
TECHNICAL NOTES APPENDIX – WINTER

Hospital Performance Report Winter Update

*INCLUDES PENNSYLVANIA INPATIENT HOSPITAL DISCHARGES FROM
JANUARY 1, 2008 THROUGH DECEMBER 31, 2008*



**The Pennsylvania Health Care Cost Containment Council
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**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 – Winter 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 – Winter Update*..... A-11
 Table G. Valid Discharge Status Codes A-12

PREFACE

The *Technical Notes Appendix – Winter* in conjunction with the *Technical Notes* that accompanied the *FFY 2008 Hospital Performance Report* (HPR) provide important information regarding the analysis and development of the *Hospital Performance Report Winter Update* (January 1, 2008 through December 31, 2008 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 - Winter* 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., Q1-2008 through Q9-2008).

Additional Information

1. Beginning with this HPR Winter Update, records with admit, discharge, or readmission date discrepancies will no longer be excluded from the readmissions analyses. Such records typically involved overlapping stays with other inpatient records (e.g., rehabilitation, psychiatric, long-term care records) yet were themselves legitimate records for inclusion in the HPR readmission analyses.
2. ICD-9-CM codes and DRGs used in this HPR Winter Update are applicable to CMS Grouper Versions 25.0 and 26.0. Code changes are noted where applicable in this document.

3. ICD-9-CM codes defining “cancer type” and “diabetes” (variables used as risk factors in the adjustment of mortality, readmission for any reason, and readmission for complication or infection analyses) are applicable to CMS Grouper Versions 25.0 and 26.0. New codes, effective with Grouper 26.0, are identified below.
- *Cancer type* was defined by the following ICD-9-CM codes: Malignant Neoplasm and Carcinoma in situ = 140.0-195.8, 200.00-208.92¹, 209.00-209.30², 230.0-239.9; Secondary Neoplasm (Metastatic) = 196.0-199.1
 - *Diabetes* was defined by the following ICD-9-CM codes: 249.00-249.91² and 250.00-250.93

¹ New codes within this range are valid beginning October 1, 2008 and include: 203.02, 203.12, 203.82, 204.02, 204.12, 204.22, 204.82, 204.92, 205.02, 205.12, 205.22, 205.32, 205.82, 205.92, 206.02, 206.12, 206.22, 206.82, 206.92, 207.02, 207.12, 207.22, 207.82, 208.02, 208.12, 208.22, 208.82, and 208.92

² New codes valid beginning October 1, 2008

TABLE A
The 49 Medical Conditions and Surgical Procedures in the
Hospital Performance Report – Winter 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 25.0 and 26.0. 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, 453.8, 453.9	294, 295, 299, 300, 301
Blood Clot in Lung	415.11, 415.12, 415.19	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 ² , 249.1x ² , 249.2x ² , 249.3x ² , 249.7x ² , 249.8x ² , 249.9x ² , 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 ² , 249.1x ² , 249.2x ² , 249.3x ² , 249.4x ² , 249.6x ² , 249.7x ² , 249.8x ² , 249.9x ² , 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 ² , 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 ² , 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 ² , 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, 2008

TABLE A CONTINUED

The 31 Code-Based Conditions/Procedures

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 ³ , 17.32 ³ , 17.33 ³ , 17.34 ³ , 17.35 ³ , 17.36 ³ , 17.39 ³ , 45.71, 45.72, 45.73, 45.74, 45.75, 45.76, 45.79, 45.8 ⁴ , 45.81 ³ , 45.82 ³ , 45.83 ³ , 45.92, 45.94, 46.03, 46.10, 46.11, 46.13, 46.42, 46.43, 46.52, 46.76, 46.94, 48.40 ³ , 48.42 ³ , 48.43 ³ , 48.49, 48.5 ⁴ , 48.50 ³ , 48.51 ³ , 48.52 ³ , 48.59 ³ , 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 - 864.19, 868.00 - 869.1, 879.2 - 879.9, 902.0 - 902.9, 908.1, 908.2, 908.4, 908.6, 908.9, 922.2, 935.2, 936, 937, 938, or 947.3.³Valid as of October 1, 2008⁴Invalid as of October 1, 2008

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 25.0 and 26.0.

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 ²	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	482.82	483.1
410.11	410.41	410.71	997.1	482.0	482.40	482.83	483.8
410.21	410.51	410.81		482.1	482.41	482.84	485
				482.2	482.42 ²	482.89	486
				482.30	482.49	482.9	507.0
				482.31	482.81	483.0	997.31 ²
				482.32			
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 ²	995.93	998.30 ²	998.83
				584.5	995.94	998.31	998.89
				584.6	997.5	998.32	998.9
				584.7	998.11	998.33 ²	
				584.8	998.12	998.4	
				584.9	998.13	998.6	
				909.3	998.2	998.7	
Vascular Complications							
415.11	444.89	451.82	453.8				
415.12	444.9	451.83	453.9				
415.19	449	451.84	997.2				
444.0	451.0	451.89	997.71				
444.1	451.11	451.9	997.72				
444.21	451.19	453.40	997.79				
444.22	451.2	453.41	999.1				
444.81	451.81	453.42	999.2				
Respiratory Complications							
511.0	511.9	518.4	518.84				
511.1	512.1	518.5	997.3 ¹				
511.8 ¹	514	518.81	997.39 ²				
511.89 ²	518.0	518.82					
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 ^{2,3}				
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					

¹Invalid as of 10/1/2008. ²Valid beginning 10/1/2008. ³New code added beginning HPR 2008 Winter Update.

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	45,267	0.8	3.5	15.0	3.5	\$33,087
Blood Clot in Extremities	7,802	0.4	4.2	NR	NR	\$18,699
Blood Clot in Lung	7,042	1.8	5.3	NR	NR	\$29,427
Chronic Obstructive Pulmonary Disease (COPD)	33,362	0.9	4.5	22.8	6.7	\$22,646
Congestive Heart Failure (CHF)	48,559	2.8	5.0	27.2	7.6	\$28,193
Diabetes with Amputation	2,037	1.3	9.4	21.2	7.0	\$68,643
Diabetes - Medical Management	17,354	0.6	3.7	21.6	4.6	\$22,039
Heart Attack - Medical Management	12,823	10.1	5.4	NR	NR	\$35,154
Intestinal Obstruction	9,417	1.8	4.3	NR	NR	\$21,367
Kidney Failure - Acute	20,406	5.0	5.6	24.0	11.6	\$29,880
Kidney and Urinary Tract Infections	23,788	0.8	4.2	17.6	8.4	\$21,016
Pneumonia - Aspiration	9,556	9.8	6.8	24.8	17.3	\$34,308
Pneumonia - Infectious	39,859	2.6	4.9	16.9	8.1	\$24,737
Respiratory Failure with Mechanical Ventilation	6,081	28.8	9.4	28.2	16.2	\$79,300
Respiratory Failure without Mechanical Ventilation	9,555	10.0	5.9	26.5	15.2	\$29,040
Septicemia	26,397	18.6	7.2	NR	NR	\$44,047
Stomach and Intestinal Bleeding	19,856	2.1	4.4	17.2	6.6	\$26,654
Stroke - Hemorrhagic	3,757	25.9	5.9	18.3	9.2	\$45,989
Stroke - Non-Hemorrhagic	19,206	4.9	4.9	14.7	6.9	\$34,559

Surgical Procedures						
Abdominal Aortic Aneurysm Repair - Endovascular	1,718	0.9	2.7	10.8	6.1	\$96,523
Abdominal Aortic Aneurysm Repair - Open	479	3.8	8.2	13.8	7.6	\$97,458
Colorectal Procedures	14,322	3.0	8.5	NR	NR	\$67,607
Gallbladder Removal - Laparoscopic	13,632	0.3	3.6	7.1	2.7	\$32,883
Gallbladder Removal - Open	2,374	1.3	6.8	11.5	6.4	\$55,043
Heart Attack - Angioplasty/Stent	11,428	1.2	3.7	NR	NR	\$72,956
Hip Fracture - Surgical Repair	12,896	2.0	5.9	15.1	8.9	\$44,962
Hysterectomy - Abdominal	15,370	0.1	2.6	NR	NR	\$27,115
Hysterectomy - Vaginal	6,222	NR	1.6	3.0	2.0	\$20,500
Prostatectomy - Radical	4,026	NR	2.2	NR	NR	\$42,327
Prostatectomy - Transurethral	3,277	0.3	2.5	NR	NR	\$18,543
Removal of Blockage of Neck Vessels	4,798	0.2	2.3	8.9	2.8	\$29,954

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	5,788	4.3	5.7	NR	NR	\$103,162
Bronchitis and Asthma	13,857	0.2	3.3	12.2	2.8	\$18,455
Chest Pain	32,213	<0.1	1.7	11.6	1.9	\$17,654
Cirrhosis and Alcoholic Hepatitis	4,061	5.9	5.5	33.4	6.2	\$39,105
Hypotension and Fainting	19,777	0.2	2.8	12.1	2.7	\$20,176
Infectious and Parasitic Diseases with Surgery	4,137	15.2	13.4	NR	NR	\$110,215
Liver, Gallbladder or Pancreatic Cancer	3,461	9.7	5.4	NR	NR	\$39,049
Liver Disease except Cancer, Cirrhosis, or Alcoholic Hepatitis	4,803	5.5	5.1	35.3	6.5	\$36,761
Major Lung Surgery	5,804	2.9	7.3	NR	NR	\$78,504
Medical Back Problems	12,180	0.6	3.8	16.0	3.7	\$22,583
Miscellaneous Lung Surgery	5,610	5.9	8.1	NR	NR	\$68,066
Miscellaneous Vascular Surgery	11,680	1.5	5.1	NR	NR	\$64,254
Noncancerous Pancreatic Disorders	9,510	0.9	4.6	20.0	2.8	\$25,901
Postoperative and Posttraumatic Infections with Surgery	2,874	1.3	8.0	18.8	11.7	\$66,300
Postoperative and Posttraumatic Infections without Surgery	4,900	0.5	4.8	NR	NR	\$27,663
Stomach and Intestinal Complications and Disorders	11,111	2.2	4.3	NR	NR	\$25,535
Stomach and Intestinal Infections and Disorders	44,684	0.3	3.2	NR	NR	\$19,832
Stomach and Small Intestine Surgery	4,247	4.1	8.3	NR	NR	\$90,989

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	41,572	1,452	3.5	101	113	16	1	112	130	103	341	244	114	177	
Chronic Obstructive Pulmonary Disease	31,530	2,124	6.7	45	100	4	0	91	584	91	397	671	32	109	
Congestive Heart Failure	44,188	3,344	7.6	167	304	18	0	88	536	168	791	535	72	665	
Diabetes with Amputation	1,914	134	7.0	5	6	0	0	4	3	3	53	16	7	37	
Diabetes - Medical Management	16,337	747	4.6	39	47	2	0	28	44	43	263	117	23	141	
Kidney Failure - Acute	17,867	2,064	11.6	54	70	5	0	80	126	109	614	183	30	793	
Kidney and Urinary Tract Infections	22,399	1,879	8.4	61	59	1	0	64	82	72	1,067	256	43	174	
Pneumonia - Aspiration	7,714	1,333	17.3	21	25	2	0	28	114	34	314	715	25	55	
Pneumonia - Infectious	36,805	2,976	8.1	86	109	7	0	136	357	123	667	1,296	29	166	
Respiratory Failure with Mechanical Ventilation	3,803	616	16.2	9	36	0	0	27	268	13	115	105	10	33	
Respiratory Failure without Mechanical Ventilation	7,870	1,196	15.2	14	30	2	0	23	691	13	184	186	3	50	
Stomach and Intestinal Bleeding	18,338	1,214	6.6	63	53	2	1	79	61	382	274	164	29	106	
Stroke - Hemorrhagic	2,248	207	9.2	85	5	1	0	18	5	5	44	25	1	18	
Stroke - Non-Hemorrhagic	16,692	1,158	6.9	477	46	7	1	55	45	69	214	157	15	72	
Surgical Procedures															
Abdominal Aortic Aneurysm Repair - Endovascular	1,498	91	6.1	2	4	0	0	6	2	5	36	5	9	22	
Abdominal Aortic Aneurysm Repair - Open	419	32	7.6	0	1	0	0	3	0	8	11	1	1	7	
Gallbladder Removal - Laparoscopic	12,838	341	2.7	6	10	1	0	30	12	89	119	23	7	44	
Gallbladder Removal - Open	2,194	141	6.4	1	3	0	0	14	6	24	59	12	3	19	
Hip Fracture - Surgical Repair	12,043	1,066	8.9	34	50	3	1	65	63	78	366	179	145	82	
Hysterectomy - Vaginal	6,002	121	2.0	0	0	0	0	11	3	6	66	1	0	34	
Removal of Blockage of Neck Vessels	4,522	127	2.8	29	11	1	0	3	10	10	23	11	2	27	

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	13,294	376	2.8	12	10	4	1	27	61	11	92	125	7	26	
Chest Pain	30,539	572	1.9	45	79	11	0	56	43	33	116	85	37	67	
Cirrhosis and Alcoholic Hepatitis	3,401	211	6.2	5	4	0	0	2	24	33	84	14	1	44	
Hypotension and Fainting	18,686	501	2.7	41	45	9	1	40	35	27	143	85	11	64	
Liver Disease except Cancer, Cirrhosis, or Alcoholic Hepatitis	3,938	255	6.5	6	3	1	0	15	18	18	96	32	5	61	
Medical Back Problems	11,395	425	3.7	24	26	0	0	36	26	25	153	75	11	49	
Noncancerous Pancreatic Disorders	8,811	246	2.8	8	9	1	1	16	12	29	95	29	15	31	
Postoperative and Posttraumatic Infections with Surgery	2,543	297	11.7	4	2	1	0	14	9	9	204	5	12	37	

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	477,798	100.0	488,331	100.0	423,983	100.0	367,414	100.0	488,331	100.0	16,327	100.0
Exclusions:												
<i>Records with errors</i>	0	0.0	42	<0.1	38	<0.1	0	0.0	231	<0.1	0	0.0
<i>Duplicate records</i>	84	<0.1	86	<0.1	69	<0.1	66	<0.1	80	<0.1	4	<0.1
<i>Discharge date not in time period</i>	23	<0.1	23	<0.1	21	<0.1	21	<0.1	10	<0.1	1	<0.1
<i>Missing or invalid discharge status</i>	147	<0.1	148	<0.1	133	<0.1	125	<0.1	147	<0.1	2	<0.1
<i>Non-adult (< 18) or invalid age</i>	9,622	2.0	9,623	2.0	9,065	2.1	8,747	2.4	9,620	2.0	5	<0.1
<i>Patients with HIV Infection¹</i>	614	0.1	616	0.1	577	0.1	543	0.1	616	0.1	11	0.1
<i>Patients with abdominal trauma²</i>	128	<0.1	128	<0.1	NA	NA	NA	NA	128	<0.1	NA	NA
<i>Patients who left against medical advice</i>	3,422	0.7	3,425	0.7	3,367	0.8	2,844	0.8	3,425	0.7	142	0.9
<i>Patients transferred to GAC facilities</i>	13,645	2.9	13,648	2.8	13,066	3.1	8,172	2.2	13,634	2.8	NA	NA
<i>Patients who died</i>	NA	NA	18,522	3.8	17,681	4.2	11,218	3.1	NA	NA	1,332	8.2
<i>Missing Atlas Outcomes™ data³</i>	7,695	1.6	7,283	1.5	6,146	1.4	5,662	1.5	NA	NA	NA	NA
<i>Invalid length of stay</i>	NA	NA	12	<0.1	3	<0.1	6	<0.1	NA	NA	NA	NA
<i>Length of stay outliers</i>	NA	NA	3,923	0.8	NA	NA	2,966	0.8	NA	NA	NA	NA
<i>Non-Pennsylvania residents</i>	NA	NA	NA	NA	NA	NA	10,093	2.7	NA	NA	NA	NA
<i>Patients discharged to hospice</i>	NA	NA	NA	NA	NA	NA	5,593	1.5	NA	NA	NA	NA
<i>Missing or inconsistent patient identifiers⁴</i>	NA	NA	NA	NA	NA	NA	2,217	0.6	NA	NA	NA	NA
<i>Invalid charges</i>	NA	NA	NA	NA	NA	NA	NA	NA	611	0.1	NA	NA
<i>Charge outliers</i>	NA	NA	NA	NA	NA	NA	NA	NA	8,474	1.7	NA	NA
<i>No reference data</i>	NA	NA	NA	NA	NA	NA	NA	NA	2,319	0.5	NA	NA
<i>Intermediary hospitalization</i>	NA	NA	NA	NA	NA	NA	348	0.1	NA	NA	NA	NA
Total Exclusions	35,380	7.4	57,479	11.8	50,166	11.8	58,621	16.0	39,295	8.0	1,497	9.2
Total Cases in Analysis	442,418	92.6	430,852	88.2	373,817	88.2	308,793	84.0	449,036	92.0	14,830	90.8

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	231,771	100.0	231,771	100.0	76,993	100.0	118,333	100.0	231,771
Exclusions:										
<i>Records with errors</i>	0	0.0	26	<0.1	2	<0.1	0	0.0	58	<0.1
<i>Duplicate records</i>	108	<0.1	108	<0.1	7	<0.1	82	0.1	108	<0.1
<i>Discharge date not in time period</i>	8	<0.1	8	<0.1	3	<0.1	5	<0.1	5	<0.1
<i>Missing or invalid discharge status</i>	36	<0.1	36	<0.1	15	<0.1	16	<0.1	36	<0.1
<i>Non-adult (< 18) or invalid age</i>	18,052	7.8	18,052	7.8	620	0.8	11,444	9.7	18,052	7.8
<i>Patients who left against medical advice</i>	3,574	1.5	3,574	1.5	2,134	2.8	2,584	2.2	3,574	1.5
<i>Patients transferred to GAC facilities</i>	4,741	2.0	4,740	2.0	2,001	2.6	2,566	2.2	4,740	2.0
<i>Patients who died</i>	NA	NA	3,340	1.4	410	0.5	791	0.7	NA	NA
<i>Missing Atlas Outcomes™ data¹</i>	4,555	2.0	4,450	1.9	1,741	2.3	2,335	2.0	NA	NA
<i>Invalid length of stay</i>	NA	NA	2	<0.1	0	0.0	1	<0.1	NA	NA
<i>Length of stay outliers</i>	NA	NA	1,812	0.8	NA	NA	850	0.7	NA	NA
<i>Non-Pennsylvania residents</i>	NA	NA	NA	NA	NA	NA	3,396	2.9	NA	NA
<i>Patients discharged to hospice</i>	NA	NA	NA	NA	NA	NA	432	0.4	NA	NA
<i>Missing or inconsistent patient identifiers²</i>	NA	NA	NA	NA	NA	NA	1,143	1.0	NA	NA
<i>Invalid charges</i>	NA	NA	NA	NA	NA	NA	NA	NA	194	0.1
<i>Charge outliers</i>	NA	NA	NA	NA	NA	NA	NA	NA	3,774	1.6
<i>No reference data</i>	NA	NA	NA	NA	NA	NA	NA	NA	209	0.1
<i>Intermediary hospitalization</i>	NA	NA	NA	NA	NA	NA	81	0.1	NA	NA
Total exclusions	31,074	13.4	36,148	15.6	6,933	9.0	25,726	21.7	30,750	13.3
Total cases in analysis	200,697	86.6	195,623	84.4	70,060	91.0	92,607	78.3	201,021	86.7

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 – Winter Update*

The study population for the *Hospital Performance Report – Winter Update* included useable 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>Bucktail</i>	<i>Records with data errors</i>
<i>Mid-Valley</i>	<i>Severity data needed for risk adjustment not available</i>
<i>Montrose General</i>	<i>Severity data needed for risk adjustment not available</i>
<u>Southeastern Pennsylvania</u>	
<i>Abington</i>	<i>UB and severity data not available</i>
<i>Surg Institute of Reading</i>	<i>Severity data needed for risk adjustment not available</i>
<i>Thomas Jefferson</i>	<i>Severity data needed for risk adjustment not available</i>
<u>Western Pennsylvania</u>	
<i>Brookville</i>	<i>Severity data needed for risk adjustment not available</i>
Facilities for which average charge will not be reported²:	
<u>Central and Northeastern Pennsylvania</u>	
<i>Jersey Shore</i>	<i>Records with data errors</i>
Facilities that closed/merged:	
<u>Central and Northeastern Pennsylvania</u>	
<i>Geisinger Wilkes-Barre</i>	<i>Closed facility – effective 07/10/09</i>
<u>Southeastern Pennsylvania</u>	
<i>DSI of Bucks County</i>	<i>Closed facility – effective 02/04/09</i>
<i>Temple East</i>	<i>Closed facility – effective 06/29/09</i>
<u>Western Pennsylvania</u>	
<i>Commonwealth Medical Center (formerly Aliquippa)</i>	<i>Closed facility – effective 12/12/08</i>
<i>Mercy Jeannette</i>	<i>Merged with Excelsa Hlth Westmoreland – effective 05/01/08</i>
<i>UPMC South Side</i>	<i>Merged with UPMC Mercy – effective 06/30/09</i>
Other facilities not reported:	
<u>Southeastern Pennsylvania</u>	
<i>Children's Hospital Philadelphia</i>	<i>Children's hospital³</i>
<i>St. Christopher's Children's</i>	<i>Children's hospital³</i>
<i>Westfield</i>	<i>New facility Q2, 2008 – not enough data for analysis</i>
<u>Western Pennsylvania</u>	
<i>Children's Hospital Pittsburgh</i>	<i>Children's hospital³</i>
<i>Edgewood</i>	<i>Specialized hospital: number of records available for analysis in HPR was negligible⁴</i>

¹Hospitals with $\geq 10\%$ missing *Atlas Outcomes™* 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.

²Discharges relevant to the charge analysis were excluded from the statewide dataset.

³Pediatric cases were excluded from all study populations. Therefore, data for children's hospitals were not reported. Adult discharges from pediatric hospitals were retained in the statewide dataset.

⁴Discharges 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	Discharged/transferred to an intermediate care facility (ICF)
05 ¹	Q1, 2008: Discharged/transferred to another type of institution not defined elsewhere in this code list Q2-Q4, 2008: 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
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 ²	Discharged/transferred to another type of health care institution not defined elsewhere in this code list

¹ Name change effective Q2, 2008

² New code effective Q2, 2008