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# Ambulatory Surgery in Pennsylvania

COMPARISONS OF AMBULATORY  
SURGICAL DATA WITH INPATIENT DATA

1996, First Quarter



*Pennsylvania Health Care  
Cost Containment Council*

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# AMBULATORY SURGERY IN PENNSYLVANIA

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Report Number: 98-03/02-05  
Data: 1996, First Quarter  
Published: April 1998

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# PURPOSE OF THIS REPORT

This report, *Ambulatory Surgery in Pennsylvania*, begins a new phase of Council activity, which is intended to collect and report information about medical treatment provided in the ambulatory setting. By its design, it is intended as a prototype. It includes only one quarter of data, which will allow for only simple observations. It was not intended to do more. Our goal, more fully stated below, was to begin a process of analysis and data release which, with appropriate feedback, will allow us to develop a more comprehensive understanding of the interrelationship between inpatient and outpatient care, and the cost and quality implications of an expanding universe of healthcare delivery options.

The word ambulatory refers to medical services provided outside of the inpatient hospital setting. It is often used synonymously with the word outpatient.

At this time, the Council's regulatory mandate is limited to ambulatory surgical procedures, and to a limited extent, information about diagnostic procedures. Those procedures make up the content of this report. By no means do they include the wide range of outpatient treatments and should not be interpreted as such.

This report begins with an overview of the ambulatory surgical data submitted to the Council and compares it to the same inpatient hospital procedures and treatment. In the same way that not all outpatient procedures and treatment are included, not all inpatient procedures are included: only those "collected" inpatient procedure codes that match the ambulatory procedure codes appear in this report.

## **A Focus on Ambulatory Surgery**

Ambulatory surgery has been increasing in the United States since the early 1980's. The two major reasons for this increase are advances in medical technology and cost containment initiatives, such as changes in reimbursements. The medical advances include improvements in anesthesia, which enable patients to regain consciousness more quickly with fewer aftereffects, as well as more effective pain medications. In addition, minimally invasive and noninvasive procedures are being developed and performed with increasing

frequency. Examples include laser surgery, laparoscopy, and endoscopy. These medical advances have made surgery less complex and risky.

At the same time, concern about rising health care costs led to changes in insurance plans that encouraged the development of ambulatory surgery. For example, in the early 1980's, Medicare was expanded to include care in ambulatory surgery centers, and a prospective payment system based on diagnosis-related groups (DRGs) was adopted for hospital inpatient care that created strong financial incentives for hospitals to shift less complex surgery to outpatient settings. Many state Medicaid plans and private insurers followed the lead of the Medicare program and adopted similar policies.

As these changes went into effect, many types of surgeries previously performed in hospitals and requiring overnight stays increasingly were performed during ambulatory visits. In addition, the number of freestanding ambulatory surgery centers nationally grew from 239 in 1983 to more than 1,800 in 1993.

As this shift from the inpatient to the outpatient setting occurs, the need for information increases. Those involved in health care purchasing, treatment and policy decisions want to understand the relationships between treatment that occurs in the outpatient and the inpatient setting. The increase in outpatient treatment has been seen as at least a partial cost containment measure; outpatient care involves a shorter period of hospitalization, no overnight stays, less resource allocation, and therefore, lower costs. In addition, advances in medical technology that have led to an increase in outpatient care should be reflected in better results for patients: procedures that are less invasive, and that involve less pain and recovery time and are equally as effective.

To date, however, little information has been available to purchasers, consumers, policy-makers and providers to assess whether these desired results are in fact occurring. Are costs being restrained as a result or are they merely being shifted? Is utilization changing, and how is it changing? Is patient care improving? Is greater value for the health care dollar being obtained?

This report presents some basic analyses of these data in order to begin to address some of these questions, provoke additional ones, and perhaps most importantly, to provide a common knowledge base of understanding about surgical procedures in the outpatient setting. As the Council continues to examine the various pieces that make up the health care delivery system, it can over time provide a unified database that will provide important information for those who purchase, consume, provide, manage and pay for health care in Pennsylvania. It can be a valuable resource for those making policy decisions about health care as well.

### What is included in this report?

This report includes 492,090 procedures performed on patients in Pennsylvania hospitals, short stay units and freestanding ambulatory surgery facilities during the period January 1, 1996 through March 31, 1996. Of those, 267,307 (54%) were performed in an ambulatory setting and 224,783 (46%) were performed in an inpatient hospital basis.

It is important to note that this report does not cover all outpatient procedures or treatments. The data included derive from the principal procedure of collected ambulatory surgical procedures mandated by the Council under state law. The ambulatory principal procedure matches the principal procedure for the inpatient data. Additionally, the data do not include other procedures performed during the patient's hospital stay.

Two thousand and ten different procedures are collapsed into 16 primary body systems. Additional detail for each body system is provided in the tables in the rear of the report. For example, cardiac catheterizations are grouped under "Heart and Pericardium – Other Operations". Cataract operations are grouped under "Eye-Lens" procedure group. A listing of the included ICD.9 codes appears in Table 5 next to the procedure names.

Included in this report are counts of admissions, average age, percentage across body systems within the inpatient and outpatient setting, percentage across the facility setting (Inpatient/Outpatient) for respective body systems, and by region. The percentage of inpatient

cases with an admission severity group score of greater than zero is also reported.

The severity information (ASG or Admission Severity Group) and age information are presented in order to better understand the relationship between the patients' level of illness or risk and the setting (inpatient vs. ambulatory) to which they are referred or admitted.

## ABOUT THE COUNCIL

The Pennsylvania Health Care Cost Containment Council is an independent state agency responsible for addressing the cost and quality of health care in Pennsylvania. The Council promotes health care competition through the collection, analysis, and public distribution of cost and quality health care information.

Since its inception the Council has pursued this mission primarily through the release of hospital inpatient data. In fact, Pennsylvania has been a pioneer in this effort. As it has grown, the Council has expanded its program beyond a focus solely on hospital data. In 1992, the ***Consumer Guide to Coronary Artery Bypass Graft Surgery*** was published, which contained the first physician-specific information. In 1994, the Council published a report about major organ transplants, which, for the first time, contained data about insurers.

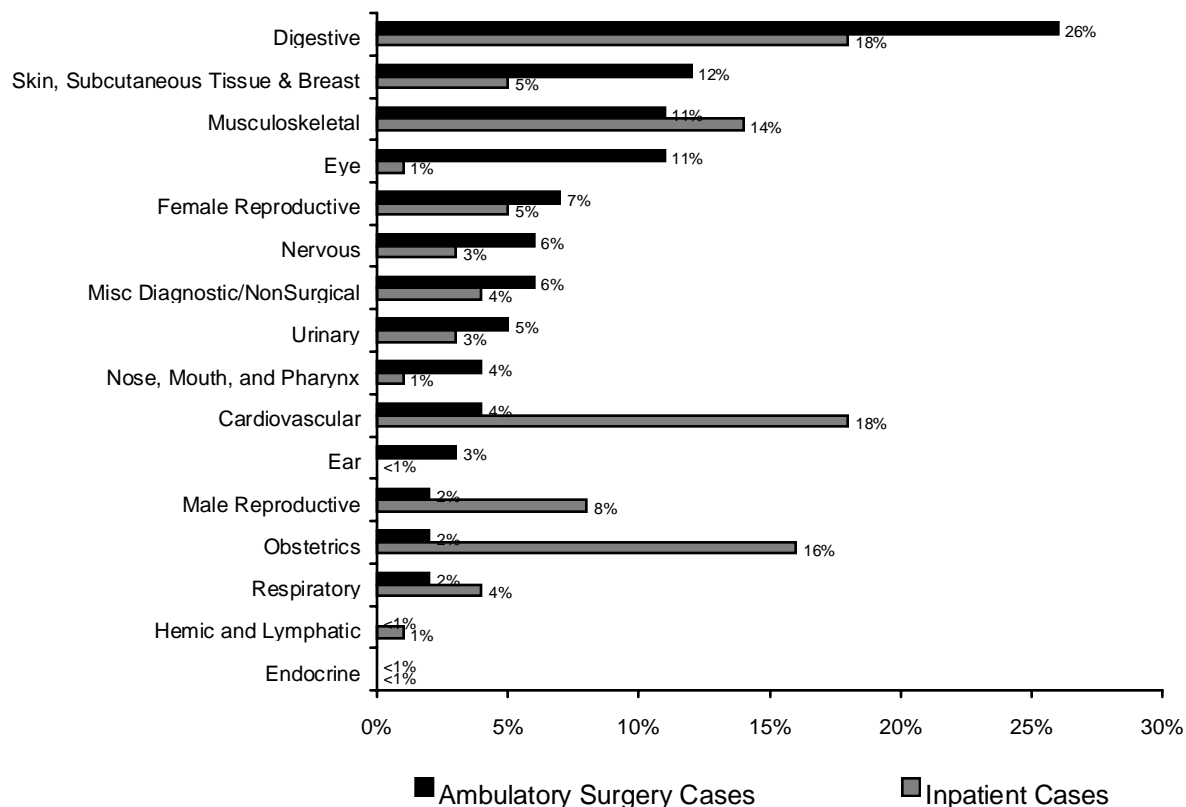
In the fall of 1995, the Council held a series of strategic planning sessions in order to discuss future directions. Out of those sessions came a desire to produce information that could help purchasers, providers, policy-makers and the public better understand the dramatically changing nature of the health care delivery system. There was recognition that focusing on the inpatient hospital admission was not comprehensive enough. Attention needed to be paid to the impact of the payor and the health plan on the cost and quality of care. A second area of importance is the outpatient setting.

This report, ***Ambulatory Surgery in Pennsylvania***, is our first, limited attempt which will set the stage for an ongoing analysis over time of the impact of the outpatient setting on the cost, utilization and quality of health care.

## REPORT HIGHLIGHTS

**Figure 1: Volume Comparison Across Setting**

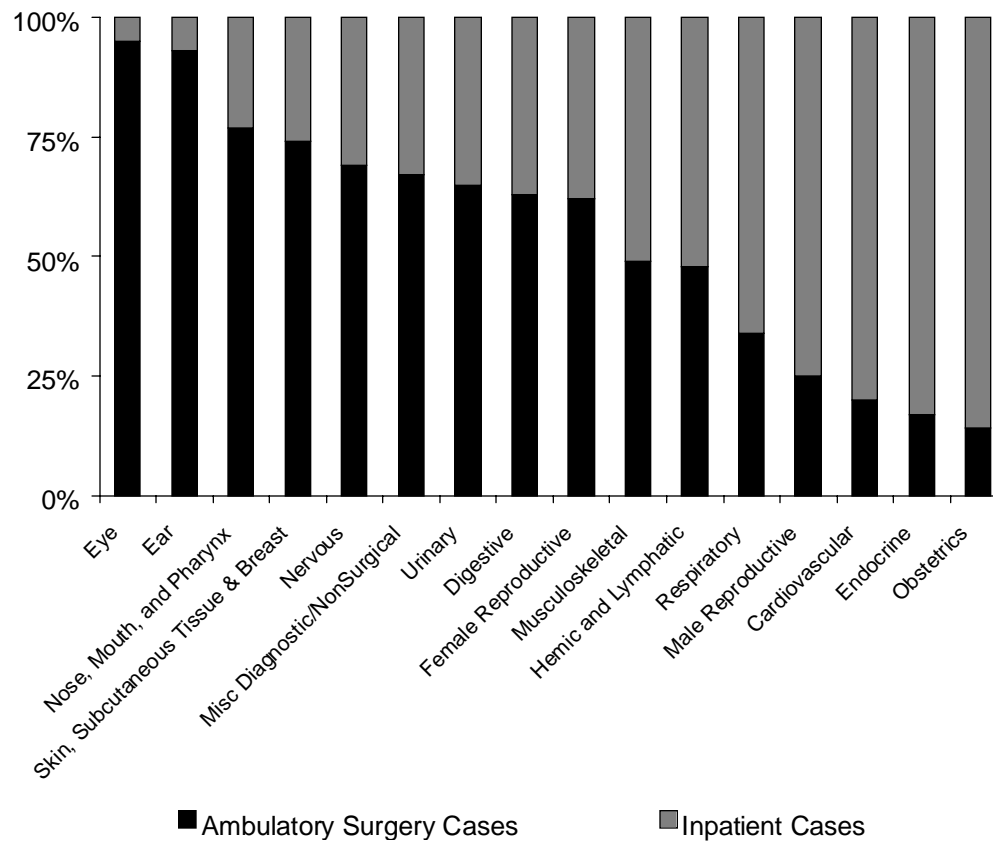
- The body system with the highest percentage of collected (by the Council) procedures in the **AMBULATORY** setting was the *Digestive System*. Twenty-six percent (69,397 procedures) of the total ambulatory procedures included in this report were related to the *Digestive System*.
- The body systems with the highest percentage of collected (by the Council) procedures in the **INPATIENT HOSPITAL** setting were the *Cardiovascular System* and the *Digestive System*. Eighteen percent (40,610 procedures) of the total **INPATIENT HOSPITAL** procedures were related to the *Cardiovascular System*, and 18% (40,297) were related to the *Digestive System*.
- The *Digestive System* accounted for 22% (109,694) of the combined **AMBULATORY** and **INPATIENT HOSPITAL** procedures reported, the most of any body system.



Source: PHC4, 1996, First Quarter (see Table 1 for more detail)

**Figure 2: Setting Comparison by Body System**

- Ninety-five percent of all collected *Eye* procedures and 93% of collected *Ear* procedures were performed in the **AMBULATORY** setting – the highest proportions of **AMBULATORY** to **INPATIENT** procedures of the reported body systems.
- Conversely, 14% of *Obstetrical Procedures* and 17% of procedures related to the *Endocrine System* were performed in the **AMBULATORY** setting – the two lowest proportions of **AMBULATORY** to **INPATIENT** procedures of reported body systems.

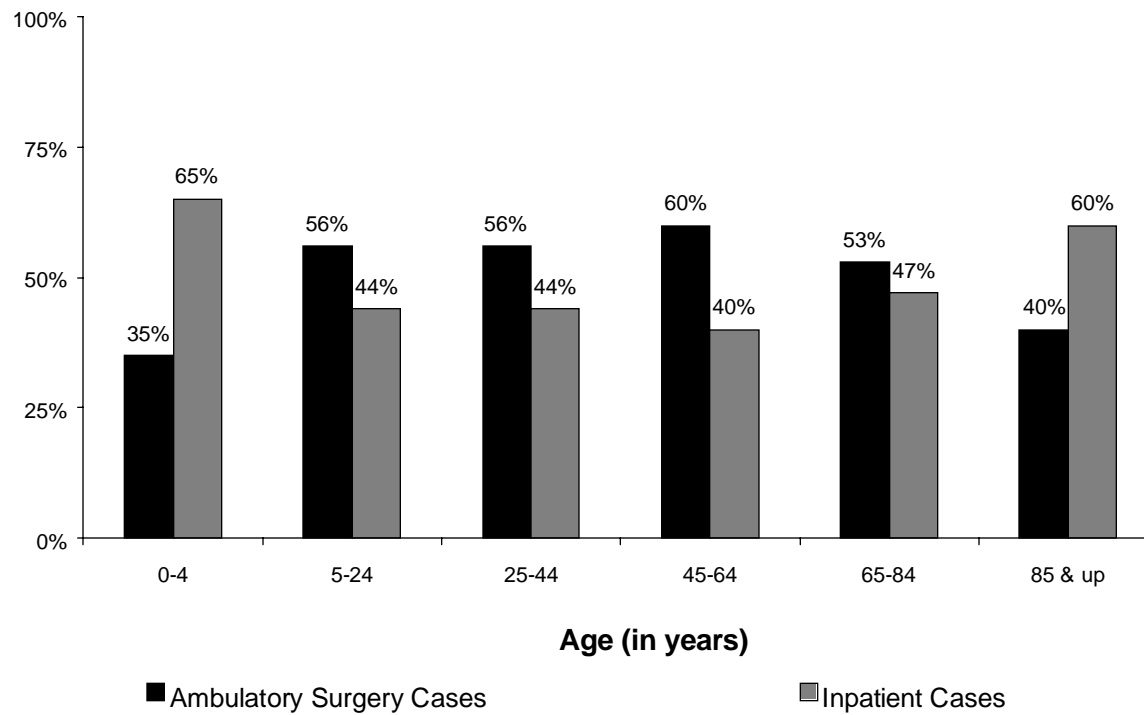


Source: PHC4, 1996, First Quarter (see Table 1 for more detail)



**Figure 3: Volume Percentage of Ambulatory Surgery Cases vs. Inpatient Cases by Age Cohort**

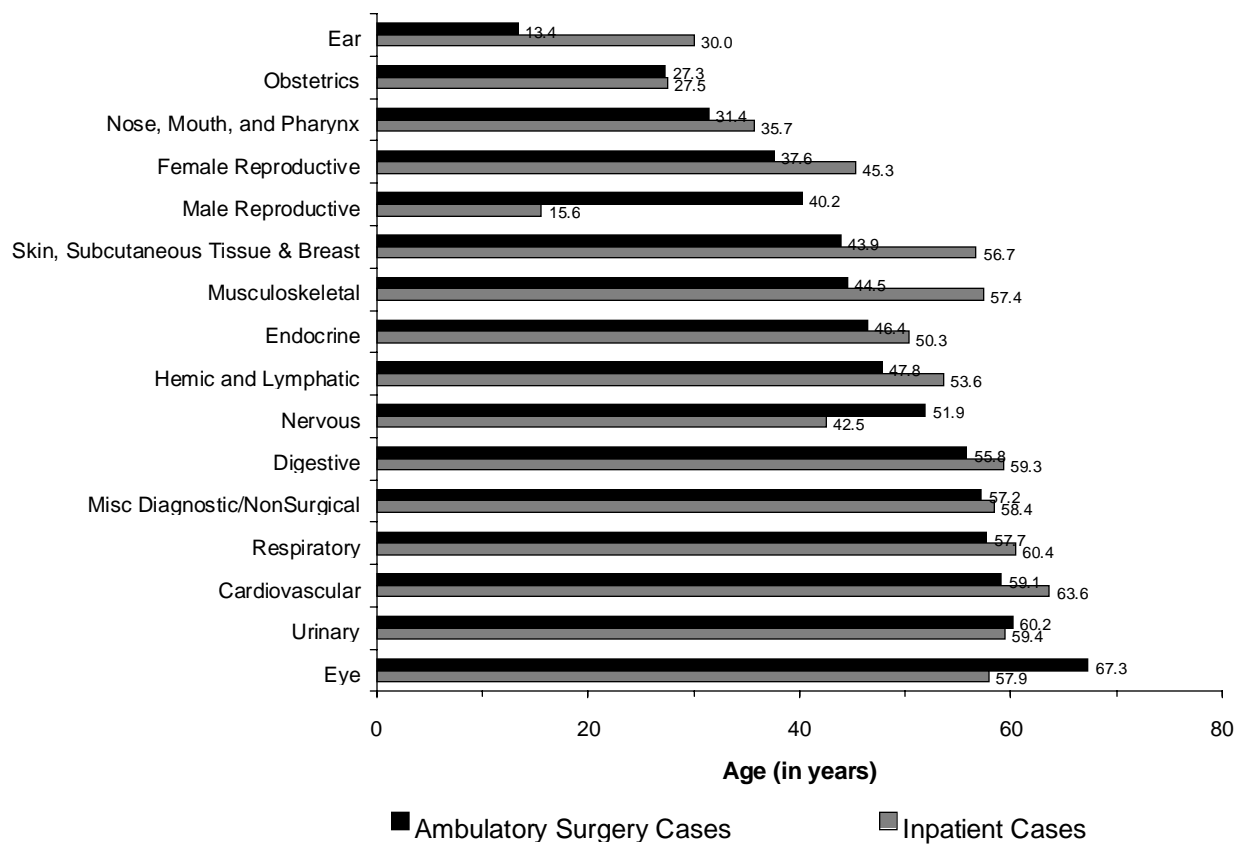
- All age groups, with the exception of the youngest and the oldest patients, had more procedures performed in the **AMBULATORY** setting than in the **INPATIENT HOSPITAL** setting.



Source: PHC4, 1996, First Quarter (see Table 2 for more detail)

**Figure 4: Average Age of Ambulatory Surgery Cases vs. Inpatient Cases by Body System**

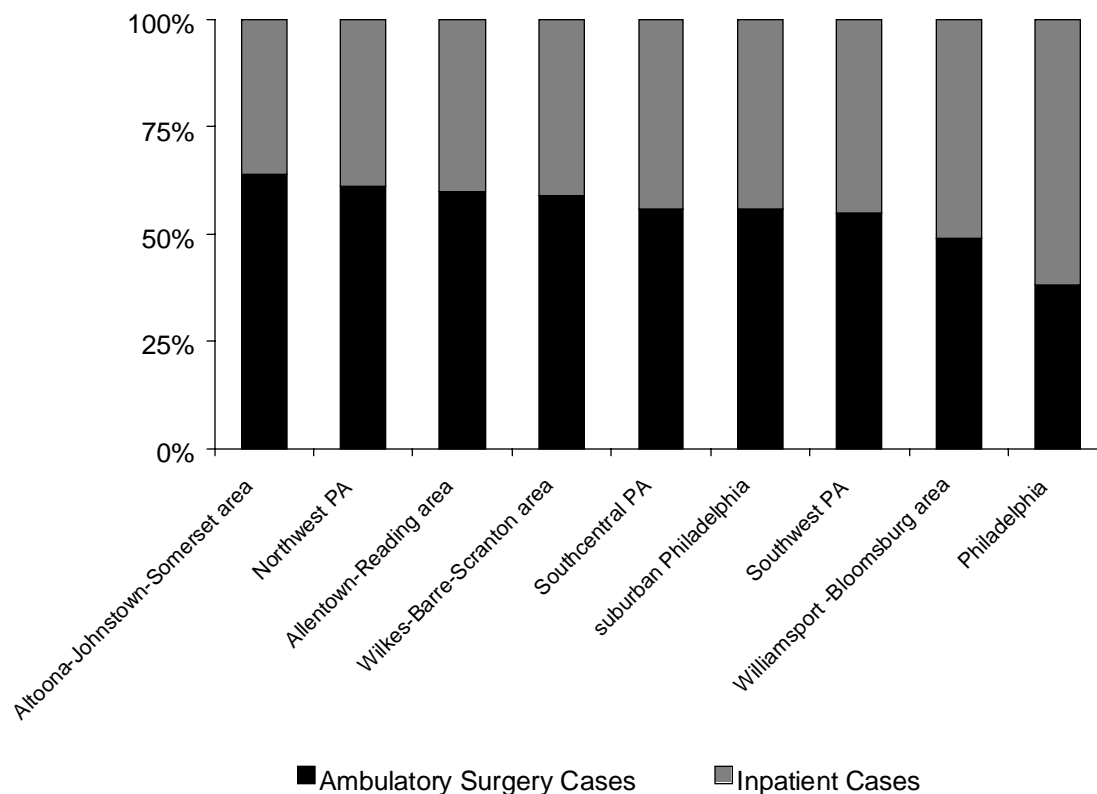
- Across all **AMBULATORY** procedures, those related to the *Ear* involved the youngest average age group – 13.4 years.
- On the **INPATIENT HOSPITAL** side, those procedures related to the *Male Reproductive System* involved the youngest average age group – 15.6 years.
- Across all **AMBULATORY** procedures, those related to the *Eye* involved the oldest average age group – 67.3 years.
- On the **INPATIENT HOSPITAL** side, those procedures related to the *Cardiovascular System* involved the oldest average age group – 63.6 years.



Source: PHC4, 1996, First Quarter (see Table 1 for more detail)

**Figure 5: Volume Percentage of Ambulatory Surgery Cases vs. Inpatient Cases by Hospital Region\***

- The *Altoona-Johnstown-Somerset* area had the highest proportion of **AMBULATORY** surgery cases at 64%.\*\*
- *Philadelphia* had the lowest proportion of **AMBULATORY** surgical cases (38%) to **INPATIENT** procedures (62%).\*\*



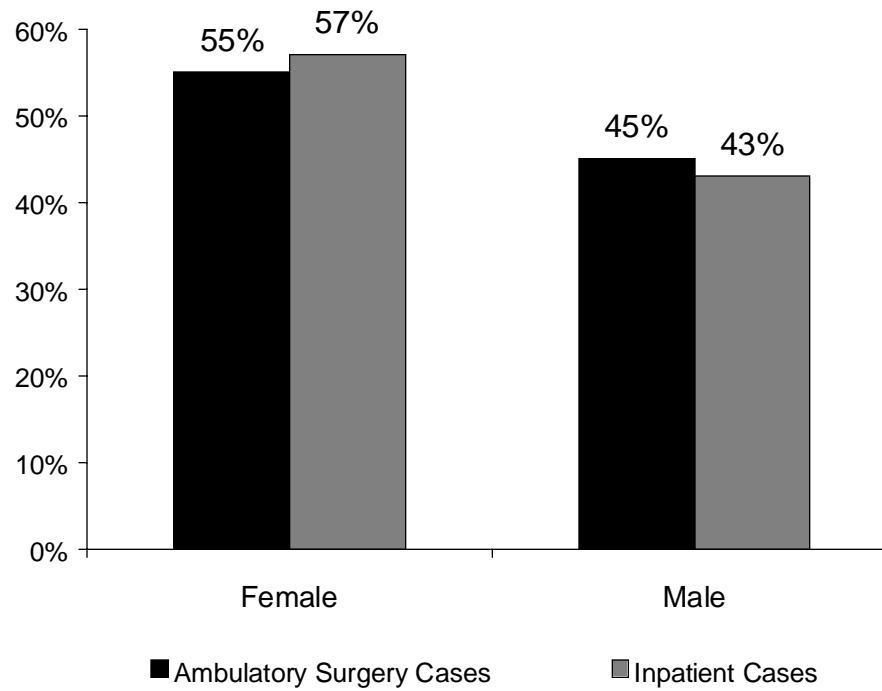
\* See Appendix A for a list of counties.

\*\* Based upon data received from reporting facilities. See Appendix B for more information.

Source: PHC4, 1996, First Quarter (see Table 3 for more detail)

**Figure 6: Comparison Across Setting According to Sex**

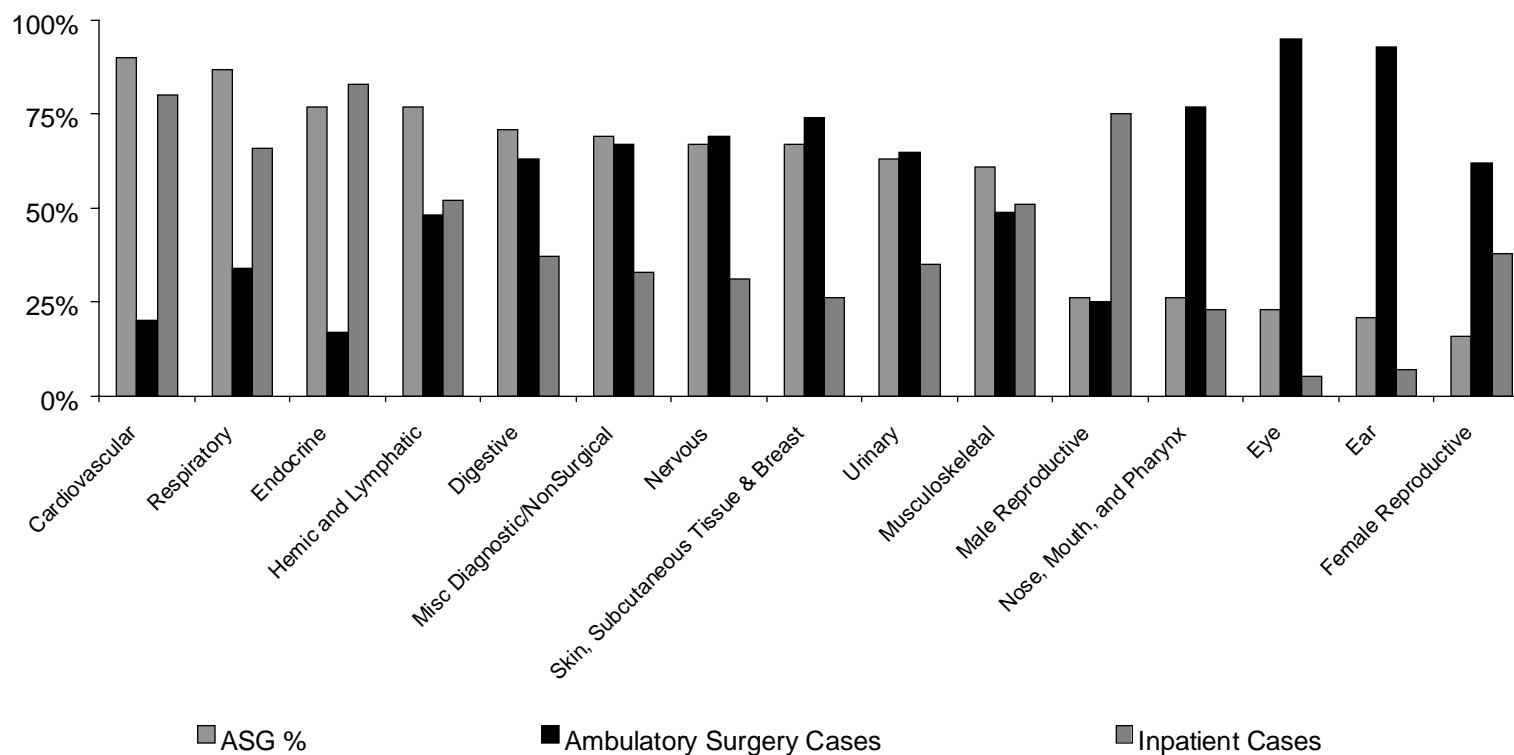
- Women had more procedures in both the **AMBULATORY** and **INPATIENT HOSPITAL** settings than men.



Source: PHC4, 1996, First Quarter (see Table 4 for more detail)

**Figure 7: Percentage of Ambulatory Surgery Cases vs. Inpatient Cases and the Admission Severity Group (ASG % is Inpatient only)\***

- Patients with the highest percentage of serious risk factors were those needing *Cardiovascular* procedures. Eighty percent of *Cardiovascular* procedures were performed in the **INPATIENT HOSPITAL** setting.
- The lowest risk cases involved *Obstetric* procedures. Eighty-six percent of these occurred in the **INPATIENT HOSPITAL** setting.



\* The ASG % in this report is defined as the measurable risk of major organ failure (risk of mortality) based upon identified clinical and demographic factors. See Appendix C for more information.

Source: PHC4, 1996, First Quarter (see Table 1 for more detail)

# TABLES

**Table 1: Ambulatory Surgery Cases vs. Inpatient Cases by Body System**

Body System	Ambulatory Surgery Cases				Inpatient Cases					Total Cases	
	Number	%	System %	Mean Age	Number	%	System %	Mean Age	% ASG>0	Number	%
Cardiovascular System	9,860	4%	20%	59.1	40,610	18%	80%	63.6	90%	50,470	10%
Digestive System	69,397	26%	63%	55.8	40,297	18%	37%	59.3	71%	109,694	22%
Ear	7,080	3%	93%	13.4	518	<1%	7%	30.0	21%	7,598	2%
Endocrine System	221	<1%	17%	46.4	1,100	<1%	83%	50.3	77%	1,321	<1%
Eye	28,805	11%	95%	67.3	1,464	1%	5%	57.9	23%	30,269	6%
Female Reproductive System	17,654	7%	62%	37.6	10,606	5%	38%	45.3	16%	28,260	6%
Hemic and Lymphatic System	1,223	<1%	48%	47.8	1,302	1%	52%	53.6	77%	2,525	1%
Male Reproductive System	5,658	2%	25%	40.2	17,036	8%	75%	15.6	26%	22,694	5%
Misc Diagnostic/NonSurgical	15,926	6%	67%	57.2	7,945	4%	33%	58.4	69%	23,871	5%
Musculoskeletal System	30,065	11%	49%	44.5	31,627	14%	51%	57.4	61%	61,692	13%
Nervous System	17,350	6%	69%	51.9	7,673	3%	31%	42.5	67%	25,023	5%
Nose, Mouth, and Pharynx	11,376	4%	77%	31.4	3,314	1%	23%	35.7	26%	14,690	3%
Obstetrics	5,514	2%	14%	27.3	35,191	16%	86%	27.5	1%	40,705	8%
Respiratory System	4,282	2%	34%	57.7	8,443	4%	66%	60.4	87%	12,725	3%
Skin, Subcutaneous Tissue & Breast	30,754	12%	74%	43.9	10,988	5%	26%	56.7	67%	41,742	8%
Urinary System	12,142	5%	65%	60.2	6,669	3%	35%	59.4	63%	18,811	4%
Total	267,307	100%	54%	50.3	224,783	100%	46%	49.7	55%	492,090	100%

Source: PHC4, 1996, First Quarter

Note: Percentages may not add to 100% due to rounding

**Table 2: Ambulatory Surgery Cases vs. Inpatient Cases by Age Cohort**

Age Cohort	Ambulatory Surgery Cases			Inpatient Cases			Total Cases	
	Number	%	Age %	Number	%	Age %	Number	%
0-4	9,842	4%	35%	18,350	8%	65%	28,192	6%
5-24	27,157	10%	56%	21,270	9%	44%	48,427	10%
25-44	68,707	26%	56%	53,793	24%	44%	122,500	25%
45-64	73,240	27%	60%	48,085	21%	40%	121,325	25%
65-84	81,186	30%	53%	72,458	32%	47%	153,644	31%
85 & up	7,133	3%	40%	10,819	5%	60%	17,952	4%
Total*	267,307	100%	54%	224,783	100%	46%	492,090	100%

\* The age identification of 42 ambulatory cases and 8 inpatient cases was missing, therefore the total numbers reflect the difference.

Source: PHC4, 1996, First Quarter

Note: Percentages may not add to 100% due to rounding



**Table 3: Ambulatory Surgery Cases vs. Inpatient Cases by Hospital Region\***

Region	Ambulatory Surgery Cases			Inpatient Cases				Total Cases	
	Number	%	Region %	Number	%	Region %	% ASG>0	Number	%
Southwest PA	64,805	24%	55%	53,105	24%	45%	57%	117,910	24%
Northwest PA	23,701	9%	61%	14,888	7%	39%	53%	38,589	8%
Altoona-Johnstown-Somerset area	14,136	5%	64%	7,976	4%	36%	58%	22,112	4%
Williamsport-Bloomsburg area	9,952	4%	49%	10,475	5%	51%	55%	20,427	4%
Southcentral PA	34,010	13%	56%	26,367	12%	44%	53%	60,377	12%
Wilkes-Barre-Scranton area	20,552	8%	59%	14,390	6%	41%	60%	34,942	7%
Allentown-Reading area	30,441	11%	60%	20,159	9%	40%	59%	50,600	10%
Suburban Philadelphia	42,704	16%	56%	33,537	15%	44%	48%	76,241	15%
Philadelphia	27,006	10%	38%	43,886	20%	62%	56%	70,892	14%
Total	267,307	100%	54%	224,783	100%	46%	55%	492,090	100%

\* Based upon data received from reporting facilities. See Appendix A for a list of counties and Appendix B for facility information.

Source: PHC4, 1996, First Quarter

Note: Percentages may not add to 100% due to rounding

**Table 4: Ambulatory Surgery Cases vs. Inpatient Cases by Sex**

Sex	Ambulatory Surgery Cases			Inpatient Cases			Total Cases	
	Number	%	Sex %	Number	%	Sex %	Number	%
Female	146,909	55%	54%	127,587	57%	46%	274,496	56%
Male	120,388	45%	55%	97,184	43%	45%	217,572	44%
Total*	267,307	100%	54%	224,783	100%	46%	492,090	100%

\* The sex identification of 10 ambulatory cases and 12 inpatient cases was missing, however the total numbers reflect these cases.

Source: PHC4, 1996, First Quarter

Note: Percentages may not add to 100% due to rounding

**Table 5: Ambulatory Surgery Cases vs. Inpatient Cases by Collected Procedures\***

Collected Procedure	Ambulatory Surgery Cases					Inpatient Cases					Total Cases	
	Procedure Group Code	Number	%	Procedure %	Mean Age	Number	%	Procedure %	Mean Age	% ASG>0	Number	%
<b>Cardiovascular System</b>												
Heart & Pericardium - Other Operations .....	37	5,872	2%	29%	60.2	14,523	6%	71%	64.2	89%	20,395	4%
Valves & Septa of Heart .....	35	4	<1%	<1%	14.5	1,428	1%	100%	57.4	87%	1,432	<1%
Vessels (Excludes Coronary) - Incision, Excision .	38	2,823	1%	27%	56.8	7,501	3%	73%	63.5	90%	10,324	2%
Vessels (Excludes Coronary) - Other Operations .	39	1,137	<1%	19%	59.5	4,878	2%	81%	63.6	92%	6,015	1%
Vessels of Heart .....	36	24	<1%	<1%	58.6	12,280	5%	100%	63.7	91%	12,304	3%
System Total		9,860	4%	20%	59.1	40,610	18%	80%	63.6	90%	50,470	10%
<b>Digestive System</b>												
Abdominal Region - Other Operations .....	54	2,770	1%	44%	39.3	3,487	2%	56%	54.6	76%	6,257	1%
Anus .....	49	2,017	1%	82%	47.3	438	<1%	18%	49.5	28%	2,455	<1%
Appendix .....	47	71	<1%	3%	28.0	2,439	1%	97%	29.6	16%	2,510	1%
Esophagus .....	42	2,280	1%	77%	61.3	665	<1%	23%	55.8	86%	2,945	1%
Gallbladder & Biliary Tract .....	51	2,635	1%	26%	50.0	7,661	3%	74%	55.3	47%	10,296	2%
Hernia - Repair of .....	53	8,708	3%	80%	47.2	2,110	1%	20%	58.8	66%	10,818	2%
Intestine -Incision,Excision(includes Colonoscopy)	45	47,152	18%	74%	58.6	16,619	7%	26%	65.5	85%	63,771	13%
Intestine - Other Operations .....	46	118	<1%	10%	64.9	1,037	<1%	90%	57.4	78%	1,155	<1%
Liver .....	50	954	<1%	56%	50.6	739	<1%	44%	52.0	80%	1,693	<1%
Pancreas .....	52	78	<1%	23%	58.5	267	<1%	77%	59.5	92%	345	<1%
Rectum, Rectosigmoid, & Perirectal Tissue .....	48	1,536	1%	46%	57.6	1,800	1%	54%	66.2	80%	3,336	1%
Stomach - Incision & Excision .....	43	501	<1%	21%	70.5	1,866	1%	79%	69.3	85%	2,367	<1%
Stomach - Other Operations .....	44	577	<1%	33%	58.4	1,169	1%	67%	59.8	80%	1,746	<1%
System Total		69,397	26%	63%	55.8	40,297	18%	37%	59.3	71%	109,694	22%
<b>Ear</b>												
External Ear .....	18	707	<1%	85%	42.0	123	<1%	15%	38.0	43%	830	<1%
Middle & Inner Ear (includes Tubes) .....	20	5,877	2%	95%	8.2	314	<1%	5%	25.5	16%	6,191	1%
Middle Ear - Reconstructive .....	19	496	<1%	86%	34.4	81	<1%	14%	35.3	9%	577	<1%
System Total		7,080	3%	93%	13.4	518	<1%	7%	30.0	21%	7,598	2%

\* Uses a CPT/ICD-9 "bridge". See Appendix C for more information.

Source: PHC4, 1996, First Quarter

Note: Percentages may not add to 100% due to rounding

Table 5 continued

Collected Procedure	Ambulatory Surgery Cases					Inpatient Cases					Total Cases	
	Procedure Code	Number	%	Procedure %	Mean Age	Number	%	Procedure %	Mean Age	% ASG>0	Number	%
<b>Endocrine System</b>												
Endocrine Glands .....	7	21	<1%	12%	65.9	157	<1%	88%	47.2	73%	178	<1%
Thyroid & Parathyroid Glands .....	6	200	<1%	17%	44.4	943	<1%	83%	50.8	78%	1,143	<1%
System Total		221	<1%	17%	46.4	1,100	<1%	83%	50.3	77%	1,321	<1%
<b>Eye</b>												
Conjunctiva .....	10	74	<1%	95%	51.0	4	<1%	5%	67.3	50%	78	<1%
Cornea .....	11	539	<1%	86%	55.7	91	<1%	14%	55.8	19%	630	<1%
Extraocular Muscles .....	15	655	<1%	99%	17.6	7	<1%	1%	19.0	<1%	662	<1%
Eyelids .....	8	2,426	1%	91%	50.7	249	<1%	9%	50.8	61%	2,675	1%
Iris, Ciliary Body, Sclera, & Anterior Chamber .....	12	1,470	1%	88%	67.9	202	<1%	12%	69.6	11%	1,672	<1%
Lacrimal System .....	9	454	<1%	93%	23.2	35	<1%	7%	42.5	29%	489	<1%
Lens (includes Cataracts) .....	13	21,275	8%	99%	72.8	199	<1%	1%	72.9	30%	21,474	4%
Orbit & Eyeball .....	16	149	<1%	53%	47.0	130	<1%	47%	37.4	7%	279	<1%
Retina, Choroid, Vitreous & Posterior Chamber .....	14	1,763	1%	76%	59.9	547	<1%	24%	57.9	11%	2,310	<1%
System Total		28,805	11%	95%	67.3	1,464	1%	5%	57.9	23%	30,269	6%
<b>Female Reproductive System</b>												
Cervix .....	67	2,344	1%	94%	35.6	144	<1%	6%	40.5	26%	2,488	1%
Fallopian Tubes .....	66	3,686	1%	79%	31.9	1,008	<1%	21%	30.6	4%	4,694	1%
Ovary .....	65	1,103	<1%	48%	34.0	1,209	1%	52%	38.6	13%	2,312	<1%
Uterus - Other Incision & Excision .....	68	2,265	1%	26%	46.1	6,575	3%	74%	47.8	14%	8,840	2%
Uterus & Supporting Structures - Other Operation .....	69	6,898	3%	91%	38.8	648	<1%	9%	34.7	18%	7,546	2%
Vagina & Cul-De-Sac .....	70	672	<1%	44%	36.2	868	<1%	56%	60.3	45%	1,540	<1%
Vulva & Perineum .....	71	686	<1%	82%	40.6	154	<1%	18%	51.7	45%	840	<1%
System Total		17,654	7%	62%	37.6	10,606	5%	38%	45.3	16%	28,260	6%

**Table 5 continued**

Collected Procedure	Ambulatory Surgery Cases				Inpatient Cases					Total Cases		
	Procedure Code	Number	%	Procedure %	Mean Age	Number	%	Procedure %	Mean Age	% ASG>0	Number	%
<b>Hemic and Lymphatic System</b>												
Bone Marrow & Spleen .....	41	19	<1%	4%	53.3	426	<1%	96%	43.5	66%	445	<1%
Lymphatic System .....	40	1,204	<1%	58%	47.8	876	<1%	42%	58.5	82%	2,080	<1%
System Total		1,223	<1%	48%	47.8	1,302	1%	52%	53.6	77%	2,525	1%
<b>Male Reproductive System</b>												
Penis (includes Circumcisions) .....	64	1,686	1%	11%	22.4	13,339	6%	89%	0.9	9%	15,025	3%
Prostate & Seminal Vesicles .....	60	1,371	1%	29%	67.7	3,429	2%	71%	70.0	88%	4,800	1%
Scrotum & Tunica Vaginalis .....	61	264	<1%	84%	43.6	52	<1%	16%	50.7	60%	316	<1%
Spermatic Cord, Epididymis & Vas Deferens .....	63	1,692	1%	98%	37.5	32	<1%	2%	54.9	59%	1,724	<1%
Testes .....	62	645	<1%	78%	34.4	184	<1%	22%	49.8	51%	829	<1%
System Total		5,658	2%	25%	40.2	17,036	8%	75%	15.6	26%	22,694	5%
<b>Misc Diagnostic/NonSurgical</b>												
Chemotherapy .....	99	12,401	5%	84%	60.5	2,440	1%	16%	57.7	83%	14,841	3%
Interview, Evaluation, Consult & Exam .....	89	540	<1%	82%	57.2	122	<1%	18%	61.6	64%	662	<1%
Intubation & Irrigation (Nonoperative) .....	96	258	<1%	13%	42.6	1,768	1%	87%	47.3	76%	2,026	<1%
Misc Diag Radiology & Related Techniques .....	88	8	<1%	4%	68.3	175	<1%	96%	55.9	79%	183	<1%
Nuclear Medicine .....	92	20	<1%	3%	57.7	600	<1%	97%	52.2	90%	620	<1%
Phys/Resp Therapy, Rehab & Related Procedures	93	1,106	<1%	31%	39.9	2,490	1%	69%	68.5	46%	3,596	1%
Removal of Foreign Body&Calculus(Nonoperative)	98	759	<1%	85%	46.5	131	<1%	15%	44.0	45%	890	<1%
Replace & Removal of Therapeutic Appliances ....	97	834	<1%	79%	44.3	219	<1%	21%	66.2	80%	1,053	<1%
System Total		15,926	6%	67%	57.2	7,945	4%	33%	58.4	69%	23,871	5%

**Table 5 continued**

Collected Procedure	Ambulatory Surgery Cases				Inpatient Cases					Total Cases		
	Procedure Code	Number	%	Procedure %	Mean Age	Number	%	Procedure %	Mean Age	% ASG>0	Number	%
<b>Musculoskeletal System</b>												
Bones (Except Facial Bones) - Other Operations . 78	2,309	1%	70%	41.8	988	<1%	30%	52.4	57%	3,297	1%	
Facial Bones & Joints ..... 76	335	<1%	32%	37.2	708	<1%	68%	35.7	17%	1,043	<1%	
Fracture & Dislocation - Reduction of ..... 79	3,824	1%	32%	39.7	8,037	4%	68%	58.6	68%	11,861	2%	
Joint Structures - Incision & Excision ..... 80	9,173	3%	66%	43.5	4,818	2%	34%	47.1	22%	13,991	3%	
Joint Structures - Repair & Plastic Operations ..... 81	3,166	1%	21%	44.2	12,030	5%	79%	62.6	70%	15,196	3%	
Muscle, Tendon, & Fascia of Hand ..... 82	3,419	1%	96%	47.5	143	<1%	4%	42.4	45%	3,562	1%	
Muscle, Tendon, Fascia, & Bursa (Except Hand) . 83	2,986	1%	65%	46.5	1,592	1%	35%	50.7	64%	4,578	1%	
Musculoskeletal System - Other Procedures ..... 84	321	<1%	13%	54.8	2,090	1%	87%	67.0	90%	2,411	<1%	
Other Bones - Incision, Excision & Division ..... 77	4,532	2%	79%	48.6	1,221	1%	21%	49.4	57%	5,753	1%	
System Total	30,065	11%	49%	44.5	31,627	14%	51%	57.4	61%	61,692	13%	
<b>Nervous System</b>												
Cranial & Peripheral Nerves ..... 4	7,129	3%	94%	50.7	460	<1%	6%	51.1	73%	7,589	2%	
Skull, Brain, Cerebral Meninges - Incision&Excision 1	36	<1%	4%	36.3	809	<1%	96%	56.2	91%	845	<1%	
Skull, Brain, Cerebral Meninges - Other Operation . 2	14	<1%	2%	42.1	777	<1%	98%	35.5	82%	791	<1%	
Spinal Cord & Spinal Canal Structures ..... 3	9,186	3%	62%	53.5	5,558	2%	38%	40.6	61%	14,744	3%	
Sympathetic Nerves or Ganglia ..... 5	985	<1%	93%	47.3	69	<1%	7%	55.9	68%	1,054	<1%	
System Total	17,350	6%	69%	51.9	7,673	3%	31%	42.5	67%	25,023	5%	
<b>Nose, Mouth, and Pharynx</b>												
Mouth & Face - Other Operations ..... 27	1,010	<1%	70%	32.5	424	<1%	30%	34.3	33%	1,434	<1%	
Nasal Sinuses ..... 22	1,306	<1%	79%	43.2	348	<1%	21%	44.8	28%	1,654	<1%	
Nose ..... 21	4,265	2%	85%	43.6	773	<1%	15%	57.1	43%	5,038	1%	
Pharynx ..... 29	201	<1%	54%	43.8	170	<1%	46%	45.7	55%	371	<1%	
Salivary Glands & Ducts ..... 26	200	<1%	41%	50.2	293	<1%	59%	53.3	23%	493	<1%	
Teeth, Gums, & Alveoli - Other Operations ..... 24	438	<1%	84%	28.8	82	<1%	16%	44.2	38%	520	<1%	
Tongue ..... 25	227	<1%	76%	32.9	70	<1%	24%	42.9	53%	297	<1%	
Tonsils & Adenoids ..... 28	3,729	1%	76%	11.4	1,154	1%	24%	12.3	7%	4,883	1%	
System Total	11,376	4%	77%	31.4	3,314	1%	23%	35.7	26%	14,690	3%	

Table 5 continued

Collected Procedure	Ambulatory Surgery Cases				Inpatient Cases					Total Cases		
	Procedure Code	Number	%	Procedure %	Mean Age	Number	%	Procedure %	Mean Age	% ASG>0	Number	%
<b>Obstetrics</b>												
Cesarean Section & Removal of Fetus.....	74	369	<1%	5%	30.3	6,837	3%	95%	28.6	2%	7,206	1%
Forceps, Vacuum, & Breech Delivery .....	72	308	<1%	6%	28.6	4,445	2%	94%	27.6	1%	4,753	1%
Inducing or Assisting Delivery - Other Procedure..	73	1,322	<1%	6%	29.0	20,186	9%	94%	27.1	<1%	21,508	4%
Obstetrical - Other Operations .....	75	3,515	1%	49%	26.2	3,723	2%	51%	27.0	1%	7,238	1%
System Total		5,514	2%	14%	27.3	35,191	16%	86%	27.5	1%	40,705	8%
<b>Respiratory System</b>												
Chest Wall, Pleura, Mediastinum, & Diaphragm ...	34	585	<1%	16%	62.0	3,026	1%	84%	62.8	92%	3,611	1%
Larynx - Excision .....	30	443	<1%	74%	49.3	155	<1%	26%	55.7	68%	598	<1%
Larynx & Trachea - Other Operations .....	31	918	<1%	35%	49.5	1,717	1%	65%	52.5	74%	2,635	1%
Lung & Bronchus - Excision .....	32	19	<1%	2%	46.2	929	<1%	98%	60.5	93%	948	<1%
Lung & Bronchus - Other Operations .....	33	2,317	1%	47%	61.6	2,616	1%	53%	63.1	90%	4,933	1%
System Total		4,282	2%	34%	57.7	8,443	4%	66%	60.4	87%	12,725	3%
<b>Skin, Subcutaneous Tissue &amp; Breast</b>												
Breast .....	85	8,842	3%	79%	51.3	2,303	1%	21%	56.8	48%	11,145	2%
Skin & Subcutaneous Tissue .....	86	21,912	8%	72%	40.8	8,685	4%	28%	56.6	73%	30,597	6%
System Total		30,754	12%	74%	43.9	10,988	5%	26%	56.7	67%	41,742	8%
<b>Urinary System</b>												
Kidney .....	55	337	<1%	19%	58.7	1,473	1%	81%	52.1	66%	1,810	<1%
Ureter .....	56	720	<1%	44%	51.1	916	<1%	56%	47.0	31%	1,636	<1%
Urethra .....	58	1,323	<1%	78%	48.1	364	<1%	22%	62.8	70%	1,687	<1%
Urinary Bladder .....	57	8,274	3%	74%	63.2	2,842	1%	26%	68.3	79%	11,116	2%
Urinary Tract - Other Operations .....	59	1,488	1%	58%	59.3	1,074	<1%	42%	55.4	38%	2,562	1%
System Total		12,142	5%	65%	60.2	6,669	3%	35%	59.4	63%	18,811	4%
<b>Grand Total</b>		<b>267,307</b>	<b>100%</b>	<b>54%</b>	<b>50.3</b>	<b>224,783</b>	<b>100%</b>	<b>46%</b>	<b>49.7</b>	<b>55%</b>	<b>492,090</b>	<b>100%</b>

# APPENDICES



**APPENDIX A: REGIONAL DEFINITIONS BY COUNTY**

**SOUTHWEST PA (REGION 1)**

- Allegheny County
- Armstrong County
- Beaver County
- Fayette County
- Greene County
- Washington County
- Westmoreland County

**NORTHWEST PA (REGION 2)**

- Butler County
- Cameron County
- Clarion County
- Clearfield County
- Crawford County
- Elk County
- Erie County
- Forest County
- Jefferson County
- Lawrence County
- McKean County
- Mercer County
- Potter County
- Venango County
- Warren County

**ALTOONA-JOHNSTOWN-SOMERSET AREA (REGION 3)**

- Bedford County
- Blair County
- Cambria County
- Indiana County
- Somerset County

**WILLIAMSPORT-BLOOMSBURG AREA (REGION 4)**

- Centre County
- Clinton County
- Columbia County
- Lycoming County
- Mifflin County
- Montour County
- Northumberland County
- Snyder County
- Tioga County
- Union County

**SOUTHCENTRAL PA (REGION 5)**

- Adams County
- Cumberland County
- Dauphin County
- Franklin County
- Fulton County
- Huntingdon County
- Juniata County
- Lancaster County
- Lebanon County
- Perry County
- York County

**WILKES-BARRE-SCRANTON AREA (REGION 6)**

- Bradford County
- Lackawanna County
- Luzerne County
- Monroe County
- Pike County
- Sullivan County
- Susquehanna County
- Wayne County
- Wyoming County

**ALLENTOWN-READING AREA (REGION 7)**

- Berks County
- Carbon County
- Lehigh County
- Northampton County
- Schuylkill County

**SUBURBAN PHILADELPHIA (REGION 8)**

- Bucks County
- Chester County
- Delaware County
- Montgomery County

**PHILADELPHIA (REGION 9)**

- Philadelphia County



## APPENDIX B: LISTING OF FACILITIES BY REGION

The following facilities submitted the data that are included in this report:

### SOUTHWEST PA

#### Acute Care Facilities

Aliquippa Hospital  
Allegheny General Hospital  
Allegheny Valley Hospital  
Armstrong County Memorial Hospital  
Braddock Medical Center  
Brownsville General Hospital  
Butler Memorial Hospital  
Canonsburg General Hospital  
Children's Home of Pittsburgh  
Children's Hospital of Pittsburgh  
Citizens General Hospital  
Forbes Metropolitan Hospital  
Forbes Regional Hospital  
Frick Hsp & Community Health Center  
Highlands Hospital  
Jeannette District Memorial Hsp  
Jefferson Hospital  
Latrobe Area Hospital  
Magee-Womens Hospital  
McKeesport Hospital  
Medical Center, Beaver, PA, Inc  
Mercy Hospital of Pittsburgh  
Mercy Providence Hospital  
Monongahela Valley Hospital  
Monsour Medical Center  
Ohio Valley General Hospital  
Passavant Hospital  
Podiatry Hospital of Pittsburgh  
Saint Clair Memorial Hospital  
Saint Francis Central Hospital  
Saint Francis Medical Center

Saint Margaret Memorial Hospital  
Sewickley Valley Hospital  
South Side Hospital  
Suburban General Hospital/Pgh  
Uniontown Hospital  
University of Pittsburgh Med Ctr  
Vencor Hospital/Pittsburgh  
Washington Hospital  
Westmoreland Regional Hospital

#### Ambulatory Surgery Centers

Sewickley Surgical Ctr/Edgeworth Comm  
Specialists Hlth Care Clinic Monroeville  
SurgiCenter at Ligonier



### NORTHWEST PA

#### Acute Care Facilities

Bradford Regional Medical Center  
Brookville Hospital  
Clarion Hospital  
Clearfield Hospital  
Community Hospital/Kane  
Corry Memorial Hospital  
DuBois Regional Medical Center  
Elk County Regional Medical Center  
Ellwood City Hospital  
Hamot Medical Center  
Horizon Hospital System  
Jameson Memorial Hospital  
Meadville Medical Center  
Metro Health Center  
Millcreek Community Hospital  
Northwest Medical Center

Punxsutawney Area Hospital  
Saint Francis Hosp of New Castle  
Saint Vincent Health Center  
Sharon Regional Health System  
Union City Memorial Hospital  
United Community Hospital  
Warren General Hospital

#### Ambulatory Surgery Centers

Saint Francis Surgery Center North



### ALTOONA-JOHNSTOWN-SOMERSET AREA

#### Acute Care Facilities

Altoona Hospital  
Conemaugh Valley Memorial Hospital  
Good Samaritan Med Ctr/Johnstown  
Indiana Hospital  
Memorial Hospital of Bedford County  
Mercy Regional Health System  
Meyersdale Community Hospital  
Miner's Hospital of N Cambria  
Nason Hospital  
Somerset Hospital Center for Health  
Tyrone Hospital  
Windber Hospital & Wheeling Clinic



### WILLIAMSPORT-BLOOMSBURG AREA

#### Acute Care Facilities

Berwick Hospital Center  
Bloomsburg Hospital  
Bucktail Medical Center

Centre Community Hospital  
Evangelical Community Hospital  
Geisinger Medical Center/Danville  
Lewistown Hospital  
Philipsburg Area Hospital  
Shamokin Area Community Hospital

**Ambulatory Surgery Centers**

Centre Community Surgical Ctr Inc



**SOUTHCENTRAL PA**

**Acute Care Facilities**

Carlisle Hospital  
Chambersburg Hospital  
Community General Osteopathic Hosp  
Community Hospital of Lancaster  
Ephrata Community Hospital  
Fulton County Medical Center  
Gettysburg Hospital  
Good Samaritan Hospital/Lebanon  
Holy Spirit Hospital  
J. C. Blair Memorial Hospital  
Lancaster General Hosp/Susquehanna Div  
Lancaster General Hospital  
Memorial Hospital/York  
Penn State University Hsp (Hershey)  
Pinnacle Health Hospitals (Hbg)  
Saint Joseph Hospital, Inc./Lanc  
Waynesboro Hospital  
York Hospital

**Ambulatory Surgery Centers**

Apple Hill Surgical Center  
Grandview Surgery Ctr and Laser Ctr  
Hanover SurgiCenter  
Lancaster Surgery Center

Lebanon Outpatient Surgical Center  
Surgical Center of York



**WILKES-BARRE-SCRANTON AREA**

**Acute Care Facilities**

Barnes-Kasson County Hospital  
Community Medical Center/Scranton  
Geisinger Wyoming Valley Med Center  
Hazleton General Hospital  
Hazleton Saint Joseph Med Ctr  
Marian Community Hospital  
Memorial Hospital Inc./Towanda  
Mercy Hospital/Scranton  
Mercy Hospital/Wilkes-Barre  
Mercy Special Care Hospital  
Moses Taylor Hospital  
Pocono Medical Center  
Robert Packer Hospital  
WVHCS-Hospital, Inc.  
Wayne Memorial Hospital

**Ambulatory Surgery Centers**

Eye Clinic Ambulatory Surgical Ctr  
NEI Ambulatory Surgery  
Pocono Ambulatory Surgery Cntr Ltd  
Scranton Surgery Center



**ALLENTOWN-READING AREA**

**Acute Care Facilities**

Allentown Osteopathic Medical Ctr.  
Ashland Regional Medical Center  
Community General Hospital/Reading  
Easton Hospital

Gnaden Huetten Memorial Hospital  
Good Samaritan Regional Med. Center  
Lehigh Valley Hospital  
Miners Memorial Medical Center  
Muhlenberg Hospital Center  
Pottsville Hospital & Warne Clinic  
Reading Hospital and Medical Center  
Sacred Heart Hospital/Allentown  
Saint Joseph Medical Center  
St. Luke's Hospital of Bethlehem

**Ambulatory Surgery Centers**

Fairgrounds Surgical Center



**SUBURBAN PHILADELPHIA**

**Acute Care Facilities**

Abington Memorial Hospital  
Brandywine Hospital  
Bryn Mawr Hospital  
Chester County Hospital  
Crozer-Chester Medical Center  
Delaware County Memorial Hospital  
Delaware Valley Medical Center  
Doylestown Hospital  
Grand View Hospital  
Holy Redeemer Hospital & Med Ctr  
Lankenau Hospital  
Lower Bucks Hospital  
Medical College Hosp/Elkins Park  
Medical College Hosp/Bucks Co Campus  
Mercy Catholic Medical Ctr/Fitz  
Mercy Haverford Hospital  
Montgomery Hospital  
North Penn Hospital  
Paoli Memorial Hospital

Phoenixville Hospital  
Pottstown Memorial Medical Center  
Riddle Memorial Hospital  
Saint Mary Medical Center  
Southern Chester County Med Ctr  
St. Luke's Quakertown Hospital  
Suburban General Hospital/Norristown  
Taylor Hospital

**Ambulatory Surgery Centers**

Surgery Center of Bucks County



Saint Agnes Medical Center  
Saint Christophers Hosp for Children  
St. Joseph's Hospital/Philadelphia  
Temple University Hospital  
Thomas Jefferson Univ Hospital  
Vencor Hospital/Philadelphia

**Ambulatory Surgery Centers**

Chestnut Hill Outpatient Surgical Ctr  
Wills Eye Surgery Center of the NE



**PHILADELPHIA**

**Acute Care Facilities**

Albert Einstein Medical Center  
Children's Hospital of Philadelphia  
Episcopal Hospital  
Frankford Hsp of the City of Phila  
Germantown Hospital & Medical Ctr.  
Graduate Health System/City Avenue Hospital  
Graduate Health System/Parkview Hospital  
Graduate Hospital  
Hospital of the University of PA  
Hospital/Home For The Jewish Aged  
Jeanes Hospital  
John F. Kennedy Memorial Hospital  
Medical College Hosp/Main Clinical  
Mercy Catholic Medical Ctr/Miser  
Methodist Hospital  
Nazareth Hospital  
Neumann Medical Center  
Northeastern Hospital  
Presby Med Ctr Univ of PA Hlth Sys  
Roxborough Memorial Hospital

All or some data from the following facilities were not included in this report:

**SOUTHWEST PA**

**Acute Care Facilities**

- Greene County Memorial Hospital\*
- Shadyside Hospital\*
- Western Pennsylvania Hospital

**Ambulatory Surgery Centers**

- Aestique Ambulatory Surgical Ctr Inc
- Jefferson Surgery Center
- John A. Zitelli Ambulatory Surg Fac
- Lowry SurgiCenter
- Mount Lebanon Surgical Center
- North Shore Surgi-Center
- Shadyside SurgiCenter Inc
- Southwestern Ambulatory Surgery Ctr
- Southwestern PA Eye Surgery Center
- Surgical Eye Institute of Western PA
- Westmoreland Surgery Center



**NORTHWEST PA**

**Acute Care Facilities**

- Charles Cole Memorial Hospital
- Saint Marys Regional Medical Ctr\*
- Titusville Area Hospital\*

**Ambulatory Surgery Centers**

- Esper Medical Center
- Saint Vincent Surgery Center



**ALTOONA-JOHNSTOWN-SOMERSET AREA**

**Acute Care Facilities**

- Lee Hospital\*

\* Inpatient data only included in this report



**WILLIAMSPORT-BLOOMSBURG AREA**

**Acute Care Facilities**

- Divine Providence Hospital/Williamsport\*
- Jersey Shore Hospital\*
- Lock Haven Hospital\*
- Muncy Valley Hospital\*
- Soldiers & Sailors Memorial Hosp\*
- Sunbury Community Hospital
- Williamsport Hospital & Med Center\*



**SOUTHCENTRAL PA**

**Acute Care Facilities**

- Hanover General Hospital\*
- Pinnacle Health Hospitals (Polyclinic)\*

**Ambulatory Surgery Centers**

- Aesthetic & Reconstructive Surgery
- Digestive Disease Institute
- Ophthalmology Surgical Center, Inc.
- Pennsylvania Eye Surgery Center
- West Shore Endoscopy Center



**WILKES-BARRE-SCRANTON AREA**

**Acute Care Facilities**

- Mid-Valley Hospital Association
- Montrose General Hospital \*
- Troy Community Hospital\*
- Tyler Memorial Hospital\*

**Ambulatory Surgery Centers**

- Plastic Surgery Center, Inc.



**ALLENTOWN-READING AREA**

**Acute Care Facilities**

- Palmerton Hospital\*

**Ambulatory Surgery Centers**

- Northwood Surgery Center



**SUBURBAN PHILADELPHIA**

**Ambulatory Surgery Centers**

- Abington Surgical Center
- Delaware Valley Laser Surgery Inst
- Dermatologic Surgi Ctr/Drexel Hill
- Paoli Surgery Center
- Surgery Center of Chester County
- The Eye Surgery Center



**PHILADELPHIA**

**Acute Care Facilities**

- Chestnut Hill Hospital\*
- Hahnemann University Hospital\*
- Hospital of Fox Chase Cancer Center\*
- Kensington Hospital
- Pennsylvania Hospital
- Wills Eye Hospital\*

**Ambulatory Surgery Centers**

- Dermatologic Surgical Ctr/Philadelphia
- Medical Skin Care & Surgery Center



## **APPENDIX C: DATA NOTES**

### **Who Submitted Data to the Council:**

Ambulatory surgery data were submitted by 200 facilities. Inpatient data were submitted by 215 facilities.

### **The Identification and Classification of Cases for This Report:**

Listed below, are the CPT-4 (*Physician's Current Procedural Terminology, Fourth Edition*) and ICD-9-CM (*International Classification of Diseases, Ninth Revision, Clinical Modification*) code ranges for collectable principal procedures by the Council. In summary, they include surgeries, endoscopies, chemotherapies and select cardiovascular procedures.

The method of identifying procedures in the inpatient setting was ICD-9-CM which is the standard coding method used to capture the medical diagnoses and procedures performed during the hospitalization for administrative data sets. The method(s) of identifying the principal procedure in the ambulatory surgery setting was mixed. Some facilities submitted cases to the Council using the ICD-9-CM coding method, others used the CPT-4 coding method.

For this analysis, CPT-4 codes were cases included in this report were those with a principal procedure within the range mandated by the Council for the ambulatory surgery setting. The ambulatory surgery setting includes both the freestanding ambulatory surgery centers and the short procedure units of hospitals. Not all outpatient procedures are required to be submitted to the Council. The mandate focuses primarily on treatment procedures and, to a lesser degree, select diagnostic procedures. For this report, the same procedures as those required in the ambulatory surgery setting were captured in the inpatient setting. It is important to understand that people often undergo multiple procedures during the same inpatient stay. This approach does not capture every occurrence of a given procedure, just when it is the principal. We have intentionally captured similar cases for comparative purposes.

The cases were then categorized according to the first two digits of the ICD-9-CM code in the principal procedure position of the patient discharge record. The first two digits identify the specific organ site or in some cases, specific class of procedures to an organ or anatomic site. Categorizing in this manner allows for a summary presentation of what would otherwise be an cumbersome presentation. A small portion (2%) of the records were excluded from analysis due to invalid codes or CPT-4 codes that do not have an equivalent ICD-9-CM code.

## A Description of Atlas™ Admission Severity

MediQual's Atlas uses a composite of patient clinical information abstracted from the patient's medical record to predict a probability of death. That probability of death is then converted to an Admission Severity Group (ASG), a value between 0 and 4. MediQual's system was revised several years ago using approximately 65 disease-specific groups, each with a different set of weights for severity rather than generic weightings across all admissions as was previously done. Each ASG is defined by ranges of probability of in-hospital death listed below in the conversion table.

### Atlas Admission Severity Group Conversion Table

Probability of Death	Admission Severity Group (Review 1)
0.000 – 0.001	0
0.002 – 0.011	1
0.012 – 0.057	2
0.058 – 0.499	3
0.500 – 1.000	4

Source: *MedisGroups Scoring Algorithm – A Technical Description, January 1993 Version, page 14*

## COLLECTABLE PROCEDURE CODES FOR AMBULATORY SURGERY CASES

### CPT-4 Procedure Code Ranges:

#### *Surgeries/Endoscopies:*

All procedures within the range of 10000 - 69999

#### *Chemotherapies:*

All procedures within the range of 96400 - 96569

#### *Cardiovascular:*

Cardiac catheterization procedures within the range of 93501 - 93599

Cardiovascular therapeutic procedures within the range of 92950 - 92999

### ICD-9-CM Procedure Code Ranges:

#### *Chemotherapy:*

99.25 Injection or infusion of cancer chemotherapeutic substance

99.29 Injection or infusion of other therapeutic or prophylactic substance

*Surgeries/Endoscopies/Cardiovascular:*

All procedures within the range 01.0 - 86.99 EXCEPT:

23.0 to 23.99	Removal and Restoration of Teeth
24.1 to 24.19	Diagnostic procedures on teeth, gums and alveoli
29.11	Pharyngoscopy
29.19	Other diagnostic procedures on pharynx
37.26	Cardiac electrophysiologic stimulation studies
39.95	Hemodialysis
41.31	Bone marrow biopsy
51.1 to 51.19	Diagnostic procedures on biliary tract
52.13	Endoscopic retrograde pancreatography (ERP)
84.4 to 84.9	Implantation or fitting or prosthetic limb device