

# **Pennsylvania's Guide to Coronary Artery Bypass Graft Surgery 2004**



**Information about hospitals and cardiothoracic surgeons**



**Pennsylvania Health Care Cost Containment Council  
February 2006**



## Key Findings

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- Mortality rates following coronary artery bypass graft (CABG) surgery in Pennsylvania hospitals decreased slightly between 2003 and 2004 (in-hospital mortality from 2.04% to 1.98% and 30-day mortality from 2.36% to 2.31%).
- Readmission rates also fell between 2003 and 2004 (7-day readmissions from 5.28% to 5.21% and 30-day readmissions from 13.74% to 13.20%).
- Infection was the top reason for patient readmission within 7 or 30 days of CABG surgery, with mortality rates of 3.8 percent for those readmitted within 7 days and 2.9 percent for those readmitted within 30 days for an infection. The 7 and 30-day readmissions for infection were associated with, respectively, more than \$10.3 million and \$19.4 million in hospital charges and over 1,390 and 3,100 hospital days. (Note that these infections were not necessarily acquired during the hospital stay in which the CABG surgery was performed. A patient could have contracted an infection following discharge from the hospital, resulting in a readmission. Infections that were acquired in the hospital are discussed separately on the next page.)
- As shown in past reports, patients with longer post-surgical lengths of stay were more likely to be readmitted within 7 or 30 days of CABG surgery – after controlling for patient risk.
- For the first time in reporting data on CABG surgery, insurance payment data was available for a portion of the patients who were members of commercial insurance plans. The average payment hospitals received from commercial insurance companies for these patients was \$29,586.
- In 2004, Pennsylvania hospitals performed 24 percent fewer isolated CABG surgeries than in 2000. During this time period, the number of CABG surgeries done in combination with surgery on the heart valves increased by 53.7 percent. The number of inpatient balloon angioplasty procedures increased by 26 percent.
- When examining all open-heart surgeries, the average number of cases per hospital decreased from 390 in 2003 to 376 in 2004, a decline of 3.6 percent. The average number of open-heart surgeries performed per surgeon has remained relatively constant since 2002 at approximately 130 cases.

Continued on next page

## Table of Contents

Understanding this Report .....	2
Statewide Figures for CABG Surgery .....	5
Total Number of Open Heart and CABG Procedures by Hospital .....	6
Total Number of Open Heart and CABG Procedures by Surgeon.....	7
Hospital Data .....	10
Surgeon Data .....	12



## Key Findings

### Hospital-acquired Infections

In January 2004, hospitals began submitting data on hospital-acquired infections to PHC4. Specifically, hospitals were asked to provide data on the following hospital-acquired infections: in-dwelling catheter-associated urinary tract infections, ventilator-associated pneumonia, central line-associated bloodstream infections, and surgical site infections. Of the 13,359 patients who underwent CABG surgery in 2004, hospitals reported to PHC4 that 341 (2.6 percent) contracted one of these hospital-acquired infections during their hospital stay. The following chart shows differences in outcome results for these patients. Note that PHC4 data suggests that hospital-acquired infections were likely underreported for 2004.

<b>CABG patients...</b>	<b>In-hospital mortality rates</b>	<b>Average post-surgical length of stay</b>	<b>7-day readmission rates</b>	<b>30-day readmission rates</b>	<b>Average hospital charge</b>
<i>With a hospital-acquired infection</i>	12.6%	22.9 days	13.2%	27.9%	\$314,666
<i>Without a hospital-acquired infection</i>	1.7%	6.7 days	5.0%	12.9%	\$105,488

- Patients who were readmitted after contracting a hospital-acquired infection during the hospital stay in which the CABG surgery was performed had higher mortality rates (13.9% for 7-day readmissions and 9.2% for 30-day readmissions) than those who were readmitted but did not contract a hospital-acquired infection during the original hospital stay (2.6 percent for 7-day readmissions and 2.0 percent for 30-day readmissions).
- The average commercial insurance payment for patients who contracted a hospital-acquired infection during their CABG hospitalization was \$51,337, compared to \$29,281 for patients without a hospital-acquired infection.

## 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 “cabbage”) 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 13,360 CABG surgeries performed in Pennsylvania hospitals in 2004 at an average charge of over \$99,000.

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 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. Volume information is reported for all hospitals and surgeons. Information on CABG results is reported for the hospitals and surgeons who performed 30 or more CABG surgeries on adult patients in 2004. 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 clear 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



## Understanding this Report

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.
- **Policymakers/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. With the exception of the 30-day mortality measure, the data used for this report was submitted to PHC4 by hospitals in Pennsylvania that perform CABG surgery. It encompasses inpatient hospital discharges from January 1, 2004 to December 31, 2004 in which the patient underwent CABG surgery. The data submitted to PHC4 by the hospitals was subject to verification processes and was verified for accuracy by the hospitals and surgeons.

Data used to analyze the 30-day mortality measure was obtained by the Pennsylvania Department of Health.

### Accounting for high-risk patients

Some patients who undergo CABG surgery are more seriously ill than others. Hospitals are required to submit data to PHC4 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.

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



## Understanding this Report

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).

### Acknowledgements

PHC4 wishes to acknowledge and thank the Pennsylvania hospitals and surgeons who participated in the data collection and verification processes used for this report.

PHC4 also thanks the Pennsylvania Department of Health for supplying information used in the 30-day mortality measure.

### Statewide Figures for CABG Surgery

Number of CABG procedures .....	13,359
In-hospital mortality rate .....	1.98%
30-day mortality rate .....	2.31%
7-day readmission rate .....	5.21%
30-day readmission rate .....	13.20%

### What do the symbols mean?

The symbols in this report represent the results of how well hospitals and surgeons performed surgery and cared for the patient. 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:

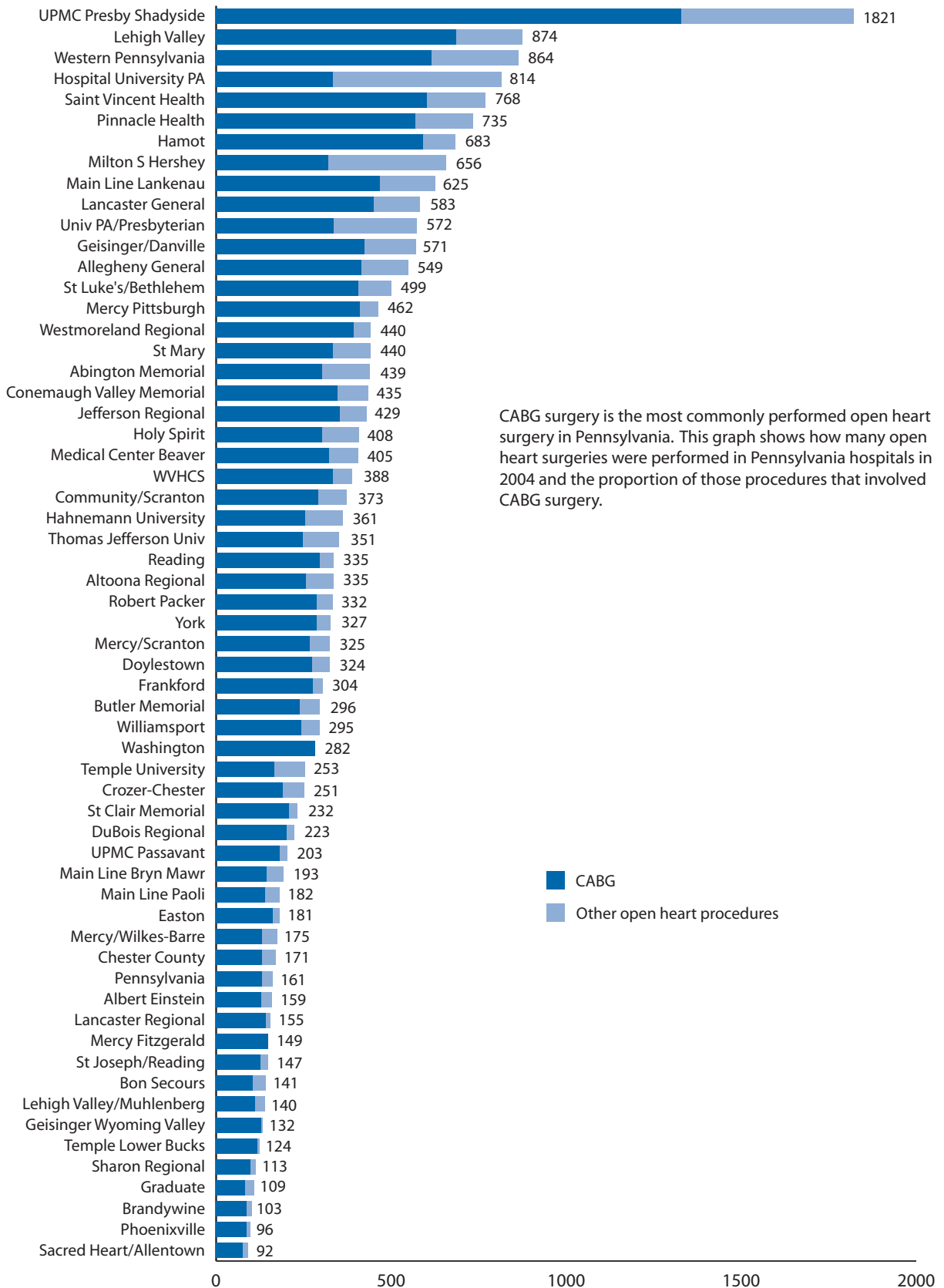
- lower than expected (meaning that the hospital or surgeon had fewer deaths than expected after accounting for how sick the patients were in that hospital)
- ◉ same as expected (meaning that the hospital or surgeon had as many deaths as expected after accounting for how sick the patients were in that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

### More Data on PHC4's Web Site

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

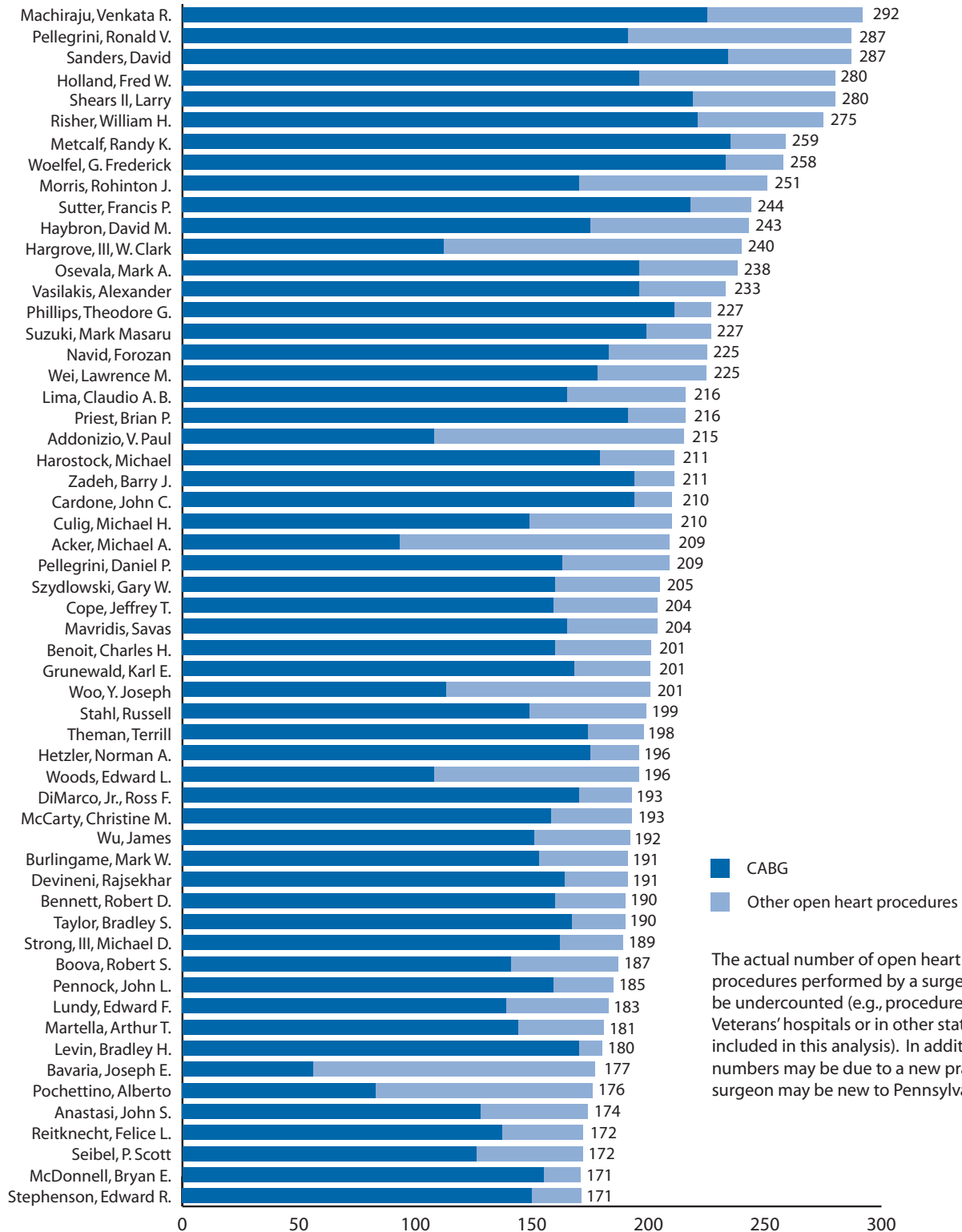
- Numbers behind the outcome figures and symbols
- Number of CABG procedures for surgeons who performed fewer than 30 CABG procedures
- Technical Notes

## Total Number of Open Heart and CABG Procedures by Hospital - 2004





## Total Number of Open Heart and CABG Procedures by Surgeon - 2004

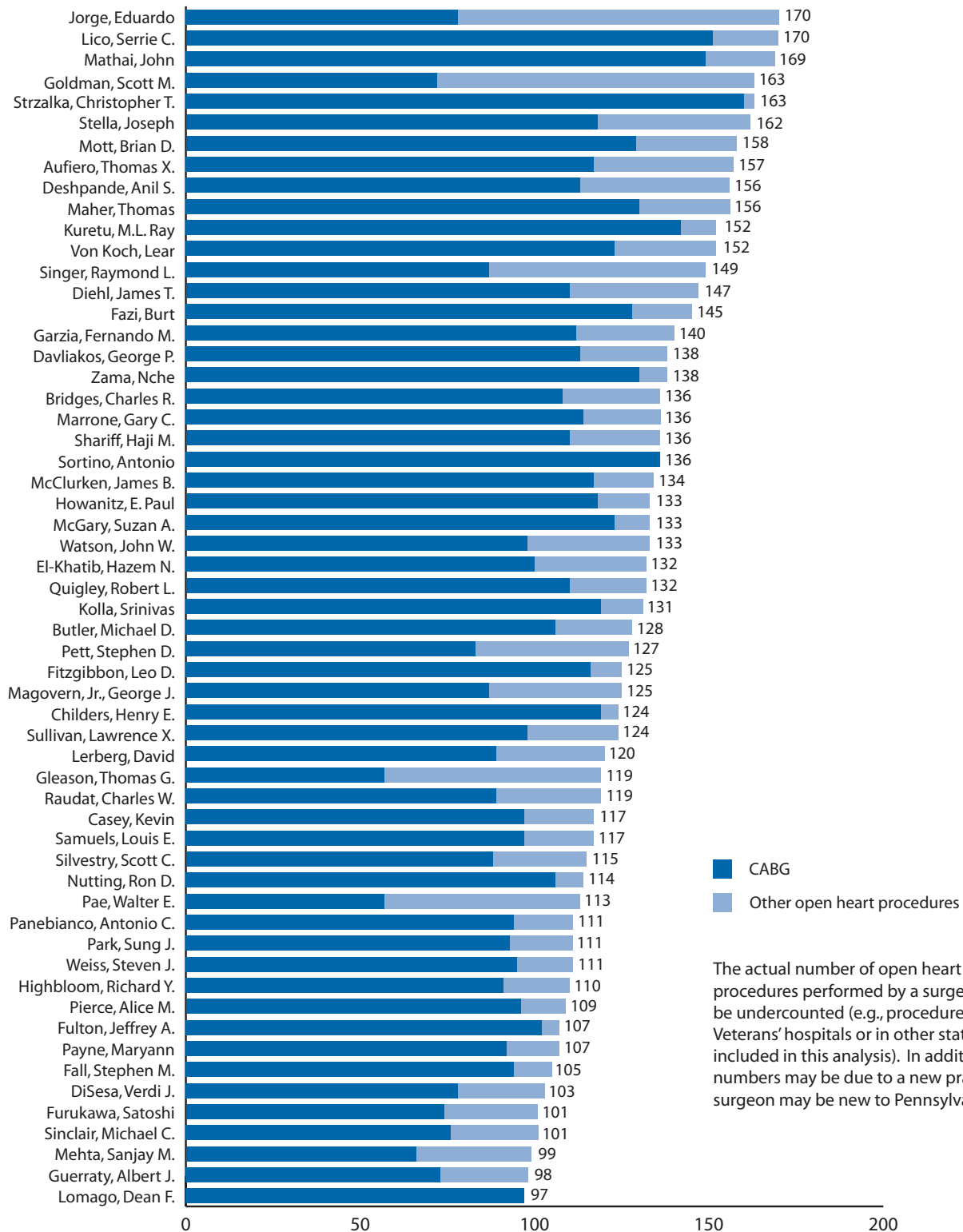


■ CABG  
■ Other open heart procedures

The actual number of open heart and CABG procedures performed by a surgeon may be undercounted (e.g., procedures done in Veterans' hospitals or in other states are not included in this analysis). In addition, low numbers may be due to a new practice, the surgeon may be new to Pennsylvania, etc.

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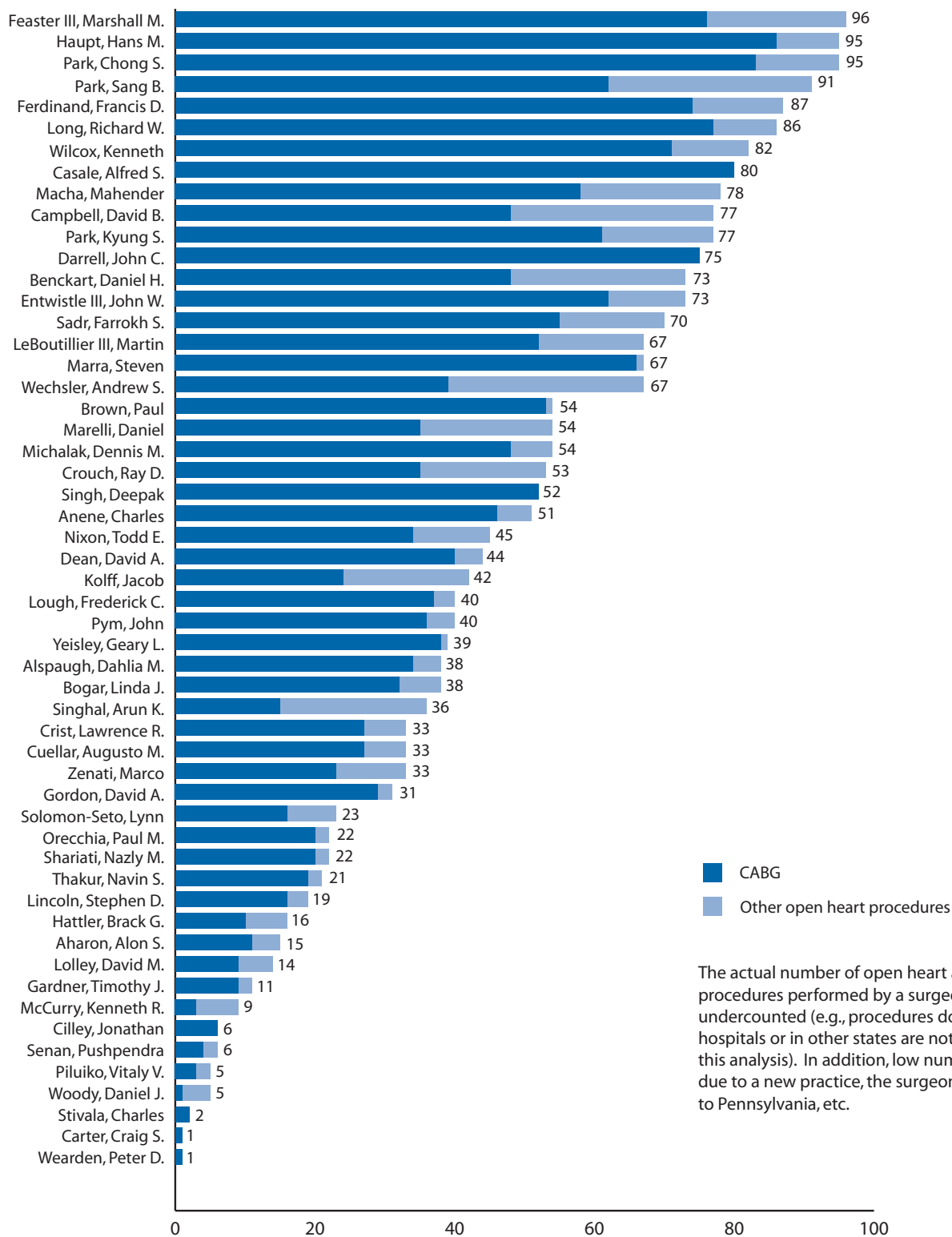
## Total Number of Open Heart and CABG Procedures by Surgeon - 2004



■ CABG  
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The actual number of open heart and CABG procedures performed by a surgeon may be undercounted (e.g., procedures done in Veterans' hospitals or in other states are not included in this analysis). In addition, low numbers may be due to a new practice, the surgeon may be new to Pennsylvania, etc.

## Total Number of Open Heart and CABG Procedures by Surgeon - 2004



The actual number of open heart and CABG procedures performed by a surgeon may be undercounted (e.g., procedures done in Veterans' hospitals or in other states are not included in this analysis). In addition, low numbers may be due to a new practice, the surgeon may be new to Pennsylvania, etc.

## Hospital Data

Hospital	Number of Cases	Mortality		Readmissions		Length of Stay	Average Charges
		In-Hospital	30-Day	7-Day	30-Day		
Abington Memorial	231	⊙	⊙	⊙	⊙	6.9	\$206,663
Albert Einstein	102	⊙	⊙	⊙	⊙	5.7	\$187,121
Allegheny General	320	⊙	⊙	⊙	⊙	7.1	\$80,027
Altoona Regional	175	⊙	⊙	⊙	⊙	5.2	\$55,009
Bon Secours *	72	⊙	⊙	⊙	⊙	6.7	\$54,848
Brandywine	56	⊙	⊙	⊙	⊙	7.7	\$269,097
Butler Memorial	170	⊙	⊙	⊙	⊙	6.4	\$44,473
Chester County	99	⊙	⊙	⊙	⊙	5.4	\$64,801
Community/Scranton	237	⊙	⊙	⊙	⊙	5.7	\$60,860
Conemaugh Valley Memorial	277	⊙	⊙	⊙	⊙	4.7	\$59,436
Crozer-Chester	177	⊙	⊙	⊙	⊙	5.7	\$214,248
Doylestown	207	⊙	⊙	⊙	⊙	5.6	\$81,676
DuBois Regional	170	⊙	⊙	⊙	⊙	5.1	\$62,837
Easton	123	⊙	⊙	⊙	⊙	5.9	\$182,692
Frankford	214	⊙	⊙	⊙	●	6.4	\$100,941
Geisinger Wyoming Valley	95	⊙	⊙	⊙	○	5.2	\$75,313
Geisinger/Danville	323	⊙	○	⊙	⊙	4.6	\$81,036
Graduate	61	⊙	NR	NR	NR	5.2	\$225,024
Hahnemann University	196	●	⊙	⊙	⊙	7.8	\$280,871
Hamot	461	○	⊙	⊙	⊙	5.7	\$84,332
Holy Spirit	247	●	●	⊙	⊙	5.4	\$66,335
Hospital University PA	193	⊙	⊙	⊙	⊙	5.9	\$166,642
Jefferson Regional	243	⊙	⊙	⊙	⊙	6.8	\$45,481
Lancaster General	276	⊙	⊙	⊙	⊙	5.9	\$54,802
Lancaster Regional	91	⊙	⊙	⊙	⊙	7.2	\$100,972
Lehigh Valley	544	○	○	⊙	○	5.6	\$105,632
Lehigh Valley/Muhlenberg	74	⊙	⊙	⊙	⊙	3.4	\$111,651
Main Line Bryn Mawr	113	⊙	⊙	⊙	⊙	6.0	\$130,321
Main Line Lankenau	348	○	⊙	●	⊙	5.6	\$116,223
Main Line Paoli	118	⊙	⊙	⊙	○	5.6	\$133,360
Medical Center Beaver	273	⊙	⊙	⊙	⊙	6.0	\$50,709

\* Stopped performing CABG procedures in Quarter 4, 2004.

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
NR	Not rated (too few cases)

## Hospital Data

Hospital	Number of Cases	Mortality		Readmissions		Length of Stay	Average Charges
		In-Hospital	30-Day	7-Day	30-Day		
Mercy Fitzgerald	118	●	●	⊙	●	7.3	\$204,390
Mercy Pittsburgh	318	⊙	⊙	⊙	⊙	6.6	\$75,664
Mercy/Scranton	194	⊙	⊙	⊙	⊙	6.1	\$71,668
Mercy/Wilkes-Barre	121	⊙	⊙	⊙	○	4.5	\$78,640
Milton S Hershey	231	⊙	⊙	⊙	⊙	5.8	\$52,997
Pennsylvania	100	⊙	●	⊙	⊙	6.1	\$147,369
Phoenixville	80	⊙	⊙	⊙	⊙	5.5	\$106,184
Pinnacle Health	473	⊙	⊙	⊙	⊙	6.5	\$69,111
Reading	230	⊙	⊙	○	○	6.1	\$60,159
Robert Packer	219	⊙	⊙	●	⊙	4.9	\$37,105
Sacred Heart/Allentown	67	●	⊙	⊙	⊙	4.9	\$82,350
Saint Vincent Health	536	⊙	⊙	⊙	⊙	5.0	\$117,441
Sharon Regional	93	⊙	⊙	⊙	⊙	6.0	\$64,286
St Clair Memorial	172	○	○	⊙	⊙	5.2	\$50,346
St Joseph/Reading	120	⊙	⊙	⊙	⊙	5.8	\$67,893
St Luke's/Bethlehem	281	⊙	⊙	⊙	○	6.0	\$80,122
St Mary	294	⊙	⊙	⊙	●	5.9	\$87,890
Temple Lower Bucks	102	●	●	⊙	⊙	7.1	\$205,466
Temple University	136	⊙	⊙	●	●	6.8	\$354,920
Thomas Jefferson Univ	186	⊙	⊙	⊙	⊙	8.1	\$181,890
Univ PA/Presbyterian	241	⊙	⊙	⊙	⊙	6.3	\$108,191
UPMC Passavant	142	⊙	⊙	⊙	⊙	6.3	\$80,652
UPMC Presby Shadyside	888	⊙	⊙	⊙	⊙	6.3	\$139,044
Washington	190	⊙	⊙	⊙	⊙	6.2	\$67,212
Western Pennsylvania	465	⊙	⊙	⊙	⊙	6.1	\$94,264
Westmoreland Regional	332	⊙	⊙	⊙	⊙	5.1	\$39,449
Williamsport	222	⊙	⊙	⊙	⊙	5.2	\$58,922
WVHCS	278	⊙	⊙	⊙	⊙	6.4	\$48,703
York	244	⊙	⊙	⊙	⊙	5.8	\$50,424
<b>Statewide</b>	<b>13,359</b>					<b>5.9</b>	<b>\$99,483</b>

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
- NR Not rated (too few cases)



## 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>	50	⊙	NR	NR	NR	6.5
Hospital University PA	35	⊙	NR	NR	NR	6.2
<b>Addonizio, V. Paul</b>						
Abington Memorial	70	⊙	●	⊙	⊙	7.6
<b>Anastasi, John S.</b>						
Altoona Regional	73	⊙	⊙	⊙	⊙	4.8
<b>Anene, Charles</b>						
Temple Lower Bucks	41	●	⊙	⊙	⊙	7.2
<b>Aufiero, Thomas X.</b>						
Williamsport	97	⊙	⊙	⊙	⊙	5.4
<b>Benckart, Daniel H.</b>						
Allegheny General	42	⊙	⊙	⊙	⊙	6.6
<b>Bennett, Robert D.*</b>	128	⊙	⊙	⊙	⊙	6.7
UPMC Presby Shadyside	69	⊙	⊙	⊙	⊙	6.6
Western Pennsylvania	55	⊙	⊙	⊙	⊙	6.8
<b>Benoit, Charles H.*</b>	118	⊙	⊙	⊙	⊙	4.9
Geisinger/Danville	117	⊙	⊙	⊙	⊙	4.9
<b>Boova, Robert S.*</b>	109	⊙	⊙	⊙	⊙	6.0
Main Line Bryn Mawr	108	⊙	⊙	⊙	⊙	6.0
<b>Bridges, Charles R.*</b>	83	⊙	●	●	⊙	6.1
Pennsylvania	82	⊙	●	⊙	⊙	6.1

\* Only those hospitals in which the surgeon performed 30 or more cases are listed here. Information on the remaining cases can be found at [www.phc4.org](http://www.phc4.org).

The actual number of CABG surgeries performed may be underreported (e.g., procedures done in Veterans' hospitals and in other states are not included in this analysis). For total figures on all open heart surgeries performed (including CABG), see pages 7-9.

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
- NR Not rated (too few cases)



## Surgeon Data

Surgeon/Hospital	Number of Cases	Mortality		Readmissions		Length of Stay
		In-Hospital	30-Day	7-Day	30-Day	
<b>Brown, Paul</b> Saint Vincent Health	53	⊙	⊙	⊙	⊙	5.4
<b>Burlingame, Mark W.</b> Lancaster General	93	⊙	⊙	⊙	⊙	6.3
<b>Butler, Michael D.</b> Hamot	84	⊙	⊙	⊙	⊙	6.0
<b>Campbell, David B.</b> Milton S Hershey	35	⊙	⊙	⊙	⊙	5.7
<b>Cardone, John C.</b> Westmoreland Regional	162	⊙	⊙	⊙	⊙	5.1
<b>Casale, Alfred S. *</b> Geisinger Wyoming Valley	55 51	⊙ ⊙	⊙ ⊙	⊙ ⊙	⊙ ⊙	5.2 5.2
<b>Casey, Kevin *</b> Mercy/Scranton	76 62	⊙ ⊙	⊙ ⊙	⊙ ⊙	⊙ ⊙	6.6 6.8
<b>Childers, Henry E.</b> Saint Vincent Health	116	⊙	⊙	⊙	●	4.9
<b>Cope, Jeffrey T.</b> Lancaster General	94	⊙	⊙	⊙	⊙	5.4
<b>Culig, Michael H.</b> Western Pennsylvania UPMC Presby Shadyside	98 68 30	⊙ ⊙ ⊙	⊙ ⊙ ⊙	⊙ ⊙ NR	⊙ ⊙ NR	6.1 5.8 NR

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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>Darrell, John C. *</b>	62	⊙	⊙	⊙	⊙	6.3
Washington	41	⊙	⊙	⊙	⊙	6.4
<b>Davliakos, George P.</b>	83	⊙	⊙	⊙	⊙	6.3
Butler Memorial						
<b>Dean, David A. *</b>	31	●	NR	NR	NR	NR
<b>Deshpande, Anil S.</b>	96	⊙	⊙	⊙	⊙	5.8
St Mary						
<b>Devineni, Rajsekhar *</b>	133	⊙	⊙	⊙	⊙	4.8
Conemaugh Valley	129	⊙	⊙	⊙	⊙	4.7
<b>Diehl, James T.</b>	76	⊙	⊙	⊙	⊙	7.6
Thomas Jefferson Univ						
<b>DiMarco, Jr., Ross F.</b>	116	⊙	⊙	⊙	⊙	6.3
Mercy Pittsburgh						
<b>DiSesa, Verdi J.</b>	59	⊙	⊙	⊙	⊙	5.3
Chester County						
<b>El-Khatib, Hazem N.</b>	66	⊙	⊙	⊙	⊙	6.6
Butler Memorial						
<b>Entwistle III, John W. *</b>	49	⊙	⊙	●	●	7.5
Hahnemann University	38	⊙	⊙	NR	NR	8.1
<b>Fall, Stephen M. *</b>	68	⊙	⊙	⊙	⊙	6.2
Reading	60	⊙	⊙	⊙	⊙	6.5

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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>Fazi, Burt</b> Altoona Regional	102	⊙	⊙	⊙	⊙	5.4
<b>Feaster III, Marshall M. *</b> Reading	64 55	⊙ ⊙	⊙ ⊙	⊙ ⊙	○ ○	6.2 6.3
<b>Ferdinand, Francis D.</b> Main Line Lankenau	53	⊙	⊙	⊙	⊙	6.2
<b>Fitzgibbon, Leo D.</b> Hamot	92	⊙	⊙	●	●	5.7
<b>Fulton, Jeffrey A.</b> Jefferson Regional	84	⊙	⊙	⊙	⊙	7.1
<b>Furukawa, Satoshi</b> Temple University	59	⊙	⊙	⊙	●	6.6
<b>Garzia, Fernando M.</b> Lehigh Valley/Muhlenberg	74	⊙	⊙	⊙	⊙	3.4
<b>Gleason, Thomas G. *</b>	36	⊙	NR	NR	NR	6.6
<b>Goldman, Scott M.</b> Main Line Lankenau	39	⊙	⊙	●	●	5.8
<b>Grunewald, Karl E. *</b> Crozer-Chester	155 154	⊙ ⊙	⊙ ⊙	⊙ ⊙	⊙ ⊙	5.7 5.7
<b>Guerraty, Albert J. *</b> Graduate	51 48	⊙ ⊙	NR NR	NR NR	NR NR	5.2 5.1

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Surgeon/Hospital	Number of Cases	Mortality		Readmissions		Length of Stay
		In-Hospital	30-Day	7-Day	30-Day	
<b>Hargrove, III, W. Clark</b> Univ PA/Presbyterian	59	⊙	NR	NR	NR	6.4
<b>Harostock, Michael</b> WVHCS	144	⊙	⊙	⊙	⊙	6.5
<b>Haupt, Hans M.</b> Phoenixville	79	⊙	⊙	⊙	⊙	5.5
<b>Haybron, David M. *</b> Western Pennsylvania	132 118	⊙ ⊙	⊙ ⊙	⊙ ⊙	⊙ ⊙	5.8 5.8
<b>Hetzler, Norman A.</b> DuBois Regional	145	⊙	⊙	⊙	⊙	5.1
<b>Highbloom, Richard Y. *</b> Albert Einstein	81 70	⊙ ⊙	⊙ ⊙	⊙ ⊙	⊙ ⊙	5.4 5.4
<b>Holland, Fred W.</b> Saint Vincent Health	152	⊙	⊙	⊙	⊙	4.9
<b>Howanitz, E. Paul</b> St Joseph/Reading	111	⊙	⊙	⊙	⊙	5.8
<b>Jorge, Eduardo *</b>	40	⊙	⊙	⊙	⊙	6.6
<b>Kolla, Srinivas</b> Mercy Pittsburgh	98	⊙	⊙	⊙	⊙	7.2
<b>Kuretu, M.L. Ray *</b> Mercy Fitzgerald	117 109	● ●	● ●	⊙ ⊙	● ●	7.4 7.5

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		In-Hospital	30-Day	7-Day	30-Day	
<b>LeBoutillier III, Martin</b> Chester County	40	○	○	○	○	5.5
<b>Lerberg, David *</b> Western Pennsylvania	73 50	○ ○	○ ○	○ ○	○ ○	6.1 6.0
<b>Levin, Bradley H.</b> York	154 63	○ ○	○ ○	○ ○	○ ○	6.0 6.1
Pinnacle Health	54	○	○	○	○	6.7
Holy Spirit	37	●	○	○	○	5.0
<b>Lico, Serrie C.</b> Geisinger/Danville	124	○	○	○	○	4.2
<b>Lima, Claudio A. B. *</b> UPMC Presby Shadyside	115 93	○ ○	○ ○	○ ○	○ ○	6.7 6.8
<b>Lomago, Dean F.</b> Washington	83	○	○	○	○	6.1
<b>Long, Richard W.</b> Hamot	66	○	○	○	●	6.0
<b>Lundy, Edward F.</b> Lancaster General	89	○	○	○	○	6.0
<b>Macha, Mahender</b> Temple University	50	●	●	●	○	7.4

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		In-Hospital	30-Day	7-Day	30-Day	
<b>Machiraju, Venkata R. *</b>	138	⊙	⊙	⊙	⊙	6.8
UPMC Presby Shadyside	96	⊙	⊙	⊙	⊙	7.0
<b>Magovern, Jr., George J.</b>						
Allegheny General	71	⊙	⊙	⊙	⊙	7.3
<b>Maher, Thomas</b>						
Allegheny General	103	⊙	⊙	⊙	⊙	6.7
<b>Marelli, Daniel</b>						
Thomas Jefferson Univ	30	●	NR	NR	NR	NR
<b>Marra, Steven</b>						
Temple Lower Bucks	56	●	●	⊙	⊙	6.9
<b>Marrone, Gary C. *</b>						
Allegheny General	76	⊙	⊙	⊙	⊙	7.9
	75	⊙	⊙	⊙	⊙	8.0
<b>Martella, Arthur T. *</b>						
Main Line Paoli	123	⊙	⊙	⊙	⊙	5.7
	117	⊙	⊙	⊙	⊙	5.6
<b>Mathai, John *</b>						
York	136	⊙	⊙	⊙	⊙	6.3
	89	⊙	⊙	⊙	⊙	6.5
<b>Mavridis, Savas</b>						
Conemaugh Valley	129	⊙	●	⊙	⊙	4.5
<b>McCarty, Christine M.</b>						
Pinnacle Health	139	⊙	⊙	⊙	⊙	6.2
	102	⊙	⊙	⊙	⊙	6.4
Holy Spirit	37	●	●	⊙	⊙	5.4

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		In-Hospital	30-Day	7-Day	30-Day	
<b>McClurken, James B. *</b>	95	⊙	⊙	⊙	⊙	6.6
Abington Memorial	81	⊙	⊙	⊙	⊙	6.7
<b>McDonnell, Bryan E.</b>	134	⊙	⊙	⊙	⊙	6.2
<b>McGary, Suzan A.</b>	122	⊙	⊙	⊙	⊙	5.0
Williamsport						
<b>Mehta, Sanjay M.</b>	52	⊙	⊙	⊙	⊙	6.1
Milton S Hershey						
<b>Metcalf, Randy K.</b>	177	⊙	⊙	⊙	●	5.9
Doylestown	130	⊙	⊙	⊙	⊙	5.5
Frankford	47	⊙	⊙	⊙	●	7.1
<b>Michalak, Dennis M.</b>	32	⊙	NR	NR	NR	6.0
<b>Morris, Rohinton J. *</b>	141	⊙	⊙	⊙	⊙	6.3
Univ PA/Presbyterian	133	⊙	⊙	⊙	⊙	6.3
<b>Mott, Brian D.</b>	111	⊙	⊙	⊙	⊙	5.6
Community/Scranton						
<b>Navid, Forozan *</b>	119	⊙	⊙	⊙	⊙	6.6
UPMC Presby Shadyside	95	⊙	⊙	⊙	⊙	6.7
<b>Nixon, Todd E. *</b>	30	⊙	NR	NR	NR	NR

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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>Nutting, Ron D.</b> Reading	92	○	○	○	○	5.7
<b>Osevala, Mark A.</b> Pinnacle Health	170	○	○	○	○	6.1
Holy Spirit	128	○	○	○	○	6.3
	42	○	○	○	○	5.5
<b>Panebianco, Antonio C.</b> Easton	66	○	○	○	○	6.0
<b>Park, Chong S. *</b> Jefferson Regional	64	○	○	○	○	6.5
	63	○	○	○	○	6.6
<b>Park, Kyung S. *</b> Jefferson Regional	48	○	○	○	○	6.3
	46	○	○	○	○	6.4
<b>Park, Sung J. *</b> Holy Spirit	83	○	○	○	○	5.6
	42	○	○	○	○	5.1
	36	○	○	○	○	6.4
<b>Payne, Maryann</b> Sharon Regional	90	○	○	○	○	6.0
<b>Pellegrini, Daniel P.</b> UPMC Presby Shadyside	109	○	○	●	○	5.7
<b>Pellegrini, Ronald V. *</b> UPMC Presby Shadyside	111	○	○	○	○	6.2
	109	○	○	○	○	6.2

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## Surgeon Data

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		In-Hospital	30-Day	7-Day	30-Day	
<b>Pennock, John L.</b>	126	⊙	⊙	⊙	⊙	6.2
Pinnacle Health	83	⊙	⊙	⊙	⊙	6.4
Holy Spirit	43	⊙	⊙	⊙	⊙	5.7
<b>Pett, Stephen D.</b>						
Hamot	40	⊙	⊙	NR	NR	7.0
<b>Phillips, Theodore G.</b>						
Lehigh Valley	184	○	○	⊙	⊙	5.9
<b>Pierce, Alice M. *</b>	85	⊙	⊙	⊙	⊙	6.3
Mercy Pittsburgh	73	⊙	⊙	⊙	⊙	6.4
<b>Pochettino, Alberto *</b>	56	⊙	NR	NR	NR	6.4
Univ PA/Presbyterian	32	⊙	NR	NR	NR	6.1
<b>Priest, Brian P.</b>	147	⊙	⊙	⊙	⊙	6.1
Doylestown	77	⊙	⊙	⊙	⊙	5.7
Frankford	70	⊙	⊙	⊙	⊙	6.5
<b>Quigley, Robert L. *</b>	79	⊙	⊙	⊙	●	6.3
Frankford	61	⊙	⊙	⊙	⊙	6.3
<b>Raudat, Charles W.</b>						
St Mary	81	⊙	⊙	⊙	⊙	6.3
<b>Reitknecht, Felice L.</b>						
Robert Packer	107	⊙	⊙	⊙	⊙	4.7

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		In-Hospital	30-Day	7-Day	30-Day	
<b>Risher, William H.</b> St Luke's/Bethlehem	145	○	○	○	○	5.9
<b>Sadr, Farrokh S.</b> Sacred Heart/Allentown	48	○	○	○	○	5.0
<b>Samuels, Louis E.</b> Main Line Lankenau	83	○	○	○	○	5.2
<b>Sanders, David</b> Saint Vincent Health	215	○	○	○	○	4.9
<b>Seibel, P. Scott</b> Medical Center Beaver	93	○	○	○	○	6.1
<b>Shariff, Haji M.</b> St Mary	99	○	○	○	●	5.9
<b>Shears II, Larry *</b> York	154 92	○ ○	○ ○	○ ○	○ ○	5.4 5.2
	UPMC Presby Shadyside 42	○	○	○	○	5.4
<b>Silvestry, Scott C.</b> Thomas Jefferson Univ	69	○	○	○	○	8.3
<b>Sinclair, Michael C.</b> Lehigh Valley	59	○	○	○	○	5.8
<b>Singer, Raymond L.</b> Lehigh Valley	61	○	○	○	○	5.7

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		In-Hospital	30-Day	7-Day	30-Day	
<b>Singh, Deepak</b> Geisinger Wyoming Valley	43	○	○	○	○	5.2
<b>Sortino, Antonio</b> Washington	66	○	○	○	●	6.3
<b>Stahl, Russell</b> Community/Scranton	115	○	○	○	○	5.7
<b>Stella, Joseph</b> Mercy/Wilkes-Barre	109	○	○	○	○	4.4
<b>Stephenson, Edward R.</b> Milton S Hershey	121	○	○	○	○	5.8
<b>Strong, III, Michael D.</b> Hahnemann University	126	○	○	○	○	7.8
<b>Strzalka, Christopher T.</b> Hamot	147	○	○	○	○	5.0
<b>Sullivan, Lawrence X. *</b> Western Pennsylvania	87 61	○ ○	○ ○	○ ○	○ ○	6.1 5.8
<b>Sutter, Francis P.</b> Main Line Lankenau	169	○	○	○	○	5.6
<b>Suzuki, Mark Masaru</b> Westmoreland Regional	170	○	○	○	○	5.1

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		In-Hospital	30-Day	7-Day	30-Day	
<b>Szydlowski, Gary W.</b> Lehigh Valley	128	○	○	○	○	5.3
<b>Taylor, Bradley S. *</b> UPMC Passavant	133 118	○ ○	○ ○	○ ○	○ ○	6.4 6.4
<b>Theman, Terrill</b> St Luke's/Bethlehem	128	○	○	○	○	6.1
<b>Vasilakis, Alexander</b> Medical Center Beaver	180	○	○	○	●	6.0
<b>Von Koch, Lear *</b> Mercy/Scranton	90 83	○ ○	○ ○	○ ○	○ ○	5.8 5.8
<b>Watson, John W.</b> Bon Secours	68	○	○	○	○	6.7
<b>Wei, Lawrence M. *</b> UPMC Presby Shadyside	120 118	○ ○	○ ○	○ ○	● ●	5.5 5.5
<b>Weiss, Steven J.</b> Abington Memorial	80	○	○	○	○	6.6
<b>Wilcox, Kenneth *</b> Mercy/Scranton	50 49	○ ○	○ ○	○ ○	○ ○	5.9 5.9
<b>Woelfel, G. Frederick</b> St Clair Memorial Mercy Pittsburgh	191 160 31	○ ○ ○	○ ○ ○	○ ○ ○	○ ○ ○	5.3 5.2 6.1

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		In-Hospital	30-Day	7-Day	30-Day	
<b>Woo, Y. Joseph *</b>	84	○	●	○	○	5.3
Hospital University PA	83	○	●	○	○	5.3
<b>Woods, Edward L.</b>						
Geisinger/Danville	78	○	○	○	○	4.7
<b>Wu, James</b>						
Lehigh Valley	112	○	○	○	○	5.3
<b>Yeisley, Geary L.</b>						
Easton	32	○	NR	NR	NR	5.5
<b>Zadeh, Barry J. *</b>	121	○	○	○	○	7.1
Lancaster Regional	64	○	○	○	○	6.7
Brandywine	35	○	○	○	○	8.1
<b>Zama, Nche</b>						
Robert Packer	94	○	○	○	○	5.0

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