
TECHNICAL NOTES APPENDIX – SPRING

Hospital Performance Report Spring Update

*INCLUDES PENNSYLVANIA INPATIENT HOSPITAL DISCHARGES FROM
APRIL 1, 2009 THROUGH MARCH 31, 2010*



**The Pennsylvania Health Care Cost Containment Council
March 2011**

**Pennsylvania Health Care Cost Containment Council
225 Market Street, Suite 400
Harrisburg, PA 17101**

**Phone: (717) 232-6787
Fax: (717) 232-3821
www.phc4.org**

Joseph Martin, Executive Director

TABLE OF CONTENTS

Preface..... i

Definition Tables

Table A. The 49 Medical Conditions and Surgical Procedures in the *Hospital Performance Report – Spring Update* A-1
 Table B. ICD-9-CM Codes Used to Define Readmissions for Complication or Infection..... A-4

Data Tables

Table C. Statewide Utilization and Outcome Data
 1. Code-Based Conditions/Procedures A-5
 2. DRG-Based Conditions/Procedures A-6
 Table D. Statewide Cases Readmitted for Complication or Infection, by Reason for Readmission
 1. Code-Based Conditions/Procedures A-7
 2. DRG-Based Conditions/Procedures A-8
 Table E. Statewide Exclusions from Analyses, By Measure
 1. Code-Based Conditions/Procedures A-9
 2. DRG-Based Conditions/Procedures A-10
 Table F. Hospitals Not Reported in the *Hospital Performance Report – Spring Update* A-11
 Table G. Valid Discharge Status Codes..... A-12

PREFACE

The *Technical Notes Appendix – Spring* in conjunction with the *Technical Notes* that accompanied the *FFY 2009 Hospital Performance Report* (HPR) provide important information regarding the analysis and development of the *Hospital Performance Report Spring Update* (April 1, 2009 through March 31, 2010 data).

The full *Technical Notes* describes the methodology behind the analyses and outlines the development of the report format and presentation. The *Technical Notes Appendix - Spring* document includes tables that: 1) define the code- and DRG-based conditions/procedures in the report, 2) define readmissions for a complication or infection, 3) display statewide results, 4) categorize all cases readmitted for a complication or infection by specific reasons, 5) present cases that were excluded from analyses, 6) list hospitals not reported, and 7) list valid discharge status codes. These tables contain information that is relevant to the current study period (i.e., Q2-2009 through Q1-2010).

Additional Information

1. ICD-9-CM codes and DRGs used in this HPR Spring Update are applicable to CMS Grouper Versions 26.0 and 27.0. Code changes are noted where applicable in this document.

2. New ICD-9-CM codes (effective October 1, 2009) are applied to the conditions and risk variables identified below.

HPR Conditions

- *Blood Clot in Extremities* – Diagnosis code 453.8 is no longer valid beginning October 1, 2009. Also, new diagnosis codes 453.50, 453.51, 453.52, 453.6, 453.71, 453.72, 453.73, 453.74, 453.75, 453.76, 453.77, 453.79, 453.81, 453.82, 453.83, 453.84, 453.85, 453.86, 453.87, and 453.89 are added to this condition effective October 2009.
- *Blood Clot in Lung* – New diagnosis code 416.2 is added to this condition effective October 1, 2009.

Risk Variables

- *Cancer type: Malignant Neoplasm and Carcinoma in situ* – Beginning October 1, 2009 the following new codes are included: 209.31, 209.32, 209.33, 209.34, 209.35, and 209.36. Also, code 239.8 is expanded to include 239.81 and 239.89.
- *Cancer type: Secondary Neoplasm (Metastatic)* – Beginning October 1, 2009 the following new codes are included: 209.70, 209.71, 209.72, 209.73, 209.74, 209.75, and 209.79.

3. Changes in Discharge Status:

New discharge status code “21” – *Discharged/transferred to Court/Law Enforcement* became effective October 1, 2009 and is included in the definition of “home” discharges for the readmission analyses. (Same-day readmissions are included in the readmission analyses only if the original hospitalization resulted in a discharge to “home.”) Therefore, beginning with the 2009 HPR Winter Update, “home” discharges included those patients who were discharged to:

- Home or self care (discharge status code 01),
- Home under the care of an organized Home Health Service Organization in anticipation of covered skilled care (discharge status code 06), OR
- Court or law enforcement (discharge status code 21)

TABLE A
The 49 Medical Conditions and Surgical Procedures in the
Hospital Performance Report – Spring Update

The following table defines the 31 code-based and 18 DRG-based conditions and procedures included in this report. The ICD-9-CM codes and MS-DRGs used to define each condition/procedure are applicable to CMS Grouper Versions 26.0 and 27.0. Additional exclusions (clinically complex cases) are identified as footnotes.

The 31 Code-Based Conditions/Procedures

Each category includes records with the listed principal diagnosis and/or procedure and the listed MS-DRG(s).

Medical Condition¹	Principal Diagnosis Codes (ICD-9-CM)	MS-DRGs
Abnormal Heartbeat	426.0, 426.10, 426.11, 426.12, 426.13, 426.2, 426.3, 426.4, 426.50, 426.51, 426.52, 426.53, 426.54, 426.6, 426.7, 426.81, 426.82, 426.89, 426.9, 427.0, 427.1, 427.2, 427.31, 427.32, 427.60, 427.61, 427.69, 427.81, 427.89, 427.9, 746.86, 785.0	242, 243, 244, 246, 247, 248, 249, 250, 251, 258, 259, 260, 261, 262, 286, 287, 308, 309, 310
Blood Clot in Extremities	451.0, 451.11, 451.19, 451.2, 451.81, 451.82, 451.83, 451.84, 451.89, 451.9, 453.40, 453.41, 453.42, 453.50 ² , 453.51 ² , 453.52 ² , 453.6 ² , 453.71 ² , 453.72 ² , 453.73 ² , 453.74 ² , 453.75 ² , 453.76 ² , 453.77 ² , 453.79 ² , 453.8 ³ , 453.81 ² , 453.82 ² , 453.83 ² , 453.84 ² , 453.85 ² , 453.86 ² , 453.87 ² , 453.89 ² , 453.9	294, 295, 299, 300, 301
Blood Clot in Lung	415.11, 415.12, 415.19, 416.2 ²	175, 176
Chronic Obstructive Pulmonary Disease	491.20, 491.21, 491.22, 492.0, 492.8, 496, 506.4	190, 191, 192
Congestive Heart Failure (CHF)	398.91, 428.0, 428.1, 428.20, 428.21, 428.22, 428.23, 428.30, 428.31, 428.32, 428.33, 428.40, 428.41, 428.42, 428.43, 428.9	286, 287, 291, 292, 293
Diabetes with Amputation	249.0x, 249.1x, 249.2x, 249.3x, 249.7x, 249.8x, 249.9x, 250.0y, 250.1y, 250.2y, 250.3y, 250.7y, 250.8y, 250.9y (x = 0,1; y = 0-3)	239, 240, 241, 255, 256, 257, 616, 617, 618
Diabetes – Medical Management	249.0x, 249.1x, 249.2x, 249.3x, 249.4x, 249.6x, 249.7x, 249.8x, 249.9x, 250.0y, 250.1y, 250.2y, 250.3y, 250.4y, 250.6y, 250.7y, 250.8y, 250.9y (x = 0,1; y = 0-3)	073, 074, 299, 300, 301, 637, 638, 639, 698, 699, 700
Heart Attack – Medical Management	410.01, 410.11, 410.21, 410.31, 410.41, 410.51, 410.61, 410.71, 410.81, 410.91	280, 281, 282, 283, 284, 285
Intestinal Obstruction	560.0, 560.2, 560.30, 560.31, 560.39, 560.81, 560.89, 560.9	388, 389, 390
Kidney Failure – Acute	584.5, 584.6, 584.7, 584.8, 584.9	682, 683, 684
Kidney and Urinary Tract Infections	590.00, 590.01, 590.10, 590.11, 590.2, 590.3, 590.80, 590.9, 595.x (x = 0-3), 595.81, 595.89, 595.9, 599.0	689, 690
Pneumonia – Aspiration	507.0	177, 178, 179
Pneumonia – Infectious	480.0, 480.1, 480.2, 480.3, 480.8, 480.9, 481, 482.0, 482.1, 482.2, 482.30, 482.31, 482.32, 482.39, 482.40, 482.41, 482.42, 482.49, 482.81, 482.82, 482.83, 482.84, 482.89, 482.9, 483.0, 483.1, 483.8, 485, 486, 487.0	177, 178, 179, 193, 194, 195
Respiratory Failure with Mechanical Ventilation	506.1, 518.5, 518.81, 518.83, 518.84	207, 208
Respiratory Failure without Mechanical Ventilation	506.1, 518.5, 518.81, 518.83, 518.84	189
Septicemia	038.0, 038.10, 038.11, 038.12, 038.19, 038.2, 038.3, 038.40, 038.41, 038.42, 038.43, 038.44, 038.49, 038.8, 038.9, 995.90, 995.91, 995.92	870, 871, 872
Stomach and Intestinal Bleeding	456.0, 530.7, 530.82, 531.00, 531.01, 531.20, 531.21, 531.40, 531.41, 531.60, 531.61, 532.00, 532.01, 532.20, 532.21, 532.40, 532.41, 532.60, 532.61, 533.00, 533.01, 533.20, 533.21, 533.40, 533.41, 533.60, 533.61, 534.00, 534.01, 534.20, 534.21, 534.40, 534.41, 534.60, 534.61, 535.01, 535.11, 535.21, 535.31, 535.41, 535.51, 535.61, 535.71, 537.83, 537.84, 562.02, 562.03, 562.12, 562.13, 569.3, 569.85, 578.9	368, 369, 370, 377, 378, 379
Stroke – Hemorrhagic	430, 431, 432.0, 432.1, 432.9	064, 065, 066
Stroke – Non-Hemorrhagic	433.01, 433.11, 433.21, 433.31, 433.81, 433.91, 434.01, 434.11, 434.91	061, 062, 063, 064, 065, 066

¹Cases with HIV Infections (ICD-9-CM diagnosis code 042, in any position) were excluded from all code-based conditions and procedures.

²Valid as of October 1, 2009

³Invalid as of October 1, 2009

TABLE A CONTINUED

The 31 Code-Based Conditions/Procedures CONTINUED

Surgical Procedure¹	Principal Procedure Codes (ICD-9-CM)	MS-DRGs
Abdominal Aortic Aneurysm Repair - Endovascular	39.71 With principal diagnosis (PDx) of 441.4	237, 238
Abdominal Aortic Aneurysm Repair - Open	38.44, 38.64, 38.84 With PDx of 441.4	237, 238
Colorectal Procedures ²	17.31, 17.32, 17.33, 17.34, 17.35, 17.36, 17.39, 45.71, 45.72, 45.73, 45.74, 45.75, 45.76, 45.79, 45.8, 45.81, 45.82, 45.83, 45.92, 45.94, 46.03, 46.10, 46.11, 46.13, 46.42, 46.43, 46.52, 46.76, 46.94, 48.40, 48.42, 48.43, 48.49, 48.50, 48.51, 48.52, 48.59, 48.62, 48.63, 48.69, 48.75, 48.76, 70.72	329, 330, 331, 332, 333, 334
Gallbladder Removal - Laparoscopic	51.23, 51.24	411, 412, 413, 417, 418, 419
Gallbladder Removal - Open	51.21, 51.22	411, 412, 413, 414, 415, 416
Heart Attack - Angioplasty/Stent	00.66, 36.06, 36.07 With PDx of 410.01, 410.11, 410.21, 410.31, 410.41, 410.51, 410.61, 410.71, 410.81, or 410.91	246, 247, 248, 249
Hip Fracture - Surgical Repair	78.55, 79.15, 79.25, 79.35, 79.55, 81.51, 81.52 With PDx of 820.0x (x = 0-3,9), 820.1x (x = 0-3,9), 820.2x (x = 0-2), 820.3x (x = 0-2), 820.8, or 820.9	469, 470, 480, 481, 482
Hysterectomy - Abdominal	68.31, 68.39, 68.41, 68.49, 68.61, 68.69, 68.9	734, 735, 736, 737, 738, 739, 740, 741, 742, 743
Hysterectomy - Vaginal	68.51, 68.59, 68.71, 68.79	734, 735, 736, 737, 738, 739, 740, 741, 742, 743
Prostatectomy - Radical	60.3, 60.4, 60.5, 60.62, 60.69	665, 666, 667, 707, 708
Prostatectomy - Transurethral	60.21, 60.29	665, 666, 667, 713, 714
Removal of Blockage of Neck Vessels	38.12	037, 038, 039

¹Cases with HIV Infections (ICD-9-CM diagnosis code 042, in any position) were excluded from all code-based conditions and procedures.²Cases with abdominal trauma were excluded. Abdominal trauma was defined by the following ICD-9-CM codes: 863.0 to 864.19, 865.00 to 865.19, 866.00 to 866.13, 867.0 to 867.9, 868.00 to 869.1, 879.2 to 879.9, 902.0 to 902.9, 908.1, 908.2, 908.4, 908.6, 908.9, 922.2, 935.2, 936, 937, 938, or 947.3.

TABLE A CONTINUED

The 18 DRG-Based Conditions/Procedures

Each category includes records with the listed MS-DRG(s).

Condition	MS-DRGs
Brain Surgery	025, 026, 027
Bronchitis and Asthma	202, 203
Chest Pain	313
Cirrhosis and Alcoholic Hepatitis	432, 433, 434
Hypotension and Fainting	312
Infectious and Parasitic Diseases with Surgery	853, 854, 855
Liver, Gallbladder or Pancreatic Cancer	435, 436, 437
Liver Disease except Cancer, Cirrhosis or Alcoholic Hepatitis	441, 442, 443
Major Lung Surgery	163, 164, 165
Medical Back Problems	551, 552
Miscellaneous Lung Surgery	166, 167, 168
Miscellaneous Vascular Surgery	252, 253, 254
Noncancerous Pancreatic Disorders	438, 439, 440
Postoperative and Posttraumatic Infections with Surgery	856, 857, 858
Postoperative and Posttraumatic Infections without Surgery	862, 863
Stomach and Intestinal Complications and Disorders	393, 394, 395
Stomach and Intestinal Infections and Disorders	391, 392
Stomach and Small Intestine Surgery	326, 327, 328

TABLE B

ICD-9-CM Codes Used to Define Readmissions for Complication or Infection

Readmissions with one of the following ICD-9-CM codes listed as the principal diagnosis were included in this measure. These codes are applicable to CMS Grouper Versions 26.0 and 27.0.

Stroke/Anoxic Brain Damage				Infection			
348.1	432.9	433.81	997.00	008.45	038.44	567.39	996.60
430	433.01	433.91	997.01	038.0	038.49	567.81	996.61
431	433.11	434.01	997.02	038.10	038.8	567.89	996.62
432.0	433.21	434.11	997.09	038.11	038.9	567.9	996.64
432.1	433.31	434.91		038.12	530.86	569.61	996.65
				038.19	536.41	590.10	996.66
				038.2	567.1	590.11	996.67
				038.3	567.21	599.0	996.69
				038.40	567.22	790.7	998.51
				038.41	567.29	995.90	998.59
				038.42	567.31	995.91	999.31
				038.43	567.38	995.92	999.39
Acute Myocardial Infarction				Pneumonia			
410.01	410.31	410.61	410.91	481	482.39	482.83	485
410.11	410.41	410.71	997.1	482.0	482.40	482.84	486
410.21	410.51	410.81		482.1	482.41	482.89	507.0
				482.2	482.42	482.9	997.31
				482.30	482.49	483.0	
				482.31	482.81	483.1	
				482.32	482.82	483.8	
Hypertension and Hypotension				Device, Implant or Graft Complications			
458.29	997.91			530.87	996.04	996.42	996.59
				536.40	996.09	996.43	996.70
				536.42	996.1	996.44	996.72
				536.49	996.30	996.45	996.74
				569.60	996.31	996.46	996.76
				569.62	996.39	996.47	996.77
				569.69	996.40	996.49	996.78
				996.01	996.41	996.52	996.79
Shock				Procedure and Medical Care Complications			
785.50	785.51	785.59	998.0	349.31	995.93	998.30	998.83
				584.5	995.94	998.31	998.89
				584.6	997.5	998.32	998.9
				584.7	998.11	998.33	
				584.8	998.12	998.4	
				584.9	998.13	998.6	
				909.3	998.2	998.7	
Vascular Complications							
415.11	451.0	453.41	453.89 [†]				
415.12	451.11	453.42	453.9				
415.19	451.19	453.6 [†]	997.2				
444.0	451.2	453.8 [†]	997.71				
444.1	451.81	453.81 [†]	997.72				
444.21	451.82	453.82 [†]	997.79				
444.22	451.83	453.83 [†]	999.1				
444.81	451.84	453.84 [†]	999.2				
444.89	451.89	453.85 [†]					
444.9	451.9	453.86 [†]					
449	453.40	453.87 [†]					
Respiratory Complications							
511.0	512.1	518.5	997.39				
511.1	514	518.81					
511.89	518.0	518.82					
511.9	518.4	518.84					
Digestive Complications							
531.00	532.20	533.50	535.01				
531.01	532.21	533.51	535.41				
531.10	532.40	533.60	535.51				
531.11	532.41	533.61	535.61				
531.20	532.50	534.00	535.71				
531.21	532.51	534.01	537.84				
531.40	532.60	534.10	557.0				
531.41	532.61	534.11	560.81				
531.50	533.00	534.20	564.2				
531.51	533.01	534.21	564.3				
531.60	533.10	534.40	564.4				
531.61	533.11	534.41	568.81				
532.00	533.20	534.50	569.83				
532.01	533.21	534.51	578.9				
532.10	533.40	534.60	997.4				
532.11	533.41	534.61					

[†] Invalid as of October 2009.

[‡] Valid beginning October 2009

TABLE C1

Statewide Utilization and Outcome Data for Code-Based Conditions/Procedures

Medical Conditions						
Description	# of Cases ¹	% Mortality ²	Length of Stay ²	Readmissions		Average Charge ²
				% Any Reason ²	% Comp/Infec ²	
Abnormal Heartbeat	46,180	0.8	3.5	15.2	3.6	\$35,753
Blood Clot in Extremities	7,782	0.5	4.2	NR	NR	\$20,104
Blood Clot in Lung	7,432	1.4	5.0	NR	NR	\$30,167
Chronic Obstructive Pulmonary Disease (COPD)	32,689	0.8	4.3	22.5	6.5	\$24,198
Congestive Heart Failure (CHF)	47,823	2.9	4.9	26.7	7.1	\$29,781
Diabetes with Amputation	2,166	1.2	9.0	22.3	7.9	\$73,431
Diabetes - Medical Management	16,724	0.6	3.6	21.1	4.5	\$23,581
Heart Attack - Medical Management	11,771	9.6	5.0	NR	NR	\$36,169
Intestinal Obstruction	9,920	1.5	4.2	NR	NR	\$22,816
Kidney Failure - Acute	18,788	4.9	5.5	24.0	10.6	\$31,305
Kidney and Urinary Tract Infections	24,040	0.8	4.1	17.9	8.5	\$22,157
Pneumonia - Aspiration	8,988	9.2	6.5	24.3	16.4	\$36,780
Pneumonia - Infectious	39,847	2.6	4.8	16.3	7.8	\$27,048
Respiratory Failure with Mechanical Ventilation	5,657	26.7	9.2	28.1	15.3	\$87,332
Respiratory Failure without Mechanical Ventilation	6,987	8.6	5.4	24.3	13.1	\$31,375
Septicemia	28,318	17.0	7.0	NR	NR	\$48,138
Stomach and Intestinal Bleeding	19,826	2.4	4.3	17.1	7.1	\$28,741
Stroke - Hemorrhagic	3,819	25.6	5.6	17.4	9.9	\$50,395
Stroke - Non-Hemorrhagic	19,799	4.0	4.6	14.9	7.5	\$36,809

Surgical Procedures						
Abdominal Aortic Aneurysm Repair - Endovascular	1,583	0.8	2.8	13.0	7.2	\$102,096
Abdominal Aortic Aneurysm Repair - Open	415	3.6	8.1	14.3	6.6	\$88,436
Colorectal Procedures	13,872	2.9	8.3	NR	NR	\$72,239
Gallbladder Removal - Laparoscopic	13,556	0.2	3.6	7.1	2.7	\$36,040
Gallbladder Removal - Open	2,188	0.9	6.6	10.8	6.1	\$58,072
Heart Attack - Angioplasty/Stent	11,452	1.3	3.6	NR	NR	\$76,722
Hip Fracture - Surgical Repair	12,575	1.9	5.8	13.7	7.8	\$49,105
Hysterectomy - Abdominal	14,353	0.1	2.5	NR	NR	\$31,432
Hysterectomy - Vaginal	5,466	NR	1.5	3.3	2.5	\$23,423
Prostatectomy - Radical	4,070	NR	2.1	NR	NR	\$45,149
Prostatectomy - Transurethral	3,038	NR	2.6	NR	NR	\$22,655
Removal of Blockage of Neck Vessels	4,649	0.3	2.3	9.0	3.3	\$32,407

¹Number of cases after mortality exclusions (or length of stay exclusions for procedures in which mortality is not reported).

²Value shown is based on records after all relevant exclusions are removed.

NR: Not Reported

TABLE C2

Statewide Utilization and Outcome Data for DRG-Based Conditions/Procedures

Description	# of Cases ¹	% Mortality ²	Length of Stay ²	Readmissions		Average Charge ²
				% Any Reason ²	% Comp/Infec ²	
Brain Surgery	6,284	4.2	5.8	NR	NR	\$111,253
Bronchitis and Asthma	12,685	NR	3.2	12.0	2.9	\$19,809
Chest Pain	26,289	0.1	1.7	11.7	2.0	\$18,802
Cirrhosis and Alcoholic Hepatitis	3,702	5.3	5.4	33.3	6.1	\$43,129
Hypotension and Fainting	18,884	0.2	2.7	12.1	2.9	\$21,111
Infectious and Parasitic Diseases with Surgery	4,432	13.5	13.2	NR	NR	\$116,174
Liver, Gallbladder or Pancreatic Cancer	3,450	9.1	5.4	NR	NR	\$43,098
Liver Disease except Cancer, Cirrhosis, or Alcoholic Hepatitis	5,393	6.1	4.9	33.1	6.3	\$40,886
Major Lung Surgery	5,734	2.8	7.1	NR	NR	\$80,290
Medical Back Problems	11,774	0.7	3.7	15.9	3.9	\$24,696
Miscellaneous Lung Surgery	5,352	5.1	7.9	NR	NR	\$71,334
Miscellaneous Vascular Surgery	11,379	1.4	5.2	NR	NR	\$69,249
Noncancerous Pancreatic Disorders	9,856	0.9	4.5	19.2	2.7	\$28,044
Postoperative and Posttraumatic Infections with Surgery	2,914	1.3	7.8	17.8	11.5	\$66,333
Postoperative and Posttraumatic Infections without Surgery	4,835	0.8	4.7	NR	NR	\$28,420
Stomach and Intestinal Complications and Disorders	11,120	2.1	4.2	NR	NR	\$26,805
Stomach and Intestinal Infections and Disorders	44,556	0.3	3.2	NR	NR	\$21,330
Stomach and Small Intestine Surgery	4,645	3.4	7.9	NR	NR	\$93,210

¹Number of cases after mortality exclusions (or length of stay exclusions for conditions in which mortality was not reported).

²Value shown was based on records after all relevant exclusions were removed.

NR: Not Reported

TABLE D1

**Statewide Cases Readmitted for Complication or Infection, by Reason for Readmission
Code-Based Conditions/Procedures**

Code-Based Condition/Procedure	# of Cases Meeting Readmissions Criteria	Total # of Cases Readmitted for Complication or Infection	% of Cases Readmitted for Complication or Infection	REASON FOR READMISSION										
				Stroke/Anoxic Brain Damage	Acute Myocardial Infarction	Hypertension and Hypotension	Shock	Vascular Complications	Respiratory Complications	Digestive Complications	Infection	Pneumonia	Device, Implant or Graft Complications	Procedure and Medical Care Complications
Medical Conditions														
Abnormal Heartbeat	42,329	1,545	3.6	152	111	19	3	118	139	101	375	259	109	159
Chronic Obstructive Pulmonary Disease	30,981	2,006	6.5	40	104	2	0	73	559	93	368	625	30	112
Congestive Heart Failure	43,367	3,073	7.1	167	268	27	1	86	424	168	746	486	68	632
Diabetes with Amputation	2,042	162	7.9	3	8	0	0	17	8	5	66	18	5	32
Diabetes - Medical Management	15,743	707	4.5	51	48	0	1	45	34	43	242	98	22	123
Kidney Failure - Acute	16,345	1,735	10.6	49	67	3	3	80	91	95	517	171	38	621
Kidney and Urinary Tract Infections	22,518	1,922	8.5	67	64	5	1	69	63	72	1,105	242	37	197
Pneumonia - Aspiration	7,163	1,177	16.4	25	18	1	1	23	73	35	294	628	26	53
Pneumonia - Infectious	36,459	2,839	7.8	59	77	11	2	129	338	97	646	1,295	20	165
Respiratory Failure with Mechanical Ventilation	3,605	553	15.3	11	15	2	0	12	228	17	138	95	8	27
Respiratory Failure without Mechanical Ventilation	5,787	759	13.1	10	24	0	1	14	402	23	105	153	4	23
Stomach and Intestinal Bleeding	18,233	1,294	7.1	68	59	0	1	74	78	468	294	138	23	91
Stroke - Hemorrhagic	2,284	225	9.9	87	13	0	0	23	5	6	48	26	0	17
Stroke - Non-Hemorrhagic	17,195	1,289	7.5	570	55	3	0	52	43	50	255	178	9	74
Surgical Procedures														
Abdominal Aortic Aneurysm Repair - Endovascular	1,396	101	7.2	2	7	0	0	10	3	2	39	4	16	18
Abdominal Aortic Aneurysm Repair - Open	363	24	6.6	1	0	0	0	1	2	6	3	2	2	7
Gallbladder Removal - Laparoscopic	12,765	344	2.7	10	10	0	0	23	14	96	115	26	3	47
Gallbladder Removal - Open	2,008	123	6.1	2	2	0	0	10	6	30	44	7	5	17
Hip Fracture - Surgical Repair	11,713	908	7.8	36	30	1	0	69	48	65	323	134	118	84
Hysterectomy - Vaginal	5,232	131	2.5	3	3	0	0	16	2	13	67	0	1	26
Removal of Blockage of Neck Vessels	4,400	143	3.3	30	15	0	0	5	9	10	29	16	6	23

TABLE D2

**Statewide Cases Readmitted for Complication or Infection, by Reason for Readmission
DRG-Based Conditions/Procedures**

DRG-Based Condition/Procedure	# of Cases Meeting Readmissions Criteria	Total # of Cases Readmitted for Complication or Infection	% of Cases Readmitted for Complication or Infection	REASON FOR READMISSION											
				Stroke/Anoxic Brain Damage	Acute Myocardial Infarction	Hypertension and Hypotension	Shock	Vascular Complications	Respiratory Complications	Digestive Complications	Infection	Pneumonia	Device, Implant or Graft Complications	Procedure and Medical Care Complications	
Bronchitis and Asthma	12,276	352	2.9	10	11	0	0	25	53	16	84	118	6	29	
Chest Pain	24,792	505	2.0	28	70	4	0	45	28	36	113	84	27	70	
Cirrhosis and Alcoholic Hepatitis	3,102	189	6.1	2	4	0	0	5	15	36	73	12	2	40	
Hypotension and Fainting	17,841	521	2.9	39	33	10	1	43	25	38	170	84	16	62	
Liver Disease except Cancer, Cirrhosis, or Alcoholic Hepatitis	4,291	270	6.3	2	5	0	0	12	26	22	126	24	6	47	
Medical Back Problems	10,884	421	3.9	27	17	0	0	41	26	33	147	78	10	42	
Noncancerous Pancreatic Disorders	9,142	249	2.7	8	7	0	1	11	15	27	102	25	12	41	
Postoperative and Posttraumatic Infections with Surgery	2,596	299	11.5	7	4	1	0	16	10	7	184	8	18	44	

TABLE E1

**Statewide Exclusions from Analyses, by Measure
Code-Based Conditions/Procedures**

The exclusions are listed in the order in which they were removed from the reference database.

	Mortality		Length of Stay		Length of Stay Outliers: Short and Long		Readmissions: Any Reason and Complication or Infection		Average Charge		Transfer to Acute Care ⁵	
	#	%	#	%	#	%	#	%	#	%	#	%
Total Cases Before Exclusions	464,239	100.0	477,018	100.0	415,683	100.0	357,318	100.0	477,018	100.0	14,743	100.0
Exclusions:												
<i>Records with errors</i>	469	0.1	475	0.1	403	0.1	396	0.1	0	0.0	0	0.0
<i>Duplicate records</i>	49	<0.1	49	<0.1	39	<0.1	39	<0.1	49	<0.1	1	<0.1
<i>Discharge date not in time period</i>	18	<0.1	18	<0.1	14	<0.1	16	<0.1	18	<0.1	1	<0.1
<i>Missing or invalid discharge status</i>	41	<0.1	42	<0.1	39	<0.1	27	<0.1	42	<0.1	0	0.0
<i>Non-adult (< 18) or invalid age</i>	10,395	2.2	10,395	2.2	9,890	2.4	9,494	2.7	10,395	2.2	6	<0.1
<i>Patients with HIV Infection¹</i>	645	0.1	651	0.1	614	0.1	567	0.2	651	0.1	13	0.1
<i>Patients with abdominal trauma²</i>	96	<0.1	96	<0.1	NA	NA	NA	NA	96	<0.1	NA	NA
<i>Patients who left against medical advice</i>	3,337	0.7	3,346	0.7	3,279	0.8	2,757	0.8	3,350	0.7	140	0.9
<i>Patients transferred to GAC facilities</i>	12,985	2.8	12,991	2.7	12,479	3.0	7,886	2.2	13,004	2.7	NA	NA
<i>Patients who died</i>	NA	NA	16,831	3.5	16,053	3.9	9,916	2.8	NA	NA	1,156	7.8
<i>Missing Atlas data³</i>	3,005	0.6	2,822	0.6	2,389	0.6	2,177	0.6	NA	NA	NA	NA
<i>Invalid length of stay</i>	NA	NA	0	0.0	0	0.0	0	0.0	NA	NA	NA	NA
<i>Length of stay outliers</i>	NA	NA	3,928	0.8	NA	NA	2,979	0.8	NA	NA	NA	NA
<i>Non-Pennsylvania residents</i>	NA	NA	NA	NA	NA	NA	10,244	2.9	NA	NA	NA	NA
<i>Patients discharged to hospice</i>	NA	NA	NA	NA	NA	NA	6,314	1.8	NA	NA	NA	NA
<i>Missing or inconsistent patient identifiers⁴</i>	NA	NA	NA	NA	NA	NA	2,245	0.6	NA	NA	NA	NA
<i>Invalid charges</i>	NA	NA	NA	NA	NA	NA	NA	NA	116	<0.1	NA	NA
<i>Charge outliers</i>	NA	NA	NA	NA	NA	NA	NA	NA	7,867	1.6	NA	NA
<i>No reference data</i>	NA	NA	NA	NA	NA	NA	NA	NA	2,563	0.5	NA	NA
<i>Intermediary hospitalization</i>	NA	NA	NA	NA	NA	NA	333	0.1	NA	NA	NA	NA
Total Exclusions	31,040	6.7	51,644	10.8	45,199	10.9	55,390	15.5	38,151	8.0	1,317	8.9
Total Cases in Analysis	433,199	93.3	425,374	89.2	370,484	89.1	301,928	84.5	438,867	92.0	13,426	91.1

¹This exclusion was only applicable to the code-based conditions/procedures.

²This exclusion was only applicable to Colorectal Procedures study population.

³Either missing MQPredDeath or MQPredLOS, depending on which one was used as a risk adjustor.

⁴Social Security Number, Date of Birth, Sex

⁵This measure is reported only for Heart Attack – Medical Management

NA: Not Applicable

TABLE E2

**Statewide Exclusions from Analyses, by Measure
DRG-Based Conditions/Procedures**

The exclusions are listed in the order in which they were removed from the reference database.

	<i>Mortality</i>		<i>Length of Stay</i>		<i>Length of Stay Outliers: Short and Long</i>		<i>Readmissions: Any Reason and Complication or Infection</i>		<i>Average Charge</i>	
	#	%	#	%	#	%	#	%	#	%
Total cases before exclusions	197,001	100.0	222,189	100.0	68,470	100.0	110,109	100.0	222,189	100.0
Exclusions:										
<i>Records with errors</i>	196	0.1	207	0.1	64	0.1	106	0.1	0	0.0
<i>Duplicate records</i>	29	<0.1	30	<0.1	10	<0.1	19	<0.1	30	<0.1
<i>Discharge date not in time period</i>	6	<0.1	8	<0.1	1	<0.1	4	<0.1	8	<0.1
<i>Missing or invalid discharge status</i>	23	<0.1	24	<0.1	9	<0.1	14	<0.1	24	<0.1
<i>Non-adult (< 18) or invalid age</i>	7,130	3.6	19,055	8.6	585	0.9	12,821	11.6	19,055	8.6
<i>Patients who left against medical advice</i>	3,088	1.6	3,338	1.5	1,861	2.7	2,276	2.1	3,340	1.5
<i>Patients transferred to GAC facilities</i>	4,539	2.3	4,622	2.1	1,767	2.6	2,407	2.2	4,631	2.1
<i>Patients who died</i>	NA	NA	3,194	1.4	379	0.6	807	0.7	NA	NA
<i>Missing Atlas data¹</i>	1,391	0.7	1,446	0.7	600	0.9	824	0.7	NA	NA
<i>Invalid length of stay</i>	NA	NA	1	<0.1	0	0.0	0	0.0	NA	NA
<i>Length of stay outliers</i>	NA	NA	1,747	0.8	NA	NA	793	0.7	NA	NA
<i>Non-Pennsylvania residents</i>	NA	NA	NA	NA	NA	NA	3,490	3.2	NA	NA
<i>Patients discharged to hospice</i>	NA	NA	NA	NA	NA	NA	551	0.5	NA	NA
<i>Missing or inconsistent patient identifiers²</i>	NA	NA	NA	NA	NA	NA	1,012	0.9	NA	NA
<i>Invalid charges</i>	NA	NA	NA	NA	NA	NA	NA	NA	69	<0.1
<i>Charge outliers</i>	NA	NA	NA	NA	NA	NA	NA	NA	3,526	1.6
<i>No reference data</i>	NA	NA	NA	NA	NA	NA	NA	NA	268	0.1
<i>Intermediary hospitalization</i>	NA	NA	NA	NA	NA	NA	61	0.1	NA	NA
Total exclusions	16,402	8.3	33,672	15.2	5,276	7.7	25,185	22.9	30,951	13.9
Total cases in analysis	180,599	91.7	188,517	84.8	63,194	92.3	84,924	77.1	191,238	86.1

¹Either Missing MQPredDeath or MQPredLOS, depending on which one is used as a risk adjustor.

²Social Security Number, Date of Birth, Sex

NA: Not Applicable

TABLE F

Hospitals Not Reported in the *Hospital Performance Report* – Spring Update

The study population for the *Hospital Performance Report* – Spring Update included usable discharge records from all GAC/SGAC Pennsylvania facilities abstracting clinical data (Atlas) in the reported time period. There were 174 facilities in Pennsylvania during the study period.

Hospital Name	Reason for Not Reporting
Facilities currently in operation with unavailable data¹:	
<u>Central and Northeastern Pennsylvania</u>	
<i>Memorial/Towanda</i>	<i>Severity data needed for risk adjustment not available</i>
<u>Southeastern Pennsylvania</u>	
<i>Coordinated Health Ortho</i>	<i>Severity data needed for risk adjustment not available</i>
<i>Surg Institute of Reading</i>	<i>Severity data needed for risk adjustment not available</i>
<i>Schuylkill East-Norwegian</i>	<i>Severity data needed for risk adjustment not available</i>
<i>Westfield</i>	<i>UB and severity data not available</i>
<u>Western Pennsylvania</u>	
<i>Uniontown</i>	<i>Severity data needed for risk adjustment not available</i>
Facilities that closed/merged:	
<u>Southeastern Pennsylvania</u>	
<i>Temple East</i>	<i>Closed facility – effective 06/29/2009</i>
<u>Central and Northeastern Pennsylvania</u>	
<i>Geisinger Wilkes-Barre</i>	<i>Closed facility – effective 07/10/2009</i>
<u>Western Pennsylvania</u>	
<i>UPMC Braddock</i>	<i>Closed facility – effective 01/31/2010</i>
<i>UPMC South Side</i>	<i>Merged with UPMC Mercy – effective 06/30/2009</i>
New facilities:	
<u>Southeastern Pennsylvania</u>	
<i>Advanced Surgical</i>	<i>Opened 04/30/10 – sufficient data not yet available</i>
<i>Bucks County Specialty</i>	<i>Opened 09/16/09 – sufficient data not yet available</i>
<i>Surg Spec/Coordinated</i>	<i>Opened 07/13/09 – sufficient data not yet available</i>
Other facilities not reported:	
<u>Southeastern Pennsylvania</u>	
<i>Children's Hospital Philadelphia</i>	<i>Children's hospital²</i>
<i>St. Christopher's Children's</i>	<i>Children's hospital²</i>
<u>Western Pennsylvania</u>	
<i>Children's Hospital Pittsburgh</i>	<i>Children's hospital²</i>
<i>Edgewood</i>	<i>Specialized hospital: number of records available for analysis in HPR was negligible³</i>
Facility no longer reported for Heart Attack – Angioplasty/Stent:	
<u>Southeastern Pennsylvania</u>	
<i>Sacred Heart / Allentown</i>	<i>Facility stopped performing PTCA procedures – effective 04/15/2009</i>

¹Hospitals with $\geq 10\%$ missing Atlas severity scores (based on all records in the list of 35 diseases, procedures, and medical conditions to be abstracted) or facilities that submitted incomplete/unusable UB data for one or more quarters.

²Pediatric cases were excluded from the *Hospital Performance Report* study populations. Therefore, data for children's hospitals were not reported. Adult discharges from pediatric hospitals were retained in the statewide dataset.

³Discharges relevant to the HPR were retained in the statewide dataset.

TABLE G

Valid Discharge Status Codes

Code	Description
01	Discharged to home or self-care (routine discharge)
02	Discharged/transferred to a short-term general hospital for inpatient care
03	Discharged/transferred to skilled nursing facility (SNF) with Medicare certification in anticipation of skilled care
04 ¹	Q1, 2009 to Q3, 2009: Discharged/transferred to an intermediate care facility (ICF) Q4, 2009: Discharged/transferred to a facility that provides custodial or supportive care
05	Discharged/transferred to a designated cancer center or children's hospital
06	Discharged/transferred to home under care of organized Home Health Service Organization in anticipation of covered skilled care
07	Left against medical advice or discontinued care
20	Expired
21 ²	Discharged/transferred to Court/Law Enforcement
43	Discharged/transferred to a federal health care facility
50	Discharged to hospice—home
51	Discharged to hospice—medical facility (certified) providing hospice level of care
61	Discharged/transferred to a hospital-based Medicare approved swing bed
62	Discharged/transferred to an inpatient rehabilitation facility (IRF) including rehabilitation distinct part units of a hospital
63	Discharged/transferred to a Medicare certified long term care hospital (LTCH)
64	Discharged/transferred to a nursing facility certified under Medicaid but not certified under Medicare
65	Discharged/transferred to a psychiatric hospital or psychiatric distinct part unit of a hospital
66	Discharged/transferred to a critical access hospital (CAH)
70	Discharged/transferred to another type of health care institution not defined elsewhere in this code list

¹ Name change effective October 1, 2009² New code effective October 1, 2009