

# Pennsylvania's Guide to Coronary Artery Bypass Graft Surgery **2002**

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Information about hospitals and cardiothoracic surgeons

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Pennsylvania Health Care Cost Containment Council  
March 2004



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The Pennsylvania Health Care Cost Containment Council (PHC4) was established as an independent state agency by the General Assembly and the Governor of the Commonwealth of Pennsylvania in 1986. To help improve the quality and restrain the cost of health care, PHC4 promotes health care competition through the collection, analysis and public dissemination of uniform cost and quality-related information.



## Key Findings

- Patient mortality following coronary artery bypass graft (CABG) surgery in Pennsylvania hospitals dropped 16.6 percent between 2000 and 2002. Thirty-day mortality dropped by 14.4 percent during the same period.
- Readmission rates within seven days following bypass surgery decreased 10.4 percent between 2000 and 2002. Thirty-day readmission rates declined by 9.9 percent.
- The number one cause of readmissions following bypass surgery was infection.
- Despite an overall decline in readmissions, rates varied widely among hospitals and surgeons. Thirty-day readmission rates ranged from 7 percent to 25.7 percent for hospitals and from 2.4 percent to 26.7 percent for surgeons.
- Readmissions within 7 days amounted to more than \$25 million in charges and 5,373 hospital days. Readmissions within 30 days amounted to over \$55 million in charges and 11,654 hospital days.
- Patients with longer post-surgical lengths of stay were more likely to be readmitted within 7 or 30 days of CABG surgery.
- The average charge for all CABG surgeries increased by 32 percent in the last five years, while the average charge for all inpatient discharges increased by 43 percent.

- Overall, the number of CABG surgeries decreased by 12 percent in the last five years, while another treatment for heart disease known as angioplasty or “balloon” procedure increased by 21 percent during the same time period.
- When examining all open heart surgeries (CABG included) the average number of cases per hospital decreased from 499 in 2000 to 408 in 2002 (a decline of 18.2 percent). The average number per surgeon decreased from 149 in 2000 to 130 cases in 2002 (a decline of 12.8 percent).

## Surgeon Volume

- **Surgeon volume and mortality.** Surgeons who performed higher numbers of procedures (200-250 procedures) tended to have better results; i.e. lower patient mortality rates. Patients treated by surgeons who performed 200 to 250 surgeries were twice as likely to survive in the hospital as patients of surgeons with less than 100 procedures per year.
- **Surgeon volume and readmissions.** In general, surgeons with higher numbers of surgeries had lower 30-day readmission rates than surgeons with lower volume.
- **Surgeon volume and length of stay.** In general, patients treated by surgeons with higher volume had shorter post-surgical lengths of stay.



## Understanding this Report

### What is Coronary Artery Bypass Graft Surgery?

Coronary artery bypass graft (CABG) surgery is a surgical procedure used to treat patients with blockages in the coronary arteries. During the procedure, a surgeon creates an alternate path for blood to flow to the heart muscle by going around, or bypassing, a blocked section of an artery. CABG (pronounced “cab-bage”) is an invasive surgery that is typically recommended for severe blockages that are not treatable by other methods. The surgeon typically gains access to the heart by cutting the sternum (breast bone). Blood vessels most often are removed from the patient’s leg or detached from the chest wall and “grafted” to the blocked artery. Once the grafts have been attached, blood will flow through the new bypass vessel, avoiding the blockage completely.

CABG is performed by a cardiothoracic surgeon under general anesthesia and generally takes between two and six hours depending on the number of bypasses to be completed (patients might have more than one blockage, so several bypasses may be needed). After the procedure is completed, most patients stay in the hospital for several days and face a rehabilitation period of about one to two months.

### Why is it important to look at CABG surgery?

CABG surgery is a frequently performed and costly surgery. This report includes information on approximately 16,500 CABG sur-

geries performed in Pennsylvania hospitals in 2002 at an average charge of over \$80,000.

While most CABG patients have an excellent prognosis for survival, results following surgery may vary among hospitals and surgeons. Thus, it is important to monitor the performance of Pennsylvania hospitals and surgeons who perform CABG surgery. There is evidence that the information contained in reports such as this encourages hospitals and surgeons to examine their processes and make changes that can improve quality of care and ultimately save lives.

### What is measured in this report and why are these measures important?

This report includes information on the number of surgeries performed, mortality (death) rates during the hospital stay or within 30-days following the surgery, readmission rates within 7 or 30 days, and data on post-surgical lengths of stay. This information is reported for the hospitals and surgeons who performed CABG surgery on adult patients in 2002. In addition, average charge is reported for hospitals. These measures were chosen because they are important components in examining quality of care. Further, they can be reliably measured and compared across hospitals. Other quality of care measures, such as complications following surgery, are important as well, but are more difficult to evaluate.

A particular note is warranted for the 30-day mortality and 30-day readmission



measures. While PHC4's Technical Advisory Group voted favorably to include these measures in the report, there were dissenting opinions. It should, therefore, be understood that the inclusion of 30-day mortality and 30-day readmission rates represented the majority, and not the unanimous, vote of the Technical Advisory Group.

*Number of cases* – This is the number of CABG surgeries analyzed in this report. This figure gives an idea of the experience the hospitals and surgeons have in treating CABG patients. It is important to note, however, that some CABG patients were not counted in this analysis (for example, those that underwent other complex procedures during the same hospital admission as the CABG surgery), so the actual number of cases that a hospital or surgeon treated might be higher.

*In-hospital mortality* – This measure represents the number of patients who died during the hospital stay in which the CABG surgery was performed.

*30-day mortality* – This measure represents the number of patients who died within 30 days of the date of their CABG surgery regardless of “where” the patient died. This measure is important because it includes, for example, those patients who may have been discharged from the hospital but died after returning home.

*7-day and 30-day hospital readmissions* – Some patients are discharged from the hospital following CABG surgery and are then readmitted

at a later date. For this analysis, readmissions were counted only if the patient was readmitted for particular reasons (as indicated by the principal diagnosis of the patient during the readmission; examples include infections, other heart-related conditions, etc.). This report examines how often patients were readmitted to a Pennsylvania hospital within 7 days or 30 days of being discharged from the hospital where the CABG surgery was performed. Readmission rates are important from both a quality of care and cost standpoint. While some readmissions will always occur, high quality care may lessen the need for subsequent hospitalizations.

Information on both 7-day and 30-day readmissions is reported because the reasons for readmission may vary across these time periods. 7-day readmissions account for those readmissions that are closer in time to the initial hospitalization and may be more directly tied to the CABG surgery. At the same time, particular complications may occur after the first 7 days, so adding 30-day readmission rates provides a more complete picture. While much of the scientific literature has focused primarily on 30-day readmission rates, readmissions this far away from the discharge may or may not reflect the care a patient received during the CABG surgery (e.g., a health complication unrelated to the surgery could have developed within the 30 days and necessitated hospitalization).



*Post-surgical length of stay* – This measure represents how long a patient stayed in the hospital after undergoing CABG surgery. How long a patient stays in the hospital may reflect upon the success of the treatment. While complications following surgery were not examined for this report, other analysis has shown that complications following CABG surgery add to the length of time a patient stays in the hospital. At the same time, it is important to note that various approaches to CABG surgery might affect length of stay. For example hospitals that perform an “off-pump” approach to CABG surgery might have different lengths of stay than the hospitals that do not use this approach. Length of stay is reported in average days instead of a statistical rating that indicates whether the length of stay was significantly longer or shorter than expected. Unlike other measures (such as mortality where a lower number of deaths is obviously better than a higher number), it is not known whether shorter lengths of stay are better than longer lengths of stay or vice versa. Reporting the average length of stay in days, therefore, presents information that can be used to examine differences in lengths of stay without taking a position on what is “best.”


*Hospital charges* – The amount a hospital bills for a patient’s care is known as the charge.

The charges do not include professional fees (e.g., physician fees) or other additional post-discharge costs, such as rehabilitation treatment, long term care and/or home health care. Hospitals generally do not receive full reimbursement of their charges because insurance companies or other large purchasers of health care services generally negotiate discounts with hospitals. The amount collected by the hospital, therefore, may differ substantially from the charge. Hospital charges often vary by regions of the state. Despite their limitations, charges are a commonly reported surrogate for health care costs.

### **Uses of the report**

This report can be used as a tool to examine hospital and surgeon performance for CABG surgery. It is not intended to be a sole source of information in making decisions about CABG surgery, nor should it be used to generalize about the overall quality of care provided by a hospital or a surgeon. Readers of this report should use it in discussions with their physicians who can answer specific questions and concerns about CABG surgery.

- **Patients/consumers** can use this report to aid in making decisions about where and with whom to seek treatment involving CABG surgery. This report should be used



*in conjunction* with a physician or other health care provider when making decisions about CABG surgery.

- **Group benefits purchasers/insurers** can use this report as part of a process in determining which hospitals and surgeons provide quality care for employees, subscribers, members, or participants who need CABG surgery.
- **Health care providers** can use this report as an aid in identifying opportunities for quality improvement and cost containment.
- **Policy makers/public officials** can use this report to enhance their understanding of health care issues, to ask insightful questions, to raise public awareness of important issues and to help constituents identify quality health care options.
- **Everyone** can use this information to raise important questions about why differences exist in the quality and efficiency of care.

### **Where does the data come from?**

Pennsylvania hospitals are required by law to submit certain information to PHC4. The data used for this analysis was submitted to PHC4 by hospitals in Pennsylvania that perform CABG surgery. It encompasses inpatient

hospital discharges from January 1, 2002 to December 31, 2002 in which the patient underwent CABG surgery. The data was subject to verification processes by PHC4 and was verified for accuracy by hospitals and surgeons. In addition, hospitals are required to submit data indicating in simple terms “how sick the patient was on admission.” This information is used to make sure that differences in the illness level of patients are accounted for when reporting information on CABG surgery.

### **Accounting for high-risk patients**

Some patients who undergo CABG surgery are more seriously ill than others. In order to report fair comparisons among hospitals and surgeons, PHC4 developed a complex mathematical formula to “risk-adjust” the data, meaning that hospitals and surgeons receive “extra credit” for operating on patients that are more seriously ill or at a greater risk than others. Risk-adjusting the data is important because sicker patients might be more likely to die following CABG surgery, be readmitted, or stay in the hospital longer. A comprehensive description of how these adjustments are made can be found in the *Technical Notes* document that accompanies this report. It can be found on PHC4’s Web site at [www.phc4.org](http://www.phc4.org).



### What do the symbols mean?

The symbols in this report represent the “bottom line” results of hospitals and surgeons who performed CABG surgery. A statistical test is done to determine whether differences in the results are simply due to chance or random variation. A difference is called “statistically significant” when we are 95 percent confident that the difference is not likely to result from chance or random variation. Using in-hospital mortality as an example:

- lower than expected (meaning that the hospital or surgeon had fewer deaths than expected after accounting for how sick the patients were in that hospital)
- ◉ same as expected (meaning that the hospital or surgeon had as many deaths as expected after accounting for how sick the patients were in that hospital)
- higher than expected (meaning that the hospital or surgeon had more deaths than expected after accounting for how sick the patients were in that hospital)

### Statewide Figures for CABG Surgery

In-hospital mortality rate.....	2.0%
30-day mortality rate .....	2.3%
7-day readmission rate .....	5.5%
30-day readmission rate .....	13.1%
Average post-surgical length of stay.....	5.8 days
Average hospital charge .....	\$80,984

#### More Data on PHC4’s Web Site

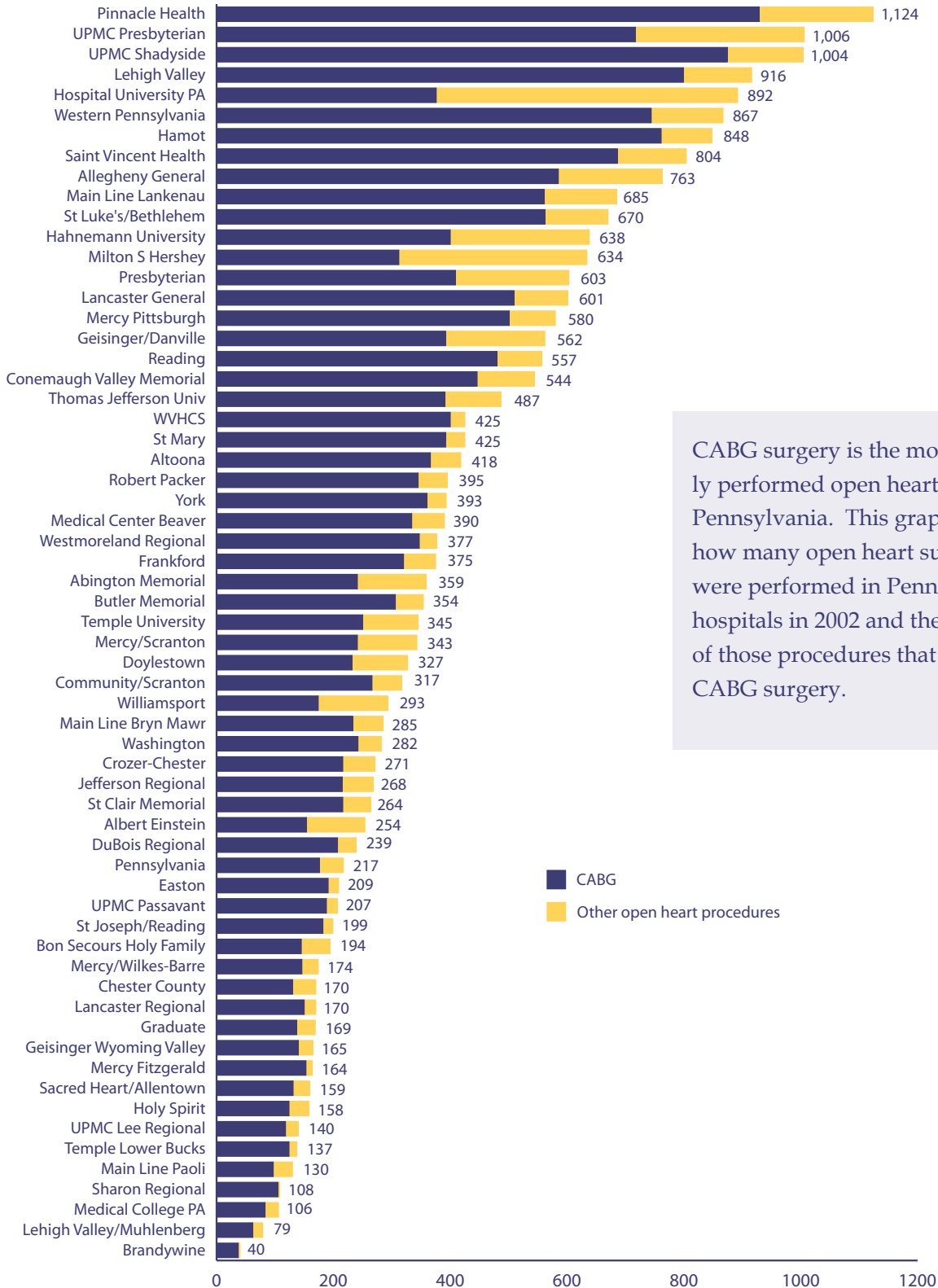
Additional information is posted on the PHC4 Web site at [www.phc4.org](http://www.phc4.org):

- Numbers behind the outcome figures and symbols
- Technical Notes





## Total Number of Open Heart and CABG Procedures by Hospital - 2002



CABG surgery is the most commonly performed open heart surgery in Pennsylvania. This graph shows how many open heart surgeries were performed in Pennsylvania hospitals in 2002 and the proportion of those procedures that involved CABG surgery.



## Hospital Data

Hospital	Number of Cases	Mortality		Readmissions		Length of Stay	Average Charges
		In-Hospital	30-Day	7-Day	30-Day		
Abington Memorial	196	○	○	○	○	7.2	\$150,520
Albert Einstein	145	●	●	○	○	6.1	\$124,777
Allegheny General	421	○	○	●	○	7.2	\$65,887
Altoona	288	○	○	○	○	4.8	\$47,345
Bon Secours Holy Family	98	○	○	○	○	5.0	\$52,589
Butler Memorial	241	○	○	○	○	5.9	\$37,775
Chester County	106	○	○	●	○	5.3	\$51,768
Community/Scranton	212	○	○	○	○	5.6	\$53,834
Conemaugh Valley Memorial	352	○	○	○	○	5.1	\$55,863
Crozer-Chester	198	○	○	○	○	5.2	\$161,882
Doylestown	199	○	○	○	○	5.4	\$61,194
DuBois Regional	201	○	○	○	●	4.4	\$47,661
Easton	160	○	○	○	○	6.2	\$97,703
Frankford	277	○	○	○	○	6.1	\$86,925
Geisinger Wyoming Valley	116	○	○	○	○	4.7	\$52,230
Geisinger/Danville	392	○	○	○	○	4.6	\$48,760
Graduate	121	●	○	○	○	5.6	\$250,777
Hahnemann University	317	○	○	○	○	7.8	\$264,760
Hamot	621	○	○	○	○	5.5	\$48,956
Holy Spirit	107	●	●	○	○	5.7	\$53,152
Hospital University PA	208	○	○	○	○	5.7	\$131,924
Jefferson Regional *	183	○	○	○	○	6.5	\$41,295
Lancaster General	370	○	○	○	○	5.6	\$39,901
Lancaster Regional	122	○	○	○	○	6.8	\$72,123
Lehigh Valley	631	○	○	○	○	5.6	\$73,766
Lehigh Valley/Muhlenberg *	48	○	○	○	○	3.9	\$74,376
Main Line Bryn Mawr	188	○	○	●	○	5.9	\$94,653
Main Line Lankenau	454	○	○	○	○	5.9	\$88,813
Main Line Paoli *	95	○	○	○	○	5.5	\$88,851
Medical Center Beaver	296	○	●	○	○	5.8	\$47,000
Medical College PA	74	●	○	○	○	5.1	\$175,235

\* Began performing CABG surgery during 2002. Brandywine Hospital also began performing CABG surgery in 2002 but had too few cases to be reported (28 cases).

The mortality, length of stay, and readmission figures account for varying illness levels among patients. Length of stay is the average number of days spent in the hospital following CABG surgery.

○	Lower than expected
◉	Same as expected
●	Higher than expected



## Hospital Data

Hospital	Number of Cases	Mortality		Readmissions		Length of Stay	Average Charges
		In-Hospital	30-Day	7-Day	30-Day		
Mercy Fitzgerald	122	●	○	○	○	7.0	\$119,960
Mercy Pittsburgh	418	●	●	○	○	7.3	\$72,101
Mercy/Scranton	222	○	○	○	○	6.0	\$65,257
Mercy/Wilkes-Barre	143	○	○	○	○	5.1	\$74,194
Milton S Hershey	240	○	○	○	○	5.6	\$42,175
Pennsylvania	143	○	○	○	●	6.6	\$126,844
Pinnacle Health	758	○	○	○	○	6.3	\$56,519
Presbyterian	304	○	○	○	○	6.4	\$97,336
Reading	413	○	○	○	○	6.3	\$51,158
Robert Packer	267	○	○	●	●	5.0	\$33,045
Sacred Heart/Allentown	110	○	○	○	○	6.3	\$64,541
Saint Vincent Health	583	○	○	○	○	4.9	\$59,045
Sharon Regional	102	○	○	○	○	6.1	\$52,579
St Clair Memorial	217	○	○	○	○	5.6	\$40,023
St Joseph/Reading	169	○	○	○	○	6.1	\$57,464
St Luke's/Bethlehem	435	○	○	○	○	5.2	\$65,725
St Mary	322	○	○	○	○	6.3	\$73,399
Temple Lower Bucks	115	●	●	○	●	6.5	\$127,038
Temple University	208	●	○	●	○	7.6	\$303,195
Thomas Jefferson Univ	318	○	○	○	○	7.1	\$135,946
UPMC Lee Regional	94	○	○	○	○	4.3	\$45,059
UPMC Passavant	161	○	○	○	○	6.1	\$74,186
UPMC Presbyterian	533	○	○	○	○	6.0	\$121,748
UPMC Shadyside	624	○	○	○	○	6.5	\$102,222
Washington	206	○	○	○	○	5.8	\$61,874
Western Pennsylvania	591	○	○	○	●	5.9	\$76,808
Westmoreland Regional	306	○	○	○	○	5.2	\$40,111
Williamsport	187	○	●	○	○	5.8	\$57,830
WVHCS	338	○	○	○	○	6.3	\$42,132
York	321	○	○	○	○	5.7	\$46,572
<b>Statewide</b>	<b>16,435</b>					<b>5.8</b>	<b>\$80,984</b>

\* Began performing CABG surgery during 2002. Brandywine Hospital also began performing CABG surgery in 2002 but had too few cases to be reported (28 cases).

The mortality, length of stay, and readmission figures account for varying illness levels among patients. Length of stay is the average number of days spent in the hospital following CABG surgery.

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◉	Same as expected
●	Higher than expected



## Surgeon Data

Surgeon/Hospital	Number of Cases	Mortality		Readmissions		Length of Stay
		In-Hospital	30-Day	7-Day	30-Day	
<b>Acker, Michael A. *</b>	62	○	NR	NR	NR	6.3
Hospital University PA	48	○	NR	NR	NR	6.2
<b>Addonizio, V. Paul</b>						
Abington Memorial	88	○	○	○	○	7.4
<b>Alpern, Jeffrey</b>						
St Luke's/Bethlehem	146	○	○	●	○	5.0
<b>Anastasi, John S. *</b>	135	○	○	○	○	4.5
Altoona	126	○	○	○	○	4.5
<b>Aufiero, Thomas X.</b>						
Williamsport	57	○	●	○	○	6.2
<b>Benckart, Daniel H.</b>						
Allegheny General	33	○	○	○	●	6.6
<b>Bennett, Robert D. *</b>	145	○	○	○	○	6.5
Western Pennsylvania	80	○	○	○	○	6.2
UPMC Shadyside	60	○	○	○	○	6.8
<b>Benoit, Charles H. *</b>	95	○	○	○	○	4.7
Geisinger/Danville	85	○	○	○	○	4.7
<b>Bernstein, Rick V.</b>						
Mercy/Scranton	43	●	●	●	○	5.3
<b>Boova, Robert S. *</b>	113	○	○	●	○	5.8
Main Line Bryn Mawr	106	○	○	●	○	5.8
<b>Boylston, Bedford F. *</b>	81	●	●	○	○	7.0
Pinnacle Health	68	○	○	○	○	7.1

\* Had cases at other hospitals but too few to be reported here. That information can be found at [www.phc4.org](http://www.phc4.org).

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- NR Not rated (too few cases)



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Surgeon/Hospital	Number of Cases	Mortality		Readmissions		Length of Stay
		In-Hospital	30-Day	7-Day	30-Day	
<b>Bridges, Charles R.</b> Pennsylvania	127	○	○	○	●	6.6
<b>Brown, Paul</b> Saint Vincent Health	227	○	○	○	○	5.1
<b>Burlingame, Mark W. *</b> Lancaster General	95 69	○ ○	○ ○	○ ○	○ ○	6.1 5.6
<b>Butler, Michael D.</b> Hamot	83	○	○	○	○	5.6
<b>Campbell, David B.</b> Milton S Hershey	36	●	●	○	○	5.7
<b>Cardone, John C.</b> Westmoreland Regional	155	○	○	○	○	5.4
<b>Carter, Thomas</b> St Luke's/Bethlehem	49	○	○	○	○	4.7
<b>Casale, Alfred S.</b> Geisinger Wyoming Valley	106	○	○	○	○	4.7
<b>Casey, Kevin</b> Main Line Lankenau	53	○	○	○	○	7.1
<b>Cavarocchi, Nicholas C.</b> Mercy/Wilkes-Barre	65	○	○	○	○	5.0
<b>Cope, Jeffrey T. *</b> Lancaster General	63 42	○ ○	○ ○	○ ○	○ ○	6.1 5.8

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		In-Hospital	30-Day	7-Day	30-Day	
<b>Culig, Michael H. *</b>	137	○	○	○	○	6.1
Western Pennsylvania	81	○	○	○	○	6.0
UPMC Shadyside	54	○	○	○	○	6.3
<b>Darrell, John C. *</b>	120	○	○	○	○	6.4
UPMC Passavant	114	○	○	○	○	6.4
<b>Davis, Paul K.</b>	75	○	○	○	○	5.6
Main Line Paoli	45	○	○	○	○	5.6
Main Line Bryn Mawr	30	○	NR	NR	NR	NR
<b>Davliakos, George P. *</b>	134	○	○	○	○	5.6
Butler Memorial	130	○	○	○	○	5.6
<b>Deshpande, Anil S.</b>						
St Mary	114	○	○	○	○	6.4
<b>Devineni, Rajsekhar *</b>	197	○	○	○	○	4.8
Conemaugh Valley Memorial	196	○	○	○	○	4.8
<b>Diehl, James T.</b>						
Thomas Jefferson Univ	139	○	○	○	○	6.9
<b>DiMarco, Jr., Ross F.</b>						
Mercy Pittsburgh	140	○	○	○	○	7.0
<b>DiSesa, Verdi J.</b>						
Chester County	57	○	○	●	○	5.2
<b>Eddie, Richard N.</b>						
Thomas Jefferson Univ	70	●	●	○	○	7.0
<b>El-Khatib, Hazem N. *</b>	151	○	○	○	○	6.0
Butler Memorial	109	○	○	○	○	6.1

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		In-Hospital	30-Day	7-Day	30-Day	
<b>Entwistle, III, John W. *</b>	36	●	●	NR	NR	6.6
<b>Fall, Stephen M.</b> Reading	128	○	○	○	○	6.3
<b>Fazi, Burt *</b> Altoona	117 111	○ ○	○ ○	○ ○	○ ○	5.0 5.0
<b>Feaster, III, Marshall M.</b> Reading St Joseph/Reading	103 57 46	○ ○ ○	○ ○ ○	○ ○ ○	○ ○ ○	6.6 7.0 6.3
<b>Ferdinand, Francis D. *</b> Main Line Lankenau	102 91	○ ○	○ ○	○ ○	○ ○	6.2 6.2
<b>Figueroa, Peter</b> Temple Lower Bucks	43	○	○	○	○	7.0
<b>Fitzgibbon, Leo D.</b> Hamot	87	○	○	○	●	5.7
<b>Fulton, Jeffrey A. *</b> Jefferson Regional	56 33	○ ○	○ ○	○ ○	○ ○	6.6 6.7
<b>Furukawa, Satoshi</b> Temple University	68	○	○	○	○	6.3
<b>Garzia, Fernando</b> St Luke's/Bethlehem Lehigh Valley/Muhlenberg	95 49 46	○ ○ ○	○ ○ ○	○ ○ ○	○ ○ ○	4.3 4.8 3.7
<b>Gilbert, Christian L.</b> Geisinger/Danville	72	○	○	○	○	4.7

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Surgeon/Hospital	Number of Cases	Mortality		Readmissions		Length of Stay
		In-Hospital	30-Day	7-Day	30-Day	
<b>Goldman, Scott M. *</b>	86	○	○	○	○	5.8
Main Line Lankenau	82	○	○	○	○	5.8
<b>Gordon, David A.</b>						
Easton	76	○	○	○	○	6.7
<b>Grunewald, Karl E. *</b>	157	○	○	○	○	5.3
Crozer-Chester	154	○	○	●	○	5.2
<b>Guerraty, Albert J. *</b>	136	○	○	○	○	5.9
Graduate	107	●	○	○	○	5.6
<b>Hargrove, III, W. Clark *</b>	79	○	NR	NR	NR	6.6
Presbyterian	78	○	NR	NR	NR	6.6
<b>Harostock, Michael</b>						
WVHCS	232	○	○	○	○	6.3
<b>Hart, James C. *</b>	114	○	○	○	○	5.8
Pinnacle Health	110	○	○	○	○	5.9
<b>Haupt, Hans</b>						
York	84	○	○	○	○	5.5
<b>Haybron, David M. *</b>	139	○	○	●	●	5.4
Western Pennsylvania	118	○	○	○	●	5.4
<b>Hetzler, Norman A.</b>						
DuBois Regional	120	○	○	○	○	4.5
<b>Highbloom, Richard Y.</b>	124	●	●	○	○	6.2
Albert Einstein	80	●	●	○	○	6.0
Frankford	44	○	○	○	○	6.6

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## Surgeon Data

Surgeon/Hospital	Number of Cases	Mortality		Readmissions		Length of Stay
		In-Hospital	30-Day	7-Day	30-Day	
<b>Holland, Fred W.</b> Saint Vincent Health	155	○	○	○	○	4.6
<b>Howanitz, E. Paul</b> St Joseph/Reading	123	○	○	○	○	6.1
<b>Jorge, Eduardo *</b> Pinnacle Health	51 50	○ ○	○ ○	○ ○	○ ○	6.3 6.2
<b>Keagy, Gregory S. *</b> Pinnacle Health	79 68	○ ○	○ ○	● ●	● ●	6.2 6.0
<b>Keeley, Samuel B.</b> UPMC Lee Regional	46	●	●	○	○	4.2
<b>Kokotos, William *</b> Western Pennsylvania	37 35	○ ○	○ ○	○ ○	○ ○	6.0 5.9
<b>Kolff, Jacob *</b> Conemaugh Valley Memorial	120 119	○ ○	○ ○	● ●	● ●	5.5 5.5
<b>Kolla, Srinivas</b> Mercy Pittsburgh	127	●	●	○	○	7.6
<b>Kuretu, M.L. Ray *</b> Mercy Fitzgerald	133 113	● ●	○ ○	○ ○	○ ○	7.1 7.0
<b>LeBoutillier, III, Martin</b> Chester County	49	○	○	○	○	5.4
<b>Lerberg, David</b> Western Pennsylvania UPMC Shadyside	94 57 37	○ ○ ○	○ ○ ○	○ ○ ○	○ ○ ○	5.4 5.3 5.5
<b>Levin, Bradley</b> York	114	○	○	○	○	5.6

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		In-Hospital	30-Day	7-Day	30-Day	
<b>Lico, Serrie C.</b> Geisinger/Danville	119	○	○	○	○	4.3
<b>Lima, Claudio A. B. *</b> UPMC Shadyside	140 116	○ ○	○ ○	○ ○	○ ○	6.4 6.4
<b>Lomago, Dean F.</b> Washington	38	○	○	○	○	5.4
<b>Long, Richard W.</b> Hamot	131	○	○	○	○	5.7
<b>Lough, Frederick C.</b> Reading	103	○	○	○	○	6.2
<b>Lundy, Edward F. *</b> Lancaster General	79 67	○ ○	○ ○	○ ○	○ ○	5.7 5.8
<b>Macha, Mahender</b> Temple University	82	○	○	○	○	8.2
<b>Machiraju, Venkat R. *</b> UPMC Shadyside	172 115	○ ○	○ ○	○ ○	○ ○	6.7 6.7
<b>Magovern, James A.</b> Allegheny General	118	○	○	○	○	6.7
<b>Magovern, Jr., George J. *</b> Allegheny General	79 78	○ ○	○ ○	○ ○	○ ○	7.6 7.6
<b>Manetta, Frank *</b> Lancaster General Lancaster Regional	179 114 55	○ ○ ○	○ ○ ○	○ ○ ○	○ ○ ○	5.7 5.3 6.8

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		In-Hospital	30-Day	7-Day	30-Day	
<b>Mannion, John D.</b> Thomas Jefferson Univ	81	○	○	○	○	7.2
<b>Marra, Steven</b> Temple Lower Bucks	32	●	●	NR	NR	NR
<b>Marrone, Gary C.</b> Allegheny General	42	○	○	○	○	7.6
<b>Martella, Arthur T. *</b> Main Line Bryn Mawr	80 52	○ ○	○ ○	○ ○	○ ○	5.8 6.2
<b>Mathai, John</b> York	123	○	○	○	○	5.8
<b>McCarty, Christine M. *</b> Pinnacle Health	124 116	○ ○	○ ○	○ ○	○ ○	6.1 6.1
<b>McClurken, James B. *</b> Abington Memorial	119 108	○ ○	○ ○	○ ○	○ ○	7.0 7.0
<b>McCurry, Kenneth R.</b> UPMC Presbyterian	33	○	○	○	○	7.5
<b>McDonnell, Bryan E.</b> WVHCS	106	○	○	○	○	6.3
<b>McGary, Suzan A.</b> Williamsport	69	○	○	○	○	5.5
<b>Mehta, Sanjay M.</b> Milton S Hershey	64	○	○	○	○	5.2
<b>Metcalf, Randy K.</b> Doylestown	127	○	○	○	○	5.2

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		In-Hospital	30-Day	7-Day	30-Day	
<b>Michalak, Dennis M.</b> Hamot	108	○	○	○	○	5.9
<b>Morris, Rohinton J. *</b> Presbyterian	143 137	○ ○	○ ○	○ ○	○ ○	6.2 6.2
<b>Mott, Brian D.</b> Community/Scranton	95	○	○	○	○	5.8
<b>Mousset, Xavier R.</b> Saint Vincent Health	150	○	○	○	○	5.0
<b>Navid, Forozan *</b> UPMC Shadyside Western Pennsylvania	166 129 34	○ ○ ○	○ ○ NR	○ ○ NR	○ ○ NR	6.9 6.9 6.8
<b>Nixon, Todd E. *</b> Medical College PA	70 55	○ ○	○ ○	○ ○	○ ○	5.3 5.1
<b>Nutting, Ron D.</b> Reading	125	○	○	○	○	6.0
<b>Orecchia, Paul M.</b> Robert Packer	89	○	○	●	○	5.8
<b>Osevala, Mark A. *</b> Pinnacle Health	176 157	○ ○	○ ○	○ ○	○ ○	6.2 6.3
<b>Pae, Walter E.</b> Milton S Hershey	42	○	○	○	○	5.2
<b>Panebianco, Antonio C. *</b> Easton	89 84	○ ○	○ ○	○ ○	○ ○	5.9 5.9

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		In-Hospital	30-Day	7-Day	30-Day	
<b>Park, Chong S. *</b>	60	○	○	○	○	6.4
Jefferson Regional	58	○	○	○	○	6.3
<b>Park, Sung J.</b>						
DuBois Regional	81	○	○	○	○	4.2
<b>Payne, Maryann</b>						
Sharon Regional	95	○	○	○	○	6.1
<b>Pellegrini, Daniel P.</b>						
UPMC Presbyterian	112	○	○	○	○	6.2
<b>Pellegrini, Ronald V. *</b>	120	○	○	○	○	5.5
UPMC Presbyterian	119	○	○	○	○	5.5
<b>Pennock, John L. *</b>	91	○	○	○	○	6.2
Pinnacle Health	80	○	○	○	○	6.3
<b>Pett, Stephen D.</b>						
Hamot	64	○	○	○	○	5.8
<b>Phillips, Theodore G.</b>						
Lehigh Valley	138	○	○	○	○	5.8
<b>Pierce, Alice M. *</b>	136	●	○	○	○	7.5
Mercy Pittsburgh	126	●	○	○	○	7.6
<b>Pochettino, Alberto *</b>	112	○	○	○	○	6.6
Presbyterian	75	○	NR	NR	NR	6.5
Hospital University PA	36	○	NR	NR	NR	6.6
<b>Priest, Brian P.</b>	111	○	○	○	○	5.9
Doylestown	72	○	○	○	○	5.7
Frankford	39	○	○	●	○	6.2

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		In-Hospital	30-Day	7-Day	30-Day	
<b>Pym, John *</b>	95	○	○	○	○	6.0
Frankford	83	○	○	○	○	6.1
<b>Quigley, Robert L.</b>	118	○	○	○	○	6.4
Frankford	70	○	○	○	○	6.2
Albert Einstein	48	○	●	○	○	6.8
<b>Raudat, Charles W.</b>						
St Mary	104	○	○	○	●	6.4
<b>Reitknecht, Felice L.</b>						
Robert Packer	100	○	●	●	○	4.6
<b>Rice, Philip L.</b>						
Altoona	45	○	○	○	●	5.2
<b>Risher, William H.</b>						
St Luke's/Bethlehem	94	○	○	○	○	6.3
<b>Sadoff, John D.</b>						
Williamsport	61	○	○	○	○	5.8
<b>Sadr, Farrokh S. *</b>	107	○	○	○	○	6.3
Sacred Heart/Allentown	100	○	○	○	○	6.3
<b>Samuels, Louis</b>						
Hahnemann University	55	○	○	○	○	8.2
<b>Sanders, David</b>						
Saint Vincent Health	51	○	○	○	○	4.8
<b>Seibel, P. Scott</b>						
Medical Center Beaver	131	●	●	○	○	6.1

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Surgeon/Hospital	Number of Cases	Mortality		Readmissions		Length of Stay
		In-Hospital	30-Day	7-Day	30-Day	
<b>Shaffer, Carolyn W.</b>	149	○	○	○	○	6.3
Pinnacle Health	109	○	○	○	○	6.7
Holy Spirit	40	○	○	○	○	5.6
<b>Shariff, Haji M.</b>						
St Mary	104	○	●	○	○	6.2
<b>Shears, II, Larry *</b>	69	●	●	○	○	6.4
UPMC Presbyterian	65	●	●	○	○	6.4
<b>Sinclair, Michael C.</b>						
Lehigh Valley	121	○	○	○	○	5.8
<b>Singer, Raymond L.</b>						
Lehigh Valley	73	○	○	○	○	5.2
<b>Singh, Deepak *</b>	83	○	○	○	○	7.3
Allegheny General	77	○	○	○	○	7.5
<b>Singhal, Arun K.</b>						
Temple University	45	○	○	○	○	8.9
<b>Solomon-Seto, Lynn</b>						
Crozer-Chester	39	○	○	○	○	5.2
<b>Sortino, Antonio</b>						
Washington	144	○	○	○	○	5.9
<b>Stahl, Russell</b>						
Community/Scranton	107	○	○	○	○	5.4
<b>Stella, Joseph</b>						
Mercy/Wilkes-Barre	73	○	○	○	○	5.3

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Surgeon/Hospital	Number of Cases	Mortality		Readmissions		Length of Stay
		In-Hospital	30-Day	7-Day	30-Day	
<b>Stephenson, Edward R.</b> Milton S Hershey	59	○	○	○	○	5.7
<b>Strindberg, Gail</b> UPMC Lee Regional	33	○	○	○	○	4.6
<b>Strong, III, Michael D. *</b> Hahnemann University	165 163	○ ○	○ ○	○ ○	○ ○	7.7 7.7
<b>Strzalka, Christopher T.</b> Hamot	148	○	○	○	○	4.9
<b>Sullivan, Lawrence X.</b> Western Pennsylvania UPMC Shadyside	114 63 51	○ ○ ○	○ ○ ○	○ ○ ○	○ ○ ○	5.8 5.7 5.9
<b>Sun, Benjamin C.</b> Milton S Hershey	39	○	○	○	○	6.6
<b>Sutter, Francis P.</b> Main Line Lankenau	205	○	○	○	○	5.5
<b>Suzuki, Mark Masaru</b> Westmoreland Regional	151	○	○	○	○	5.1
<b>Szydowski, Gary W. *</b> Lehigh Valley	135 134	○ ○	○ ○	○ ○	○ ○	5.3 5.3
<b>Taylor, Bradley S. *</b> Allegheny General	57 39	○ ○	○ ○	○ ○	○ ○	7.0 7.9
<b>Thakur, Navin S. *</b>	34	○	NR	NR	NR	6.4
<b>Theman, Terrill</b> St Luke's/Bethlehem	97	○	○	○	○	4.9

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		In-Hospital	30-Day	7-Day	30-Day	
<b>Thornton, James C. *</b>	40	○	○	○	○	4.8
Conemaugh Valley Memorial	37	○	○	○	○	4.9
<b>Vasilakis, Alexander</b>						
Medical Center Beaver	165	○	○	○	○	5.6
<b>Von Koch, Lear *</b>	118	○	○	○	○	6.2
Mercy/Scranton	112	○	○	○	○	6.2
<b>Watson, John W.</b>						
Bon Secours Holy Family	93	○	○	○	○	5.1
<b>Wechsler, Andrew</b>						
Hahnemann University	35	○	NR	NR	NR	7.8
<b>Wei, Lawrence M.</b>						
UPMC Presbyterian	143	○	○	○	○	5.7
<b>Weiss, Steven J. *</b>	46	○	○	○	○	5.4
Frankford	41	○	○	○	○	5.5
<b>Wilcox, Kenneth *</b>	71	○	○	○	○	6.1
Mercy/Scranton	67	○	○	○	○	6.1
<b>Woelfel, G. Frederick *</b>	232	○	○	○	○	5.6
St Clair Memorial	207	○	○	○	○	5.5
<b>Woo, Y. Joseph</b>						
Hospital University PA	72	○	○	○	○	4.8
<b>Woods, Edward L.</b>						
Geisinger/Danville	116	○	○	○	○	4.7
<b>Wu, James *</b>	116	○	○	○	○	5.6
Lehigh Valley	115	○	○	○	○	5.5

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		In-Hospital	30-Day	7-Day	30-Day	
<b>Yeisley, Geary L.</b> Lehigh Valley	38	○	○	○	○	6.5
<b>Zadeh, Barry J.*</b> Lancaster General	104 78	○ ○	○ ○	○ ○	○ ○	5.9 5.6
<b>Zama, Nche</b> Robert Packer	75	○	NR	NR	NR	4.6
<b>Zenati, Marco</b> UPMC Presbyterian	45	○	○	○	○	5.9

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