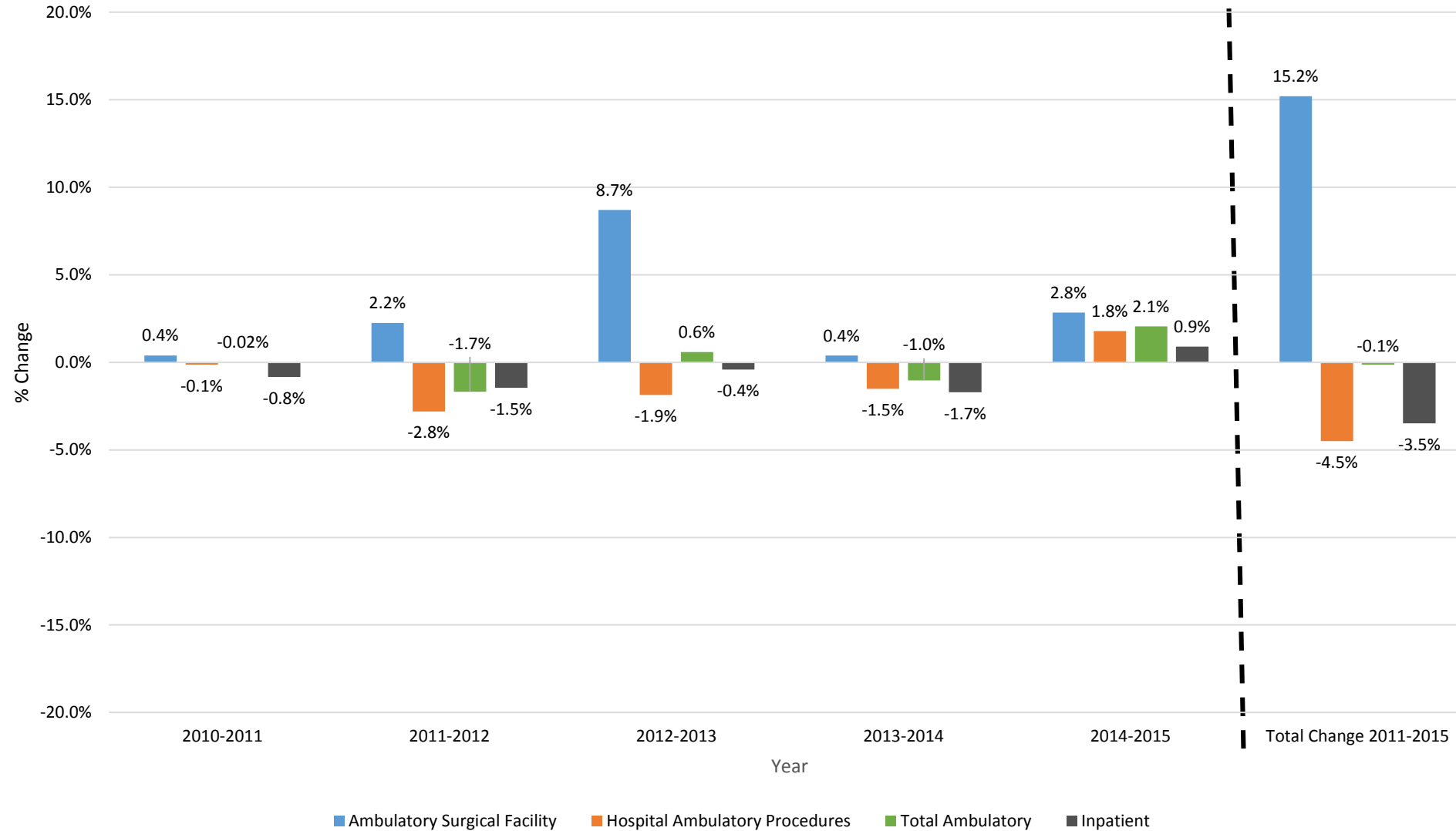
December 13, 2016

Background

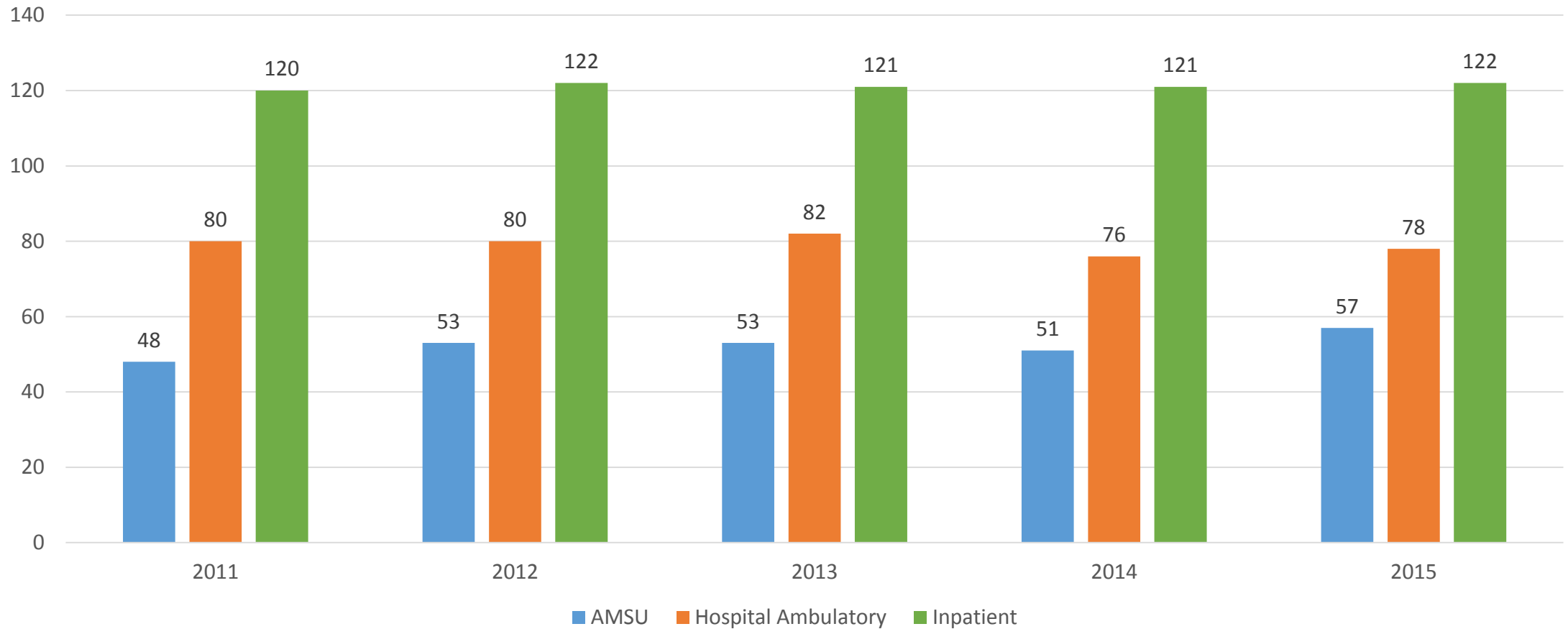
Total Number of Cases, 2011-2015



Percentage Change in Number of Surgical Cases, 2011-2015, by Type of Facility and Procedure



Median Case Time (in Minutes), 2011-2015



Source: Hospital and Ambulatory Surgical Facility License Renewal Applications, 2011-2016

Methodology Redesign

Issues to Consider in Redesigning the Methodology

1. Facilities under common ownership
2. System of tiering hospitals
3. Case times and availability are not standard across types of facilities
4. 80% may be too high a standard to meet for triggering a need
5. Policy AC-3 Operating Rooms

Policy AC-3

- Exempts Certain Projects from the SMFP
 - Does not require need determination in service area, but requires CON application
- Applies only to Academic Medical Center Teaching Hospitals
 - Duke, NC Baptist, UNC, Vidant Pitt (designated before January 1, 1990)
- Revision to Policy Established January 1, 2012 as Key Date
 - Two facilities approved for ORs before 1/1/2012
 - Duke: 16 (licensed in 2013)
 - NC Baptist: 7, approved in 2007, not yet developed
 - No ORs approved after 1/1/2012

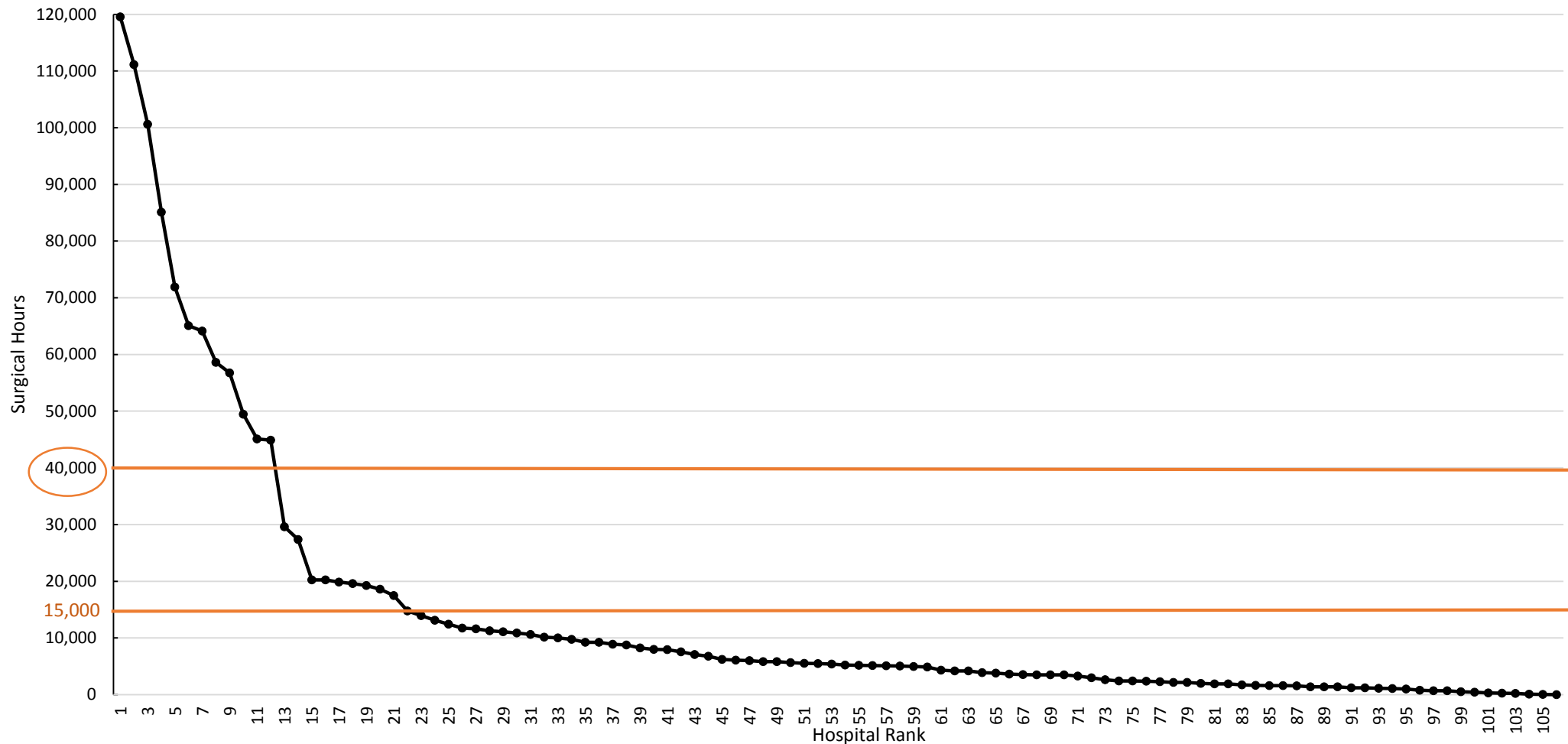
Relevance of AC-3 to OR Need Methodology

- ORs approved before 1/1/2012
 - ORs are excluded from planning inventory but procedures are counted
- ORs approved by CON after 1/1/2012
 - Must report inventory, procedures, and patient origin on LRA
 - Neither the assets nor their utilization shall be used in the OR methodology
- Should Workgroup propose edits to AC-3?
 - Policy does not explicitly require the current practice of excluding the inventory but not the procedures
 - Can the hospital distinguish between procedures performed in AC-3 ORs versus other ORs?

Models

Distribution of Total Surgical Hours, 2016

Hospital LRA



Tiers

Tier	Number of Facilities in Each Tier – in Models*
1: Hospitals, > 40,000 Hours	12
2: Hospitals, 15,000 - 40,000 Hours	7
3: Hospitals, < 15,000 Hours	84
4: Ambulatory Surgical Facilities (AMSU)	35

**Totals exclude underutilized facilities*

Basic Model Components

- Case Time Basis*
- Utilization
- Availability*
 - Hours per day
 - Days per year
- Need Determination Calculation
 - Facilities under Common Ownership
 - Rounding
 - Handling of AC-3 ORs

**Various models utilize tiering for these components*

Model 1

Need Determination*	Case Time Basis	Full Utilization	Availability	
			Hours Per Day	Days Per Year
26 (25)	Median by Tier	80%	1: 9 2: 9 3: 8 4: 8	260 (all tiers)

**Numbers in parentheses represent the changes in the need determinations if the AC-3 ORs were included in the inventory.*

Model 2

Need Determination*	Case Time Basis	Full Utilization	Availability	
			Hours Per Day	Days Per Year
17 (16)	Median by Tier	80%	1: 10	1: 260
			2: 9	2: 260
			3: 8	3: 260
			4: 8	4: 234

**Numbers in parentheses represent the changes in the need determinations if the AC-3 ORs were included in the inventory.*

Model 3

Need Determination*	Case Time Basis	Full Utilization	Availability	
			Hours Per Day	Days Per Year
26 (22)	Median by Tier	75%	1: 10	1: 260
			2: 9	2: 260
			3: 8	3: 260
			4: 8	4: 234

**Numbers in parentheses represent the changes in the need determinations if the AC-3 ORs were included in the inventory.*

Model 4

Need Determination*	Case Time Basis	Full Utilization	Availability	
			Hours Per Day	Days Per Year
69 (46)	Facility Specific	75%	1: 10	1: 260
			2: 9	2: 260
			3: 8	3: 260
			4: 8	4: 234

**Numbers in parentheses represent the changes in the need determinations if the AC-3 ORs were included in the inventory.*

Model 5

Need Determination*	Case Time Basis	Full Utilization	Availability	
			Hours Per Day	Days Per Year
51 (31)	Facility Specific, 1 SD Outlier Substitution	75%	1: 10	1: 260
			2: 9	2: 260
			3: 8	3: 260
			4: 8	4: 234

**Numbers in parentheses represent the changes in the need determinations if the AC-3 ORs were included in the inventory.*

Standard Deviation Substitution Calculations

Tier (Total Surgical Hours)	Inpatient			Ambulatory		
	Mean	SD*	Mean + 1 SD	Mean	SD*	Mean + 1 SD
1 (> 40,000)	195	33	228	119	20	139
2 (15,000-40,000)	169	38	207	102	24	126
3 (< 15,000)	110	42	152	75	20	95
4 (AMSU)				55	23	78

* SD = standard deviation

Source: Hospital and Ambulatory Surgical Facility License Renewal Applications, 2016

Need Determination Calculation Process: *Facilities and Facilities under Common Ownership*

- Total all **surpluses and deficits** for facilities under common ownership in OR service area
- Determine need for each facility/owner based on number of ORs in the planning inventory in the service area
- Sum **deficits** across facilities/owners to get need for service area
 - Surpluses do not offset deficits in need determination calculation
- Similar to Chapter 5 Acute Care Bed methodology

Need Determination Calculation Process: *Rounding*

- Current and Proposed Methodologies
 - If projected ORs needed is greater than ORs in planning inventory, then the service area has a deficit
 - Deficit for a facility/owner is rounded based on the number of ORs in the service area

ORs in Service Area	Fractional Deficit Value	Projected Need
More than 10	$\geq .50$	Amount of deficit, rounded up
6-10	$\geq .30$	Amount of deficit, rounded up
5 or fewer	$\geq .20$	Amount of deficit, rounded up

Example: Model 5 Calculations

		A	B	C	D	E	F	G
Facility/ Owner (F/O)	Tier	IP Cases	IP Case Time	Amb. Cases	Amb. Case Time	Total Surgical Hours	Pop. Growth Factor	2019 Projected Surgical Hours
DUHS								
<i>DU Hosp.</i>	1	17,344	228	23,728	139	120,596		129,668
<i>DRH</i>	2	3,865	207	2,995	126	19,567		21,039
<i>Davis ASC</i>	4			4,869	64	5,190		5,581
NC Spec Hosp.	3	1,597	152	3,737	90	9,662		10,388
Service Area							7.52%	

Numbers have been substituted and indicated in red.

Model 5, cont'd

projected surgical hours

$$K = \frac{G}{(H * I * J)}$$

$$K - L = M$$

	H	I	J	K	L	M	N	O
Facility/ Owner (F/O)	Hours/ Day	Days/ Year	Full Util.	Projected ORs Needed 2019	Planning Inventory	F/O Deficit/ Surplus	F/O Need	Service Area Need
DUHS								
<i>DU Hosp.</i>	10	260		66.50	48	18.50	13.46	13
<i>DRH</i>	9	260		11.99	13	-1.01		
<i>Davis ASC</i>	8	234		3.97	8	-4.03		
NC Spec Hosp.	8	260		6.66	4	2.66	2.66	3
Service Area			.75		73			16

Model 5 – with AC-3 ORs in Planning Inventory

$$K = \frac{G}{(H * I * J)}$$

$$K - L = M$$

	H	I	J	K	L	M	N	O
Facility/ Owner (F/O)	Hours/ Day	Days/ Year	Full Util.	Projected ORs Needed 2019	Planning Inventory	F/O Deficit/ Surplus	F/O Need	Service Area Need
DUHS								
<i>DU Hosp.</i>	10	260		66.50	64	2.50	-2.54	0
<i>DRH</i>	9	260		11.99	13	-1.01		
<i>Davis ASC</i>	8	234		3.97	8	-4.03		
NC Spec Hosp.	8	260		6.66	4	2.66	2.66	3
Service Area			.75		89			3