

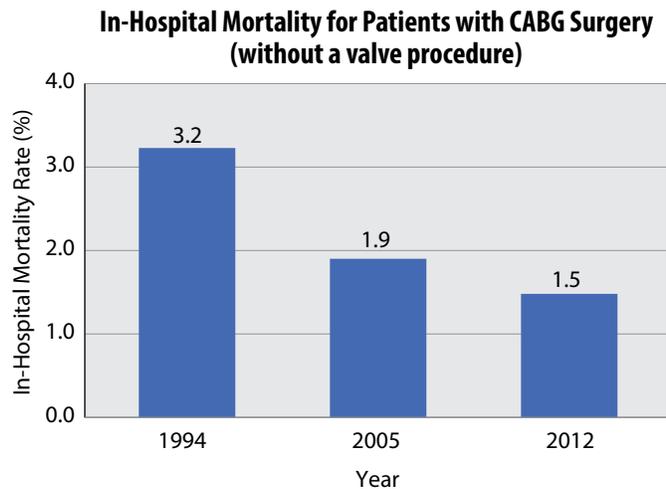
# Introduction

This edition of PHC4's *Cardiac Surgery in Pennsylvania* presents outcomes for the 20,164 patients who underwent coronary artery bypass graft (CABG) surgery and/or heart valve surgery between July 1, 2011 and December 31, 2012 in the 59 Pennsylvania general acute care hospitals that performed these types of procedures during that period. The report displays risk-adjusted outcomes that can be used, in part, to evaluate both hospital and surgeon performance. Reported measures include risk-adjusted in-hospital mortality ratings and 30-day readmission ratings. Average hospital charges and average Medicare fee-for-service payments are also reported for hospitals.

## Key Findings

### Mortality – CABG Surgery (without a valve procedure)

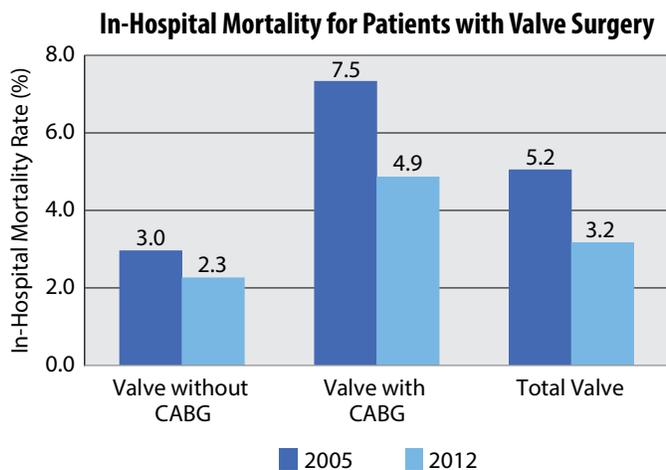
Statewide, in-hospital mortality rates decreased 21% between 2005 and 2012 (from 1.9% to 1.5%\*) and 53% between 1994 and 2012 (from 3.2% to 1.5%\*) for patients undergoing CABG surgery (without a valve procedure).



### Mortality – Valve Surgery

For valve surgery patients, in-hospital mortality rates decreased between 2005, when PHC4 began reporting on valve surgeries, and 2012.

- 23% decrease for the Valve without CABG procedure group (from 3.0% to 2.3%).
- 35% decrease for the Valve with CABG procedure group (from 7.5% to 4.9%\*).
- 38% decrease for the Total Valve procedure group (from 5.2% to 3.2%\*).



\* Difference is statistically significant.

Note: While the outcomes displayed later in this report are based on the 18-month period from July 1, 2011 through December 31, 2012, these Key Findings are based only on data for calendar year 2012 in order to make comparisons to previous calendar years.

# Key Findings

**Readmissions** – 1,462 patients (13.4%) who underwent CABG and/or valve surgery in 2012 were readmitted to the hospital for a heart-related condition or an infection or complication within 30 days of discharge.

Of the four procedure groups reported here, patients who underwent valve with CABG surgery were more likely to be readmitted (17.8%). These patients experienced a higher mortality rate (5.7%) and stayed in the hospital longer (6.9 days) during the readmission.

**Readmissions, 2012**

Procedure Group	Patients Readmitted within 30 Days		For patients readmitted within 30 days, the readmissions were associated with . . .		
	Number	Percent	Mortality Percent	Average Length of Stay	Total Days
<b>Total</b>	<b>1,462</b>	<b>13.4%</b>	<b>2.9%</b>	<b>6.1</b>	<b>8,932</b>
CABG without Valve	751	11.8%	2.9%	5.9	4,413
Valve without CABG	431	14.7%	0.9%	6.0	2,598
Valve with CABG	280	17.8%	5.7%	6.9	1,921
Total Valve	711	15.8%	2.8%	6.4	4,519

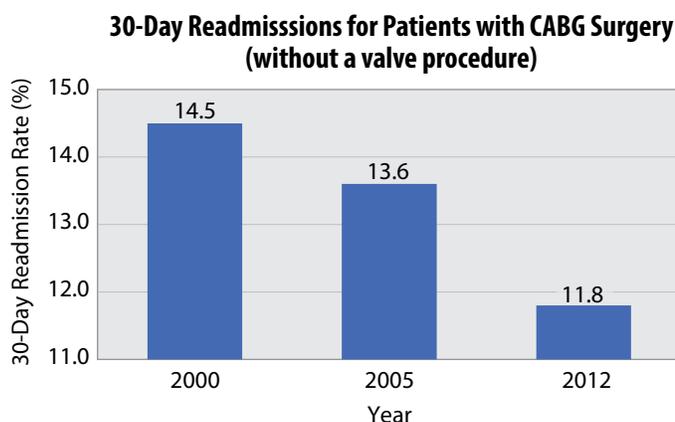
Note: 2012 Readmissions were based on discharges between January 1, 2012 and November 30, 2012. Data from December 2012 was used to identify 30-day readmissions for patients discharged in November.

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# Key Findings

## Readmissions – CABG Surgery (without a valve procedure)

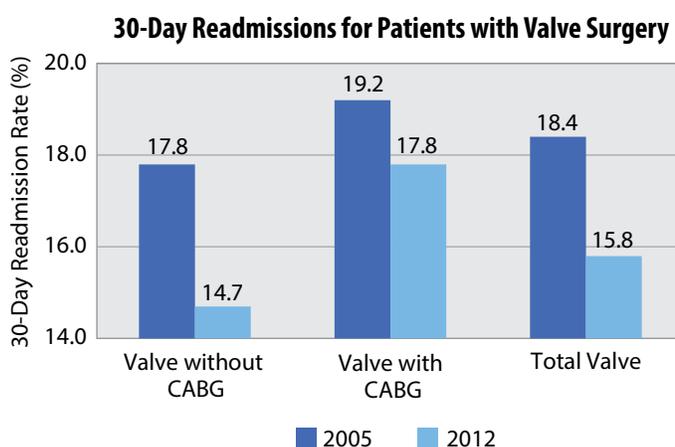
Statewide, 30-day readmission rates decreased 13% between 2005 and 2012 (from 13.6% to 11.8%\*) and 19% between 2000 and 2012 (from 14.5% to 11.8%\*) for patients undergoing CABG surgery (without a valve procedure).



## Readmissions – Valve Surgery

For valve surgery patients, 30-day readmission rates decreased between 2005, when PHC4 began reporting on valve surgeries, and 2012.

- 17% decrease for the Valve without CABG procedure group (from 17.8% to 14.7%\*).
- 7% decrease for the Valve with CABG procedure group (from 19.2% to 17.8%).
- 14% decrease for the Total Valve procedure group (from 18.4% to 15.8%\*).



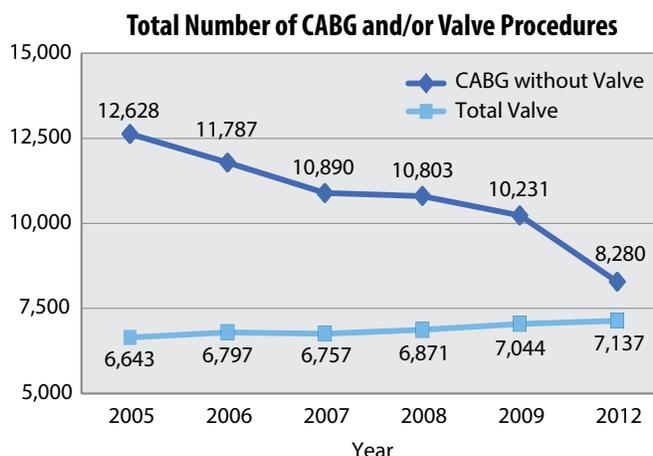
\* Difference is statistically significant.

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# Key Findings

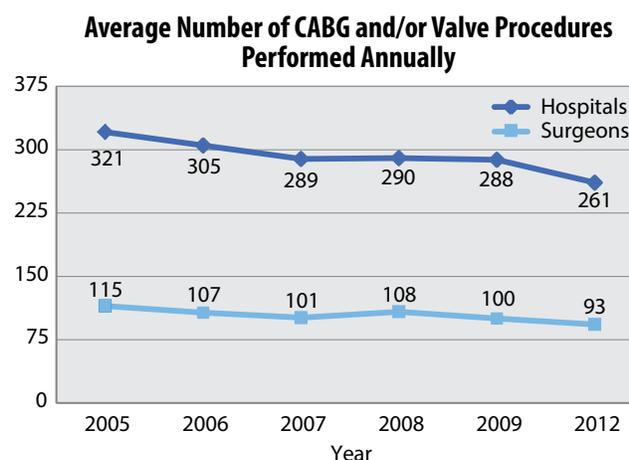
## Total Number of CABG and/or Valve Procedures

The total number of CABG without valve procedures declined from 12,628 in 2005 to 8,280 in 2012. The total number of valve procedures (with or without CABG) increased slightly from 6,643 in 2005 to 7,137 in 2012.



## Average Number of CABG and/or Valve Procedures

The average number of CABG and/or valve surgeries performed annually by hospitals and by surgeons decreased between 2005 and 2012.



Note: These graphs include total volume counts for the calendar years in which PHC4 published outcome data for CABG and/or valve surgery.

## Medicare Fee-for-Service Payment Trends

### Average Medicare Fee-for-Service Payment

Procedure Group	2005	2006	2007	2008	2011
CABG without Valve	\$29,175	\$29,697	\$30,448	\$30,546	\$32,564
Valve without CABG	\$42,433	\$41,448	\$43,801	\$47,346	\$47,540
Valve with CABG	\$44,119	\$44,934	\$46,001	\$47,669	\$49,924
Total Valve	\$43,343	\$43,276	\$44,945	\$47,500	\$48,461

Notes: PHC4 did not report Medicare payment data for CABG and/or valve surgery for 2009 or 2010. 2011 Medicare payment data is the most recent available.

Average Medicare payment figures include the Centers for Medicare and Medicaid Services' Medicare Part A hospital insurance fund payment (fee-for-service), but not patient liabilities such as coinsurance and deductibles.

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