PENNSYLVANIA’S GUIDE TO
CORONARY ARTERY
BYPASS GRAFT SURGERY
1994-1995

Information about Hospitals,
Cardiac Surgeons, and Health Plans.

Pennsylvania Health Care
Cost Containment Council
Pennsylvania Health Care Cost Containment Council

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Clifford L. Jones—Executive Director

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Additional information related to this report can be found in the Guide’s Technical Appendix, which contains more detailed information including length of stay according to cardiac surgeons, Research Methods and Results, a description of the methodology and research decisions that form the foundation of this report, and Health Plan, Hospital and Physicians Comments.

These documents are free and available upon request.
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Principal Findings

Quality is Increasing

- There is good news for Pennsylvanians facing coronary artery bypass graft (CABG) surgery. In 1994-95, the years covered by this study, 97% of the health plans, 91% of the hospitals, and 90% of the surgeons had risk-adjusted patient mortality rates that were well within what was expected or better after accounting for patient risk.

- In-hospital mortality was 22% lower in 1995 than it was in 1991 (4.9% of the patients died in 1991 compared to 3.8% in 1995). At the same time, patient risk has remained constant and the total number of CABG surgeries has increased (up almost 25% since 1991).

Charges are Decreasing

- Statewide, the average charge was 3.9% lower in 1994-95 than it was in 1993, the first decrease since public reporting began with 1990 data. In general, a number of hospitals with higher charges decreased their charges while a number of hospitals with lower charges increased their charges.

Health Plans

- Of the cases reported in the payor analysis, 89.2% were covered by fee-for-service plans (or some variation); only 10.8% were covered by HMO plans during 1994-95.

- The patient’s insurance plan was not a determinant of in-hospital mortality.
Patient Characteristics

- Of those discharged alive from the hospital in 1994-95, 98.6% were alive 3 months later; 97.4% were alive 9 months later. Of those who died after discharge, 58% died of heart-related causes.

- In 1992, 1.87 out of every 1,000 adult residents underwent CABG surgery. In 1995, 2.21 out of every 1,000 adult residents had this procedure. For males, the figures were 2.77 per 1,000 in 1992 and 3.20 per 1,000 in 1995. For females, they were 1.07 per 1,000 in 1992 and 1.32 per 1,000 in 1995.

- 70% of the CABG patients were men; 30% were women.

- Men tended to undergo CABG at an earlier age than women. Of those under 65 years of age, 78% were men and 22% were women. The average age for women was 68, compared to 64 for men.

- The most common risk factor for the patients in this study was heart failure. The next most common was having had previous CABG and/or valve surgery.

- The majority of patients had a relatively low risk (1.6%) of in-hospital death. Only 5% of the cases had a risk of in-hospital mortality of 10% or higher.

Hospital Characteristics

- After accounting for patient risk, average post-surgical length of stay ranged across hospitals from 5.2 days to 8.6 days.

- There are regional differences in how long a patient stayed in the hospital following CABG surgery:

- The patients in hospitals located in Central & Northeastern Pennsylvania had shorter stays than expected.

- The patients in hospitals located in Southeastern Pennsylvania or Western Pennsylvania had longer stays than expected.

- The number of hospitals performing CABG surgery in Pennsylvania has increased since 1990.
Physician Characteristics

- The number of surgeons performing CABG surgery in Pennsylvania has increased since 1990.

![Number of Surgeons Performing CABG Surgery](chart)

- The surgeon's volume of open heart surgery cases was an important determinant of in-hospital survival. Higher volume was associated with increased survival. The number of open-heart surgeries performed, on average, by a Pennsylvania cardiac surgeon in 1994-95 was 127 per year.
Goals

There are several goals for this project. The first is to provide an increasingly comprehensive picture of the “system” of health care. Where hospitals, physicians and health insurers were once separate and independent, those distinctions are swiftly becoming less clear. With the growth of managed care and the emergence of highly organized health systems, it is increasingly important to examine the interrelationships among these three groups. By reporting patient outcome information about these important entities in one place, the Council is allowing the public to examine these interrelationships and ask intelligent questions about the quality of health care.

Secondly, the guide is designed to provide purchasers with information that they can use to obtain greater value for the health care dollar when it comes to making health care purchasing decisions. Heart disease remains the number one cause of death in the United States. Coronary artery bypass graft (CABG) surgery, a treatment for one kind of heart disease and the subject of this report, is a high-volume, high-dollar procedure.

The third goal is to provide hospitals, surgeons and health plans with meaningful comparative data about CABG patients and the outcomes of bypass surgery. There is evidence that this kind of information prompts providers to take steps to improve the overall quality of bypass surgery.

The fourth goal, as always, is to provide patients who are considering CABG surgery, and their families, with data that will help them have more informed discussions with their physicians. Since every patient has different health concerns and risks, the Council encourages patients to discuss the information in this guide with the appropriate physicians who can answer their questions and concerns.
Readers’ Guide

Beginning in November of 1992, the Pennsylvania Health Care Cost Containment Council has released a series of public reports about coronary artery bypass graft (CABG) surgery. These reports contained information about the risk-adjusted patient mortality statistics for Pennsylvania's cardiac surgeons (who perform CABG surgery) and the Pennsylvania hospitals where the procedures are performed. This report, which includes data from 1994 and 1995, is the latest in the series.

What’s new in this report?

This report contains two new additions: Information about the length of hospitalization after surgery and information about CABG patients according to selected health plans.

While Pennsylvania’s CABG report has historically contained information about the risk-adjusted mortality numbers for CABG patients specific to Pennsylvania hospitals and cardiac surgeons, this report marks the first time that similar data for individual health plans is included.

Why has information about health plans been added to this report?

The health care industry is experiencing enormous change. Part of this movement involves a shift in traditional roles, especially as it relates to the management of health care. Larger hospital and health care systems are emerging. The relationships among hospitals, physicians and insurers are changing.

Payors have evolved from the traditional approach of financing the delivery of health care to one of influencing, on an increasing basis, the organization of the delivery system. This takes the form of quality improvement efforts, re-certification, utilization management, promulgation of physician practice guidelines, development of select physician and hospital networks, and financial incentives — the increasing “management” of care. While it is important to remember that patients are not treated by payors, rather by doctors and hospitals, it is increasingly the case that payors influence, directly or indirectly, the delivery of care in today’s market.

In late 1995, the Pennsylvania Health Care Cost Containment Council, through a series of strategic planning sessions, identified as its primary future role the development of information about the influence of managed care on health care cost and quality issues.

This report is a first step in the direction of measuring health plans in that it includes for the first time in a Council report risk-adjusted mortality and length of hospital stay data for enrollees in selected health plans that had CABG surgery. In doing so, it builds upon previous Council CABG reports that have included data about Pennsylvania hospitals where CABG operations have been performed, and the cardiac surgeons who have performed them. (This report also contains the hospital and surgeon-related risk-adjusted mortality and length of hospital stay data.)
As with any first-time initiative, these health plan data should be interpreted with caution. The data in this report should not be the only factor in any health care decision, particularly with regard to choosing a health plan. Many other factors should be weighed before making such a decision.

A Limited View of Managed Care

What do we mean by managed care?

It is important to note that this first step is a limited one. Managed care is a general term that means different things to different people. In its most restrictive sense the term can be applied to Health Maintenance Organizations (HMOs), which are included in this report. There is a broad range of health insurance plans in Pennsylvania, including many different types of employer or employee-determined managed care arrangements and levels of health care management, some of which will be found within traditional fee-for-service plans, others as options or variations within licensed HMOs.

For the purposes of this report, however, the Council reported only on those managed care plans that are licensed by the Pennsylvania Department of Health as Health Maintenance Organizations (HMOs). In addition, the report includes traditional fee-for-service plans, Medicare and Medicaid. Beyond these broad categories, the Council did not differentiate among the different insurance products available in Pennsylvania. To do so would involve significant additional data collection and verification among the hospitals, health plans, and the Council.

CABG surgery constitutes a small portion of overall health plan admissions

While the Council’s ultimate goal is to provide an increasingly comprehensive picture of the system of care, this report focuses on only one procedure. Although a high-volume, high-cost procedure, CABG surgery generally represents a small portion of the overall health care utilization of health insurance plan enrollees. Therefore, a plan’s results in this report should not be used to generalize about the overall quality of a health plan.

Times have changed — and so has the health care market

The data is this report are from 1994 and 1995, the most recent data available. The market-place, especially with the growth of managed care plans, has changed dramatically since that time. The same categories examined today might show very different results. While managed care covers only a small percentage of CABG patients in 1994 and 1995, the Council will use this time period as a baseline for comparison with later years when the market penetration of managed care has grown.
Measuring quality

The risk-adjusted mortality and risk-adjusted length of stay statistics included in this report are important measures of quality as well as resource utilization, but are not and cannot be considered the only measures of importance. Additional measures, such as whether CABG surgery was the appropriate treatment option, readmission rates, or the quality of patients’ lives after receiving surgery are not captured here.

The measurement of quality is highly complex and the information used to capture such measures is limited. Hospital deaths are frequently an unavoidable consequence of a patient’s medical condition. Hospitals and physicians may do everything right and still the patient can die. In addition, marked differences in health plan populations in terms of social, economic, and behavioral characteristics might put some groups at higher risk of mortality — factors not completely captured by the Council’s risk-adjustment model.

However, after taking the significant patient risk factors available to the Council into account, differences with respect to patient mortality and lengths of stay do exist among hospitals, cardiac surgeons, and health plans.

Other measures of quality

HEDIS (Health Plan Employer Data and Information Set), a system for measuring health plan effectiveness developed by the National Committee for Quality Assurance, uses a number of measures related to utilization rates per 1,000 covered lives. Additionally, these rates include only enrollees with a sufficient record of enrollment, normally 12 to 36 months of continuous enrollment. This report does not account for differences in the length of enrollment among plans. In order to do so in future reports, the Council would need the cooperation of health insurers in providing enrollment data.

Overall patient satisfaction can be an important component in assessing quality. Several states such as Utah, Maryland and New Jersey have developed and published patient/consumer satisfaction surveys as measures of the quality of care received within health plans.

The report is not all-inclusive

This report includes only inpatient hospital information, and only information about hospitals, surgeons and health plans with 30 or more cases in 1994 and 1995. While taking into account such issues as the race, ethnicity and urban/rural status of CABG patients, the report may not fully capture the impact of socioeconomic status on CABG patients’ risk of mortality. It does not allow for trend analysis since the data cover only two years.

The verification of data for health insurers

The Council formed a new Payor Advisory Group to assist in developing ways to approach various issues related to the development of this report, in particular the verification of plan data. The verification of the plan data, which originates with the hospitals, was a two-step process.
First, the hospital where the procedure was performed verified the plan that paid for the surgery.

Secondly, all plans were given an opportunity to verify that the hospital identification of the CABG payor was correct. Many plans chose to do so and the Council would like to acknowledge those plans for their participation. However, some plans chose not to verify the hospital identification of the payor and in those instances, the hospital-only data is reported.

In some instances the plan with financial responsibility for a CABG case was not necessarily the plan that managed or oversaw the treatment of the same case. In these situations, the Council assigned the case to the plan that paid for the case. In situations where more than one plan was financially responsible for a CABG patient, the plan listed as the primary payor was assigned the case.

An important beginning

It’s important to recognize that efforts to compare health plans are still in their infancy. This report is just a starting point; useful as a basis for identifying both similarities and differences among health plans, asking why they exist, and as a basis for further study.

The treatment of patients is a varied and complex process, one that involves many players. The Council would like to emphasize that this report is about pointing out differences in patient outcomes. It is about asking why those differences exist. It is about stimulating a dialogue among purchasers, consumers, providers and payors, and a quality improvement dynamic that will attempt to raise appropriate questions.

So, while this report represents a limited view of managed care, it is nevertheless an important step and can serve as a baseline for future reporting. Future reports can better serve the public with the inclusion of enrollment information, data which can only be provided by the health plans themselves and which can serve to overcome some of the limitations of this project. The report is a start towards helping Pennsylvanians examine the system of care involved in treating CABG surgery patients. It is a start in helping the Council examine additional areas of health care delivery and the growing interrelationships among hospitals, physicians, and payors in delivering quality outcomes for the patients and enrollees for which they provide, pay and manage care.

Heart Disease and Coronary Artery Bypass Graft Surgery in Pennsylvania

About 57 million Americans have some form of heart-related disease. It is the leading cause of death in the United States. This booklet is designed to provide the public with information on the surgical procedure used to treat one type of heart disease known as atherosclerotic coronary artery disease.
This booklet provides comparisons among hospitals and cardiac surgeons should surgical treatment for coronary artery disease be required. It provides information that can be used as a basis for asking questions and to make more informed choices when selecting a hospital or surgeon for coronary artery bypass graft (CABG) surgery. This information should be used in conjunction with a doctor, hospital and health plan representative.

The charts show the number of CABG surgery cases and the risk-adjusted patient mortality percentages for each hospital, health plan and cardiac surgeon in Pennsylvania where at least 30 coronary artery bypass graft operations were performed in 1994-1995. Thirty is considered by the Council to be a minimum number in order for the information to be statistically meaningful.

What is atherosclerotic coronary artery disease?

Atherosclerotic coronary artery disease occurs when the arteries which supply blood to the heart muscle become lined with fatty deposits, harden, and become partially blocked. The amount of blood reaching the heart is reduced. This reduced flow of blood can cause chest pain (angina) or a heart attack.

Which methods are used to treat heart disease?

It is important to discuss this with a physician. Depending on a patient’s condition and the doctor’s recommendation, the following are among treatment methods that might be used: changes in lifestyle habits such as diet or smoking, medication, balloon angioplasty, laser angioplasty, and coronary artery bypass graft surgery.

This report deals with coronary artery bypass graft operations, which are performed by a cardiac surgeon. However, when seeking treatment for heart disease, a cardiologist is usually involved in the diagnosis of heart disease. In general, it is the cardiologist who will diagnose the problem and refer the patient to a cardiac surgeon if surgery is being considered or recommended. This report can be used in conjunction with the advice of a cardiologist in selecting a cardiac surgeon.

What is coronary artery bypass graft surgery?

An alternate path for blood, or “bypass,” is made around the narrowed or blocked part of the coronary artery that has been identified during cardiac catheterization. The surgeon removes or diverts a section of blood vessel from another part of the body and attaches it around the blockage in the coronary artery. The blood flows through the inserted section, bypassing the blockage, to restore the blood flow to the heart muscle.
A Focus on Patient Outcomes

The primary focus of this report is on the outcome or result of CABG surgery. Although there are other ways to view a successful result of CABG surgery (lack of complications, improved quality of life, and recovery time), this report focuses on in-hospital mortality statistics and risk-adjusted lengths of hospitalization as measures of the outcome of CABG surgery. To be fair, the mortality data and length of stay data are adjusted to account for significant patient risk and severity of illness factors. The first section of this report includes risk-adjusted mortality statistics for CABG patients in 1994-1995 according to the health plan or program they belonged to, the hospital they were admitted to, and the cardiac surgeon of record who performed the coronary artery bypass graft surgery. The statistics are calculated and displayed in the same way for health plans, hospitals and cardiac surgeons. The health plans, hospitals and surgeons in this report were offered the opportunity to review the data applicable to them and attest to its accuracy.

ABOUT FIGURE 1 — Health Plans — Risk-Adjusted In-hospital Mortality

There are 34 health plans (including Medicare and Medicaid) covered in this report. These include fee for service plans (Blue Cross and Commercial Insurance Companies), Pennsylvania-licensed Health Maintenance Organizations (HMOs), as well as the Medicare and Medicaid programs. However, only plans that had 30 or more CABG cases in 1994-1995 after exclusions are reported. (For a detailed list of exclusion criteria, see the Council’s Research Methods and Results.

A risk-adjusted mortality percentage has been calculated for each plan and is presented in this section. The health plans are grouped according to the type of plan: Commercial fee for service plans together, Blue Cross-related fee for service plans together, Licensed HMOs, Medicare, and Medicaid.

ABOUT FIGURES 2A, 2B, 2C — Hospitals — Risk-Adjusted In-hospital Mortality

Forty-four hospitals in Pennsylvania were approved to perform CABG surgery during 1994-1995. This report provides risk-adjusted mortality data, risk-adjusted lengths of hospital stay, and hospital charges for the 43 of those hospitals that had 30 or more cases. Passavant Hospital began its open-heart program in late 1995, and as such did not have enough cases to be reported. There are additional hospitals that have been set up to perform CABG surgery since 1995 but those hospitals do not appear in this report. In addition, hospital names may have changed since 1994-1995.

ABOUT FIGURES 3A, 3B, 3C — Cardiac Surgeons — Risk-Adjusted In-hospital Mortality

Risk-adjusted mortality statistics are also reported for the CABG patients of Pennsylvania cardiac surgeons who performed CABG surgery during 1994-1995. There are surgeons who practiced at more than one hospital and that is noted in the report.
Figure 3 lists all the cardiac surgeons who practiced at a given hospital under that hospital name. The hospitals are sorted by region, then listed alphabetically, with each surgeon who practiced in that hospital also listed alphabetically. Many surgeons practiced at more than one hospital so they will be listed more than once. Only surgeons who treated 30 or more cases in 1994-1995 were rated; others are listed with the number of cases they performed.

ABOUT FIGURES 4 and 5A, 5B, 5C — RISK-ADJUSTED POST-SURGICAL AVERAGE LENGTH OF STAY ACCORDING TO HEALTH PLANS AND HOSPITALS

In this report, the length of stay is post-surgical (hospital days prior to surgery are not counted) and has also been adjusted to take patient risk factors into account. The statistics are developed in the same way as the patient outcomes (mortality) section. An expected length of hospitalization is calculated and can be compared to the actual length of stay. These figures are expressed in number of days in the hospital. An asterisk (*) next to the hospital (or plan) name means that a hospital’s actual length of stay was significantly greater than expected. An open bullet (*) next to the hospital (or plan) name means the length of stay was significantly less than expected. The absence of a symbol means that the actual length of hospital stay was within the expected range.

Length of stay data for each cardiac surgeon is reported in a separate Technical Appendix available from the Council upon request.

ABOUT FIGURE 6 — Average Hospital Charges for CABG Surgery

This column shows the average amount a hospital charged for coronary artery bypass graft surgery in 1994-1995. The charges do not include physician fees, and are usually more than actual payments received by hospitals from the payor (such as your insurance company). For example, for Medicare patients, the actual payment to a hospital is based on a different formula and may be lower. Charges are, however, a reasonable and consistent basis for comparison.

Charges vs. Revenues

The amount a hospital bills for a patient’s care is known as the charge. What the hospital actually receives is known as revenue. This report lists the average charges billed by hospitals for a CABG surgery. The charges are derived from hospital billing forms, which list the actual charges for each patient. However, hospitals generally do not receive full reimbursement of their charges. Hospitals frequently negotiate discounts with insurance companies or other large purchasers of health care services. The amount collected by the hospital may differ substantially from the amount billed.

An analogy can be made to the purchase of an automobile. Each automobile has a manufacturer’s suggested list price (the charge). But the amount the buyer actually pays depends upon his or her ability to negotiate a discount from that charge. Purchasers of fleet vehicles have greater clout in negotiating discounts than do the buyers of a single vehicle.
the same way, large group purchasers have greater purchasing power when buying insurance or negotiating health care discounts than do privately or self-insured individuals.

ABOUT TABLE 1

Table 1 contains for each plan a listing of the hospitals that account for approximately 75% of the plan’s CABG patients and the number of cases for each plan in each of the hospitals.

ABOUT FIGURES 7A, 7B — The Issue of Volume

The number of procedures performed in hospitals or by cardiac surgeons is often considered an important factor in deciding upon treatment options. Figure 7A provides a view of the total number of bypass procedures as well as the number of total open-heart procedures performed by Pennsylvania hospitals. Figure 7B details the average number of open-heart procedures per surgeon in each Pennsylvania hospital.

Interpreting the Data

Actual To Expected Patient Mortality (Death)

Under the expert guidance of its Technical Advisory Group, a committee of physicians and health researchers, the Council develops a complex methodology to measure expected mortality. First, the Council identifies a list of health factors that have an impact upon patients’ risk of dying during or following (prior to hospital discharge) CABG surgery. In compiling this list, the Council examines the scientific literature, and solicits feedback from hospital staff and physicians.

The next step is to determine which risk factors (of those available to the Council) had a significant impact on the in-hospital mortality of those patients hospitalized for a coronary artery bypass in 1994-1995. The rating system gives a certain weight (or importance) to key health factors that influence in-hospital mortality for each patient receiving a coronary artery bypass operation in 1994-1995. These risk factors are taken into consideration to create a risk profile for each patient.

By looking at all the individual patient data together, the Council is able to calculate an expected mortality percentage for each hospital, health plan and cardiac surgeon. The statistics are adjusted for the higher or lower risk of the patients of each provider and health plan. This provides a fair basis for comparison. By adjusting for risk, hospitals, health plans and cardiac surgeons are given extra credit for having treated “sicker” patients or patients with more risk factors. The higher the risk, the more deaths to be expected.

The figures allow you to compare the actual number of mortalities with the expected number of mortalities. These are expressed as percentage points. The expected mortality is expressed as a range of percentages representing the lowest number of mortalities you could expect to the highest. The expected range is based on a calculation that takes into account
the risk factors of the patients treated. The horizontal bar represents the expected range for that calculation. The length of the bar is based on a combination of patient volume and diversity of patient risk. Generally, the more CABG patients or the more similar patient risk is across hospital, surgeon, or health plan, the smaller the bar will be.

How to Interpret the Graphs

If the point falls within the bar, it means that the difference between the actual mortality and the expected mortality was not statistically significant. If the point falls to the left of the bar, the actual mortality was significantly lower statistically than what was expected. This is highlighted by an open bullet (°) next to the hospital, health plan, or surgeon’s name. If the point falls to the right, the actual mortality was significantly higher than the expected. This is highlighted by a single asterisk (*) next to the hospital, health plan or surgeon’s name. A point that is statistically significant will always fall clearly outside the bar. Tables that provide the numbers that correspond to the graphs in the mortality section are contained in the Technical Appendix.

What we Mean by Statistical Significance

Scientists use the term “statistical significance” to indicate when a measurement or calculation is certain enough to be caused by something other than chance or random variation. If the actual percent mortality falls outside the expected bar, we can conclude with 95% certainty that the difference between what was expected and what actually occurred was not because of chance or random variation. If the actual percent mortality falls inside the bar, the difference may have been due to chance or random variation.

Technical Appendix

The actual figures related to the graphs presented in this report are contained in a separate Technical Appendix. The appendix also contains surgeon length of hospital stay data and a list of patient risk factors.
Risk-Adjusted In-hospital Mortality Outcomes

Health Plans
Hospitals
Cardiac Surgeons
How to Read the Graphs

(This is identical for Health Plans, Hospitals, and Cardiac Surgeons.)

Mortality rate (or length of stay) is significantly lower than the expected range.

The bar represents the range of expected mortality (or length of stay) taking into account patient risk factors.

The dot represents the actual mortality rate (or length of stay) of the patients in each plan.

Mortality rate is expressed in percents. Length of hospital stay is expressed in number of days.

Note: The graphs in this report allow you to compare actual mortality and length of stay with an expected range, which is determined by both volume and diversity of patient risk. The expected range is expressed as a percent for mortality and in days for length of stay. More patients and/or less diversity of risk will result in a shorter bar.
FIGURE 1: Actual to Expected Mortality, by Health Plan, 1994-1995

**MEDICARE PLANS**

*Medicare Fee for Service*

- Medicare Fee for Service: 19,657 cases

*Medicare HMO Contracts*

- Geisinger Health Plan - Central: 50 cases
- Greater Atlantic Health Service: 43 cases
- Keystone East: 217 cases
- Keystone West: 48 cases
- U.S. Healthcare: 466 cases

**MEDICAID PLANS**

*Medicaid Fee for Service*

- Medicaid Fee for Service: 1,236 cases

*Medicaid HMO Contracts* — There were 9 HMO plans that were the primary payor for Medicaid CABG cases in 1994-95; none had 30 or more cases and so are not reported.

☑ Includes only Medicare patients

**KEY**

- *: Actual Mortality significantly higher than Expected
- ○: Actual Mortality significantly lower than Expected
- •: Actual Mortality Rate
- : Range of Expected Mortality
FIGURE 1: Actual to Expected Mortality, by Health Plan, 1994-1995

FEE FOR SERVICE

Blue Cross Companies

<table>
<thead>
<tr>
<th>Health Plan</th>
<th># Cases</th>
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<tbody>
<tr>
<td>Blue Cross of Northeast PA</td>
<td>696</td>
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<tr>
<td>Blue Cross of Western PA</td>
<td>2,748</td>
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<tr>
<td>Capital Blue Cross</td>
<td>1,974</td>
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<tr>
<td>Independence Blue Cross</td>
<td>1,256</td>
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</tbody>
</table>

Commercial Insurance Companies

<table>
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<th>Insurer</th>
<th># Cases</th>
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<tr>
<td>CIGNA</td>
<td>99</td>
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<td>Educators Mutual</td>
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<tr>
<td>Metropolitan</td>
<td>177</td>
</tr>
<tr>
<td>Provident</td>
<td>42</td>
</tr>
<tr>
<td>Prudential</td>
<td>225</td>
</tr>
<tr>
<td>Travelers</td>
<td>147</td>
</tr>
</tbody>
</table>

This insurer represents more than one individual licensed insurance company under the same parent name.
FIGURE 1: Actual to Expected Mortality, by Health Plan, 1994-1995

LICENSED HMO PLANS

- Aetna Central & Eastern PA
- Aetna Western PA
- Central Medical
- CIGNA Healthcare of PA
- Geisinger Health Plan
- Greater Atlantic Health Service
- HealthAmerica PA
- HealthGuard of Lancaster
- HMO of Northeastern PA
- Keystone Central
- Keystone East
- Keystone West
- Prudential Health Care Plan
- U.S. Healthcare

# CASES
83, 31, 90, 48, 183, 36, 388, 59, 85, 152, 365, 219, 83, 844

0% 2% 4% 6% 8% 10%

KEY
* Actual Mortality significantly higher than Expected
° Actual Mortality significantly lower than Expected
● Actual Mortality Rate
□ Range of Expected Mortality

Does not include Medicare or Medicaid patients
FIGURE 2A: Actual to Expected Mortality, by Hospital, 1994-1995

WESTERN PENNSYLVANIA

- Allegheny General Hospital: 1,897 cases, Actual Mortality significantly higher than Expected.
- Hamot Medical Center: 1,041 cases, Actual Mortality significantly lower than Expected.
- Medical Center, Beaver, PA, Inc: 345 cases, Actual Mortality higher than Expected.
- Mercy Hospital of Pittsburgh: 1,655 cases, Actual Mortality higher than Expected.
- Saint Francis Central Hospital: 624 cases, Actual Mortality significantly lower than Expected.
- Saint Francis Medical Center: 1,210 cases, Actual Mortality significantly lower than Expected.
- Saint Vincent Health Center: 896 cases, Actual Mortality lower than Expected.
- Shadyside Hospital: 2,034 cases, Actual Mortality significantly higher than Expected.
- University of Pittsburgh Medical Center: 615 cases, Actual Mortality lower than Expected.
- Washington Hospital: 447 cases, Actual Mortality lower than Expected.
- Western Pennsylvania Hospital: 1,854 cases, Actual Mortality lower than Expected.
- Westmoreland Regional Hospital: 370 cases, Actual Mortality lower than Expected.

KEY

- *: Actual Mortality significantly higher than Expected
- #: Actual Mortality significantly lower than Expected
- #: Range of Expected Mortality
- #: Actual Mortality Rate
FIGURE 2B: Actual to Expected Mortality, by Hospital, 1994-1995

CENTRAL & NORTHEASTERN PENNSYLVANIA

Altoona Hospital 853
Conemaugh Valley Memorial Hospital 831
Geisinger Medical Center /Danville 816
Harrisburg Hospital 1,028
Lancaster General Hospital 1,018
Mercy Hospital /Scranton 842
Penn State University Hospital /Hershey 472
Polyclinic Medical Center 1,188
Robert Packer Hospital 587
Saint Joseph Hospital, Inc. /Lancaster 242
Wilkes-Barre General Hospital /WVHCS 1,007
Williamsport Hospital & Medical Center 331
York Hospital 1,300

KEY
* Actual Mortality significantly higher than Expected
○ Actual Mortality significantly lower than Expected
● Actual Mortality Rate
☐ Range of Expected Mortality
FIGURE 2C: Actual to Expected Mortality, by Hospital, 1994-1995

SOUTHEASTERN PENNSYLVANIA

* Albert Einstein Medical Center 1,043
° Bryn Mawr Hospital 690
Crozer-Chester Medical Center 386
Easton Hospital 262
* Episcopal Hospital 322
* Graduate Hospital 540
Hahnemann University Hospital 2,331
Hospital of the University of PA 714
Lankenau Hospital 1,502
° Lehigh Valley Hospital 1,657
Medical College Hosp/Main Campus 501
Pennsylvania Hospital 331
° Presbyterian Med Ctr Univ of PA Hlth Sys 1,101
Reading Hospital and Medical Center 1,026
Saint Joseph Medical Center/Reading 368
St. Luke’s Hospital of Bethlehem 879
Temple University Hospital 777
Thomas Jefferson University Hospital 644

KEY
* Actual Mortality significantly higher than Expected
° Actual Mortality significantly lower than Expected
● Actual Mortality Rate
Range of Expected Mortality
FIGURE 3A: Actual to Expected Mortality, by Cardiac Surgeon, 1994-1995

WESTERN PENNSYLVANIA

Allegheny General Hospital

Benckart, Daniel H. ²
Burkholder, John A. ²
* Liebler, George A. ²
Magovern, George J., Jr. ²
Magovern, George J., Sr.
Magovern, James A. ²
Maher, Thomas D., Jr. ³
Marrone, Gary C. ²
Park, Sang B. ³
Savage, Edward B. ²
Szydlowski, Gary W. ²
Wiechmann, Robert J. ²

Hamot Medical Center

* D’Angelo, George J.
Kish, George F.
Michalak, Dennis M.
O’Connor, James V.
Sardesai, Prabhaker G.
Tan, Wilfredo S.

KEY

* Actual Mortality significantly higher than Expected
○ Actual Mortality significantly lower than Expected
²,³,⁴ Number of Hospitals where Surgeon Performed CABG

Actual Mortality Rate
Range of Expected Mortality

# CASES

Allegheny General Hospital 1,897
Benckart, Daniel H. ² 251
Burkholder, John A. ² 256
* Liebler, George A. ² 240
Magovern, George J., Jr. ² 227
Magovern, George J., Sr.
Magovern, James A. ² 249
Maher, Thomas D., Jr. ³ 54
Marrone, Gary C. ² 110
Park, Sang B. ³ 38
Savage, Edward B. ² 209
Szydlowski, Gary W. ² 81
Wiechmann, Robert J. ² 173

Hamot Medical Center 1,041
* D’Angelo, George J. 248
Kish, George F.
41
Michalak, Dennis M.
239
O’Connor, James V.
86
Sardesai, Prabhaker G.
Tan, Wilfredo S.
349

0% 2% 4% 6% 8% 10% 12%
FIGURE 3A: Actual to Expected Mortality, by Cardiac Surgeon, 1994-1995

Medical Center, Beaver, PA, Inc

- Benckart, Daniel H. 2
- Burkholder, John A. 2
- Liebler, George A. 2
- Magovern, George J., Jr. 2
- Magovern, James A. 2
- Savage, Edward B. 2
- Szydlowski, Gary W. 2
- Wiechmann, Robert J. 2

Mercy Hospital of Pittsburgh

- Darrell, John C. 3
- Davliakos, George P. 3
- DiMarco, Ross F., Jr. 3
- Grant, Kathleen J. 3
- Manzetti, Gene W.
- Pellegrini, Ronald V. 4
- Sortino, Antonio 3
- Wei, Lawrence M. 4
- Woelfel, George F., Jr. 3

**KEY**

* Actual Mortality significantly higher than Expected
○ Actual Mortality significantly lower than Expected

Number of Hospitals where Surgeon Performed CABG

- Actual Mortality Rate
- Range of Expected Mortality
FIGURE 3A: Actual to Expected Mortality, by Cardiac Surgeon, 1994-1995

Saint Francis Central Hospital

<table>
<thead>
<tr>
<th>Surgeon</th>
<th># Cases</th>
<th>Actual Mortality Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Darrell, John C.</td>
<td>23</td>
<td>Not Rated</td>
</tr>
<tr>
<td>Davliakos, George P.</td>
<td>2</td>
<td>Not Rated</td>
</tr>
<tr>
<td>DiMarco, Ross F., Jr.</td>
<td>3</td>
<td>Not Rated</td>
</tr>
<tr>
<td>Grant, Kathleen J.</td>
<td>4</td>
<td>Not Rated</td>
</tr>
<tr>
<td>Maher, Thomas D., Jr.</td>
<td>102</td>
<td>Not Rated</td>
</tr>
<tr>
<td>Navid, Forozan</td>
<td>14</td>
<td>Not Rated</td>
</tr>
<tr>
<td>Park, Sang B.</td>
<td>11</td>
<td>Not Rated</td>
</tr>
<tr>
<td>Pellegrini, Ronald V.</td>
<td>8</td>
<td>Not Rated</td>
</tr>
<tr>
<td>Ruiz, Victor</td>
<td>21</td>
<td>Not Rated</td>
</tr>
<tr>
<td>Sortino, Antonio</td>
<td>14</td>
<td>Not Rated</td>
</tr>
<tr>
<td>Wei, Lawrence M.</td>
<td>27</td>
<td>Not Rated</td>
</tr>
<tr>
<td>Woelfel, George F., Jr.</td>
<td>296</td>
<td>Not Rated</td>
</tr>
<tr>
<td>Yoon, Pyongsoo D.</td>
<td>99</td>
<td>Not Rated</td>
</tr>
</tbody>
</table>

KEY

* Actual Mortality significantly higher than Expected
○ Actual Mortality significantly lower than Expected
2,3,4 Number of Hospitals where Surgeon Performed CABG

Actual Mortality Rate
Range of Expected Mortality
FIGURE 3A: Actual to Expected Mortality, by Cardiac Surgeon, 1994-1995

Saint Francis Medical Center 1,210

Agster, Bruce E. 53
Barmada, Bicher 33
Bennett, Robert D. 5
Culig, Michael H. 1
Di Marco, David B. 42
Gardner, Robert S. 8
Haan, Constance K. 49
Klay, John Whitaker 30
Lerberg, David B. 1
Lima, Claudio A. B. 1
Machiraju, Venkat Ratnam 4
Maher, Thomas D., Jr. 211
Navid, Forozan 65
Palanisamy, Subramaniam 86
Park, Sang B. 267
Rahbar, Ahmad 15
Ruiz, Victor 135
Senan, Pushpendra 119
Shackelford, Howard 1
Stept, Larry L. 53
Yoon, Pyongsoo D. 31

KEY

- Actual Mortality significantly higher than Expected
- Actual Mortality significantly lower than Expected
- Range of Expected Mortality
- Number of Hospitals where Surgeon Performed CABG
- Actual Mortality Rate

2,3,4
FIGURE 3A: Actual to Expected Mortality, by Cardiac Surgeon, 1994-1995

**Saint Vincent Health Center**

- Comp, Scott J. 896 cases, 63 actual, 60 expected, **Not Rated**
- Fitzgibbon, Leo 242 cases, 60 actual, 60 expected, **Not Rated**
- George, Jacob 242 cases, 6 actual, 6 expected, **Not Rated**
- Long, Richard W. 283 cases, 6 actual, 6 expected, **Not Rated**
- Lyons, Gary W. 6 cases, 6 actual, 6 expected, **Not Rated**
- Pett, Stephen D. 242 cases, 6 actual, 6 expected, **Not Rated**

**Shadyside Hospital**

- Bennett, Robert D. 3 2034 cases, 181 actual, 181 expected, **Not Rated**
- Chen, Robert F. 2 18 cases, 18 actual, 18 expected, **Not Rated**
- Culig, Michael H. 2 235 cases, 54 actual, 54 expected, **Not Rated**
- Gardner, Robert S. 3 8 cases, 8 actual, 8 expected, **Not Rated**
- Hong-Barco, Pablo 1 115 cases, 115 actual, 115 expected, **Not Rated**
- Klay, John Whitaker 3 54 cases, 54 actual, 54 expected, **Not Rated**
- Lerberg, David B. 3 142 cases, 142 actual, 142 expected, **Not Rated**
- Lima, Claudio A. B. 3 253 cases, 253 actual, 253 expected, **Not Rated**
- Lolley, David M. 2 1 cases, 1 actual, 1 expected, **Not Rated**
- Machiraju, Venkat Ratnam 3 393 cases, 393 actual, 393 expected, **Not Rated**
- Samadani, Siroos R. 2 261 cases, 261 actual, 261 expected, **Not Rated**
- Santos, Arthur M. 1 1 cases, 1 actual, 1 expected, **Not Rated**
- Stept, Larry L. 3 59 cases, 59 actual, 59 expected, **Not Rated**
- Sullivan, Lawrence X., Jr. 2 313 cases, 313 actual, 313 expected, **Not Rated**

**KEY**

* Actual Mortality significantly higher than Expected
○ Actual Mortality significantly lower than Expected
2,3,4 Number of Hospitals where Surgeon Performed CABG

• Actual Mortality Rate
☐ Range of Expected Mortality
FIGURE 3A: Actual to Expected Mortality, by Cardiac Surgeon, 1994-1995

University of Pittsburgh Medical Center
615
- Armitage, John M. 29
- Griffith, Bartley P. 178
- * Hardesty, Robert L. 31
- * Hattler, Brack G. 125
- Kormos, Robert 82
- Pellegrini, Ronald V. 46
- Pham, Si 15
- Wei, Lawrence M. 109

Washington Hospital
447
- Darrell, John C. 3 68
- Davliakos, George P. 3 25
- DiMarco, Ross F., Jr. 3 10
- Grant, Kathleen J. 3 29
- Pellegrini, Ronald V. 4 21
- Sortino, Antonio 3 228
- Wei, Lawrence M. 4 65
- Woelfel, George F., Jr. 3 1

* Actual Mortality significantly higher than Expected
° Actual Mortality significantly lower than Expected
2,3,4 Number of Hospitals where Surgeon Performed CABG

KEY
* Actual Mortality significantly higher than Expected
° Actual Mortality significantly lower than Expected
2,3,4 Number of Hospitals where Surgeon Performed CABG

Actual Mortality Rate
Range of Expected Mortality
FIGURE 3A: Actual to Expected Mortality, by Cardiac Surgeon, 1994-1995

Western Pennsylvania Hospital

<table>
<thead>
<tr>
<th>Surgeon</th>
<th># Cases</th>
<th>1,854</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barmada, Bicher</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Bennett, Robert D.</td>
<td>212</td>
<td></td>
</tr>
<tr>
<td>Chen, Robert F.</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Culig, Michael H.</td>
<td>237</td>
<td></td>
</tr>
<tr>
<td>Di Marco, David B.</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>Gardner, Robert S.</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>Haan, Constance K.</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Klay, John Whitaker</td>
<td>152</td>
<td></td>
</tr>
<tr>
<td>* Lerberg, David B.</td>
<td>195</td>
<td></td>
</tr>
<tr>
<td>Lima, Claudio A. B.</td>
<td>186</td>
<td></td>
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<tr>
<td>Lolley, David M.</td>
<td>129</td>
<td></td>
</tr>
<tr>
<td>Machiraju, Venkat Ratnam</td>
<td>111</td>
<td></td>
</tr>
<tr>
<td>Marrone, Gary C.</td>
<td>85</td>
<td></td>
</tr>
<tr>
<td>Palanisamy, Subramaniam</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>Rea, Franco R.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>* Robinson, John N.</td>
<td>71</td>
<td></td>
</tr>
<tr>
<td>Samadani, Siroos R.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Senan, Pushpendra</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>* Stept, Larry L.</td>
<td>86</td>
<td></td>
</tr>
<tr>
<td>* Sullivan, Lawrence X., Jr.</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>Tzeng, James</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Weinstein, Gerald S.</td>
<td>214</td>
<td></td>
</tr>
</tbody>
</table>

KEY
* Actual Mortality significantly higher than Expected
○ Actual Mortality significantly lower than Expected
2,3,4 Number of Hospitals where Surgeon Performed CABG

Actual Mortality Rate
Range of Expected Mortality
FIGURE 3A: Actual to Expected Mortality, by Cardiac Surgeon, 1994-1995

Westmoreland Regional Hospital

<table>
<thead>
<tr>
<th>Surgeon</th>
<th># Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardesty, Robert L.</td>
<td>370</td>
</tr>
<tr>
<td>Hattler, Brack G.</td>
<td>8</td>
</tr>
<tr>
<td>Hellman, Arthur</td>
<td>44</td>
</tr>
<tr>
<td>Payne, Dale N.</td>
<td>315</td>
</tr>
</tbody>
</table>

KEY

* Actual Mortality significantly higher than Expected
○ Actual Mortality significantly lower than Expected

Number of Hospitals where Surgeon Performed CABG

Actual Mortality Rate
Range of Expected Mortality

2,3,4

Not Rated
FIGURE 3B: Actual to Expected Mortality, by Cardiac Surgeon, 1994-1995

CENTRAL AND NORTHEASTERN PENNSYLVANIA

Altoona Hospital 853
   Anastasi, John S. 417
   Fazi, Burt 436

Conemaugh Valley Memorial Hospital 831
   Devineni, Rajsekhar 475
   Kolff, Jacob 356

Geisinger Medical Center /Danville 816
   Benoit, Charles H. 159
   Dietl, Charles Albert 194
   Gilbert, Christian L. 166
   Pharr, William F. 90
   Woods, Edward Lawson 207

KEY
* Actual Mortality significantly higher than Expected
° Actual Mortality significantly lower than Expected
2,3,4 Number of Hospitals where Surgeon Performed CABG

- Actual Mortality Rate
- Range of Expected Mortality
FIGURE 3B: Actual to Expected Mortality, by Cardiac Surgeon, 1994-1995

Harrisburg Hospital

Boylston, Bedford F.  
Hart, James C.  
Iams, William B.  
Jorge, Eduardo  
Judson, John P.  
Keagy, Gregory S.  
McCarty, Christine M.  
* Pennock, John L.  
Shaffer, Carolyn W.  
Travisano, Frank J.  
Wisman, Craig B.  

# CASES 1,028

# CASES

Lancaster General Hospital

Bonchek, Lawrence I.  
Burlingame, Mark W.  
Lundy, Edward F.  
° Vazales, Brad E.  

# CASES 1,018

# CASES

Mercy Hospital /Scranton

Hamzavi, Siamak A.  
Koch, Lear Von  
Wilcox, Kenneth R.  

# CASES 842

# CASES

KEY

* Actual Mortality significantly higher than Expected  
° Actual Mortality significantly lower than Expected  
2,3,4 Number of Hospitals where Surgeon Performed CABG  

Actual Mortality Rate  
Range of Expected Mortality
FIGURE 3B: Actual to Expected Mortality, by Cardiac Surgeon, 1994-1995

**Penn State University Hospital /Hershey**

* Aufiero, Thomas X.
  - 472 cases
  - Actual Mortality significantly higher than Expected
  - Actual Mortality Rate

Campbell, David B.
  - 80 cases
  - Actual Mortality significantly lower than Expected

Kupferschmid, John P.
  - 114 cases
  - Range of Expected Mortality

Pae, Walter E., Jr.
  - 3 cases
  - Not Rated

Pierce, William S.
  - 121 cases
  - Range of Expected Mortality

  - 154 cases
  - Range of Expected Mortality

**Polyclinic Medical Center**

Boylston, Bedford F.
  - 1,188 cases
  - Number of Hospitals where Surgeon Performed CABG

Hart, James C.
  - 261 cases
  - Not Rated

Iams, William B.
  - 65 cases
  - Not Rated

Jorge, Eduardo
  - 16 cases
  - Not Rated

Judson, John P.
  - 40 cases
  - Not Rated

Keagy, Gregory S.
  - 46 cases
  - Not Rated

McCarty, Christine M.
  - 260 cases
  - Not Rated

Pennock, John L.
  - 32 cases
  - Not Rated

Shaffer, Carolyn W.
  - 308 cases
  - Not Rated

Travisano, Frank J.
  - 28 cases
  - Not Rated

Wisman, Craig B.
  - 106 cases
  - Not Rated

---

**KEY**

* Actual Mortality significantly higher than Expected
○ Actual Mortality significantly lower than Expected
2,3,4 Number of Hospitals where Surgeon Performed CABG

Actual Mortality Rate
Range of Expected Mortality
FIGURE 3B: Actual to Expected Mortality, by Cardiac Surgeon, 1994-1995

**Robert Packer Hospital**

- Barrett, Peter W.  2
- McGovern, Thomas Michael
- Quigley, Robert L.
- Reitknecht, Felice L.

### # CASES

<table>
<thead>
<tr>
<th>Surgeon</th>
<th># Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barrett, Peter W.</td>
<td>76</td>
</tr>
<tr>
<td>McGovern, Thomas M.</td>
<td>134</td>
</tr>
<tr>
<td>Quigley, Robert L.</td>
<td>37</td>
</tr>
<tr>
<td>Reitknecht, Felice L.</td>
<td>340</td>
</tr>
</tbody>
</table>

**Saint Joseph Hospital, Inc. /Lancaster**

- Duda, Andrew M.
- Zadeh, Barry J.

### # CASES

<table>
<thead>
<tr>
<th>Surgeon</th>
<th># Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duda, Andrew M.</td>
<td>79</td>
</tr>
<tr>
<td>Zadeh, Barry J.</td>
<td>163</td>
</tr>
</tbody>
</table>

**Wilkes-Barre General Hospital /WVHCS**

- Cimochowski, George E.
- Foldes, Peter J.
- Fried, Robert Thomas  2
- Harostock, Michael D.
- Sharma, Ramesh

### # CASES

<table>
<thead>
<tr>
<th>Surgeon</th>
<th># Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cimochowski, George E.</td>
<td>322</td>
</tr>
<tr>
<td>Foldes, Peter J.</td>
<td>205</td>
</tr>
<tr>
<td>Fried, Robert Thomas</td>
<td>38</td>
</tr>
<tr>
<td>Harostock, Michael D.</td>
<td>414</td>
</tr>
<tr>
<td>Sharma, Ramesh</td>
<td>28</td>
</tr>
</tbody>
</table>

**KEY**

- * Actual Mortality significantly higher than Expected
- ○ Actual Mortality significantly lower than Expected
- Number of Hospitals where Surgeon Performed CABG
- Actual Mortality Rate
- Range of Expected Mortality

---

34
FIGURE 3B: Actual to Expected Mortality, by Cardiac Surgeon, 1994-1995

**Williamsport Hospital & Medical Center**
- Cardwell, Robert J.
- Hanan, Scott A.
- Illes, Richard W. *

**York Hospital**
- Fried, Robert Thomas *
- Haupt, Hans M.
- * Illes, Richard W.*
- Levin, Bradley H.
- ° Mathai, John M.
- Zama, Nche

### # CASES

**Williamsport Hospital & Medical Center**
- 331
- 71
- 51
- 209

**York Hospital**
- 1,300
- 314
- 67
- 35
- 428
- 439
- 17

### KEY
- * Actual Mortality significantly higher than Expected
- ° Actual Mortality significantly lower than Expected
- Number of Hospitals where Surgeon Performed CABG
- # Actual Mortality Rate
- Range of Expected Mortality

---

Risk-Adjusted In-hospital Mortality Outcomes
FIGURE 3C: Actual to Expected Mortality, by Cardiac Surgeon, 1994-1995

SOUTHEASTERN PENNSYLVANIA

* Albert Einstein Medical Center
  Ablaza, Sariel G. ²
  Adkins, Mark
* Cavarocchi, Nicholas C. ²
  Connolly, Mark W.
* Ghosh, Suresh C.
  Grana, Vicente P.
* Larrieu, Alberto J.
  Levine, Frederick Hugh
  Weiss, Steven J.

° Bryn Mawr Hospital
  Boova, Robert S.
  Davis, Paul K.
  Plzak, Louis F., Jr. ³

# CASES

KEY

* Actual Mortality significantly higher than Expected
○ Actual Mortality significantly lower than Expected
²,³,⁴ Number of Hospitals where Surgeon Performed CABG

● Actual Mortality Rate

Range of Expected Mortality
FIGURE 3C: Actual to Expected Mortality, by Cardiac Surgeon, 1994-1995

**Crozer-Chester Medical Center**

<table>
<thead>
<tr>
<th>Surgeon</th>
<th># Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brockman, Stanley K.</td>
<td>386</td>
</tr>
<tr>
<td>Figueroa, Peter R.</td>
<td>9</td>
</tr>
<tr>
<td>Grunewald, Karl E.</td>
<td>329</td>
</tr>
<tr>
<td>* Kuretu, M. L. Ray</td>
<td>36</td>
</tr>
<tr>
<td>Samuels, Louis E.</td>
<td>2</td>
</tr>
<tr>
<td>Solomon-Seto, Lynn</td>
<td>7</td>
</tr>
<tr>
<td>Strong, Michael D., III</td>
<td>1</td>
</tr>
<tr>
<td>Tomasello, Donald N.</td>
<td>1</td>
</tr>
</tbody>
</table>

**Easton Hospital**

<table>
<thead>
<tr>
<th>Surgeon</th>
<th># Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barrett, Peter W.</td>
<td>262</td>
</tr>
<tr>
<td>Morgan, Richard J.</td>
<td>197</td>
</tr>
</tbody>
</table>

**KEY**

- * Actual Mortality significantly higher than Expected
- Actual Mortality Rate
- Actual Mortality significantly lower than Expected
- Range of Expected Mortality
- Number of Hospitals where Surgeon Performed CABG

2,3,4
FIGURE 3C: Actual to Expected Mortality, by Cardiac Surgeon, 1994-1995

* Episcopal Hospital
   Ahmad, Imtiaz
   Beatty, Albert C., Jr.
   Carter, Craig Steven
   Deshpande, Anil S. ²
   Figueroa, Peter R. ²
   Olearchyk, Andrew S.
   Seto, Robb S.
   * Shariff, Haji M. ²
   Sherafat, Mostafa

* Graduate Hospital
   Goldenberg, Marc R. ²
   Hendren, William G.
   Plzak, Louis F., Jr. ³
   * Woody, Daniel J. ²

KEY
* Actual Mortality significantly higher than Expected
○ Actual Mortality significantly lower than Expected
²,³,⁴ Number of Hospitals where Surgeon Performed CABG
# CASES

0% 2% 4% 6% 8% 10% 12%

0 6 1 21 102 79 19 9 84 1

0 540 125 281 46 88
FIGURE 3C: Actual to Expected Mortality, by Cardiac Surgeon, 1994-1995

Hahnemann University Hospital

2,331 cases

- Alpern, Jeffrey B. 2
- * Brockman, Stanley K. 2
- Goel, Inder P.
- Grunewald, Karl E. 2
- Kuretu, M. L. Ray 2
- Maquilan, Jose March
- Morris, Rohinton J.
- * Samuels, Louis E. 2
- Strong, Michael D., III 2

Hospital of the University of PA

714 cases

- Acker, Michael A.
- Bavaria, Joseph E.
- * Edmunds, L. Henry, Jr.
- Gardner, Timothy J.
- Rosengard, Bruce

KEY

* Actual Mortality significantly higher than Expected
○ Actual Mortality significantly lower than Expected
2 Number of Hospitals where Surgeon Performed CABG
3,4 Range of Expected Mortality

Actual Mortality Rate
FIGURE 3C: Actual to Expected Mortality, by Cardiac Surgeon, 1994-1995

**Lankenau Hospital**
- Casey, Kevin: 269 cases
- Goldman, Scott M.: 285 cases
- Priest, Brian: 200 cases
- Sutter, Francis P.: 372 cases
- Tomasello, Donald N.: 369 cases
- Whitlark, Joseph: 7 cases

**Lehigh Valley Hospital**
- Gordon, David A.: 266 cases
- Jafari, Nercy: 9 cases
- Khindri, Chetan D.: 2 cases
- Phillips, Theodore G.: 286 cases
- Sadr, Farrokh S.: 242 cases
- Sinclair, Michael C.: 254 cases
- Singer, Raymond L.: 239 cases
- Toonder, F. Geoffrey: 41 cases
- Yeisley, Geary L.: 318 cases

**KEY**
- *: Actual Mortality significantly higher than Expected
- ○: Actual Mortality significantly lower than Expected
- 2,3,4: Number of Hospitals where Surgeon Performed CABG
- •: Actual Mortality Rate
- □: Range of Expected Mortality
FIGURE 3C: Actual to Expected Mortality, by Cardiac Surgeon, 1994-1995

**Medical College Hosp /Main Campus**
- Ablaza, Sariel G. ²
- Deshpande, Anil S. ²
- DiSesa, Verdi J.
- Shariff, Haji M. ²
- Whitman, Glenn J.

**Pennsylvania Hospital**
- Diehl, James T.
- Dresdale, Arthur R.
- Edie, Richard N. ²
- Hargrove, W. Clark, III ²

**Presbyterian Med Ctr Univ of PA Hlth Sys**
- Blackwell, Ray
- Hargrove, W. Clark, III ²
- Johnson, David Lee
- Pelias, Anastasios J.
- Sink, James D.

**KEY**
- * Actual Mortality significantly higher than Expected
- o Actual Mortality significantly lower than Expected
- ²,3,4 Number of Hospitals where Surgeon Performed CABG
- # CASES
- • Actual Mortality Rate
- - Range of Expected Mortality
FIGURE 3C: Actual to Expected Mortality, by Cardiac Surgeon, 1994-1995

Reading Hospital and Medical Center

- Fall, Stephen: 6 cases, Not Rated
- Feaster, Marshall M.: 249 cases
- Gregory, George W., III: 261 cases
- Lough, Frederick C.: 252 cases
- Nutting, Ron D.: 258 cases

Saint Joseph Medical Center /Reading

- Howanitz, E. Paul: 233 cases
- Villars, J. Frederick: 135 cases

St. Luke’s Hospital of Bethlehem

- Alpern, Jeffrey B.: 184 cases
- Angelico, Richard J.: 40 cases
- Cavarocchi, Nicholas C.: 142 cases
- Hoffman, William S.: 204 cases
- Kline, Gary: 45 cases
- Themann, Terrill E.: 264 cases

KEY

* Actual Mortality significantly higher than Expected
○ Actual Mortality significantly lower than Expected
2,3,4 Number of Hospitals where Surgeon Performed CABG

- Actual Mortality Rate
- Range of Expected Mortality
FIGURE 3C: Actual to Expected Mortality, by Cardiac Surgeon, 1994-1995

**Temple University Hospital**

- Addonizio, V. Paul: 275 cases
- Furukawa, Satoshi: 143 cases
- Jeevanandam, Valluvan: 186 cases
- McClurken, James B.: 173 cases

**Thomas Jefferson University Hospital**

- Armenti, Frederick: 15 cases
- Carter, Thomas L., Jr.: 122 cases
- Edie, Richard N.: 218 cases
- Goldenberg, Marc R.: 8 cases
- Mannion, John D.: 228 cases
- Plzak, Louis F., Jr.: 30 cases
- Woody, Daniel J.: 23 cases

**KEY**

- *: Actual Mortality significantly higher than Expected
- o: Actual Mortality significantly lower than Expected
- #: Number of Hospitals where Surgeon Performed CABG
- #: Number of Cases
- Not Rated
- Range of Expected Mortality

- Actual Mortality Rate
Risk-Adjusted (Post-Surgical) Length of Stay

Health Plans

Hospitals
FIGURE 4: Actual to Expected (Post-Surgical) Length of Stay, by Health Plan, 1994-1995

**MEDICARE PLANS**

*Medicare Fee for Service*  
Medicare Fee for Service  
# CASES  
18,404

**Medicare HMO Contracts**

° Geisinger Health Plan - Central  
49

Greater Atlantic Health Service  
39

* Keystone East  
205

Keystone West  
47

U.S. Healthcare  
438

**MEDICAID PLANS**

*Medicaid Fee for Service*  
Medicaid Fee for Service  
# CASES  
1,190

*Medicaid HMO Contracts* — There were 9 HMO plans that were the primary payor for Medicaid CABG cases in 1994-95; none had 30 or more cases and so are not reported.

☑ Includes only Medicare patients

**KEY**

* Actual Length of Stay significantly higher than Expected  
° Actual Length of Stay significantly lower than Expected  
● Actual Length of Stay  
☐ Range of Expected Length of Stay
FIGURE 4: Actual to Expected (Post-Surgical) Length of Stay, by Health Plan, 1994-1995

**FEE FOR SERVICE**

*Blue Cross Companies*
- *Blue Cross of Northeast PA*: 680 cases
- *Blue Cross of Western PA*: 2,687 cases
- ° Capital Blue Cross: 1,944 cases
- Independence Blue Cross: 1,222 cases

*Commercial Insurance Companies*
- Aetna: 346 cases
- CIGNA: 98 cases
- ° Educators Mutual: 35 cases
- Guardian Life: 30 cases
- ° John Hancock: 47 cases
- Metropolitan: 176 cases
- Provident: 42 cases
- Prudential: 221 cases
- Travelers: 144 cases

**KEY**
- * Actual Length of Stay significantly higher than Expected
- ° Actual Length of Stay significantly lower than Expected
- • Actual Length of Stay
- Range of Expected Length of Stay
FIGURE 4: Actual to Expected (Post-Surgical) Length of Stay, by Health Plan, 1994-1995

LICENSED HMO PLANS

Aetna Central & Eastern PA 80
Aetna Western PA 31
Central Medical 89
CIGNA Healthcare of PA 46
° Geisinger Health Plan 180
° Greater Atlantic Health Service 33
° HealthAmerica PA 383
° HealthGuard of Lancaster 58
* HMO of Northeastern PA 82
° Keystone Central 151
Keystone East 352
Keystone West 214
Prudential Health Care Plan 82
* U.S. Healthcare 825

KEY
* Actual Length of Stay significantly higher than Expected
° Actual Length of Stay significantly lower than Expected

Does not include Medicare or Medicaid patients
FIGURE 5A: Actual to Expected (Post-Surgical) Length of Stay, by Hospital, 1994-1995

WESTERN PENNSYLVANIA

* Allegheny General Hospital 1,783
* Hamot Medical Center 984
   Medical Center, Beaver, PA, Inc 336
* Mercy Hospital of Pittsburgh 1,588
° Saint Francis Central Hospital 606
   Saint Francis Medical Center 1,166
* Saint Vincent Health Center 846
   Shadyside Hospital 1,964
° University of Pittsburgh Medical Center 563
* Washington Hospital 428
° Western Pennsylvania Hospital 1,774
   Westmoreland Regional Hospital 348

KEY

* Actual Length of Stay significantly higher than Expected
° Actual Length of Stay significantly lower than Expected

Actual Length of Stay
Range of Expected Length of Stay
FIGURE 5B: Actual to Expected (Post-Surgical) Length of Stay, by Hospital, 1994-1995

CENTRAL & NORTHEASTERN PENNSYLVANIA

- Altoona Hospital 837
- Conemaugh Valley Memorial Hospital 805
- Geisinger Medical Center /Danville 788
- Harrisburg Hospital 978
- Lancaster General Hospital 968
- Mercy Hospital /Scranton 803
- Penn State University Hospital /Hershey 460
- Polyclinic Medical Center 1,134
- Robert Packer Hospital 567
- Saint Joseph Hospital, Inc. /Lancaster 232
- Wilkes-Barre General Hospital /WVHCS 962
- Williamsport Hospital & Medical Center 318
- York Hospital 1,268

KEY

* Actual Length of Stay significantly higher than Expected
○ Actual Length of Stay significantly lower than Expected
● Actual Length of Stay
□ Range of Expected Length of Stay
FIGURE 5C: Actual to Expected (Post-Surgical) Length of Stay, by Hospital, 1994-1995

SOUTHEASTERN PENNSYLVANIA

- Albert Einstein Medical Center: 957 cases
- Bryn Mawr Hospital: 676 cases
- Crozer-Chester Medical Center: 370 cases
- Easton Hospital: 246 cases
- Episcopal Hospital: 293 cases
- Graduate Hospital: 498 cases
- Hahnemann University Hospital: 2,185 cases
- Hospital of the University of PA: 672 cases
- Lankenau Hospital: 1,407 cases
- Lehigh Valley Hospital: 1,601 cases
- Medical College Hosp /Main Campus: 477 cases
- Pennsylvania Hospital: 319 cases
- Presbyterian Med Ctr Univ of PA Hlth System: 1,067 cases
- Reading Hospital and Medical Center: 984 cases
- Saint Joseph Medical Center /Reading: 351 cases
- St. Luke’s Hospital of Bethlehem: 835 cases
- Temple University Hospital: 719 cases
- Thomas Jefferson University Hospital: 609 cases

KEY

- * Actual Length of Stay significantly higher than Expected
- ° Actual Length of Stay significantly lower than Expected
- • Actual Length of Stay
- Range of Expected Length of Stay
Pennsylvania's Guide to Coronary Artery Bypass Graft Surgery
Hospital Average Charges
FIGURE 6: Average Charges, by Hospital, 1994-1995
FIGURE 6: Average Charges, by Hospital, 1994-1995

- Allegheny General Hospital: $50,034
- Saint Francis Medical Center: $50,212
- Hamot Medical Center: $51,282
- Westmoreland Regional Hospital: $52,204
- Conemaugh Valley Memorial Hospital: $53,024
- Saint Vincent Health Center: $53,285
- Washington Hospital: $55,328
- Western Pennsylvania Hospital: $56,623
- Lankenau Hospital: $60,303
- Bryn Mawr Hospital: $60,374
- Episcopal Hospital: $61,132
- Shadyside Hospital: $61,874
- Thomas Jefferson University Hospital: $65,171
- Pennsylvania Hospital: $66,654
- University of Pittsburgh Medical Center: $76,936
- Hahnemann University Hospital: $77,115
- Albert Einstein Medical Center: $78,505
- Medical College Hosp/Main Campus: $78,828
- Hospital of the University of PA: $85,363
- Temple University Hospital: $88,995
- Crozer-Chester Medical Center: $90,504
- Graduate Hospital: $105,853
Pennsylvania's Guide to Coronary Artery Bypass Graft Surgery
Percent of Health Plan CABG Cases by Hospital
### TABLE 1: Percent of Health Plan CABG Cases, by Hospital, 1994-1995

<table>
<thead>
<tr>
<th>Hospital</th>
<th># CASES</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MEDICARE - FEE FOR SERVICE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allegheny General Hospital</td>
<td>1,077</td>
<td>5.5%</td>
</tr>
<tr>
<td>Shadyside Hospital</td>
<td>1,059</td>
<td>5.4%</td>
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<tr>
<td>Western Pennsylvania Hospital</td>
<td>1,029</td>
<td>5.2%</td>
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<tr>
<td>Mercy Hospital of Pittsburgh</td>
<td>1,024</td>
<td>5.2%</td>
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<td>Lehigh Valley Hospital</td>
<td>870</td>
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<td>826</td>
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<td>802</td>
<td>4.1%</td>
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<td>671</td>
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<td>Polyclinic Medical Center</td>
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<td>Reading Hospital and Medical Center</td>
<td>591</td>
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<td>564</td>
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<td>542</td>
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<tr>
<td>Saint Vincent Hospital</td>
<td>533</td>
<td>2.7%</td>
</tr>
<tr>
<td>Wilkes-Barre General Hospital/WVHCS</td>
<td>533</td>
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<tr>
<td>Conemaugh Valley Memorial Hospital</td>
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<td>510</td>
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<td>Mercy Hospital/Scranton</td>
<td>486</td>
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<tr>
<td>St. Luke’s Hospital of Bethlehem</td>
<td>483</td>
<td>2.5%</td>
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<td>437</td>
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<td>362</td>
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<tr>
<td>Other hospitals</td>
<td>4,890</td>
<td>24.9%</td>
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<td><strong>MEDICARE HMO CONTRACTS</strong></td>
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<td>Geisinger Health Plan - Central</td>
<td>50</td>
<td>100%</td>
</tr>
<tr>
<td>Geisinger Medical Center/Danville</td>
<td>50</td>
<td>100%</td>
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<td><strong>GREATER ATLANTIC HEALTH SERVICE</strong></td>
<td>43</td>
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<td>Graduate Hospital</td>
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<tr>
<td>Other hospitals</td>
<td>4</td>
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<tr>
<td><strong>KEYSTONE EAST</strong></td>
<td>217</td>
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<tr>
<td>Hahnemann University Hospital</td>
<td>51</td>
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<tr>
<td>Albert Einstein Medical Center</td>
<td>31</td>
<td>14.3%</td>
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<tr>
<td>Lankenau Hospital</td>
<td>24</td>
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<tr>
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<td>21</td>
<td>9.7%</td>
</tr>
<tr>
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<tr>
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<td>45</td>
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<td><strong>KEYSTONE WEST</strong></td>
<td>48</td>
<td>100%</td>
</tr>
<tr>
<td>Shadyside Hospital</td>
<td>10</td>
<td>20.8%</td>
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</tr>
<tr>
<td>University of Pittsburgh Medical Center</td>
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<td>12.5%</td>
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<tr>
<td>Western Pennsylvania Hospital</td>
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<tr>
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<td><strong>U.S. HEALTHCARE</strong></td>
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</tr>
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<td>Hahnemann University Hospital</td>
<td>133</td>
<td>28.5%</td>
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<td>46</td>
<td>9.9%</td>
</tr>
<tr>
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<td>37</td>
<td>7.9%</td>
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<tr>
<td>Lankenau Hospital</td>
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<tr>
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<td>6.9%</td>
</tr>
<tr>
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<td>25</td>
<td>5.4%</td>
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<td>Bryn Mawr Hospital</td>
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<td>Saint Francis Medical Center</td>
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<tr>
<td>Graduate Hospital</td>
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<td>3.2%</td>
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<tr>
<td>St. Luke’s Hospital of Bethlehem</td>
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<tr>
<td>Other hospitals</td>
<td>94</td>
<td>20.2%</td>
</tr>
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<td><strong>MEDICAID - FEE FOR SERVICE</strong></td>
<td>1,236</td>
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<tr>
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<td>Wilkes-Barre General Hospital/WVHCS</td>
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<td>4.4%</td>
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<td>54</td>
<td>4.4%</td>
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<tr>
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<td>52</td>
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<td>Lehigh Valley Hospital</td>
<td>39</td>
<td>3.2%</td>
</tr>
<tr>
<td>Hamot Medical Center</td>
<td>38</td>
<td>3.1%</td>
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<tr>
<td>Saint Francis Medical Center</td>
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<td>2.9%</td>
</tr>
<tr>
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<td>Lancaster General Hospital</td>
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<td>2.6%</td>
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<td>Mercy Hospital/Scranton</td>
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<td>2.5%</td>
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<td>University of Pittsburgh Medical Center</td>
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</tr>
<tr>
<td>Episcopal Hospital</td>
<td>28</td>
<td>2.3%</td>
</tr>
<tr>
<td>Geisinger Medical Center/Danville</td>
<td>26</td>
<td>2.1%</td>
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<tr>
<td>Saint Vincent Health Center</td>
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<td>2.1%</td>
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<tr>
<td>Other hospitals</td>
<td>284</td>
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<td><strong>FEE FOR SERVICE PLANS</strong></td>
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</tr>
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</tr>
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<td>11.2%</td>
</tr>
<tr>
<td>Robert Packer Hospital</td>
<td>55</td>
<td>7.9%</td>
</tr>
<tr>
<td>St. Luke’s Hospital of Bethlehem</td>
<td>54</td>
<td>7.8%</td>
</tr>
<tr>
<td>Williamsport Hospital &amp; Med Center</td>
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<td>7.8%</td>
</tr>
<tr>
<td>Other hospitals</td>
<td>73</td>
<td>10.5%</td>
</tr>
</tbody>
</table>

* Percentages may not add to 100% due to rounding
### TABLE 1: Percent of Health Plan CABG Cases, by Hospital, 1994-1995

<table>
<thead>
<tr>
<th>Hospital/Medical Center</th>
<th># Cases</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BLUE CROSS OF WESTERN PA</strong></td>
<td>2,748</td>
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</tr>
<tr>
<td>Allegheny General Hospital</td>
<td>390</td>
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<tr>
<td>Shadyside Hospital</td>
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<tr>
<td>Mercy Hospital of Pittsburgh</td>
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<td>11.5%</td>
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<tr>
<td>Western Pennsylvania Hospital</td>
<td>300</td>
<td>10.9%</td>
</tr>
<tr>
<td>Hamot Medical Center</td>
<td>210</td>
<td>7.6%</td>
</tr>
<tr>
<td>Saint Francis Medical Center</td>
<td>202</td>
<td>7.4%</td>
</tr>
<tr>
<td>Saint Vincent Health Center</td>
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<tr>
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</tr>
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<tr>
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<tr>
<td>Harrisburg Hospital</td>
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<tr>
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<tr>
<td>University of Pittsburgh Medical Center</td>
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<tr>
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<tr>
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<tr>
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</tr>
<tr>
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<td>2</td>
<td>4.2%</td>
</tr>
<tr>
<td>Mercy Hospital /Scranton</td>
<td>2</td>
<td>4.2%</td>
</tr>
<tr>
<td>St. Luke’s Hospital of Bethlehem</td>
<td>2</td>
<td>4.2%</td>
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<tr>
<td>Temple University Hospital</td>
<td>2</td>
<td>4.2%</td>
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<tr>
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<td>7.9%</td>
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<td>7.3%</td>
</tr>
<tr>
<td>Robert Packer Hospital</td>
<td>12</td>
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<tr>
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<td>6.8%</td>
</tr>
<tr>
<td>Western Pennsylvania Hospital</td>
<td>10</td>
<td>5.6%</td>
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<tr>
<td>Mercy Hospital of Pittsburgh</td>
<td>9</td>
<td>5.1%</td>
</tr>
<tr>
<td>Temple University Hospital</td>
<td>7</td>
<td>4.0%</td>
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<tr>
<td>Hamot Medical Center</td>
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<tr>
<td>Lankenau Hospital</td>
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<td>2.3%</td>
</tr>
<tr>
<td>Thomas Jefferson Univ Hospital</td>
<td>4</td>
<td>2.3%</td>
</tr>
<tr>
<td>Wilkes-Barre General Hospital /WVHCS</td>
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<tr>
<td>Other hospitals</td>
<td>38</td>
<td>21.5%</td>
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</tbody>
</table>

* Percentages may not add to 100% due to rounding*
TABLE 1: Percent of Health Plan CABG Cases, by Hospital, 1994-1995

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<th>Hospital</th>
<th># CASES</th>
<th>%</th>
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<td>14.3%</td>
</tr>
<tr>
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<td>9.5%</td>
</tr>
<tr>
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<td>7.1%</td>
</tr>
<tr>
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<td>3</td>
<td>7.1%</td>
</tr>
<tr>
<td>York Hospital</td>
<td>3</td>
<td>7.1%</td>
</tr>
<tr>
<td>Allegheny General Hospital</td>
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<td>4.8%</td>
</tr>
<tr>
<td>Hospital of the University of PA</td>
<td>2</td>
<td>4.8%</td>
</tr>
<tr>
<td>Other hospitals</td>
<td>7</td>
<td>16.7%</td>
</tr>
<tr>
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<td>225</td>
<td>100%</td>
</tr>
<tr>
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<tr>
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<td>17</td>
<td>7.6%</td>
</tr>
<tr>
<td>Harrisburg Hospital</td>
<td>13</td>
<td>5.8%</td>
</tr>
<tr>
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<td>13</td>
<td>5.8%</td>
</tr>
<tr>
<td>York Hospital</td>
<td>11</td>
<td>4.9%</td>
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<tr>
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<td>4.4%</td>
</tr>
<tr>
<td>Lankenau Hospital</td>
<td>9</td>
<td>4.0%</td>
</tr>
<tr>
<td>Hahnemann University Hospital</td>
<td>8</td>
<td>3.6%</td>
</tr>
<tr>
<td>Penn State University Hospital /Hershey</td>
<td>8</td>
<td>3.6%</td>
</tr>
<tr>
<td>Lancaster General Hospital</td>
<td>7</td>
<td>3.1%</td>
</tr>
<tr>
<td>Medical College Hosp/Main Campus</td>
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<td>3.1%</td>
</tr>
<tr>
<td>Western Pennsylvania Hospital</td>
<td>7</td>
<td>3.1%</td>
</tr>
<tr>
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<tr>
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<td>5</td>
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</tr>
<tr>
<td>Mercy Hospital of Pittsburgh</td>
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<tr>
<td>Pennsylvania Hospital</td>
<td>5</td>
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</tr>
<tr>
<td>St. Luke’s Hospital of Bethlehem</td>
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<tr>
<td>Thomas Jefferson Univ Hospital</td>
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<tr>
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</tr>
<tr>
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<tr>
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<tr>
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<tr>
<td>Mercy Hospital /Scranton</td>
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<td>2.0%</td>
</tr>
<tr>
<td>Robert Packer Hospital</td>
<td>3</td>
<td>2.0%</td>
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<tr>
<td>Wilkes-Barre General Hospital /WVHCS</td>
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<tr>
<td>Other hospitals</td>
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</table>

* Percentages may not add to 100% due to rounding
### Percent of Health Plan CABG Cases by Hospital, 1994-1995

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</tr>
<tr>
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<tr>
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<td>7.8%</td>
</tr>
<tr>
<td>Other hospitals</td>
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<td>18.7%</td>
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</table>

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<tr>
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</tr>
<tr>
<td>Medical College Hosp/Main Campus</td>
<td>27</td>
<td>3.2%</td>
</tr>
<tr>
<td>Thomas Jefferson Univ Hospital</td>
<td>27</td>
<td>3.2%</td>
</tr>
<tr>
<td>Other hospitals</td>
<td>194</td>
<td>23.0%</td>
</tr>
</tbody>
</table>
Volume of Procedures
FIGURE 7A: Number of CABG and Total Open Heart Procedures, by Hospital, 1994-1995

- Hahnemann University Hospital: 3,079
- Shadyside Hospital: 2,474
- Allegheny General Hospital: 2,671
- Western Pennsylvania Hospital: 2,229
- Lehigh Valley Hospital: 2,118
- Mercy Hospital of Pittsburgh: 2,137
- Lankenau Hospital: 2,037
- York Hospital: 1,527
- Saint Francis Medical Center: 1,567
- Polyclinic Medical Center: 1,441
- Presbyterian Med Ctr Univ of PA Hlth Sys: 1,473
- Albert Einstein Medical Center: 1,340
- Hamot Medical Center: 1,332
- Harrisburg Hospital: 1,328
- Reading Hospital and Medical Center: 1,316
- Lancaster General Hospital: 1,475
- Wilkes-Barre General Hospital /WVHCS: 1,214
- Saint Vincent Health Center: 1,110
- St. Luke’s Hospital of Bethlehem: 1,105
- Altoona Hospital: 1,072
- Mercy Hospital /Scranton: 1,158

CABG: dark bars, Other: light bars
FIGURE 7A: Number of CABG and Total Open Heart Procedures, by Hospital, 1994-1995

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Number of Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conemaugh Valley Memorial Hospital</td>
<td>1,121</td>
</tr>
<tr>
<td>Geisinger Medical Center /Danville</td>
<td>1,384</td>
</tr>
<tr>
<td>Temple University Hospital</td>
<td>1,368</td>
</tr>
<tr>
<td>Hospital of the University of PA</td>
<td>1,263</td>
</tr>
<tr>
<td>Bryn Mawr Hospital</td>
<td>892</td>
</tr>
<tr>
<td>Thomas Jefferson University Hospital</td>
<td>967</td>
</tr>
<tr>
<td>Saint Francis Central Hospital</td>
<td>691</td>
</tr>
<tr>
<td>University of Pittsburgh Medical Center</td>
<td>1,191</td>
</tr>
<tr>
<td>Robert Packer Hospital</td>
<td>797</td>
</tr>
<tr>
<td>Graduate Hospital</td>
<td>797</td>
</tr>
<tr>
<td>Medical College Hosp /Main Campus</td>
<td>664</td>
</tr>
<tr>
<td>Penn State University Hospital /Hershey</td>
<td>1,076</td>
</tr>
<tr>
<td>Washington Hospital</td>
<td>491</td>
</tr>
<tr>
<td>Crozer-Chester Medical Center</td>
<td>455</td>
</tr>
<tr>
<td>Westmoreland Regional Hospital</td>
<td>447</td>
</tr>
<tr>
<td>Saint Joseph Medical Center /Reading</td>
<td>423</td>
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<tr>
<td>Medical Center, Beaver, PA, Inc</td>
<td>415</td>
</tr>
<tr>
<td>Pennsylvania Hospital</td>
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</tr>
<tr>
<td>Williamsport Hospital &amp; Medical Center</td>
<td>486</td>
</tr>
<tr>
<td>Episcopal Hospital</td>
<td>417</td>
</tr>
<tr>
<td>Easton Hospital</td>
<td>315</td>
</tr>
<tr>
<td>Saint Joseph Hospital, Inc. /Lancaster</td>
<td>382</td>
</tr>
</tbody>
</table>
FIGURE 7B: Average Number of Total Open Heart Procedures per Cardiac Surgeon, by Hospital, 1994-1995

Conemaugh Valley Memorial Hospital: 561
Altoona Hospital: 536
Mercy Hospital /Scranton: 386
Lancaster General Hospital: 369
Hahnemann University Hospital: 342
Temple University Hospital: 342
Lankenau Hospital: 340
Bryn Mawr Hospital: 297
Presbyterian Med Ctr Univ of PA Hlth Sys: 295
Geisinger Medical Center /Danville: 277
Reading Hospital and Medical Center: 263
York Hospital: 255
Hospital of the University of PA: 253
Wilkes-Barre General Hospital /WVHCS: 243
Mercy Hospital of Pittsburgh: 237
Lehigh Valley Hospital: 235
Allegheny General Hospital: 223
Hamot Medical Center: 222
Penn State University Hospital /Hershey: 215
Saint Joseph Medical Center /Reading: 212
Graduate Hospital: 199
FIGURE 7B: Average Number of Total Open Heart Procedures per Cardiac Surgeon, by Hospital, 1994-1995

Robert Packer Hospital 199
Saint Joseph Hospital, Inc. /Lancaster 191
Saint Vincent Health Center 185
St. Luke’s Hospital of Bethlehem 184
Shadyside Hospital 177
Williamsport Hospital & Medical Center 162
Easton Hospital 158
Albert Einstein Medical Center 149
University of Pittsburgh Medical Center 149
Thomas Jefferson University Hospital 138
Medical College Hosp /Main Campus 133
Polyclinic Medical Center 131
Harrisburg Hospital 121
Westmoreland Regional Hospital 112
Western Pennsylvania Hospital 101
Pennsylvania Hospital 97
Saint Francis Medical Center 75
Washington Hospital 61
Crozer-Chester Medical Center 57
Saint Francis Central Hospital 53
Medical Center, Beaver, PA, Inc 52
Episcopal Hospital 46