

Accreditation Council for

Graduate Medical Education

Thoracic Surgery Case Logs

National Data Report

Prepared by: Department of Applications and Data Analysis

- I. National Resident Statistics Main Table
 - A. The main table provides a national picture of educational experiences. The report is ideal for establishing and assessing national policy related to resident practical experiences. Data are broken out by role (surgeon, assistant, etc), indicating the resident's procedures with primary credit. Procedures with secondary credit are also shown.
 - B. Descriptive statistics have been chosen to provide useful information for judging performance at the national level.
 - i. "Natl Res AVE" The national average describes the mean number of procedures performed per resident in the nation.
 - ii. "Natl Res MIN" The minimum number of procedures performed nationally.
 - ii. "Natl Res MAX" The greatest number of procedures performed nationally.
 - iv. "Natl Res MAX" The greatest number of procedures performed nationally.
- II. National Benchmark Table for Resident Statistics The table displays selected percentile benchmarks of program averages. For example, a score at the 10th percentile indicates that 10% of residents achieved less than the value while the remaining 90% achieved more than the value.
- III. National Minimums Table for Resident Statistics The table displays RRC minimums and Natl Res AVE for defined categories of procedures.

The information on the following pages has been created using specialty specific categories. These data should not be used for comparison across specialties as the definition of the categories will vary among the specialties. In addition, care should be exercised when comparing data from year to year as the definition of certain categories may be revised from time to time.

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			Surg	geon			Assi	stant			Seconda	ry Credit	
		Natl Res AVE	Natl Res MED	Natl Res MIN	Natl Res MAX	Natl Res AVE	Natl Res MED	Natl Res MIN	Natl Res MAX	Natl Res AVE	Natl Res MED	Natl Res MIN	Nati Res MAX
Area	RRC Procedure												
Chest Wall	Resection of tumor	3.6	3	0	12	0.0	0	0	1	0.2	0	0	2
	Debridement rewiring sternum	6.9	4	0	33	0.6	0	0	7	0.2	0	0	5
	Repair pectus excavatum carinatum	1.3	0	0	18	0.0	0	0	1	0.0	0	0	1
	Thoracic outlet	1.2	0	0	42	0.0	0	0	1	0.0	0	0	1
	Repair sternal or rib fracture	0.8	0	0	6	0.1	0	0	5	0.1	0	0	1
	Thoracoplasty	0.2	0	0	2	0.0	0	0	0	0.0	0	0	0
	Other (chest wall)	3.9	3	0	16	0.1	0	0	3	0.5	0	0	6
	Total Chest Wall	18.0	16	1	58	0.8	0	0	7	1.0	0	0	11
		5.5	4	0	60		0	0	2	0.2	0	0	2
Lung and Pleura	Pneumonectomy	5.5 0.1	4	0	62 2	0.1 0.0	0	0	2	0.2	0	0	3
	Pneumonectomy w/sleeve rsxn												
	Extrapleural pneumonectomy	0.7	0	0	10	0.0	0	0	1	0.0	0	0	0
		17.0	16	0	50	0.3	0	0	12	0.7	0	0	6
	Lobectomy w/VATS	27.5	22 1	4	88	0.7	0	0	11 0	0.6	0	0	8
	Lobectomy w/sleeve rsxn	1.5		0	10	0.0	0			0.1	0	0	2
	Segmental resection	2.5	2	0	13	0.0	0	0	1	0.1	0	0	3
	Segmental resection w/VATS	4.6	2	0	23	0.1	0	0	2	0.2	0	0	5
	Wedge resection	0.6	0	0	13	0.0	0	0	1	0.1	0	0	3
	Wedge resection w/VATS	37.7	31	12	79	0.3	0	0	7	4.5	1	0	69
	Lung volume reduction surgery	0.9	0	0	8	0.0	0	0	0	0.1	0	0	1
	Thoracotomy for explor / biopsy	4.7	3	0	35	0.1	0	0	3	0.8	0	0	20
	Decortication	5.8	5	0	22	0.0	0	0	1	0.3	0	0	3
	Decortication w/VATS	5.0	4	0	24	0.1	0	0	2	0.4	0	0	8
	Pleurectomy pleurodesis	1.2	1	0	8	0.0	0	0	2	0.2	0	0	4
	Pleurectomy pleurodesis (w/wout bleb rsxn)	0.2	0	0	2	0.0	0	0	1	0.0	0	0	1
	Pleurectomy pleurodesis w/VATS	8.9	8	1	29	0.0	0	0	1	0.8	0	0	17
	Closure broncho pleural fistula	0.2	0	0	2	0.0	0	0	0	0.0	0	0	0
	Drainage lung abscess empyema	1.1	1	0	8	0.0	0	0	0	0.1	0	0	2
	Resection pulmonary cyst or sequestration	0.2	0	0	2	0.0	0	0	0	0.0	0	0	1
	Pulmonary resection w/en bloc chest wall	0.7	0	0	5	0.0	0	0	0	0.1	0	0	3
	Other (lung and pleura)	2.6	2	0	17	0.1	0	0	2	0.7	0	0	15

			Surg	geon			Assi	stant			Seconda	ry Credit	
		Natl Res AVE	Natl Res MED	Natl Res MIN	Natl Res MAX	Natl Res AVE	Natl Res MED	Natl Res MIN	Natl Res MAX	Natl Res AVE	Natl Res MED	Natl Res MIN	Natl Res MAX
Area	RRC Procedure												
Tracheobronchial	Resection of stricture	1.2	0	0	11	0.0	0	0	1	0.0	0	0	0
	Resect tumor	0.4	0	0	5	0.0	0	0	1	0.0	0	0	1
	Repair of rupture or laceration	0.3	0	0	2	0.0	0	0	1	0.0	0	0	1
	Other (tracheobronchial)	2.4	1	0	19	0.4	0	0	37	0.2	0	0	2
	Total Tracheobronchial	4.2	3	0	23	0.5	0	0	37	0.2	0	0	2
Mediastinum	Excision of tumor cyst	2.9	2	0	31	0.1	0	0	1	0.1	0	0	1
	Excision of tumor cyst w/VATS	3.8	3	0	17	0.1	0	0	3	0.1	0	0	2
	Thymectomy	4.6	4	0	18	0.1	0	0	2	0.1	0	0	3
	Ligation of thoracic duct	1.0	0	0	11	0.0	0	0	2	0.2	0	0	4
	Mediastinotomy	3.6	2	0	19	0.1	0	0	2	0.3	0	0	6
	Other (Mediastinum)	17.7	10	1	93	0.0	0	0	1	5.0	0	0	103
	Total Mediastinum	33.7	27	10	117	0.5	0	0	4	5.9	1	0	113
Diaphragm	Repair of congenital hernia	0.3	0	0	3	0.0	0	0	0	0.0	0	0	0
	Repair of traumatic hernia	0.6	0	0	4	0.0	0	0	1	0.0	0	0	1
	Plication	1.8	1	0	9	0.1	0	0	1	0.1	0	0	3
	Other (diaphragm)	1.4	1	0	8	0.0	0	0	0	0.3	0	0	4
	Total Diaphragm	4.0	3	0	13	0.1	0	0	1	0.4	0	0	5

			Sur	geon			Assi	stant			Seconda	ry Credit	
		Natl Res AVE	Natl Res MED	Natl Res MIN	Natl Res MAX	Natl Res AVE	Natl Res MED	Natl Res MIN	Nati Res MAX	Natl Res AVE	Natl Res MED	Natl Res MIN	Natl Res MAX
Area	RRC Procedure												
Esophagus	Esophagectomy	17.7	14	5	58	0.2	0	0	3	0.1	0	0	1
	Correction of reflux or stricture	0.7	0	0	8	0.0	0	0	1	0.1	0	0	2
	Correction of reflux or stricture w/VATS	3.3	1	0	35	0.1	0	0	3	0.1	0	0	5
	Repair paraesophageal hernia	7.7	5	0	41	0.2	0	0	8	0.4	0	0	17
	Repair paraesophageal hernia w/VATS	0.1	0	0	3	0.0	0	0	0	0.0	0	0	0
	Excision diverticulum	1.0	1	0	6	0.0	0	0	0	0.0	0	0	1
	Myotomy and reflux procedure	0.5	0	0	4	0.0	0	0	0	0.0	0	0	1
	Myotomy w/VATS	0.1	0	0	2	0.0	0	0	0	0.0	0	0	1
	Myotomy w/laparoscopy	2.0	1	0	13	0.1	0	0	2	0.1	0	0	2
	Closure of fistula	0.3	0	0	2	0.0	0	0	0	0.0	0	0	1
	Repair drainage of perforation or rupture	1.3	1	0	6	0.0	0	0	1	0.0	0	0	1
	Other (esophagus)	5.3	3	0	41	0.2	0	0	4	1.5	0	0	26
	Total Esophagus	40.1	29	15	131	0.7	0	0	13	2.3	0	0	39
Video Assisted Thoracoscopic (VATS)	Diagnostic thoracoscopy biopsy	0.3	0	0	5	0.0	0	0	0	0.0	0	0	2
Video Assisted Molacoscopic (VATS)	Pericardial window	0.5	0	0	6	0.0	0	0	1	0.0	0	0	2
	Drainage empyema hemothorax	0.7	0	0	6	0.0	0	0	0	0.0	0	0	2
	Sympathectomy	1.6	1	0	14	0.0	0	0	2	0.0	0	0	2
	Other (VATS)	5.9	3	0	66	0.1	0	0	5	0.9	0	0	12
	Total VATS	9.0	5	0	83	0.2	0	0	6	1.1	0	0	12
Closed Operations Congenital	Patent ductus arteriosus	2.1	1	0	19	1.2	1	0	7	0.6	0	0	10
	Coarctation of aorta	0.5	0	0	9	1.2	1	0	7	0.0	0	0	1
	Shunting procedure	0.2	0	0	4	0.8	0	0	8	0.1	0	0	1
	BiDirectional Glenn shunt (closed)	0.0	0	0	1	0.1	0	0	2	0.0	0	0	0
	Other (closed operations congenital)	1.0	0	0	15	1.2	1	0	9	0.3	0	0	5
	Total Closed Operations Congenital	3.8	2	0	41	4.4	4	0	29	1.0	0	0	16

			Surg	jeon			Assi	stant			Seconda	ry Credit	
		Natl Res AVE	Natl Res MED	Natl Res MIN	Natl Res MAX	Natl Res AVE	Natl Res MED	Natl Res MIN	Natl Res MAX	Natl Res AVE	Natl Res MED	Natl Res MIN	Natl Res MAX
Area	RRC Procedure												
Open Congenital	Tetralogy fallot	0.3	0	0	5	1.6	1	0	22	0.0	0	0	1
	Transposition	0.1	0	0	1	0.9	0	0	8	0.0	0	0	0
	Truncus arteriosus	0.1	0	0	1	0.5	0	0	4	0.0	0	0	1
	Ventricular septum defect	1.3	1	0	13	2.8	2	0	20	0.4	0	0	5
	AV septal defect	0.2	0	0	3	1.3	1	0	17	0.0	0	0	1
	Anomalous pulmonary venous drainage	0.9	0	0	7	0.9	0	0	7	0.0	0	0	1
	Atrial septum defect	5.9	5	0	25	1.5	1	0	15	0.9	0	0	12
	BiDirectional Glenn shunt (open)	0.4	0	0	4	1.0	1	0	9	0.0	0	0	1
	Interrupted arch hypoplastic left heart	0.2	0	0	2	2.1	1	0	14	0.0	0	0	1
	Fontan procedure	0.4	0	0	5	1.4	1	0	11	0.0	0	0	1
	RVOT reconstruction	0.2	0	0	4	0.6	0	0	4	0.1	0	0	3
	Other (open congenital)	4.9	3	0	37	5.3	3	0	47	0.9	0	0	10
	Total Open Congenital	14.8	12	0	85	19.9	14	1	140	2.5	0	0	24
Valvular Heart Disease	Mitral aortic valve repair	14.5	12	0	47	3.4	1	0	44	3.0	1	0	30
	Valve replacements	65.1	56	18	196	8.1	2	0	64	12.6	5	0	91
	Aortic root replacement	9.2	7	0	40	2.3	1	0	18	0.8	0	0	11
	Re-operation for valvular disease	9.2 15.0	14	0	40	2.3 1.0	0	0	16	2.1	0	0	32
	Other (valvular heart disease)	5.2	4	0	40 22	0.5	0	0	4	2.1	1	0	29
	Total Valvular Heart Disease	5.2 109.0	4	28	22	0.5 15.4	5	0	4	2.5	10	0	169
	Total Valvulai Healt Disease	103.0	100	20	251	13.4	5	0	151	21.0	10	0	109
Resection Cardiac Tumor	Resection cardiac tumor	1.7	1	0	6	0.3	0	0	3	0.1	0	0	3
	Total Resection Cardiac Tumor	1.7	1	0	6	0.3	0	0	3	0.1	0	0	3
Operations Coronary Atherosclerosis	Primary bypass	106.7	98	35	271	4.9	1	0	34	28.4	6	0	247
· · · · · · · · · · · · · · · · · · ·	Re-op recurrent disease	5.4	4	0	53	0.2	0	0	4	0.4	0	0	10
	Ventricular aneurysm	0.3	0	0	4	0.0	0	0	1	0.1	0	0	2
	Acquired VSD	0.4	0	0	4	0.0	0	0	3	0.1	0	0	2
	Coronary anomalies and/or fistulae	0.4	0	0	-	0.1	0	0	1	0.0	0	0	0
	Other (operations coronary atherosclerosis)	0.1	0	0	4	0.0	0	0	0	0.3	0	0	9
	Total Oper Coronary Atherosclerosis	113.0	104	38	288	5.3	2	0	34	29.2	6	0	249

			Surg	geon			Assi	stant			Seconda	ry Credit	
		Natl Res AVE	Natl Res MED	Natl Res MIN	Natl Res MAX	Natl Res AVE	Natl Res MED	Natl Res MIN	Natl Res MAX	Natl Res AVE	Natl Res MED	Natl Res MIN	Natl Res MAX
Area	RRC Procedure												
Pericardium	Pericardial window	4.2	3	0	17	0.1	0	0	3	0.1	0	0	3
	Pericardiectomy	1.0	1	0	6	0.1	0	0	2	0.1	0	0	2
	Other (pericardium)	0.2	0	0	5	0.0	0	0	1	0.1	0	0	2
	Total Pericardium	5.5	5	0	19	0.2	0	0	3	0.3	0	0	6
Other Cardiac Procedures	Arrhythmia surgery	7.1	6	0	28	0.3	0	0	4	2.2	0	0	29
	Insertion epicardial electrical device	2.0	1	0	12	0.4	0	0	5	0.3	0	0	5
	Insertion/removal cardiac assist device	10.6	7	0	49	1.4	0	0	21	0.7	0	0	13
	Removal intracardiac foreign body	0.4	0	0	5	0.1	0	0	1	0.1	0	0	2
	Repair cardiac trauma	0.3	0	0	4	0.1	0	0	1	0.0	0	0	1
	Minimally invasive surgery	0.2	0	0	4	0.0	0	0	3	0.0	0	0	2
	Other (other cardiac procedures)	12.7	10	0	74	0.8	0	0	5	1.3	0	0	13
	Total Other Cardiac Procs	33.3	31	4	94	3.1	1	0	27	4.6	1	0	32
Thoracic Vascular	Open repair traumatic injury	0.4	0	0	4	0.1	0	0	2	0.1	0	0	1
	Repair ascending aneurysm	11.9	10	0	36	1.2	0	0	10	1.9	0	0	22
	Repair desc aneurysm	3.5	1	0	28	0.3	0	0	5	1.1	0	0	26
	Repair thoracoabdominal aneurysm	1.6	1	0	13	0.2	0	0	5	0.0	0	0	1
	Pulmonary embolectomy endarterectomy	1.1	0	0	27	0.3	0	0	3	0.1	0	0	2
	Other (thoracic vascular)	0.9	0	0	5	0.1	0	0	3	0.1	0	0	4
	Total Thoracic Vascular	19.4	17	3	57	2.2	0	0	15	3.3	1	0	37
Transplantation	Heart	7.1	4	0	35	1.5	0	0	18	0.1	0	0	5
	Lung	10.7	5	0	88	0.6	0	0	4	1.2	0	0	21
	Heart/lung	0.2	0	0	6	0.0	0	0	1	0.0	0	0	0
	Procurement heart	3.7	2	0	36	0.1	0	0	3	0.1	0	0	2
	Procurement heart/lung	1.4	0	0	19	0.0	0	0	0	0.0	0	0	1
	Other (transplantation)	0.2	0	0	7	0.0	0	0	1	0.2	0	0	5
	Total Transplantation	23.3	16	0	106	2.3	1	0	19	1.7	0	0	21

			Surç	geon			Assi	stant			Seconda	ry Credit	
		Natl Res AVE	Natl Res MED	Natl Res MIN	Natl Res MAX	Natl Res AVE	Natl Res MED	Natl Res MIN	Natl Res MAX	Natl Res AVE	Natl Res MED	Natl Res MIN	Natl Res MAX
Area	RRC Procedure												
Minor Thoracic and CV	Bronchoscopy	48.5	37	2	202	0.4	0	0	25	7.8	1	0	135
	Bronchoscopy w/intervention	13.7	10	0	77	0.1	0	0	3	1.7	0	0	52
	EBUS	8.6	6	0	40	0.1	0	0	2	0.5	0	0	6
	Esophagoscopy	15.8	13	0	73	0.1	0	0	3	1.9	0	0	49
	Esophagoscopy w/intervention	20.3	13	0	118	0.2	0	0	7	1.3	0	0	22
	EUS	0.1	0	0	3	0.0	0	0	1	0.0	0	0	0
	Mediastinoscopy	19.2	15	3	90	0.1	0	0	3	0.8	0	0	8
	Tracheostomy	6.4	5	0	43	0.1	0	0	2	0.5	0	0	14
	Catheter drainage pericardium	0.1	0	0	3	0.0	0	0	2	0.0	0	0	0
	Insertion transvenous device	1.4	0	0	13	0.1	0	0	2	0.1	0	0	2
	Insertion removal IABP	3.4	2	0	19	0.0	0	0	1	0.3	0	0	3
	Insertion tunneled pleural catheter	2.5	1	0	19	0.0	0	0	0	0.5	0	0	7
	Echocardiography	0.0	0	0	1	0.0	0	0	0	0.0	0	0	0
	Insertion or removal of cardiac assist device	0.0	0	0	1	0.0	0	0	0	0.0	0	0	0
	Other (minor thoracic and CV)	24.3	19	8	94	0.6	0	0	6	2.4	0	0	56
	Total Minor Thoracic and CV	164.1	147	53	366	1.7	0	0	26	17.8	4	0	195
Endovascular	Endovascular	2.4	0	0	24	0.1	0	0	3	0.2	0	0	5
	Total Endovascular	2.4	0	0	24	0.1	0	0	3	0.2	0	0	5
		2.4	U	0	27	0.1	0	0	5	0.2	0	U	J
Critical Care - Case Management (thoracic)	Ventilatory management (thoracic)	9.1	8	1	38	0.0	0	0	2	5.1	2	0	28
	Bleeding (non-trauma) > 3 units (thoracic)	2.3	2	0	9	0.0	0	0	1	1.5	0	0	26
	Hemodynamic instability (thoracic)	4.5	4	0	24	0.0	0	0	1	5.4	2	0	35
	Organ dysfunction/failure (thoracic)	3.9	3	0	42	0.0	0	0	0	4.2	1	0	34
	Dysrhythmias (thoracic)	2.4	2	0	13	0.0	0	0	0	2.4	0	0	32
	Invasive line managment/monitoring (thoracic)	4.8	3	0	20	0.0	0	0	0	6.2	2	0	34
	Nutrition (thoracic)	4.1	3	0	13	0.0	0	0	1	4.0	1	0	27
	Total CC - Case Management (thoracic)	31.2	27	20	90	0.1	0	0	3	28.8	13	0	205

			Surg	geon			Assi	stant			Seconda	ry Credit	
		Natl Res AVE	Natl Res MED	Natl Res MIN	Natl Res MAX	Natl Res AVE	Natl Res MED	Natl Res MIN	Natl Res MAX	Natl Res AVE	Natl Res MED	Natl Res MIN	Natl Res MAX
Area	RRC Procedure												
Critical Care - Case Management	Ventilatory management (cardiac)	12.6	10	0	96	0.1	0	0	3	12.2	2	0	64
	Bleeding (non-trauma) > 3 units (cardiac)	4.5	4	0	15	0.0	0	0	2	3.1	0	0	46
	Hemodynamic instability (cardiac)	14.2	12	2	42	0.2	0	0	4	12.2	2	0	110
	Organ dysfunction/failure (cardiac)	7.8	6	0	34	0.1	0	0	2	8.3	1	0	86
	Dysrhythmias (cardiac)	6.5	5	0	29	0.0	0	0	1	7.0	1	0	93
	Invasive line management/monitoring	9.8	8	0	56	0.1	0	0	3	14.0	3	0	113
	Nutrition (cardiac)	2.1	1	0	13	0.0	0	0	0	4.3	0	0	46
	Total CC - Case Management (cardiac/cong)	57.7	55	22	146	0.5	0	0	8	61.2	15	0	476
Cardiopulmonary Bypass	Set-up and pump run with perfusionist	5.1	4	4	16	0.0	0	0	2	1.4	0	0	120
	Total Cardiopulmonary Bypass	5.1	4	4	16	0.0	0	0	2	1.4	0	0	120
Consultation Experience	New Patients	65.9	57	3	403	0.3	0	0	7	0.1	0	0	3
	Follow-up patients	63.6	54	50	397	0.3	0	0	10	0.1	0	0	2
	Total Consultation Experience	129.4	113	55	800	0.6	0	0	12	0.2	0	0	3
Simulation	One hour simulation	24.1	22	16	74	0.1	0	0	8	1.6	0	0	60
	Total Simulation	24.1	22	16	74	0.1	0	0	8	1.6	0	0	60
Multidisciplinary Management Conferences	Tumor board	13.6	11	0	77	0.0	0	0	1	0.0	0	0	0
	Cardiac cath conference	8.7	3	0	61	0.1	0	0	4	0.0	0	0	2
	Multidisciplinary clinics	2.9	0	0	38	0.1	0	0	5	0.1	0	0	7
	Transplant selection committee meeting	2.5	0	0	42	0.0	0	0	0	0.1	0	0	6
	Other (multidisciplinary management conf)	5.2	1	0	32	0.0	0	0	1	0.1	0	0	3
	Total Multidisciplinary Mgmt Conf	32.9	26	20	119	0.3	0	0	6	0.2	0	0	14
Non-Tracked Codes	Non-Tracked Codes	55.9	5	0	1,086	5.6	0	0	167	12.3	1	0	623

				Surgeon	1				Assistan	t			Seco	ondary C	redit	
			Progr	am Perce	entiles			Progra	am Perce	entiles			Progra	am Perce	entiles	
		10	30	50	70	90	10	30	50	70	90	10	30	50	70	90
Area	RRC Procedure															
Chest Wall	Resection of tumor	0	2	3	5	8	0	0	0	0	0	0	0	0	0	1
	Debridement rewiring sternum	0	2	4	7	18	0	0	0	0	3	0	0	0	0	1
	Repair pectus excavatum carinatum	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0
	Thoracic outlet	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
	Repair sternal or rib fracture	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0
	Thoracoplasty	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	Other (chest wall)	0	2	3	5	8	0	0	0	0	0	0	0	0	0	2
	Total Chest Wall	7	12	16	20	31	0	0	0	1	3	0	0	0	1	3
Lung and Pleura	Pneumonectomy	1	2	4	6	11	0	0	0	0	0	0	0	0	0	1
	Pneumonectomy w/sleeve rsxn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Extrapleural pneumonectomy	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
	Lobectomy	5	9	16	22	34	0	0	0	0	1	0	0	0	1	2
	Lobectomy w/VATS	9	15	22	30	57	0	0	0	0	2	0	0	0	1	2
	Lobectomy w/sleeve rsxn	0	0	1	2	4	0	0	0	0	0	0	0	0	0	0
	Segmental resection	0	1	2	3	6	0	0	0	0	0	0	0	0	0	0
	Segmental resection w/VATS	0	1	2	6	13	0	0	0	0	0	0	0	0	0	1
	Wedge resection	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
	Wedge resection w/VATS	23	27	31	44	68	0	0	0	0	1	0	0	1	2	14
	Lung volume reduction surgery	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0
	Thoracotomy for explor / biopsy	0	1	3	5	11	0	0	0	0	0	0	0	0	0	2
	Decortication	1	3	5	7	13	0	0	0	0	0	0	0	0	0	1
	Decortication w/VATS	0	2	4	6	12	0	0	0	0	0	0	0	0	0	1
	Pleurectomy pleurodesis	0	0	1	1	3	0	0	0	0	0	0	0	0	0	1
	Pleurectomy pleurodesis (w/wout bleb rsxn)	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	Pleurectomy pleurodesis w/VATS	3	6	8	11	16	0	0	0	0	0	0	0	0	0	3
	Closure broncho pleural fistula	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	Drainage lung abscess empyema	0	0	1	1	3	0	0	0	0	0	0	0	0	0	1
	Resection pulmonary cyst or sequestration	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	Pulmonary resection w/en bloc chest wall	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0
	Other (lung and pleura)	0	1	2	3	6	0	0	0	0	0	0	0	0	0	2
	Total Lung and Pleura	71	89	117	147	200	0	0	0	1	7	0	0	3	9	28

				Surgeon	l .				Assistan	t			Seco	ondary C	redit	
			Progr	am Perce	entiles			Progra	am Perce	entiles			Progra	am Perce	entiles	
		10	30	50	70	90	10	30	50	70	90	10	30	50	70	90
Area	RRC Procedure															
Tracheobronchial	Resection of stricture	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0
	Resect tumor	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	Repair of rupture or laceration	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	Other (tracheobronchial)	0	0	1	3	7	0	0	0	0	0	0	0	0	0	1
	Total Tracheobronchial	0	1	3	6	11	0	0	0	0	0	0	0	0	0	1
Mediastinum	Excision of tumor cyst	0	1	2	3	6	0	0	0	0	0	0	0	0	0	1
	Excision of tumor cyst w/VATS	0	2	3	5	9	0	0	0	0	0	0	0	0	0	0
	Thymectomy	1	2	4	6	9	0	0	0	0	0	0	0	0	0	0
	Ligation of thoracic duct	0	0	0	1	3	0	0	0	0	0	0	0	0	0	1
	Mediastinotomy	0	1	2	4	11	0	0	0	0	1	0	0	0	0	1
	Other (Mediastinum)	4	7	10	19	48	0	0	0	0	0	0	0	0	1	11
	Total Mediastinum	14	21	27	35	72	0	0	0	0	2	0	0	1	2	13
Diaphragm	Repair of congenital hernia	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Diapinagin	Repair of traumatic hernia	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0
	Plication	0	1	1	2	5	0	0	0	0	0	0	0	0	0	0
	Other (diaphragm)	0	0	1	2	4	0	0	0	0	0	0	0	0	0	1
	Total Diaphragm	1	2	3	5	8	0	0	0	0	0	0	0	0	0	1
	Total Diaphragm	1	2	3	5	0	0	0	0	0	0	0	0	0	0	1
Esophagus	Esophagectomy	9	11	14	20	32	0	0	0	0	1	0	0	0	0	C
	Correction of reflux or stricture	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0
	Correction of reflux or stricture w/VATS	0	0	1	4	9	0	0	0	0	0	0	0	0	0	0
	Repair paraesophageal hernia	0	3	5	9	20	0	0	0	0	0	0	0	0	0	1
	Repair paraesophageal hernia w/VATS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Excision diverticulum	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0
	Myotomy and reflux procedure	0	0	0	1	2	0	0	0	0	0	0	0	0	0	C
	Myotomy w/VATS	0	0	0	0	1	0	0	0	0	0	0	0	0	0	C
	Myotomy w/laparoscopy	0	0	1	2	6	0	0	0	0	0	0	0	0	0	C
	Closure of fistula	0	0	0	0	1	0	0	0	0	0	0	0	0	0	C
	Repair drainage of perforation or rupture	0	0	1	2	4	0	0	0	0	0	0	0	0	0	0
	Other (esophagus)	0	2	3	5	13	0	0	0	0	0	0	0	0	1	4
	Total Esophagus	17	21	29	47	76	0	0	0	0	2	0	0	0	1	6

				Surgeor	1			4	Assistar	nt			Seco	ondary C	redit	
			Progra	am Perc	entiles			Progra	am Perc	entiles			Progra	am Perc	entiles	
		10	30	50	70	90	10	30	50	70	90	10	30	50	70	90
Area	RRC Procedure															
Video Assisted Thoracoscopic (VATS)	Diagnostic thoracoscopy biopsy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pericardial window	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0
	Drainage empyema hemothorax	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
	Sympathectomy	0	0	1	2	5	0	0	0	0	0	0	0	0	0	0
	Other (VATS)	0	1	3	5	19	0	0	0	0	0	0	0	0	1	3
	Total VATS	1	2	5	10	20	0	0	0	0	1	0	0	0	1	4
Closed Operations Congenital	Patent ductus arteriosus	0	0	1	2	5	0	0	1	1	3	0	0	0	0	2
	Coarctation of aorta	0	0	0	0	1	0	0	1	1	3	0	0	0	0	0
	Shunting procedure	0	0	0	0	1	0	0	0	1	2	0	0	0	0	0
	BiDirectional Glenn shunt (closed)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Other (closed operations congenital)	0	0	0	1	3	0	0	1	2	3	0	0	0	0	1
	Total Closed Operations Congenital	0	1	2	4	8	0	2	4	5	9	0	0	0	1	3
Onen Congenitel	Totrology follot	0	0	0	0	1	0	0	4	0	4	0	0	0	0	0
Open Congenital	Tetralogy fallot Transposition	0	0	0	0		0	0	1	2	4	0	0	0	0	0
	Truncus arteriosus	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0
		-	0	0	0	0	0	0	0	· ·	2	0	0	-	0	0
	Ventricular septum defect	0	0	1	1	3	0	1	2	3		0	0	0	0	2
	AV septal defect	0	0	0	0	1	0	0	1	2	3	0	0	0	0	0
	Anomalous pulmonary venous drainage	0	0	0	1	2	0	0	0	1	3	0	0	0	0	0
	Atrial septum defect	1	3	5	7	11	0	0	1	2	4	0	0	0	1	3
	BiDirectional Glenn shunt (open)	0	0	0	0		0	0	1	1	3	0	0	0	0	0
	Interrupted arch hypoplastic left heart	0	0	0	0	1	0	0	1	2	5	0	0	0	0	0
	Fontan procedure	0	0	0	0	2	0	0	1	2	4	0	0	0	0	0
	RVOT reconstruction	0	0	0	0	1	0	0	0	1	2	0	0	0	0	0
	Other (open congenital) Total Open Congenital	0	2 10	3 12	6 16	10 27	1 6	2 10	3 14	6 20	14	0	0	0	1	3

				Surgeo	ı				Assistar	nt			Seco	ondary C	redit	
			Progra	am Perc	entiles			Progra	am Perc	entiles			Progra	am Perc	entiles	
		10	30	50	70	90	10	30	50	70	90	10	30	50	70	9
Area	RRC Procedure															
/alvular Heart Disease	Mitral aortic valve repair	4	7	12	18	31	0	0	1	3	10	0	0	1	3	1
	Valve replacements	27	44	56	79	108	0	1	2	8	27	0	2	5	17	3
	Aortic root replacement	1	4	7	11	18	0	0	1	2	8	0	0	0	1	
	Re-operation for valvular disease	5	9	14	17	29	0	0	0	1	3	0	0	0	1	
	Other (valvular heart disease)	1	2	4	6	13	0	0	0	1	2	0	0	1	2	
	Total Valvular Heart Disease	51	72	100	138	184	0	1	5	15	52	0	3	10	24	
Resection Cardiac Tumor	Resection cardiac tumor	0	1	1	2	4	0	0	0	0	1	0	0	0	0	
	Total Resection Cardiac Tumor	0	1	1	2	4	0	0	0	0	1	0	0	0	0	
	Total Resection Cardiac Tumor	0		1	2	4	U	0	0	U	1	U	0	0	0	
Operations Coronary Atherosclerosis	Primary bypass	50	81	98	115	182	0	0	1	6	17	0	1	6	16	
	Re-op recurrent disease	1	2	4	6	11	0	0	0	0	1	0	0	0	0	
	Ventricular aneurysm	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
	Acquired VSD	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
	Coronary anomalies and/or fistulae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Other (operations coronary atherosclerosis)	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
	Total Oper Coronary Atherosclerosis	52	86	104	122	190	0	0	2	6	18	0	1	6	16	
Pericardium	Pericardial window	0	2	3	6	9	0	0	0	0	0	0	0	0	0	
encardium	Pericardiectomy	0	0	1	1	3	0	0	0	0	0	0	0	0	0	
	Other (pericardium)	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
	Total Pericardium	1	3	5	7	10	0	0	0	0	1	0	0	0	0	
	Total Pencardium	1	3	5	1	10	0	0	0	U	1	0	U	U	0	
Other Cardiac Procedures	Arrhythmia surgery	1	4	6	9	12	0	0	0	0	1	0	0	0	2	
	Insertion epicardial electrical device	0	0	1	2	6	0	0	0	0	2	0	0	0	0	
	Insertion/removal cardiac assist device	1	3	7	13	24	0	0	0	1	4	0	0	0	0	
	Removal intracardiac foreign body	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
	Repair cardiac trauma	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
	Minimally invasive surgery	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Other (other cardiac procedures)	2	6	10	15	29	0	0	0	1	3	0	0	0	1	
	Total Other Cardiac Procs	11	21	31	41	59	0	0	1	3	8	0	0	1	6	

				Surgeor	ו				Assistan	t			Seco	ondary C	redit	
			Progra	am Perc	entiles			Progra	am Perce	entiles			Progra	am Perce	entiles	
		10	30	50	70	90	10	30	50	70	90	10	30	50	70	90
Area	RRC Procedure															
Thoracic Vascular	Open repair traumatic injury	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
	Repair ascending aneurysm	3	7	10	15	25	0	0	0	1	5	0	0	0	2	6
	Repair desc aneurysm	0	1	1	4	9	0	0	0	0	1	0	0	0	0	1
	Repair thoracoabdominal aneurysm	0	0	1	2	5	0	0	0	0	1	0	0	0	0	0
	Pulmonary embolectomy endarterectomy	0	0	0	1	3	0	0	0	0	1	0	0	0	0	0
	Other (thoracic vascular)	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0
	Total Thoracic Vascular	6	10	17	23	38	0	0	0	2	8	0	0	1	2	7
Fransplantation	Heart	0	1	4	9	20	0	0	0	1	4	0	0	0	0	0
	Lung	0	1	5	11	25	0	0	0	1	2	0	0	0	0	5
	Heart/lung	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	Procurement heart	0	0	2	5	10	0	0	0	0	0	0	0	0	0	0
	Procurement heart/lung	0	0	0	1	4	0	0	0	0	0	0	0	0	0	(
	Other (transplantation)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	Total Transplantation	1	10	16	29	56	0	0	1	2	6	0	0	0	1	5
linor Thoracic and CV	Bronchoscopy	19	28	37	54	97	0	0	0	0	0	0	0	1	3	2
	Bronchoscopy w/intervention	1	5	10	15	34	0	0	0	0	0	0	0	0	1	3
	EBUS	0	2	6	11	23	0	0	0	0	0	0	0	0	0	2
	Esophagoscopy	3	8	13	20	30	0	0	0	0	0	0	0	0	1	6
	Esophagoscopy w/intervention	3	8	13	21	49	0	0	0	0	0	0	0	0	1	5
	EUS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Mediastinoscopy	10	12	15	20	35	0	0	0	0	0	0	0	0	0	3
	Tracheostomy	1	3	5	7	13	0	0	0	0	0	0	0	0	0	2
	Catheter drainage pericardium	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(
	Insertion transvenous device	0	0	0	1	5	0	0	0	0	1	0	0	0	0	(
	Insertion removal IABP	0	1	2	5	8	0	0	0	0	0	0	0	0	0	•
	Insertion tunneled pleural catheter	0	0	1	3	6	0	0	0	0	0	0	0	0	0	2
	Echocardiography	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(
	Insertion or removal of cardiac assist device	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(
	Other (minor thoracic and CV)	12	16	19	27	44	0	0	0	0	2	0	0	0	1	5
	Total Minor Thoracic and CV	88	115	147	186	273	0	0	0	2	4	0	1	4	12	5

[Page 6] Programs in the Nation:	57 Residents in the Nation: 97															
			;	Surgeo	า			4	Assista	nt			Seco	ondary C	Credit	
			Progra	m Perc	entiles			Progra	m Perc	entiles			Progra	am Perc	entiles	
		10	30	50	70	90	10	30	50	70	90	10	30	50	70	90
Area	RRC Procedure															
Endovascular	Endovascular	0	0	0	2	7	0	0	0	0	0	0	0	0	0	1
	Total Endovascular	0	0	0	2	7	0	0	0	0	0	0	0	0	0	1
Critical Care - Case Management (thoracic)	Ventilatory management (thoracic)	3	6	8	11	15	0	0	0	0	0	0	0	2	8	14
	Bleeding (non-trauma) > 3 units (thoracic)	0	1	2	3	5	0	0	0	0	0	0	0	0	1	3
	Hemodynamic instability (thoracic)	1	2	4	6	9	0	0	0	0	0	0	0	2	7	17
	Organ dysfunction/failure (thoracic)	0	2	3	5	7	0	0	0	0	0	0	0	1	5	15
	Dysrhythmias (thoracic)	0	1	2	3	6	0	0	0	0	0	0	0	0	2	7
	Invasive line managment/monitoring (thoracic)	0	2	3	6	12	0	0	0	0	0	0	0	2	8	19
	Nutrition (thoracic)	0	2	3	6	9	0	0	0	0	0	0	0	1	4	13
	Total CC - Case Management (thoracic)	21	24	27	35	45	0	0	0	0	0	0	0	13	45	74
Critical Care - Case Management (cardiac/cong)	Ventilatory management (cardiac)	3	7	10	14	22	0	0	0	0	0	0	0	2	16	38
Chical Care - Case Management (Cardiac/Cong)		1	2	4							0		0	0		
	Bleeding (non-trauma) > 3 units (cardiac) Hemodynamic instability (cardiac)		2		6	10 26	0	0	0	0	0	0	0	-	3	10 35
	, , , , , , , , , , , , , , , , , , ,	5		12	18		0	0	0		-	0		2	19	
	Organ dysfunction/failure (cardiac)	1	4	6 5	9	15	0	0	0	0	0	0	0	1	9	25
	Dysrhythmias (cardiac)	2	4	, e	8	13	0	0	0	0	, ,	0	0	1	5	16
	Invasive line management/monitoring (cardiac)	1	5	8	11	22	0	0	0	0	0	0	0	3	20	42
	Nutrition (cardiac)	0	1	1	3	5	0	0	0	0	0	0	0	0	2	16
	Total CC - Case Management (cardiac/cong)	37	48	55	58	79	0	0	0	0	1	0	1	15	97	171

		Surgeon						4	Assistan	nt	Secondary Credit					
		Program Percentiles					Program Percentiles					Program Percentiles				
		10	30	50	70	90	10	30	50	70	90	10	30	50	70	90
Area	RRC Procedure															
Cardiopulmonary Bypass	Set-up and pump run with perfusionist	4	4	4	5	8	0	0	0	0	0	0	0	0	0	1
	Total Cardiopulmonary Bypass	4	4	4	5	8	0	0	0	0	0	0	0	0	0	1
Consultation Experience	New Patients	50	52	57	64	87	0	0	0	0	1	0	0	0	0	0
	Follow-up patients	50	52	54	58	79	0	0	0	0	0	0	0	0	0	0
	Total Consultation Experience	102	105	113	125	167	0	0	0	0	1	0	0	0	0	1
Simulation	One hour simulation	20	21	22	24	30	0	0	0	0	0	0	0	0	0	2
	Total Simulation	20	21	22	24	30	0	0	0	0	0	0	0	0	0	2
Multidisciplinary Management Conferences	Tumor board	0	6	11	17	27	0	0	0	0	0	0	0	0	0	0
	Cardiac cath conference	0	0	3	10	26	0	0	0	0	0	0	0	0	0	0
	Multidisciplinary clinics	0	0	0	1	10	0	0	0	0	0	0	0	0	0	0
	Transplant selection committee meeting	0	0	0	1	9	0	0	0	0	0	0	0	0	0	0
	Other (multidisciplinary management conf)	0	0	1	7	15	0	0	0	0	0	0	0	0	0	0
	Total Multidisciplinary Mgmt Conf	20	22	26	33	53	0	0	0	0	1	0	0	0	0	0
Non-Tracked Codes	Non-Tracked Codes	0	2	5	14	38	0	0	0	0	2	0	0	1	3	19

			Car	diac	Thoracic			
Group	Defined Category	Natl Res AVE	Minimum	Track AVE	Minimum	Track AVE		
Congenital Heart	-Congenital Heart Disease (Assistant)	24.3	10	30.0	0	14.2		
	-Congenital Heart Disease (Surgeon)	18.6	10	22.8	0	11.2		
	Total Congenital Heart Disease	42.9	20	52.8	10	25.4		
Adult Cardiac Experience	Acquired Valvular Heart Disease	99.9	50	118.3	25	67.3		
	Myocardial Revascularization	117.6	80	136.0	40	84.9		
	Re-Do Sternotomy	20.4	15	25.0	5	12.3		
	Interventional Skills or Procedures	46.0	20	38.4	20	59.6		
	Conduit Dissection and Preparation	11.6	10	13.5	5	8.3		
	Aortic Procedures	29.8	10	35.0	5	20.6		
	Arrhythmia Surgery	9.1	5	11.1	0	5.5		
	Cardiopulmonary Bypass set-up and pump	5.1	4	5.1	4	5.2		
	Circulatory Assist/Cardiac Transplant	35.8	10	41.0	5	26.4		
	Total Adult Cardiac Experience	375.3	189	423.5	104	290.1		
Adult General Thoracic	-Lung - Major Anatomic Resections	71.7	30	54.0	50	103.1		
	-Lung - Major VATS/Robotic Anatomic	32.1	5	21.8	10	50.3		
	-Lung - Biopsy/Wedge Resection	44.7	25	36.0	40	60.1		
	Total Lung	116.4	60	90.1	100	163.2		
	-Pleura - Major	10.8	0	9.5	5	13.0		
	-Pleura - Minor	13.1	0	10.4	15	17.9		
	Total Pluera	23.9	10	19.9	20	31.0		
	Chest Wall and Diaphragm	22.3	3	20.8	6	25.0		
	Mediastinum	12.3	5	10.0	10	16.4		
	Tracheobronchial - Airway Surgery	4.4	0	2.2	5	8.2		
	-Esophagus - Esophagectomy	21.8	10	16.1	20	31.7		
	-Esophagus - Benign Major	18.3	5	12.6	10	28.4		
	Total Esophagus (Def Ctgy)	40.1	15	28.8	30	60.2		
	Total Adult General Thoracic	219.4	93	171.7	171	303.9		

Notes:

1. "Natl Res AVE" includes all graduates in both tracks.

2. Procedure counts are based upon the Surgeon role, with the exception of Total Congenital Heart Disease, which is the sum of Surgeon and Assistant.

			Car	diac	Thoracic			
Group	Defined Category	Natl Res AVE	Minimum	Track AVE	Minimum	Track AVE		
Major Operative Experience	Major Operative Experience	625.5	302	633.0	285	612.3		
Minor Procedures	-Bronchoscopy - Simple	54.6	0	49.4	30	63.8		
	-Bronchoscopy - Complex	16.2	0	9.4	10	28.3		
	Total Bronchoscopy	70.8	30	58.8	40	92.1		
	-UGI - Endoscopy - Simple	25.4	0	18.9	20	37.0		
	-UGI - Endoscopy - Complex	10.8	0	7.9	5	15.9		
	Total UGI - Endoscopy	36.2	10	26.8	25	52.9		
	-Mediastinal Assessment - Other	1.1	0	0.9	0	1.4		
	-Mediastinal Assessment - Mediastinoscopy	19.2	10	15.8	15	25.1		
	-Mediastinal Assessment - EBUS/FNA	8.6	0	4.5	10	15.7		
	-Mediastinal Assessment - Chamberlain or	18.7	5	17.9	5	20.3		
	Total Mediastinal Assessment	47.5	20	39.1	30	62.4		
	Total Minor Procedures	154.6	60	124.7	95	207.4		
Total Operative Experience	Total Operative Experience	780.1	362	757.7	380	819.7		
Additional	-Consultation Experience - New Patients	65.9	50	70.2	50	58.1		
	-Consultation Experience - Follow-up	63.6	50	66.3	50	58.7		
	Total Consultation Experience	129.4	100	136.5	100	116.8		
	Multidisciplinary Patient Management Confs	32.9	20	31.9	20	34.8		
	-Thoracic Critical Care Case Management	31.2	20	29.2	20	34.6		
	-Cardiac and Congenital CC Case	57.7	20	58.0	20	57.0		
	Total Critical Care Case Management	88.8	75	87.3	75	91.6		
	Simulation	24.1	20	24.5	20	23.5		

Notes:

1. "Natl Res AVE" includes all graduates in both tracks.

2. Procedure counts are based upon the Surgeon role, with the exception of Total Congenital Heart Disease, which is the sum of Surgeon and Assistant.