

Focus on Heart Attack

in Central and Northeastern Pennsylvania

Adams • Bedford • Blair • Bradford • Cambria • Centre • Clinton • Columbia
Cumberland • Dauphin • Franklin • Fulton • Huntingdon • Indiana • Juniata
Lackawanna • Lancaster • Lebanon • Luzerne • Lycoming • Mifflin • Monroe
Montour • Northumberland • Perry • Pike • Snyder • Somerset • Sullivan
Susquehanna • Tioga • Union • Wayne • Wyoming • York counties



*A 1993 Summary Report for Health Benefits Purchasers,
Health Care Providers, Policy-makers, and Consumers*

Pennsylvania Health Care Cost Containment Council

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Central and Northeastern Pennsylvania

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Principal Findings

Hospitals and physicians in Pennsylvania are doing a good job in treating heart attack patients. In 1993, the year covered by this study, 93.7% of hospitals and 98.2% of reportable physician practice groups had risk-adjusted patient mortality rates that were well within what was expected or better given significant patient risk factors. According to the Pennsylvania Department of Health, the number of heart attack deaths in Pennsylvania declined from 15,476 in 1990 to 14,283 in 1994.

In 1993, there were 35,893 heart attack cases treated in Pennsylvania hospitals. Of those, 33,752 involved Pennsylvania residents and 2,141 involved out of state residents. These cases resulted in 40,684 hospitalizations, including transfers and readmissions for additional heart attacks, of which 39,256 were included in this study.

These individuals were admitted to urban and rural hospitals; teaching facilities and non-teaching facilities; hospitals with advanced cardiac care services such as open heart surgery units and hospitals without these services. They were treated by several physician specialty types: cardiologists, internists, family medicine practitioners, and cardiothoracic surgeons. They were treated by teams of physicians working in practice groups, and they were treated by physicians working in a solo practice.

The majority (62%) of these patients were 65 years of age or older and were insured through the Medicare program. The remainder were insured through the state's Medicaid program, various non-profit Blue Cross plans, for-profit Commercial insurers, and managed care plans like Health Maintenance Organizations (HMOs). A small number received their care through a variety of other plans, were uninsured, or paid for their care themselves.

Consistent with national figures, women were hospitalized for heart attacks at an older age than were men. The average age for women in this report was 72 years of age; the average age for men was 64. The mean age of those that died was 76; the mean age of those that lived was 67 years. The most powerful predictor of mortality was the presence of cardiogenic shock, although it is important to note that this was present in only 4.5% of patients.

Patients were expected to stay in an acute care hospital for an average of 8.1 days (and actually stayed 8.2 days) and were charged on average \$12,847. Patients were expected to stay in an advanced cardiac care service hospital for an average of 7.6 days (and actually stayed 7.5 days) and were charged on average \$31,160.

In 1993, there were 35,893 heart attack cases treated in Pennsylvania hospitals

93.7% of hospitals and 98.2% of reportable physician practice groups had risk-adjusted patient mortality rates that were as expected or better

Eighty-eight percent of heart attack patients were discharged alive; of those, 94.2% were alive at 180 days and 91.8% were alive at 365 days

Women were hospitalized for heart attacks at an older age than were men

Patient Mortality--An Overview

Of all patients treated for heart attack in 1993, 4,249 died in the hospital—a 10.4% in-hospital mortality rate. After exclusions, 3,888 of those deaths were included in this study—an in-hospital mortality rate of 9.9%.

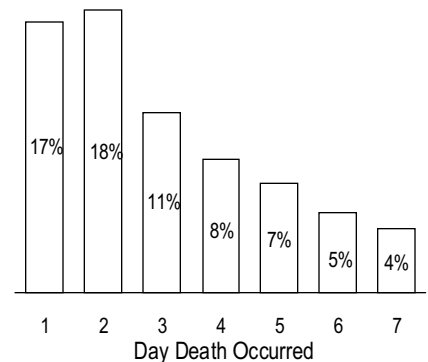
Of those hospitalized for a heart attack, 17.6% died within one year of their heart attack of heart-related causes. This includes those that died in the hospital and those that died after discharge from the hospital.

The first days are critical.

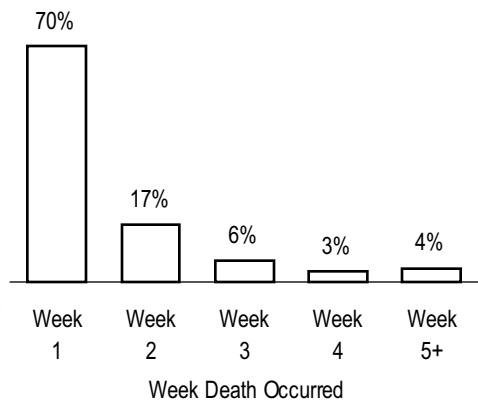
Of those 4,249 patients, 46% died within the first three days of hospitalization, with Day 1 (17%) and Day 2 (18%) being the most critical period. Seventy percent died within the first week of hospitalization. Ninety percent died within two and a half weeks after admission to the hospital.

Of those who survived their heart attack and were discharged from the hospital, 5.8% died within 6 months of their hospital admission and 8.2% died within one year. While 65% of the patients that died were discharged to home, those who were discharged to skilled or intermediate nursing facilities had a much higher mortality rate.

Duration of Stay Before Death Occurred
Week 1



Duration of Stay Before Death Occurred



Counties and Communities

There are geographic differences in hospitalizations and levels of advanced cardiac services.

Counties in Western Pennsylvania had significantly *more* hospitalizations for heart attack, and significantly *more* in-hospital deaths for heart attack than other areas of the state. Of the ten counties with the highest rates for heart attack hospitalizations, seven were in Western Pennsylvania.

RESIDENTS in rural counties had significantly *higher* hospitalization rates for heart attack and significantly higher rates of in-hospital mortality compared to the state rate. Residents in urban counties had significantly lower hospitalization rates for heart attack. In-hospital mortality was not significant. Residents of rural areas were less likely to receive cardiac catheterizations (37% vs. 47%), balloon angioplasties (15.4% vs. 18.1%), and cardiac surgery (7.9% vs. 10.5%) than residents of urban areas.

Pennsylvanians living in areas with the highest median incomes had significantly *lower* hospitalization rates for heart attack. In-hospital mortality by income level was not statistically significant.

HOSPITALS located in rural counties had shorter lengths of stay than expected; hospitals in urban counties had lengths of stay as expected. The in-hospital mortality rates for hospitals located in both urban and rural counties were as expected.

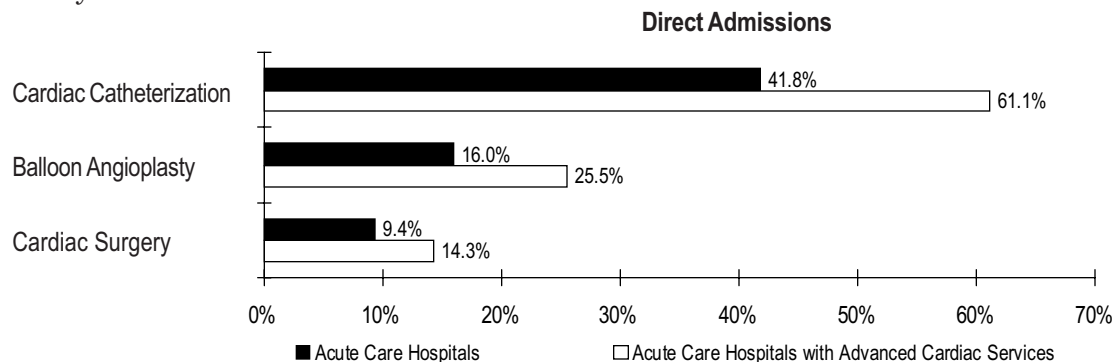
Hospitals

Where did these patients go for care? What was the outcome of that care?

Hospitals with advanced cardiac care services treated 45% of the cases included in this report; 55% of the cases were treated in hospitals without these advanced capabilities. Hospitals with fewer deaths than expected include 7% of 41 hospitals *with* advanced cardiac services and 6% of the 148 hospitals *without* these services. Five percent of the advanced cardiac care hospitals and 7% of hospitals *without* advanced cardiac capabilities had more deaths than expected, after accounting for significant risk factors.

There are differences in who receives advanced cardiac services.

Heart attack patients admitted directly (not including transfers) to a hospital *with* advanced cardiac services are more likely to receive those services during their initial episode of care than those patients admitted directly to a hospital *without* advanced cardiac services. The graph below does not take into account patients who were discharged from the hospital following initial treatment, and then returned later for advanced services. In addition, as a patient's age and/or risk increases, they are less likely to receive advanced cardiac services.



There is greater variation across hospitals in length of stay than in mortality.

Length of stay varies greatly across hospitals independent of patient risk factors, services or treatment received, and type of payor, program or insurer. In fact, 49% of hospitals had significantly longer or shorter than expected hospital stays. This differs from in-hospital mortality in that only 13% of hospitals fell outside the expected mortality range. This suggests that other factors are driving length of stay and may present opportunities for greater efficiency.

There are regional differences in how long a patient stays in the hospital.

CENTRAL & NORTHEASTERN HOSPITALS:

33% of the hospitals had shorter lengths of stay than expected; 18% had longer lengths of stay than expected.

WESTERN HOSPITALS:

23% of the hospitals had shorter lengths of stay than expected; 30% had longer lengths of stay than expected.

SOUTHEASTERN HOSPITALS:

16% of the hospitals had shorter lengths of stay than expected; 27% had longer lengths of stay than expected.

Hospital stays differ according to hospital teaching status.

Non-teaching hospitals had shorter lengths of stay than expected. University hospitals had longer lengths of stay than expected. Teaching hospitals (non-university) had lengths of stay as expected. There were no in-hospital mortality differences by hospital teaching status in 1993.

Physicians

There are differences across physician specialties in treating heart attack patients.

Cardiologists had fewer patient deaths than expected and shorter lengths of stay than expected across all hospitals.

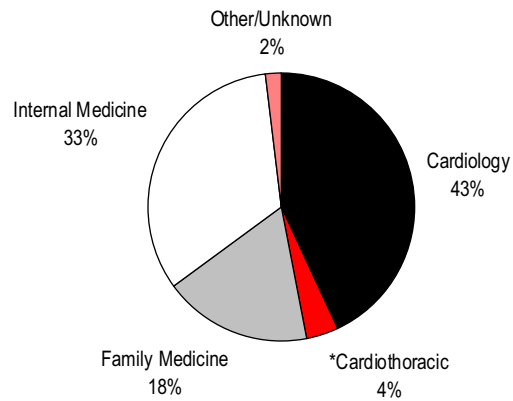
Patients treated by physicians specializing in internal medicine stayed in the hospital longer than expected across all hospitals.

Family medicine physicians practicing in hospitals *without* advanced cardiac services had more patient deaths than expected. Physicians practicing internal medicine in hospitals *with* advanced cardiac services had more deaths than expected.

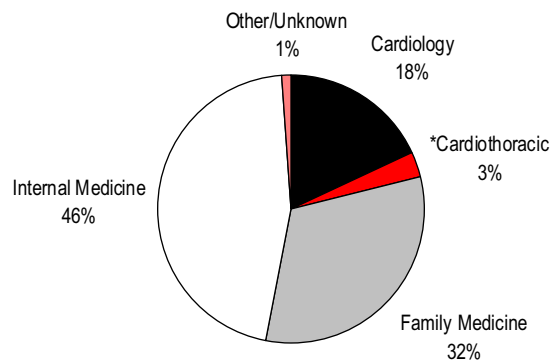
Volume may play a role in patient outcomes.

Physician practice groups that treated 30 cases or more (per group) in 1993 had fewer deaths than expected. Practice groups treating less than 30 cases had more deaths than expected. Only 19 of 2,387 solo practitioners (practicing alone, not in a group) treated 30 or more heart attack cases in 1993. Solo practitioners, overall, had patient mortality rates as expected.

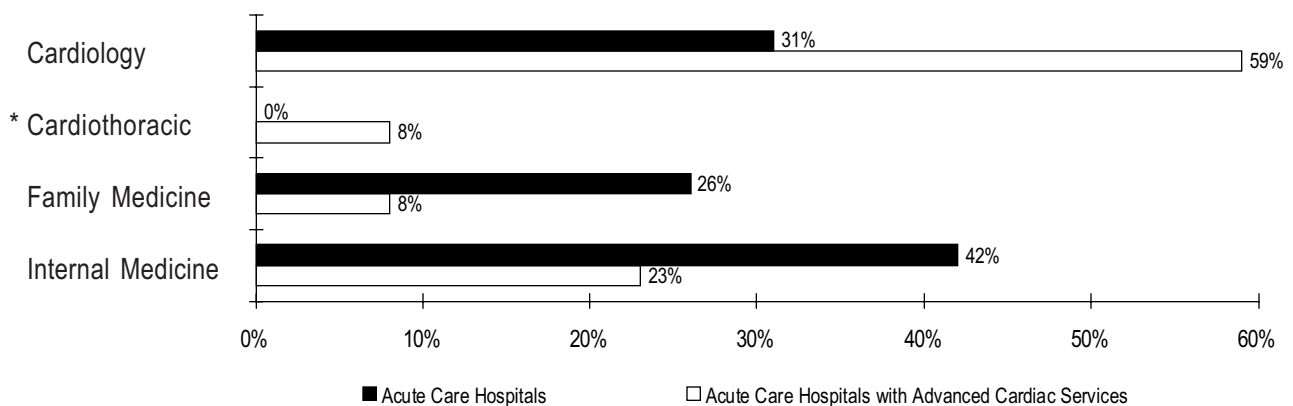
**Physician Specialty
By Percent of Cases**



**Physician Specialty
By Percent of Practicing Physicians**



**Percent of Heart Attack Cases
by Physician Specialty**



* Cardiothoracic surgeons are under represented because identification of physician specialty is based on the attending physician, not the operating physician.

Payor Groups

There are differences among payor types.

It is important to note that although there are regional variations among payor groups, there were few consistent patterns statewide. This may be due to the fact that payor populations differ from region to region as do the hospitals and physicians that treat those patients. For example, Medicaid patients had mortality rates as expected in Central/Northeastern and Southeastern Pennsylvania yet higher rates than expected in Western Pennsylvania. Heart attack patients enrolled in HMO/PPOs had lower mortality rates than expected in Central/Northeastern and Western Pennsylvania yet higher rates than expected in Southeastern Pennsylvania.

AGE — Medicare patients were the oldest (95% over 65 years of age), had the most heart attacks, and had the highest heart attack mortality rates. HMO/PPOs in Southeast Pennsylvania had a significantly higher percentage of older patients than did HMO/PPOs in other regions. This is probably due to Medicare-risk contracts and may be responsible for the higher severity of this group compared to HMO/PPOs in other regions. Medicaid recipients were the youngest heart attack victims.

RISK — Aside from Medicare (where advanced age and risk are intertwined) and Other Payors (Other is a heterogeneous group and is difficult to compare with other payor group populations), Medicaid patients were the highest risk group. Those enrolled in HMO/PPOs in Western and Central/Northeastern Pennsylvania were the lowest risk patients of any payor group. This was not the case in Southeastern Pennsylvania where heart attack patients enrolled in HMO/PPOs were at higher risk than those enrolled in Blue Cross-related plans and Commercial insurance plans.

MORTALITY RATES — Despite a population that was at a higher level of risk and severity than other groups (except Medicare), Medicaid patients in Southeastern Pennsylvania and Central/Northeastern Pennsylvania had mortality rates that were as expected. Only in Western Pennsylvania did Medicaid patients have higher mortality rates than expected. It is important to note that the socioeconomic characteristics associated with this group may not be completely accounted for by the Council's risk-adjustment methodology.

Patients enrolled in indemnity Blue Cross plans and Commercial insurance plans had mortality rates within the expected range in all three regions of the state.

Heart attack patients enrolled in HMO/PPOs in Western Pennsylvania and Central/Northeastern Pennsylvania had significantly lower than expected mortality rates. Those patients enrolled in HMO/PPOs in Southeastern Pennsylvania had higher mortality rates than expected.

There are differences in the levels of services patients receive.

Medicare patients received the lowest level of advanced services and were the least likely to be transferred to advanced cardiac care hospitals. This was likely due to the advanced age and illness level of this population.

Aside from Medicare and Other, Medicaid patients had the lowest level of advanced services and the highest risk of dying among the remaining four payor groups. They were less likely to be transferred to hospitals with advanced cardiac services than those in other payor groups, although in the Southeastern Region, this may be balanced by the comparatively higher number of Medicaid patients admitted directly to advanced cardiac care facilities. Risk may be a factor in the level of services among Medicaid patients. Finally, Medicaid recipients in Western Pennsylvania had a much higher level of advanced cardiac services and transfers to advanced cardiac care facilities than Medicaid recipients in other regions.

The Council wishes to note that social, economic, health status, and behavioral characteristics might put some groups at higher risk and may also drive treatment and transfer patterns. These types of risks may not be completely accounted for in the study methodology. For more details, please see the *Technical Report*.

Reader's Guide

More than 70 million Americans suffer from some form of cardiovascular disease. This summary report, *Focus on Heart Attack*, concerns itself with one kind of cardiovascular disease: coronary artery disease and its most serious and potentially lethal manifestation: heart attack.

What Does this Report Include?

This report, which is one of three regional reports, contains information about patients admitted to Pennsylvania hospitals in 1993 for treatment of a heart attack. It is divided into four sections.

First, it discusses the impact of heart attack, what to do in the event of one, how heart attacks are treated, who's at risk for one, and how to prevent a first or subsequent occurrence.

Second, it provides information about each Pennsylvania hospital and physician practice group that treated those patients. That information includes the number of cases treated, average length of hospitalization, and patient mortality rates. (Mortality rates are reported only for hospitals and practice groups with 30 or more cases.) The average hospital charge is also included.

Third, the report examines those Pennsylvania counties and communities whose residents had the highest and lowest hospitalization and mortality rates for heart attack.

Finally, the report compares hospitalization rates, mortality rates, length of hospitalization, and average charges according to the category of the patients' insurance: Medicare, Medicaid, HMO/PPOs, commercial insurance plans, and Blue Cross plans.

INCLUDES

Heart Attack Facts

Mortality Rates

Average Charges

Length of Stay

Community Data

Payor Information

How this Report Can Be Used

It can assist providers of medical care, purchasers of health benefits, and insurers in identifying opportunities for improvement in the quality and cost of treatment for heart attacks.

It can assist policy makers and researchers in pinpointing communities where prevention efforts and access to vital medical services might be improved.

It provides for comparisons of financial and medical outcome data according to the category of patients' insurance.

It can help consumers form intelligent questions about the risk and prevention of heart attacks, as well as their treatment options.

Finally, the report can help to raise public awareness about the issues of heart disease and heart attack.

Scope of this Report

This report examines the issue of heart attack in a comprehensive way. It includes information about 39,256 hospital admissions for the treatment of a heart attack in Pennsylvania in 1993. This includes 8,034 patients who were transferred from a general acute care hospital to a hospital with advanced cardiac services, such as an open heart surgery unit (please see page 14 for more information on transfers). Mortality rates have been adjusted to account for significant risk factors for heart attack cases included in this report. It lists the number of cases treated by 5,033 physicians. (These are statewide figures.) It provides a *snapshot* of the rate of heart attack hospital admissions and mortality in communities throughout the Commonwealth for 1993. It follows the progress of heart attack patients transferred to other hospitals for additional services. It follows the progress of patients after their discharge from the hospital. It reports financial and risk-adjusted outcome data according to category of patient insurance.

LIMITATIONS OF THIS REPORT

Focus on Heart Attack is the most ambitious project undertaken by the Health Care Cost Containment Council. It has produced the most comprehensive database of its kind. It marks the first publicly reported physician-specific patient outcome data about a medical treatment. These are the most accurate data, statistically speaking, that the Council has reported.

This report, nonetheless, has limitations and we want to caution the reader about them.

THE REPORT COVERS A LIMITED PERIOD

Compiling data for this report was a complex, time-consuming process for physicians, hospitals, and the Council. Therefore, only 1993 information is reported. Factors identified in this report may have changed as a result of quality or technological improvements now in place in Pennsylvania hospitals. For example, the increased use in recent years of thrombolytic (blood clot dissolving) medication has had a positive impact on heart attack survival rates. The 1993 data may not uniformly reflect this recent trend. Changes in hospital and physician practice patterns may have occurred since 1993.

MEASURING QUALITY

The mortality rates included in this report are an important indicator of the quality of care, but cannot be considered the only measure of the quality of care. The information is limited and the measurement of quality is complex. Hospital deaths are frequently an unavoidable consequence of a patient's medical condition. Hospitals and physicians may do everything right and the patient may still die. However, after taking most important patient risks into account, differences with respect to mortality rates do exist among hospitals, physicians, communities, and payors.

Why do those differences exist? Do they present opportunities to improve the quality of medical care, access to medical care, and to reduce costs? The *goal* of this report is to provoke hospitals, physicians, policy-makers, researchers, group purchasers, and the interested public to seek out answers to these questions.

The physicians in this report treat many other kinds of patients besides heart attack patients. This report cannot be used to draw conclusions about their overall practices. In addition, many physicians successfully treat coronary artery disease by working with the patient to reduce it. By doing so, they may prevent a heart attack. This report looks only at heart attacks which occurred; it cannot measure those that were prevented through skillful physician management and patient conscientiousness. Those success stories are not captured here.

Finally, the treatment of heart attack patients is a varied and complex process, one that involves many players. Patients are frequently stabilized at one hospital, then transferred to a hospital with advanced cardiac capabilities for additional services such as balloon angioplasty or coronary bypass surgery. Several different kinds of physicians, including cardiologists, internists, cardiac surgeons, and general practitioners, treat heart attack patients.

Often, several different physicians, working together, will care for a patient through the course of treatment. It is very often a team effort, which is one reason why this report focuses on physician practice groups. Given the importance of a quick response to a heart attack, the outcome of rural patients may well depend on the distance to the nearest hospital, or the quality and extent of the local emergency service.

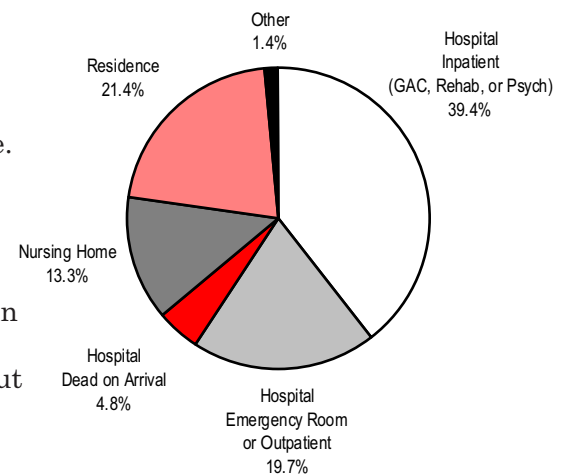
In light of these factors, the Council would like to emphasize that this report is not about assigning blame to particular individuals. It is about pointing out differences in patient outcomes and stimulating a quality improvement dynamic that will attempt to raise and answer appropriate questions about those differences.

THE REPORT IS NOT ALL INCLUSIVE

With the exception of the section on County and Community Information, this report includes only inpatient hospital mortality data. This is because the Council is not able to capture deaths that occurred in hospital emergency rooms, hospice units, nursing homes, outpatient facilities, or at home.

However, by working closely with the Pennsylvania Department of Health, the Council has been able to expand the County and Community section to include Health Department information about the overall rate of mortality (in and outside the hospital setting). The combined data of the two state agencies thus provides a more complete picture about the impact of heart attack in select geographic areas. The chart on the right provides the location where heart attack mortality occurred.

Location of Heart Attack Deaths
(Statewide)



Source: Pennsylvania Department of Health

Certain treatment variables, such as a family's desire to avoid extreme measures that merely prolong the act of dying ("do not resuscitate" orders) or treatment with clot-busting thrombolytic medication are not captured directly.

In addition, hospitals and physician practice groups with less than 30 cases were not assigned a mortality rating; the numbers are too small for statistical reliability.

The following hospitals are not included in this report because they treated less than 30 cases in 1993: Barnes-Kasson County Hospital, Columbia Hospital, Elk County Regional Medical Center, Fulton County Medical Center, Mercy Hospital of Nanticoke, Meyersdale Community Hospital, Monsour Medical Center, Neumann Medical Center, Troy Community Hospital, and Union City Memorial Hospital. The following hospitals have closed since 1993 and are also not included in this report because the Council was unable to verify their data: Community Hospital/Chester, Cooper Hospital/Center City, Sacred Heart/Norristown, and Thomas Jefferson University Hospital/Ford Road Campus. Finally, the following hospitals have not been included because they were found noncompliant with the Council's reporting procedures under the law: Kensington Hospital and Bucktail Medical Center.

Hospitals, Practice Groups, and individual physicians may have commented on this report. *These comments are available upon request.*

Why a Report on Heart Attack?

The mission of the Health Care Cost Containment Council is to collect and publish useful information about the charges and patient outcomes for various medical and surgical treatments. Because health care is such a broad subject, the Council often chooses which treatment categories to target, based on the following questions:

- Are significant numbers of people affected?
- Is there a significant cost involved?
- Can significant differences in the charges, patient outcomes, and utilization be identified?

In 1994, the Council created a Task Force on Future Directions. This committee was asked to explore possibilities for the Council's next hospital and physician-specific report. Working closely with the Joint Committee of the Pennsylvania Hospital Association, the Pennsylvania Medical Society, and the Pennsylvania Osteopathic Medical Association, the Task Force recommended that the next comprehensive report focus on heart attack patients in Pennsylvania.

THE IMPACT OF HEART ATTACK

Over the years, medical practitioners and researchers have made tremendous advances in fighting coronary artery disease. According to the Pennsylvania Department of Health, the number of Pennsylvanians statewide who died from a heart attack dropped from 15,476 in 1990 to 14,283 in 1994.

Yet, heart disease remains a serious threat. Atherosclerotic heart disease is the leading cause of death in Pennsylvania, as well as throughout the United States. Cardiovascular disease mortalities account for more than 42% of all deaths every year, and claimed more than 954,138 lives in the United States in 1993.

FACTS

This year, as many as 1.5 million Americans will have a heart attack.

About one-third of them will die.

The estimated cost for treatment of heart attack and angina will be \$66 billion in 1996.

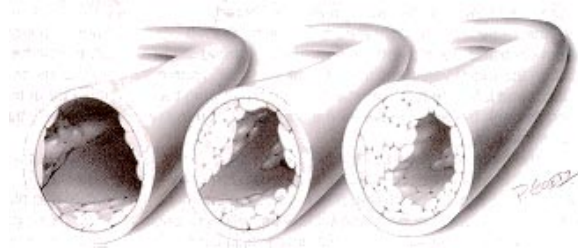
Heart attack is the single largest killer of American men and women. This year, as many as 1.5 million Americans will have a heart attack, and about one-third of them will die. Over 13.5 million people alive today have a history of heart attack, chest pain of heart origin (angina) or both.

The financial impact of heart disease is staggering as well. The American Heart Association estimates the cost of cardiovascular disease in 1996 at \$151.3 billion. This figure includes the cost of physician and nursing services, hospital and nursing home services, the cost of medications and lost productivity resulting from disability. Of this, treatment for coronary artery disease (heart attack and chest pain) cost \$66 billion.

Finally, a number of studies have documented significant variation in the outcomes (survival or mortality) of heart attack patients after differences in patient risk factors have been accounted for.

What is Coronary Artery Disease?

The underlying cause of coronary artery disease is atherosclerosis, which is a build up of fatty deposits, or plaque, along the artery walls. As a result, the arteries narrow, reducing or blocking the flow of blood to the heart. This can cause heart pain (angina) or a heart attack.



How plaque builds up

What is a Heart Attack?

A heart attack (Acute Myocardial Infarction or AMI) occurs when there is sudden insufficient blood supply to an area of heart muscle.

Normally, the body supplies blood to the heart through vessels known as coronary arteries. A heart attack occurs when an obstruction in one of the coronary arteries blocks the blood supply to part of the heart muscle. Most often, the cause of the blockage is a blood clot that has formed in a coronary artery already narrowed by atherosclerosis. Heart muscle cells may suffer irreversible damage and die if the blood supply is cut off drastically. This can result in disability or death of the individual, depending on the extent of damage.

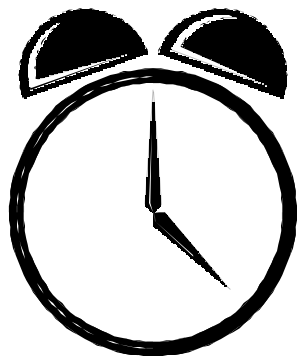
The Warning Signs of a Heart Attack

The symptoms of a heart attack vary greatly in their intensity. The most common symptom is an uncomfortable pressure, tightness, fullness, squeezing or burning pain in the center of the chest or in the upper abdomen that lasts for more than 10 minutes. It can also result in pain or numbness in the arms and jaw. The initial pain — sometimes described as a crushing feeling or pressure ("like an elephant sitting on my chest") — is often intense. Sometimes, however, the pain is merely a persistent, dull ache.

Many persons with coronary artery disease suffer from angina — a discomfort in the chest caused by a temporary lack of oxygen to the heart muscle. For these people, the pain of a heart attack may feel like a severe episode of angina. A heart attack is likely for angina sufferers if several nitroglycerin tablets do not relieve their pain after 10 to 15 minutes. Many people will develop angina days to weeks prior to suffering a heart attack.

A heart attack often develops over hours as a lack of oxygen destroys or disables the heart's tissue. In addition, about half of all victims have warning symptoms hours or weeks in advance. On the other hand, a heart attack can strike swiftly and without warning. A significant percentage (20%) of acute heart attacks are silent or unrecognized by patients.

How are Heart Attacks Treated?



ACT QUICKLY — EVERY SECOND COUNTS!

When it comes to a heart attack, time is of the essence. Each year, at least 250,000 Americans die of a heart attack within one hour of the beginning of symptoms and before they reach a hospital. Fifty percent of heart attack deaths occur within three to four hours of the onset of symptoms. Therefore, the first few hours of management are critical. A heart attack can also cause cardiac arrest, a reversible condition in victims if treated within a few minutes. Most of the permanent damage done to the heart occurs in the first hour.

The major factor causing delay of treatment is the patient's denial that the symptoms represent a serious, life-threatening situation. The ideal early treatment includes rapid diagnosis, alleviation of pain and apprehension, stabilization of heart rhythm and blood pressure, and transportation to a hospital with a cardiac care unit as soon as possible.

GET TO A HOSPITAL FAST

Time is crucial. When a coronary artery becomes blocked, the heart muscle doesn't die immediately. However, the damage increases the longer an artery remains blocked. If a victim gets to an emergency room fast enough, thrombolytic (clot-dissolving) drugs, such as tPA (tissue plasminogen activator), streptokinase, or urokinase, can be given to dissolve the clot and restore blood flow. These drugs must be used within 6-12 hours of a heart attack, and work best when administered within the first two hours. An emergency angioplasty can also be performed to widen or open blocked arteries and restore blood flow. As time passes without treatment, damage to the heart tissue may become irreversible even if blood supply is restored.

KNOW WHAT TO DO IN AN EMERGENCY

- Get help immediately;
- Find out which area hospitals have 24 hour emergency cardiac care;
- Keep a list of emergency rescue service numbers next to the telephone, and on your person;
- If you have chest discomfort that lasts more than five minutes, call the emergency rescue service. Describe your symptoms to ensure a priority dispatch of paramedics trained in cardiac life support;
- If you're with someone who you think is experiencing the signs of a heart attack, insist on taking prompt action. Call 911 immediately. Give CPR (mouth-to-mouth breathing and compression) if necessary. (You should be properly trained. A recent study found that CPR done incorrectly can do more harm than good.)

Hospital Treatment

Once the patient has been stabilized, the physician must treat the underlying heart disease which caused the heart attack. The following is a brief summary of the three main treatment areas: medication, balloon angioplasty, and coronary artery bypass surgery. (There are other methods but these are the most common.) Determining which of these treatments is the best course of action is a complicated decision based on many possible factors. The patient should make this choice based on the advice of a qualified physician.

MEDICATION

There is a wide array of medication used to treat coronary artery disease and their use isn't standard for all patients. (A qualified physician can discuss the pros and cons of each.)

Once a heart attack has occurred, most patients, unless otherwise indicated, show improved survival rates when treated with aspirin and beta blockers.

Aspirin is an anticoagulant; in other words, it reduces the formation of blood clots in a coronary artery already narrowed by atherosclerosis. Not everyone can or should take aspirin; this should be discussed with a physician.

Beta blockers slow the heart rate, lower blood pressure, and decrease the heart's force of contraction. This decreases the heart's workload and oxygen consumption. The slowed heart rate allows more time for blood to circulate through the coronary arteries to the oxygen-deprived areas of the heart. They are often prescribed to help prevent a second heart attack.

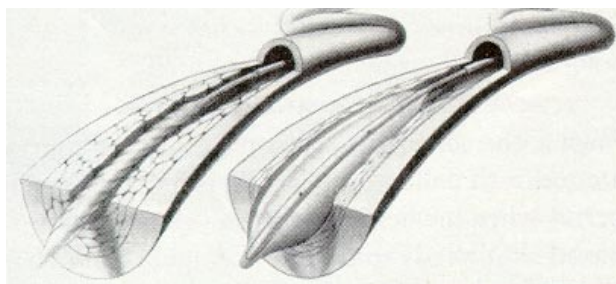
A third commonly used class of medications known as ACE inhibitors are used to treat patients whose heart function has become impaired. These drugs decrease blood pressure by inhibiting the formation of angiotensin, a substance in the blood that constricts blood vessels and stimulates the adrenal glands to release the sodium retaining hormone aldosterone.



In 1993, 41 Pennsylvania hospitals offered advanced cardiac care services such as coronary bypass surgery and balloon angioplasty.

BALLOON ANGIOPLASTY

In this procedure, a physician inserts a catheter (a long thin tube) into an artery in an arm or leg and guides it to the obstructed coronary artery. A second tube with a deflated balloon on its tip is passed inside the first, and the balloon is inflated where the artery is blocked. This enlarges the artery's diameter by compressing the plaque.



How angioplasty works

The American Heart Association recommends that a patient have angioplasty at a hospital that performs at least 200 of these procedures a year. The hospital should also be equipped to perform emergency bypass operations if the angioplasty fails. In addition, a physician doing the angioplasty should perform at least 75 angioplasties annually.

The risks associated with angioplasty are low; less than 1% of patients die. However, in some cases, complications can occur which may lead to a heart attack or necessitate bypass surgery. In about 25% of the people who have had angioplasty, the artery narrows again within six months.

CORONARY ARTERY BYPASS GRAFT SURGERY (CABG)

Physicians usually recommend this procedure for patients with severe blockages of two or more of the major arteries to the heart. The cardiac surgeon bypasses the blocked part of the coronary artery using a piece of blood vessel taken from another part of the body (usually a leg vein or an artery from the chest). This restores the blood supply to the heart. As with any open heart surgery, there are risks associated with CABG surgery although the mortality rate associated with this procedure appears to be declining. In 1993, Pennsylvanians who had CABG surgery had a 2.9% mortality rate, a decline from 3.9% in 1990.

What Happens After a Heart Attack?

It's important to continue working to reduce your risk even after successful treatment of a heart attack. Once a heart attack has occurred, the chances of another immediate or future attack are substantial. During the first four years after a heart attack, the rate of having a second attack is 20% for women and 16% for men. Within six years, this increases to 31% of women and 23% of men. In addition, 27% of men and 44% of women will die within one year after having a heart attack. About two-thirds of heart attack patients don't make a full recovery, but 88% of those under age 65 are able to return to work.

The odds of having a first or subsequent heart attack can be lessened through conscientious lifestyle changes.

Lifestyle Treatments for Coronary Artery Disease

– Reducing your risk now and in the future

The best way to prevent progressive damage to the heart is to prevent a heart attack in the first place.

Coronary artery disease is a progressive illness. Once it develops, it cannot be cured. Fortunately, lifestyle changes can have a greater impact on coronary artery disease than on practically any other disease. These actions can control the progression of atherosclerosis, lowering blood pressure, and can prevent a first or subsequent heart attack.

A heart-healthy lifestyle is a must even for those who are taking medication to lower cholesterol, reduce blood pressure, control chest pain, and in those who have undergone bypass surgery or angioplasty. This involves reducing your risk factors for developing coronary artery disease.

Risk Factors

We can divide the risk factors for coronary artery disease into two groups: those that cannot be changed and those that can. The more risk factors a person has, the greater the chance of developing coronary artery disease.

Risk factors that cannot be changed

AGE — Men older than 45 and women older than 55 have a higher risk. More than half the people with heart attacks, and four out of five who die of a heart attack, are over the age of 65.

FAMILY HISTORY — The risk increases if a parent or sibling has had a premature heart attack (before age 55 in men and age 65 in women).

GENDER — Coronary artery disease is more common in young men than young women, but the rates rise dramatically among women after menopause, when estrogen levels drop. This is also true for women who undergo premature menopause. The risk for such women is equal to that of men of the same age.

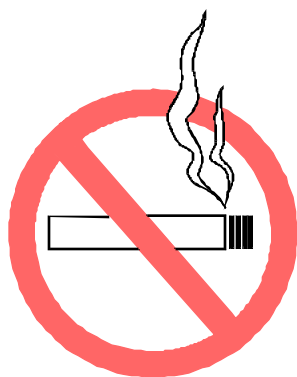
Some studies have indicated that estrogen replacement can provide protection for older women. This therapy may increase the risk of breast cancer in some women, and should be discussed with a physician.

RISK FACTORS (you can't change)

Age

Family
History

Gender



Risk factors that can be changed

CIGARETTE SMOKING — Cigarette smoking is the most dangerous risk factor for coronary artery disease, twice that for non-smokers. It is the greatest risk factor for sudden cardiac death. Much can be gained, however, by quitting. When people stop smoking, regardless of how long or how much they’ve smoked, their risk of death from heart attack and stroke rapidly declines. Three years after quitting smoking, the risk of heart attack for people who smoked up to a pack per day is almost the same as for people who never smoked.

RISK FACTORS
(you can change)

Cigarette Smoking

HIGH BLOOD PRESSURE (HYPERTENSION) — High blood pressure killed 37,520 Americans in 1993 and contributed to the death of thousands more through heart attack, stroke, and heart failure.

Anyone with hypertension increases their risk of coronary artery disease. Men are at greater risk than women until ages 55-75 when the risk is the same. After that, the risk for women is higher. African-Americans have moderate high blood pressure twice as often as whites and severe hypertension three times as often, which greatly increases their risk of stroke as well. The mortality rate for African-American women is significantly higher than for Caucasian women.

High Blood Pressure

High blood pressure can usually be controlled by proper diet, including salt restrictions, weight loss, exercise, and medication.

High Blood Cholesterol

HIGH BLOOD CHOLESTEROL — The risk of heart attack rises as blood cholesterol levels increase, especially if other risk factors such as smoking or high blood pressure are present. There are two types of cholesterol: LDL (known as the “bad cholesterol”) and HDL (the “good” kind). LDL is “bad” because it can be deposited in the arteries. This begins and contributes to the process of atherosclerosis. HDL is “good” because it protects against atherosclerosis by removing cholesterol from artery walls. Current guidelines from the National Cholesterol Education Program recommend that a person with coronary artery disease should have an LDL cholesterol reading of less than 100.

Diabetes

Physical Inactivity

Individuals with known coronary artery disease can slow the advance of atherosclerotic plaque by aggressively lowering their blood cholesterol for as little as two years. This can also reduce the formation of new plaque, reverse narrowing due to atherosclerosis, and reduce the frequency of heart attacks. This can be accomplished through a low fat, low cholesterol diet, moderate exercise and medication.

DIABETES — Diabetes developing during childhood and in the young adult years can substantially shorten life unless treated aggressively. More than 80% of people with diabetes die of cardiovascular disease. Diabetes tends to accelerate heart vessel disease, increasing the risk of heart attack. Individuals can usually control diabetes by strictly following proper eating habits, through exercise and weight control, and by medication prescribed by a doctor. However, lowering blood sugar levels through diet and medication does not appear to eliminate the increased risk of coronary artery disease associated with diabetes. Therefore, it is particularly important for people with diabetes to control other risk factors, such as smoking and high blood cholesterol levels.

PHYSICAL INACTIVITY — Lack of exercise can lead to excess weight and higher blood cholesterol levels. People who are more than 30% over their ideal body weight are more likely to develop heart disease, even with no other risk factors. Coronary artery disease is twice as likely to develop in inactive people than in active people, independent of other risk factors. A number of studies have shown an association between exercise and reduced heart disease. A common recommendation is 30 minutes of moderate exercise at least three times per week.

Multiple Risk Factors

Having several risk factors for coronary artery disease multiplies the odds of developing the disease. For example, the respected Framingham Heart study predicts that 31 out of 1,000 men with no risk factors will have a heart attack within eight years. The number jumps to 46 among male cigarette smokers, 64 among male smokers with high cholesterol levels, and 95 among male smokers with high cholesterol who also have high blood pressure. Fortunately, reducing several risk factors simultaneously reduces the overall risk at a greater rate than reducing only one risk.

A Final Word

Focus on Heart Attack is an important contribution to the research and reporting of hospital, physician, community and payor-related information. Health care providers, health care purchasers, insurers, researchers, consumers and policy makers can now explore how to use the information in understanding the differences in cost, rates and patient outcomes of heart attacks in Pennsylvania.



A Word Of Caution:

Do not use the statistics in this report during an emergency situation. The best decision in the event of a heart attack, or even a suspected one, is to get treatment as quickly as possible at the nearest hospital.

The treatment of a heart attack is complex. Each case is unique. Only qualified physicians should diagnose and prescribe treatment.

This report *should not* be used as the sole basis for making provider decisions.

Understanding Hospital and Practice Group Information

ACTUAL TO EXPECTED PATIENT MORTALITY (DEATH) RATES

The Council uses a complex methodology to measure mortality. First, the Council identifies a list of significant health factors which have an impact upon patients' risk of dying from a heart attack. In compiling this list, the Council conducts a thorough examination of the scientific literature, and solicits feedback from medical providers. The Council also receives technical advice from its Technical Advisory Group, a committee of physicians and health researchers, as well as from a Clinical Advisory Panel, newly formed specifically for this project.

The next step is to determine which risk factors had a significant overall impact on those patients hospitalized for a heart attack in 1993. The rating system gives a certain weight (or importance) to key health facts for each patient hospitalized for a heart attack in 1993. All 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 rate for each hospital and physician practice group. The statistics are adjusted for the higher or lower risk of the patients of each provider. This provides a fair basis for comparison. By adjusting for risk, hospitals and physicians 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 graphs in Figures A and D allow you to compare the actual mortality rate with the expected mortality rate. These are expressed as percentage points. The expected mortality rate is expressed as a range of percentages representing the lowest mortality rate 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 at each hospital. The horizontal bar represents the expected range for that calculation. The length of the bar is based on a combination of patient volume and patient risk factors. There are two factors that can affect the length of the expected (horizontal) bar: 1) the number of cases at each hospital and 2) the predicted probability of death for those patients based on their risk factors. Generally, the more patients a hospital treats and/or the greater the likelihood of death or survival, the smaller the bar will be.

HOW TO INTERPRET THE RESULTS

If the point falls within the bar, it means that the difference between the actual mortality rate and the expected rate was not statistically significant. If the point falls to the left of the bar, the actual rate was significantly lower statistically than what was expected. This is highlighted by an open bullet (°) next to the hospital or practice group name. If the point falls to the right, the actual rate was significantly higher than the expected rate. This is highlighted by a single asterisk (*) next to the hospital or practice group name. A point that is statistically significant will always fall *clearly* outside the bar.



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 mortality rate 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 mortality rate falls inside the bar, the difference may have been due to chance or random variation.

ABOUT FIGURE D

Figure D lists all the physician practice groups and individual physicians that practiced at a given hospital under that hospital name. Many physicians practiced at more than one hospital so they will be listed more than once. Only physician practice groups who treated 30 or more cases in 1993 have received a mortality rate. For those groups, the rate is interpreted in the same way as the hospitals’ rate: the actual mortality compared to the expected mortality with symbols to highlight mortality rates which were higher or lower than expected given patient risk factors. These groups are listed first. The individual physicians who belong to these groups are listed under the appropriate group along with the number of cases they treated.

Next, the practice groups with less than 30 cases are listed. No mortality rate is reported. Their individual physicians are also listed along with their case numbers.

Finally, solo practitioners (physicians not affiliated with a group practice) are listed with their case numbers. No mortality rate is reported.

RISK ADJUSTED AVERAGE LENGTH OF STAY

The length of hospital stay has also been adjusted to take patient risk factors into account. The length of stay graphs (Figure B) are interpreted in the same way as the mortality graphs. 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 name means that a hospital’s actual length of stay was significantly greater than expected. An open bullet next to the hospital name means the length of stay was significantly less than expected.

THE RELEVANCE OF PRACTICE GROUP REPORTING

The physicians who treat patients for heart attack are generally cardiologists, internists, cardiac surgeons, or family/general practitioners. More than 5,000 physicians statewide treated at least one heart attack case in 1993. (Physicians may no longer be affiliated with the hospitals and practice groups listed in this report.)

Feedback from physicians indicates that the care of a heart attack patient is generally not provided by one physician; that, in fact, several physicians, affiliated together in what is known as a physician practice group, are often involved in the course of treatment. While the number of cases treated by individual physicians was, for the most part, too small for reliable statistics, 191 physician practice groups, who treated 44% of the heart attack patients included in this report, did treat enough cases so that their statistics could be reported with statistical confidence.

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 the treatment of heart attack. 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. In 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.

37% of patients hospitalized for heart attack in Pennsylvania are transferred from general acute care hospitals to hospitals with advanced cardiac services

TRANSFERS FROM HOSPITAL TO HOSPITAL

The treatment and management of a heart attack involve a number of clinical decisions. When a patient has a heart attack, they are usually taken immediately to the nearest hospital where the first course of action is to stabilize the patient, and prevent further damage to the heart. This is done by clearing the blocked artery and restoring blood flow.

Once the heart attack is treated, the patient must be diagnosed and treated for the underlying obstructive coronary artery disease which caused the attack, and is likely to cause future attacks if not corrected. In addition to medication, the patient can undergo cardiac catheterization, followed by balloon angioplasty or coronary bypass surgery.

Some hospitals have the capability of providing all these services while others have more limited technical capability. This does not mean that patients will necessarily receive better treatment for a heart attack at hospitals with advanced cardiac facilities than at acute care hospitals, only that additional services are available. As a result, a patient may receive initial treatment in one hospital, be stabilized there, and then be transferred to another hospital for diagnosis of the coronary disease and further treatment. In general, hospitals with advanced cardiac services treat a high percentage of heart attack patients which are stabilized at another facility and then transferred for additional treatment.

Decisions with respect to whether, when, and where to transfer a patient will vary across hospitals and physicians.

While the Council's methodology accounts for transfers in calculating risk-adjusted mortality rates and risk-adjusted lengths of stay, it is difficult to compare the statistics of hospitals that provide advanced cardiac services such as catheterizations, balloon angioplasty, and open heart surgery with those of hospitals that do not provide these services, but transfer many of their patients to advanced cardiac care hospitals for additional treatment.

For these reasons, the Council has reported the **Acute Care Hospitals with Advanced Cardiac Services** (advanced catheterization, balloon angioplasty, coronary bypass surgery) separately from the **Acute Care Hospitals** (those without these additional services). The Council has also provided a *Technical Report*, which contains more detailed information about the patterns and outcomes of the transferred patients and the differences among hospitals. Interested parties who wish to further explore the transfer issue in more detail should consult the *Technical Report*.

The number of cases used in this report varies from section to section for methodology reasons. For additional detail, please refer to the *Technical Report*.



How to Read Figures A and B

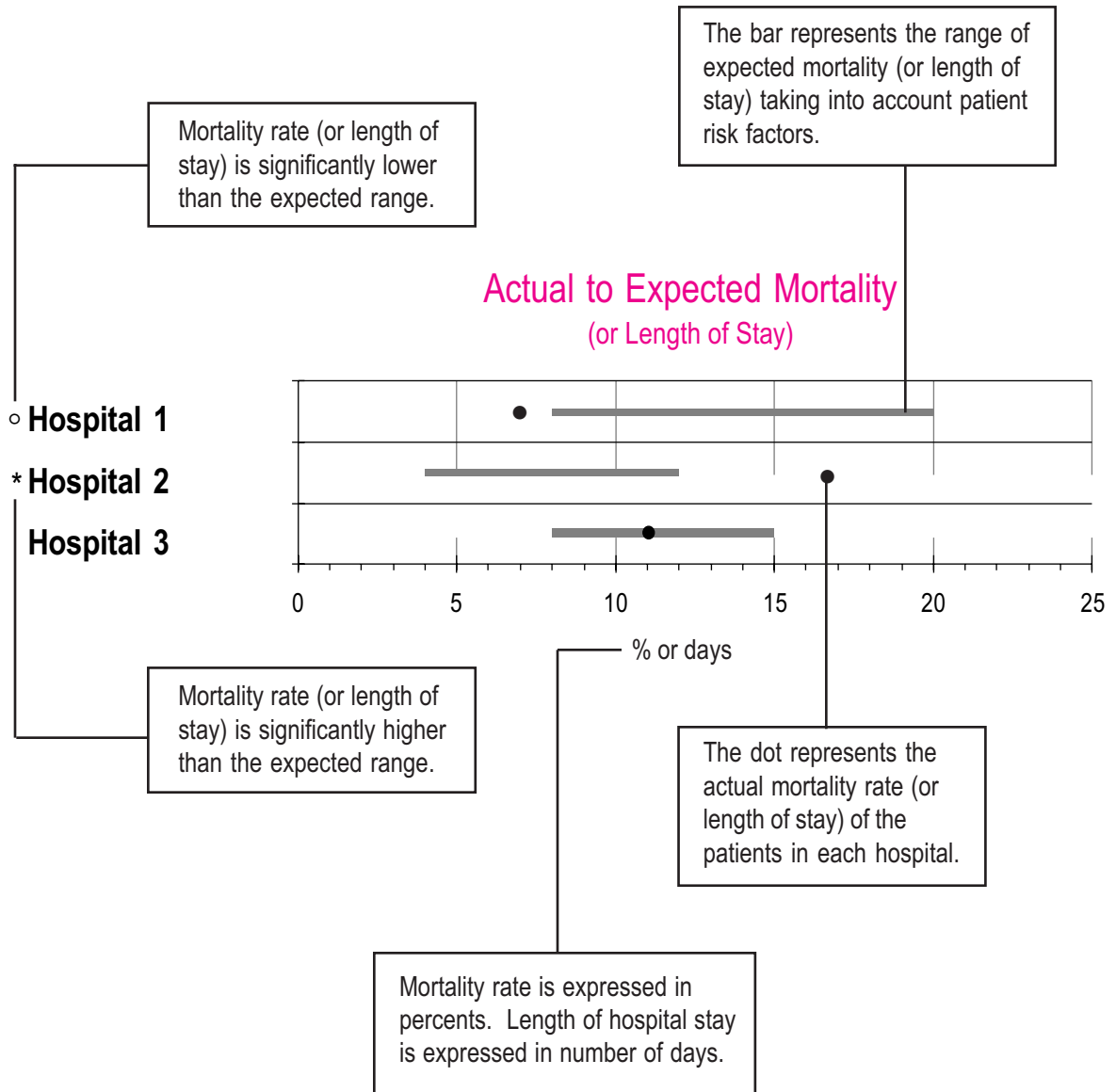
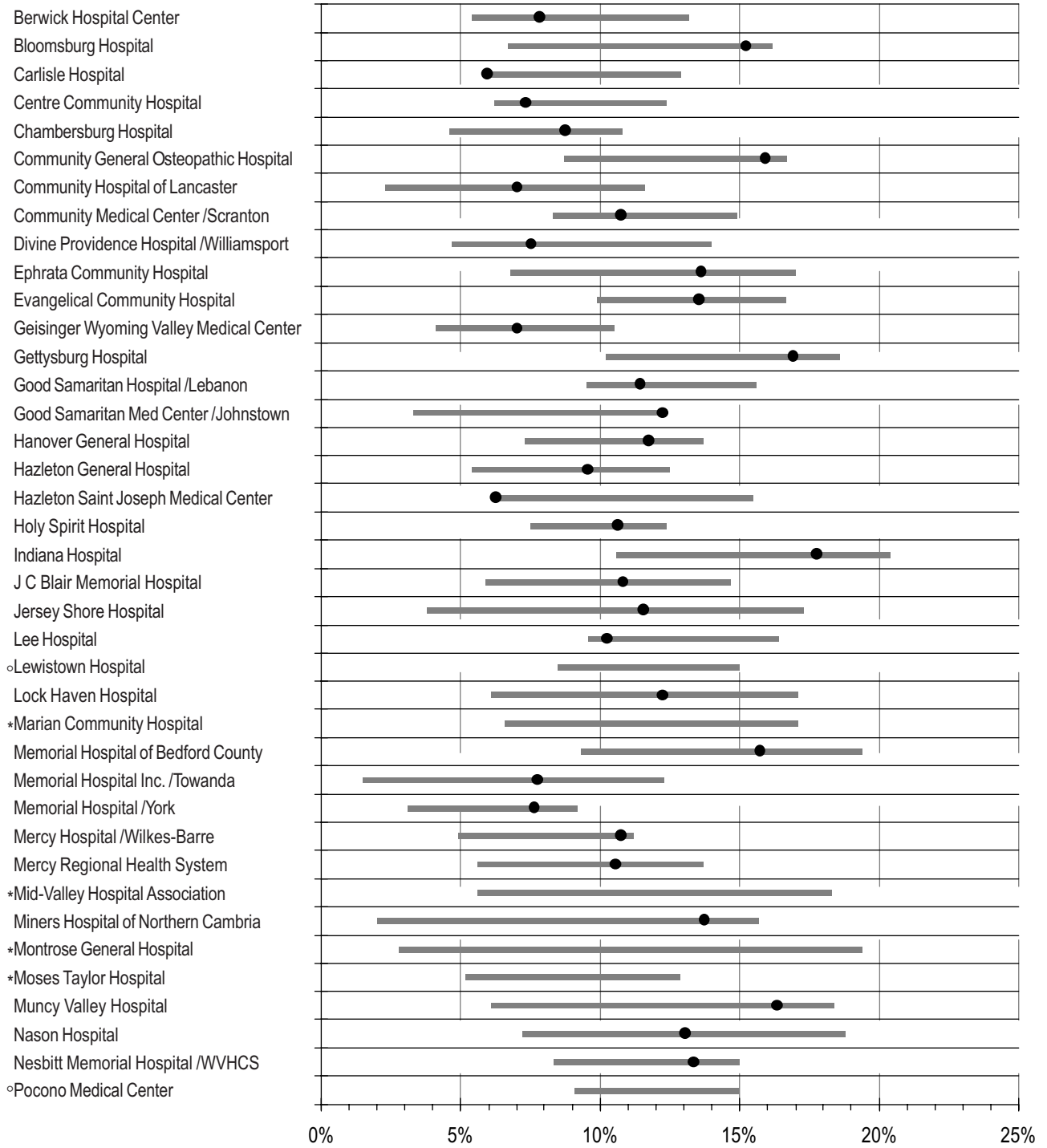


Figure A Actual to Expected Mortality
Heart Attack

ACUTE CARE HOSPITALS

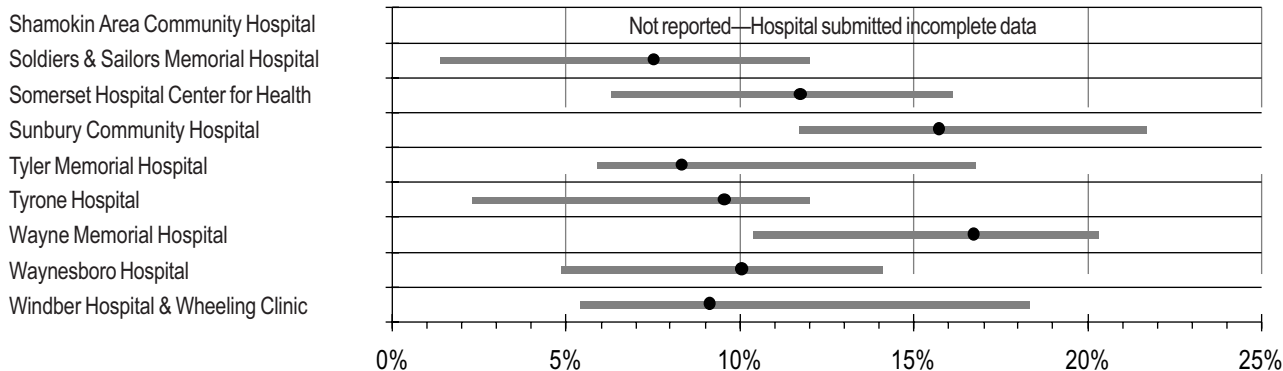


KEY

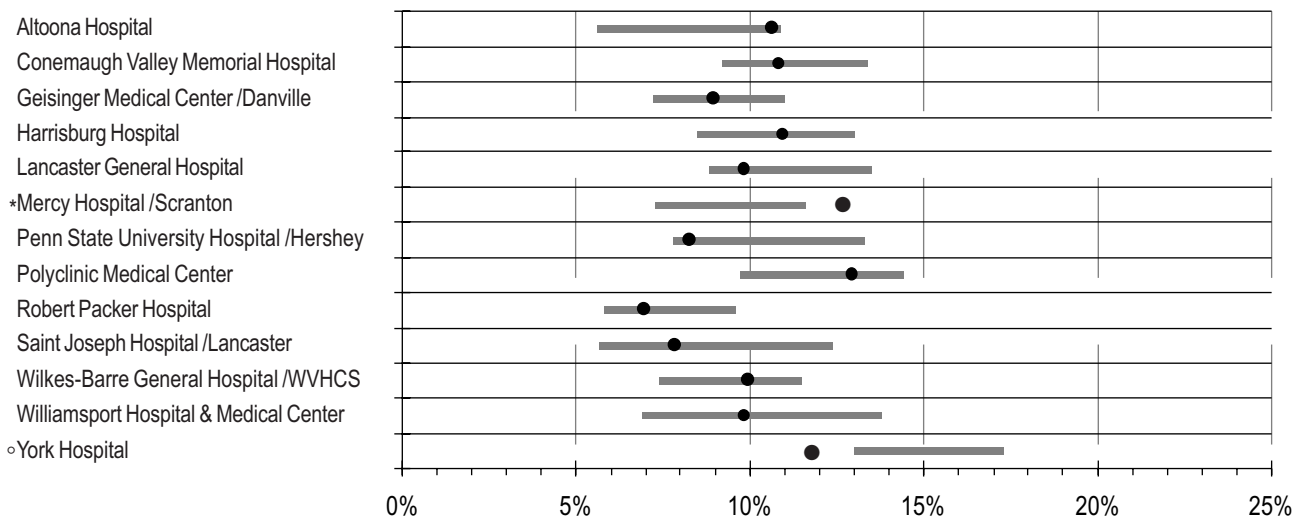
- Actual Mortality Rate, 1993
- Range of Expected Mortality
- * Actual Mortality significantly higher than Expected Range
- o Actual Mortality significantly lower than Expected Range

Figure B Actual to Expected Mortality
Heart Attack

ACUTE CARE HOSPITALS



ACUTE CARE HOSPITALS WITH ADVANCED CARDIAC SERVICES

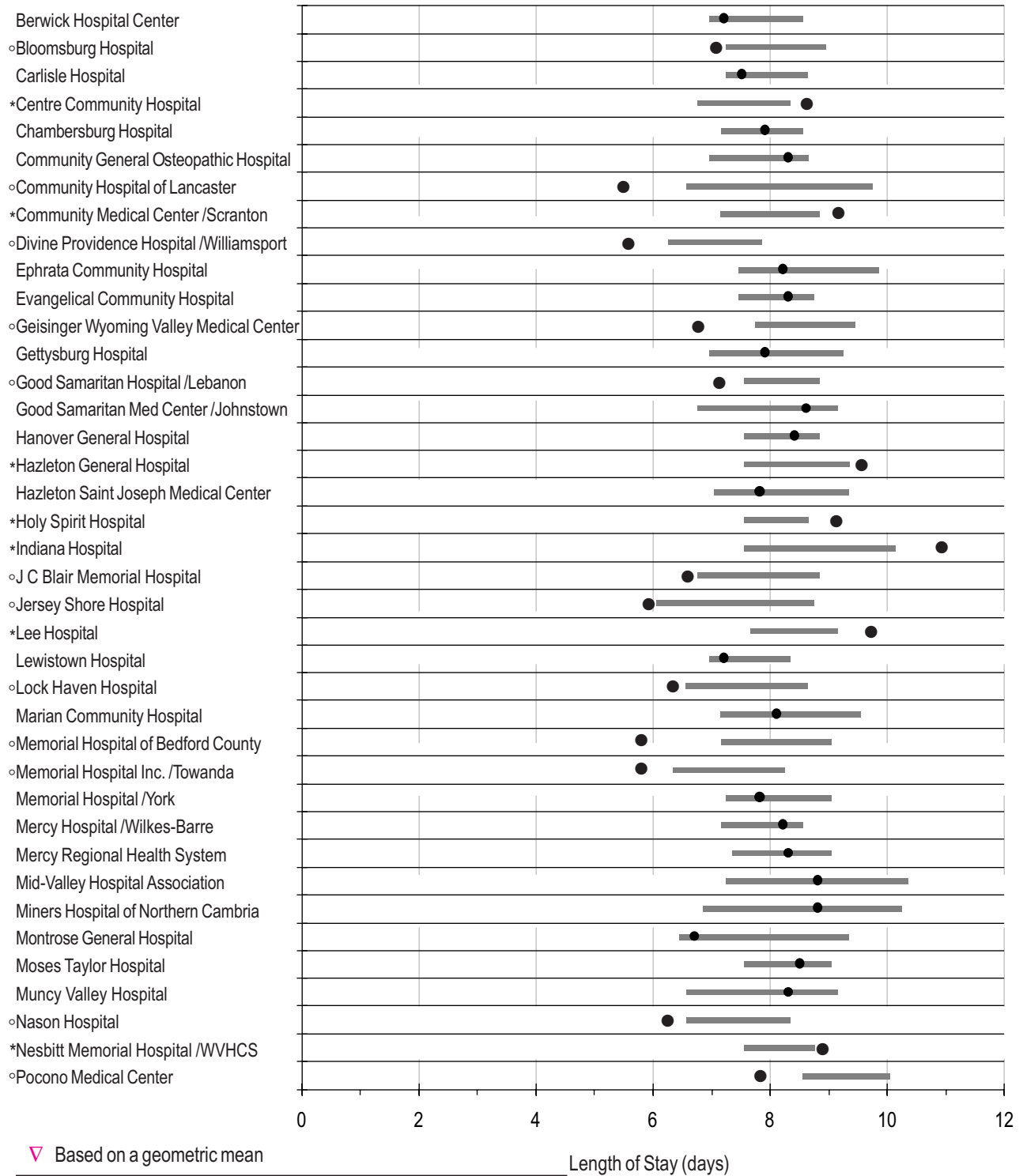


KEY

- Actual Mortality Rate, 1993
- ◻ Range of Expected Mortality
- * Actual Mortality significantly higher than Expected Range
- o Actual Mortality significantly lower than Expected Range

Figure B Actual to Expected Length of Stay, 1993[▽]
Heart Attack

ACUTE CARE HOSPITALS

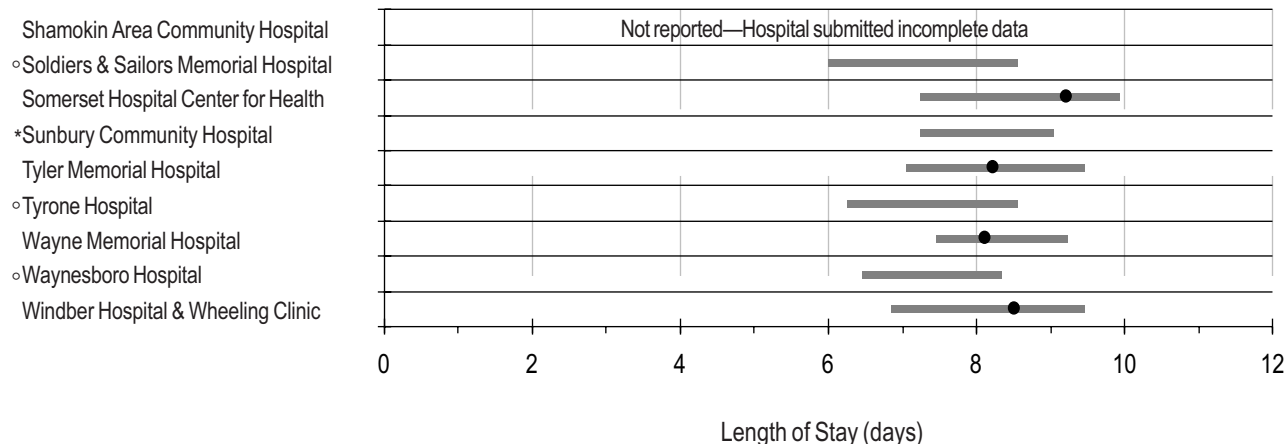


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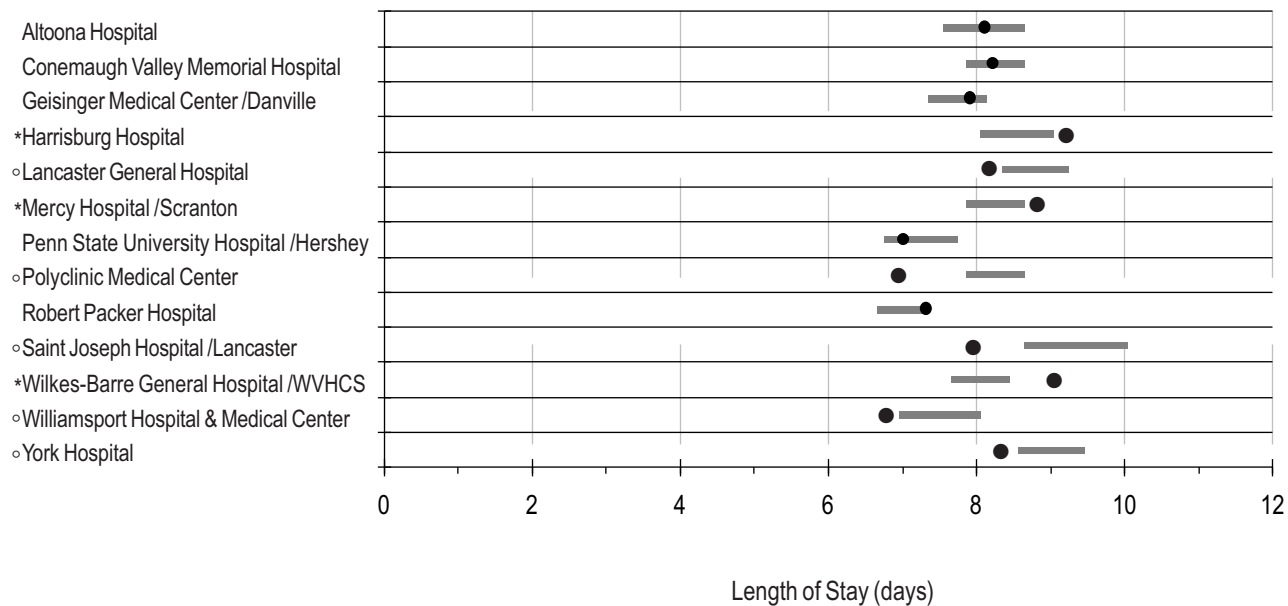
- Actual Length of Stay, 1993
- Range of Expected Length of Stay
- * Actual Length of Stay significantly higher than Expected Range
- o Actual Length of Stay significantly lower than Expected Range

Figure B Actual to Expected Length of Stay, 1993[▽]
Heart Attack

ACUTE CARE HOSPITALS



ACUTE CARE HOSPITALS WITH ADVANCED CARDIAC SERVICES



[▽] Based on a geometric mean

KEY

- Actual Length of Stay, 1993
- Range of Expected Length of Stay
- * Actual Length of Stay significantly higher than Expected Range
- Actual Length of Stay significantly lower than Expected Range

Figure C

Average Charges, 1993

Heart Attack

ACUTE CARE HOSPITALS

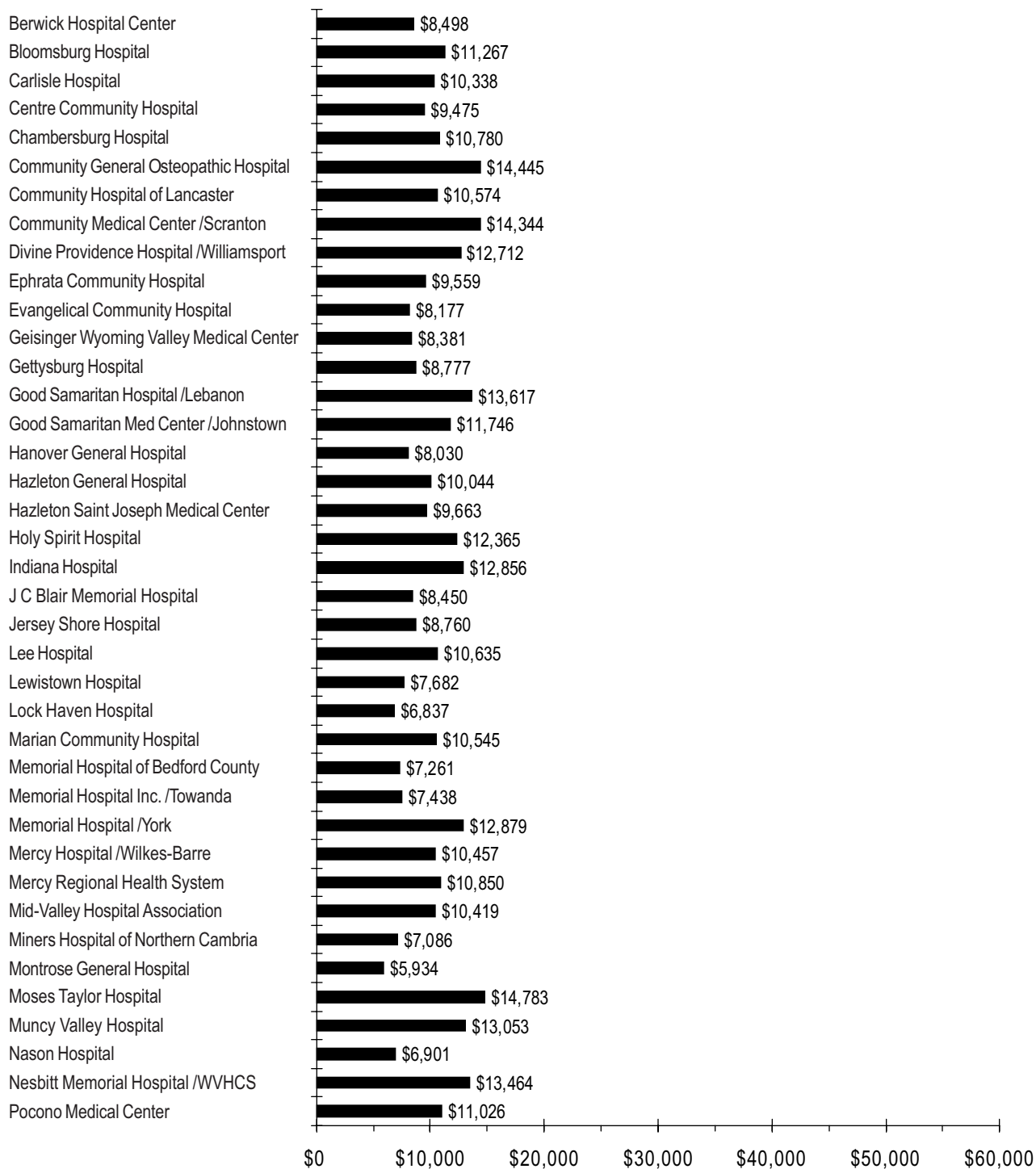
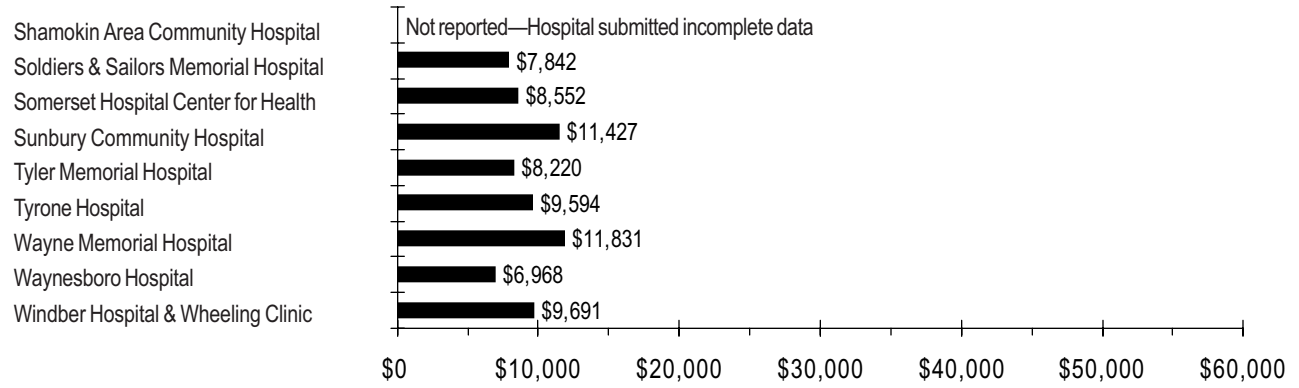


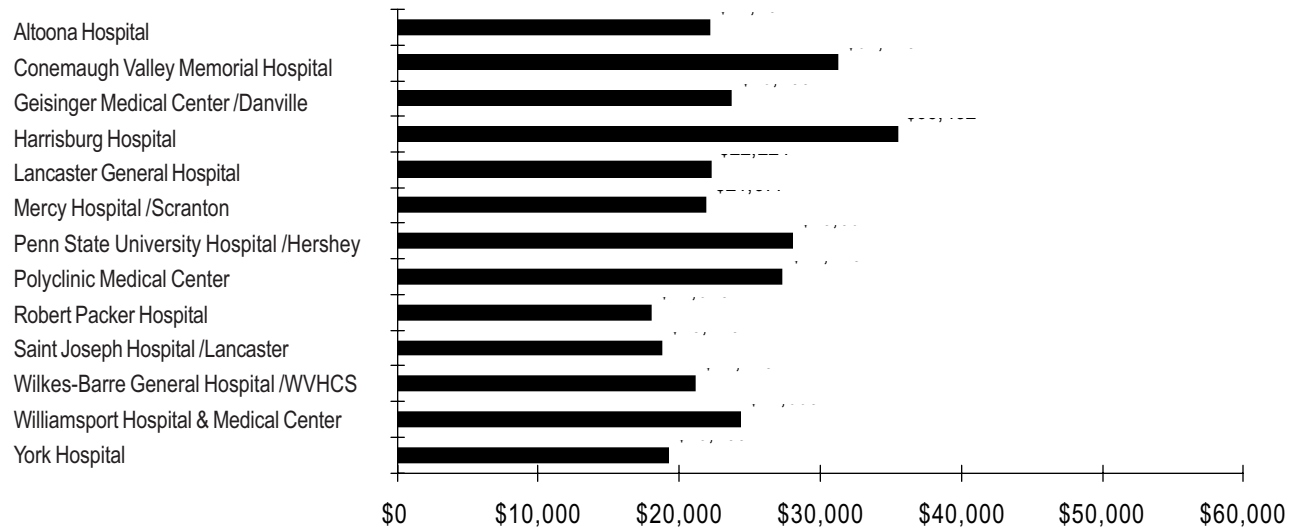
Figure C

Average Charges, 1993
Heart Attack

ACUTE CARE HOSPITALS



ACUTE CARE HOSPITALS WITH ADVANCED CARDIAC SERVICES



Acute Care Hospitals, by County, 1993

Heart Attack

Hospitals	Cases		Mortality Rate %		Length of Stay	
	#	Transfer Out %	Actual	Expected Range	Actual	Expected Range
Adams County						
Gettysburg Hospital	118	47.5	16.9	10.2 - 18.6	7.9	7.0 - 9.2
Bedford County						
Memorial Hospital of Bedford County	108	25.9	15.7	9.3 - 19.4	°5.9	7.2 - 9.0
Blair County						
Mercy Regional Health System	124	16.1	10.5	5.6 - 13.7	8.3	7.4 - 9.0
Nason Hospital	69	2.9	13.0	7.2 - 18.8	°6.2	6.6 - 8.3
Tyrone Hospital	42	4.8	9.5	2.4 - 11.9	°5.2	6.3 - 8.5
Bradford County						
Memorial Hospital Inc. /Towanda	65	15.4	7.7	1.5 - 12.3	°5.9	6.4 - 8.2
Cambria County						
Good Samaritan Medical Center /Johnstown	90	46.7	12.2	3.3 - 12.2	8.6	6.8 - 9.1
Lee Hospital	177	17.5	10.2	9.6 - 16.4	*9.8	7.7 - 9.1
Miners Hospital of Northern Cambria	51	47.1	13.7	2.0 - 15.7	8.8	6.9 - 10.2
Centre County						
Centre Community Hospital	178	48.3	7.3	6.2 - 12.4	*8.7	6.8 - 8.3
Clinton County						
Lock Haven Hospital	82	30.5	12.2	6.1 - 17.1	°6.4	6.6 - 8.6
Columbia County						
Berwick Hospital Center	129	27.1	7.8	5.4 - 13.2	7.2	7.0 - 8.5
Bloomsburg Hospital	105	16.2	15.2	6.7 - 16.2	°7.2	7.3 - 8.9
Cumberland County						
Carlisle Hospital	202	34.7	5.9	5.9 - 12.9	7.5	7.3 - 8.6
Holy Spirit Hospital	322	25.8	10.6	7.5 - 12.4	*9.1	7.6 - 8.6
Dauphin County						
Community General Osteopathic Hospital	138	30.4	15.9	8.7 - 16.7	8.3	7.0 - 8.6
Franklin County						
Chambersburg Hospital	195	34.4	8.7	4.6 - 10.8	7.9	7.2 - 8.5
Waynesboro Hospital	100	35.0	10.0	5.0 - 14.0	°6.2	6.5 - 8.3
Huntingdon County						
J C Blair Memorial Hospital	102	40.2	10.8	5.9 - 14.7	°6.8	6.9 - 8.8
Indiana County						
Indiana Hospital	113	46.9	17.7	10.6 - 20.4	*10.9	7.6 - 10.1
Lackawanna County						
Community Medical Center /Scranton	168	42.9	10.7	8.3 - 14.9	*9.2	7.2 - 8.8
Marian Community Hospital	76	28.9	*18.4	6.6 - 17.1	8.1	7.2 - 9.5
Mid-Valley Hospital Association	71	40.8	*22.5	5.6 - 18.3	8.8	7.3 - 10.3
Moses Taylor Hospital	155	22.6	*14.8	5.2 - 12.9	8.5	7.6 - 9.0

* Actual is significantly higher than the Expected Range

° Actual is significantly lower than the Expected Range

The hospital names in this report are listed as they were licensed in 1993. These hospital names may have changed since 1993.

Acute Care Hospitals, by County, 1993

Heart Attack

Hospitals	Cases		Mortality Rate %		Length of Stay	
	#	Transfer Out %	Actual	Expected Range	Actual	Expected Range
Lancaster County						
Community Hospital of Lancaster	43	41.9	7.0	2.3 - 11.6	°5.5	6.6 - 9.7
Ephrata Community Hospital	88	38.6	13.6	6.8 - 17.0	8.2	7.5 - 9.8
Lebanon County						
Good Samaritan Hospital /Lebanon	263	35.4	11.4	9.5 - 15.6	°7.2	7.6 - 8.8
Luzerne County						
Geisinger Wyoming Valley Medical Center	171	38.0	7.0	4.1 - 10.5	°6.8	7.8 - 9.4
Hazleton General Hospital	168	45.8	9.5	5.4 - 12.5	*9.4	7.6 - 9.3
Hazleton Saint Joseph Medical Center	97	48.5	6.2	6.2 - 15.5	7.8	7.1 - 9.3
Mercy Hospital /Wilkes-Barre	206	30.1	10.7	4.9 - 11.2	8.2	7.2 - 8.5
Nesbitt Memorial Hospital /WVHCS	240	29.6	13.3	8.3 - 15.0	*8.8	7.6 - 8.7
Lycoming County						
Divine Providence Hospital /Williamsport	107	20.6	7.5	4.7 - 14.0	°5.6	6.3 - 7.8
Jersey Shore Hospital	52	38.5	11.5	3.8 - 17.3	°6.0	6.1 - 8.7
Muncy Valley Hospital	49	22.4	16.3	6.1 - 18.4	8.3	6.6 - 9.1
Mifflin County						
Lewistown Hospital	200	35.0	°7.5	8.5 - 15.0	7.2	7.0 - 8.3
Monroe County						
Pocono Medical Center	274	41.2	°7.7	9.1 - 15.0	°7.9	8.6 - 10.0
Northumberland County						
Shamokin Area Community Hospital	97		Not reported—Hospital submitted incomplete data			
Sunbury Community Hospital	102	14.7	15.7	11.8 - 21.6	*9.2	7.3 - 9.0
Somerset County						
Somerset Hospital Center for Health	94	52.1	11.7	6.4 - 16.0	9.2	7.3 - 9.9
Windber Hospital & Wheeling Clinic	55	32.7	9.1	5.5 - 18.2	8.5	6.9 - 9.4
Susquehanna County						
Montrose General Hospital	36	11.1	*22.2	2.8 - 19.4	6.7	6.5 - 9.3
Tioga County						
Soldiers & Sailors Memorial Hospital	67	50.7	7.5	1.5 - 11.9	°5.9	6.1 - 8.5
Union County						
Evangelical Community Hospital	222	19.4	13.5	9.9 - 16.7	8.3	7.5 - 8.7
Wayne County						
Wayne Memorial Hospital	114	20.2	16.7	10.5 - 20.2	8.1	7.5 - 9.2
Wyoming County						
Tyler Memorial Hospital	84	45.2	8.3	6.0 - 16.7	8.2	7.1 - 9.4
York County						
Hanover General Hospital	205	22.9	11.7	7.3 - 13.7	8.4	7.6 - 8.8
Memorial Hospital /York	131	34.4	7.6	3.1 - 9.2	7.8	7.3 - 9.0

Acute Care Hospitals with Advanced Cardiac Services, by County, 1993 Heart Attack

Hospitals	Cases			Mortality Rate %		Length of Stay	
	#	Transfer In % A [∇]	Transfer In % B [∇]	Actual	Expected Range	Actual	Expected Range
Blair County							
Altoona Hospital	284	15.1	31.9	10.6	5.6 - 10.9	8.1	7.6 - 8.6
Bradford County							
Robert Packer Hospital	450	52.7	54.2	6.9	5.8 - 9.6	7.3	6.7 - 7.3
Cambria County							
Conemaugh Valley Memorial Hospital	530	35.7	37.8	10.8	9.2 - 13.4	8.2	7.9 - 8.6
Dauphin County							
Harrisburg Hospital	376	11.4	41.7	10.9	8.5 - 13.0	*9.2	8.1 - 9.0
Penn State University Hospital /Hershey	255	42.7	52.1	8.2	7.8 - 13.3	7.0	6.8 - 7.7
Polyclinic Medical Center	402	28.6	38.9	12.9	9.7 - 14.4	°7.0	7.9 - 8.6
Lackawanna County							
Mercy Hospital /Scranton	438	27.9	36.3	*12.8	7.3 - 11.6	*8.8	7.9 - 8.6
Lancaster County							
Lancaster General Hospital	407	15.5	28.6	9.8	8.8 - 13.5	°8.2	8.4 - 9.2
<input checked="" type="checkbox"/> Saint Joseph Hospital /Lancaster	193	5.2	7.1	7.8	5.7 - 12.4	°8.0	8.7 - 10.0
Luzerne County							
Wilkes-Barre General Hospital /WVHCS	443	37.5	39.8	9.9	7.4 - 11.5	*9.1	7.7 - 8.4
Lycoming County							
<input checked="" type="checkbox"/> Williamsport Hospital & Medical Center	174	21.8	27.7	9.8	6.9 - 13.8	°6.9	7.0 - 8.0
Montour County							
Geisinger Medical Center /Danville	517	59.6	61.9	8.9	7.2 - 11.0	7.9	7.4 - 8.1
York County							
York Hospital	531	16.0	21.2	°11.9	13.0 - 17.3	°8.4	8.6 - 9.4

[∇] Transfer In %-A represents the percent of an advanced cardiac care hospital's heart attack patients that were transferred in from another hospital, where the heart attack is listed as the principal reason for admission. (They are the transfer patients in the study population.) Many patients are diagnosed with a heart attack at the first hospital, then transferred to an advanced cardiac care hospital where they may be diagnosed for treatment not of the heart attack itself, but for the underlying problem(s), such as atherosclerosis or coronary artery disease, which led to the heart attack. These cases are not included in Transfer In %-A's percentages, and so in some hospitals, the true percent of heart attack patients transferred in for advanced treatment may be under represented due to differences in hospital coding practices. Transfer In %-B, however, does include these patients and so more uniformly represents the percentage of heart attack patients transferred to hospitals for advanced cardiac care services. For more detail, see the *Technical Report*.

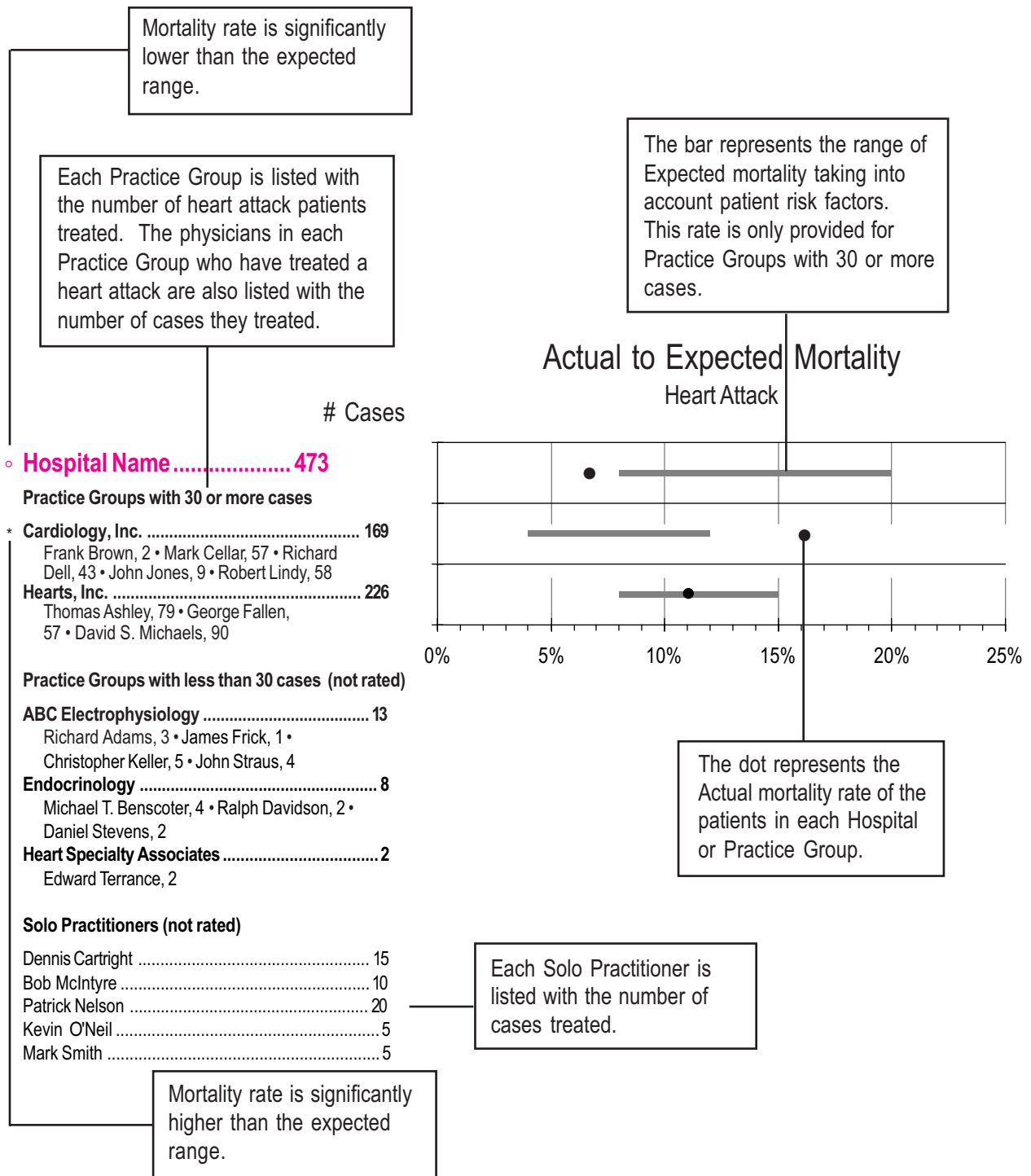
* Actual is significantly higher than the Expected Range ° Actual is significantly lower than the Expected Range

Low percentage of patients transferred in may be due to 1992 opening of open heart surgery unit

Low percentage of patients transferred in may be due to 1993 opening of open heart surgery unit

The hospital names in this report are listed as they were licensed in 1993. These hospital names may have changed since 1993.

How to Read Figure D



IMPORTANT NOTE: The cases attributed to physicians in this report represent only those where the doctor was identified as the *attending* physician. Physicians may have directly participated in the treatment of additional patients where they were *not* listed as the attending physician. Therefore, the case volume reported in the following section is not necessarily indicative of a physician's overall practice.

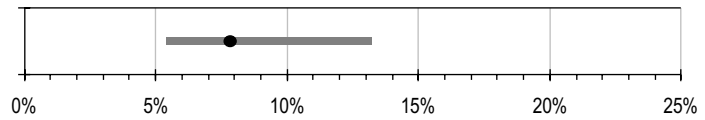
ACUTE CARE HOSPITALS

Figure D

Cases

Actual to Expected Mortality
Heart Attack

Berwick Hospital Center 129



Practice Groups with less than 30 cases (not rated)

Alley Medical Center	20
Albert Joseph Alley, 11 • Ali A. Alley, 9	
Berwick Internal Medicine Associates	14
Frank Gegwich, 7 • Joseph F. Gegwich, 7	
Francis and Radice Medical Association	15
Leon R. Francis, 12 • Eugene Duy Radice, 3	
Huntingdon Mills Family Practice	3
Donald J. Stone, 3	

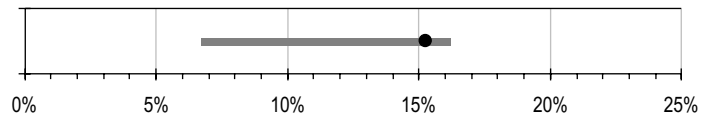
Solo Practitioners (not rated)

David R. Campbell	14
Dean A. Christian	3
Thomas S. Cretella	2
Jose F. Derr	5
Frank J. Giugliano	7
Maliyakkal Joseph John	10
Gary D. Kanouse	4
Laureano M. Manuel	11
Robert J. Middleton	5
Kevin E. Shafer	4
Abdul K. Tanribilir	12

Cases

Actual to Expected Mortality
Heart Attack

Bloomsburg Hospital 105



Practice Groups with less than 30 cases (not rated)

Columbia Medical Group, Inc.	2
Frank D. Kresock, Jr., 2	
Elysburg Family Practice	4
Francis B. Bobek, 2 • Michael John Clements, 2	
Francis and Radice Medical Association	3
Eugene Duy Radice, 3	
Geisinger Medical Group	20
Terry Lee Angstadt, 1 • Ernest W. Campbell, 3 •	
Richard U. Delp, 5 • David R. Gorby, 1 • Timothy	
J. Lilly, 2 • Richard A. Nesbitt, 6 • Paul Anton	
Saloky, 2	
Huntingdon Mills Family Practice	5
Donald J. Stone, 5	
Kuprevich, Revak, Revak, and Hutson	19
Jody Wade Hutson, 6 • William J. Kuprevich, Jr., 8	
• Blairanne H. Revak, 3 • David J. Revak, 2	
North Columbia Medical Offices	8
Grant C. Clark, 4 • Richard A. Prisuta, 4	

Solo Practitioners (not rated)

Bruce Becker	4
Benjamin A. Corteza	6
Timothy B. Eckel	3
Robert W. Meldrum	13
Raymond F. Nungesser	7
Donald A. Remaly	4
John L. Runyan	6
Dennis M. Sheehe	1

Cases Actual to Expected Mortality Heart Attack

Carlisle Hospital 202

Practice Groups with 30 or more cases

BMC Internal Medicine 44

David Parker Albright, 17 • Joseph E. Green, III, 2 • Steven L. Hatteberg, 15 • J. Craig Jurgensen, 10

Carlisle Cardiopulmonary Associates 33

Philip D. Carey, 2 • David Kann, 9 • Dennis E. Line, 15 • Leon W. Sweer, 7

Masland Associates 45

Douglas John Bower, 6 • Joseph F. Brazel, 6 • Lester Himmelreich, 5 • Philip Andrew Neiderer, 3 • Larry S. Rankin, 6 • Terry A. Robison, 11 • Debra D. Taylor, 8

Practice Groups with less than 30 cases (not rated)

Adams Cumberland Medical Center 4

David L. Wampler, 4

BMC Family Practice 23

Robert A. Hollen, 10 • Harold G. Kretzing, 11 • Carol K. Robison, 2

Davis, Daniels, Dell 17

Michael O. Daniels, 8 • David Alan Dell, 9

Graham Medical Clinic, PC 9

Joseph Anthony Pion, 6 • Jay A. Townsend, 3

Hough and Willard 11

Rodney K. Hough, 7 • Willis W. Willard, III, 4

Shermans Dale Family Practice 4

Dow E. Brophy, 1 • William Scott Kauffman, 3

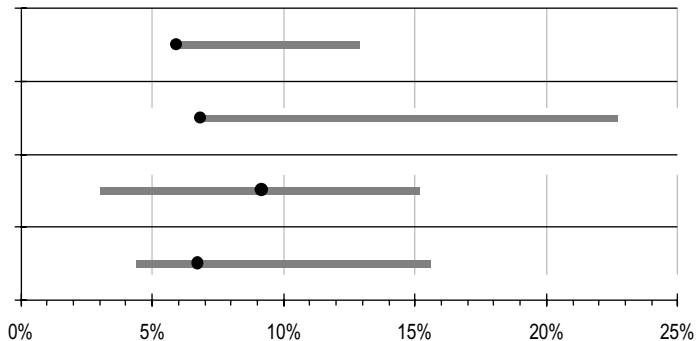
Yellow Breeches Family Practice 4

Donald J. Kovacs, 1 • Bradford J. Wood, 3

Solo Practitioners (not rated)

George P. Branscum, Jr. 5

William J. Phelan 3



Cases Actual to Expected Mortality Heart Attack

Centre Community Hospital 178

Practice Groups with 30 or more cases

Geisinger Medical Group 67

John C. Coppes, Jr., 8 • Stephen M. Keil, 25 • Mary Edith Lindholm, 1 • Charles W. Maxin, 1 • Donald E. Mulhatten, 2 • Edward Raymond Prince, 2 • Jeffrey Alan Ratner, 5 • John William Richardson, 11 • Thomas Edwin Robinson, 7 • Mark S. Rozick, 1 • Stephen Thatcher Tingley, 1 • Leigh Wheeler, 2 • Paul Woolley, 1

Hall, McGuire, Guillard 43

Frank Guillard, 11 • Robert L. Hall, 17 • Richard J. McGuire, 15

Internal Medicine Associates 56

Hussein Aboul-Hosn, 12 • John Baldwin Cox, 1 • Jonathan Dranov, 1 • Betsey A. Egglar, 3 • Philip Keith Good, 5 • Joel B. Haight, 1 • Susan E. Heywood, 27 • Donald F. Mandetta, 1 • John Joseph Solic, 3 • Jan S. Ulbrecht, 2

Practice Group with less than 30 cases (not rated)

Pandolph, Phillips, Mooney 5

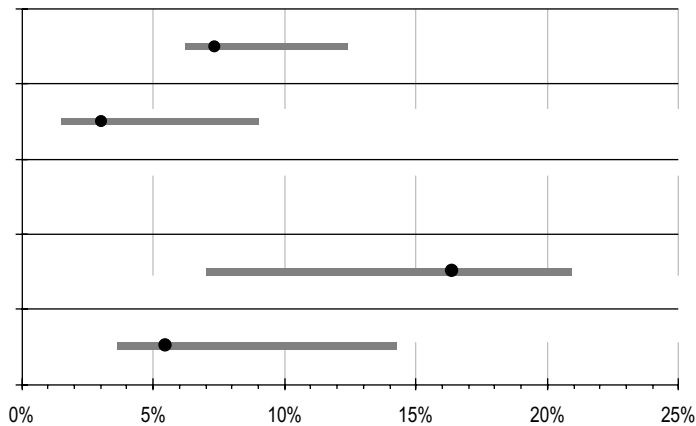
Robert B. Mooney, Jr., 1 • Stephen J. Pandolph, 1 • Thomas Grant Phillips, 3

Solo Practitioners (not rated)

Jonathan D. Adams 2

J. Alfred Jones 4

John Elias Piatt 1



KEY

- Actual Mortality Rate, 1993
- Range of Expected Mortality
- * Actual Mortality significantly higher than Expected Range
- Actual Mortality significantly lower than Expected Range

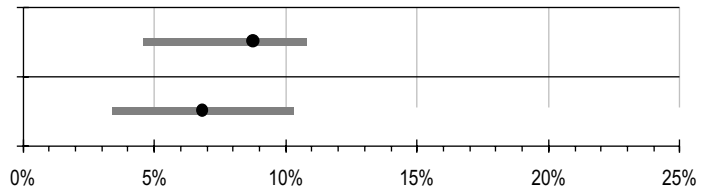
Cases Actual to Expected Mortality Heart Attack

Chambersburg Hospital 195

Practice Group with 30 or more cases

Cardiovascular Associates of Chambersburg, Ltd. 146

Michael T. Donahoe, 44 • V. Wade Hash, 22 • Michael H. Palmer, 53 • Timothy Patrick Walsh, 27



Practice Groups with less than 30 cases (not rated)

- Chambersburg Gastroenterology Associates 1
Mark P. Dobish, 1
- Cumberland Valley Family Physicians 8
H. Wallace Brubaker, Jr., 2 • Michael C. Gaudiose, 1 • Douglas R. Martzluft, 4 • Edward L. Zuraweste, II, 1
- Cumberland Valley Nephrology Associates, Inc. 2
Albin W. Harris, 2
- Greencastle Family Practice 1
Joseph K. Thornton, 1

- Norland Family Practice 1
James William Robinson, 1
- Pulmonary Associates of Chambersburg, Ltd. 8
Gregory Patrick Brown, 2 • Peter M. Jablin, 6
- Rahauer, VanKirk, Barton and Davis 10
James C. Barton, 4 • Thomas Davis, 4 • James K. VanKirk, 2
- Scotland Family Medicine 5
William Joseph Keating, 1 • Kenneth W. Rictor, 4

Solo Practitioners (not rated)

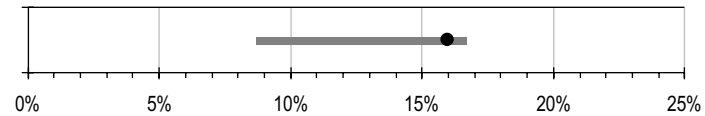
- Donald P. DeLorenzo 3
- Quirico R. Magbojos 3
- Paul D. Orange 5
- Mark Frederick Yurek 2

Cases Actual to Expected Mortality Heart Attack

Community General Osteopathic Hospital 138

Practice Groups with less than 30 cases (not rated)

- Associated Cardiologists 8
L. Bruce Althouse, 1 • Richard Alan Cytryn, 2 • Jeffrey S. Fugate, 1 • Kenneth J. May, Jr., 1 • Stuart B. Pink, 1 • Robert A. Skotnicki, 2
- Bronstein and Jeffries Professional Association 24
Raymond Robert Beatty, Jr., 1 • David Bronstein, 6 • Richard H. Jeffries, 14 • Julie A. Rothman, 3
- Colonial Park Family Practice 2
Megan J. Borrer, 1 • Kevin J. Kelly, 1
- Internal Medicine Associates of Harrisburg, Inc. 9
Robert L. Tecau, 5 • Eugene P. York, 4
- John H. Nipple, DO/Michael D Sheaffer, DO 5
Michael Dean Sheaffer, 5
- Stanley R Goldman, MD and Associates 9
Charles D. Gerlach, 5 • Stanley R. Goldman, 2 • Jack H. Moody, 2



Solo Practitioners (not rated)

- Bruce S. Bashline 1
- Edward C. Brennan 4
- William B. Bush 3
- Larry M. Espenshade 2
- David J. Ferner 6
- Steven G. Heckenluber 10
- Daniel M. Kambic 4
- David M. Murphy 5
- John H. Nipple 5
- Michael L. Sams 1
- Christopher M. Snyder 1
- Paul D. Williams 1

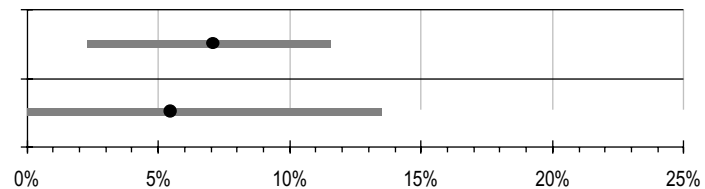
Cases Actual to Expected Mortality Heart Attack

Community Hospital of Lancaster 43

Practice Group with 30 or more cases

Heart Specialists of Lancaster, PC 37

Roddy P. Canosa, 10 • Frank W. Corbally, 8 • Scott Deron, 5 • David M. Loss, 14

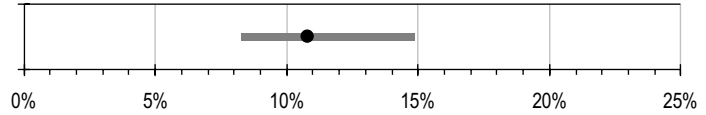


Practice Group with less than 30 cases (not rated)

- Medicine Consultants of Lancaster, Ltd. 5
Vincent D. Glielmi, 1 • Jeffrey N. Levine, 1 • Thomas L. Showers, 1 • Scott D. Silverstein, 2 • Berel Arrow, 1

Cases Actual to Expected Mortality Heart Attack

Community Medical Center /Scranton 168



Practice Groups with less than 30 cases (not rated)

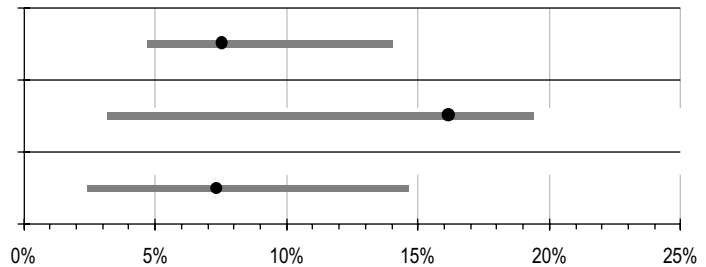
- Cardiovascular Consultants, Ltd.** 16
Chau Fe Huang, 6 • David Lee Lohin, 3 • Paul H. Menzel, 3 • Kevin H. Olsen, 3 • Stephen J. Voyce, 1
- Geisinger Medical Group** 14
Michael J. Fox, 1 • Richard A. Martin, 6 • James McKenna, III, 5 • William H. Newman, III, 1 • Michael John Rogan, 1
- Lackawanna Medical Group** 24
Charles T. Grad, 1 • Richard E. Gratz, 2 • Frank A. Milani, 13 • Sharon Palushock, 1 • Emma Rubin, 2 • Randall W. Snyder, 3 • Wayne L. Weston, 2
- Northeast Cardiology Associates** 12
Leonard J. Denis, 4 • Neal E. Soifer, 8
- Northeast Emergency Medicine Specialists** 1
John J. Cipriano, 1
- Northeast Medical Associates** 3
Phillip A. Boccagno, 2 • Dominic Ruggiero, 1
- Piczon-Manahan Associates** 1
Oscar Y. Piczon, 1
- Primary Medical Associates** 1
Carmen A. Brutico, Jr., 1
- Scranton Primary Health Care Center** 6
Alfonso A. Gomar, 6

Solo Practitioners (not rated)

- Gregory E. Cali 1
- Charles F. Connors 1
- Joseph N. Demko 4
- Charles R. Druffner 1
- Jeremiah W. Eagen 1
- Steven B. Eisner 4
- Joseph J. Giombetti 5
- Eugene D. Harasym 8
- Stephen G. Jaditz 6
- Dennis J. Kondash 5
- Michael Lawrence Kondash 5
- Salvatore A. Lawrence, Jr. 7
- William S. Maigur 2
- Thomas G. Majernick 2
- Joseph N. Marino 1
- James Joseph Martin 1
- John J. McAndrew 6
- Mary Ann McDonald 1
- Thomas L. Minora 1
- Abul-Kassim Mohamed-Ali 1
- Mark Michael Murnin 1
- Daniel Parsick 1
- Anthony M. Perry 1
- John E. Prior 1
- Mohammad A. Saleem 2
- Kenneth J. Sebastianelli 2
- Enrico A. Serine 9
- Charles L. Swisher 1
- Michael J. Turock 5
- Paramin Udomsak 1
- Donald J. Werner 2
- Henry C. Yeager 1

Cases Actual to Expected Mortality Heart Attack

Divine Providence Hospital /Williamsport 107



Practice Groups with 30 or more cases

- Lycoming Cardiology Associates, PC** 31
M. Raashid Mirza, 12 • Mohammad Shafique, 19
- Williamsport Cardiology Associates, Inc.** 41
Christopher Tobiasz, 41

Practice Group with less than 30 cases (not rated)

- Columbia Medical Group, Inc.** 8
Frank D. Kresock, Jr., 8

Solo Practitioners (not rated)

- Lee Michael Ciccarelli 1
- Alexander R. Nesbitt 1
- Collier B. Nix 1
- Raghavan Vasudevan 24

KEY

- Actual Mortality Rate, 1993 — Range of Expected Mortality
- * Actual Mortality significantly higher than Expected Range
- o Actual Mortality significantly lower than Expected Range

Cases

Actual to Expected Mortality
Heart Attack

Ephrata Community Hospital 88

Practice Group with 30 or more cases

Internal Medicine Associates of Ephrata 57

Eugene C. H. Ko, 10 • William Douglas Loretan, 5 • Richard W. Mellinger, 21 • Joel W. Parliament, 16 • Albert K. Rogers, 5

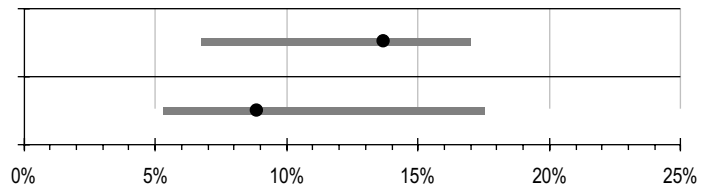
Practice Groups with less than 30 cases (not rated)

Conestoga Family Practice 1
Virginia Ella Eliza Shafer, 1

Ephrata Family Practice Associates 1
Edward G. Camerino, 1

Heart Specialists of Lancaster, PC 11
Roddy P. Canosa, 5 • Frank W. Corbally, 5 • David M. Loss, 1

Medicine Consultants of Lancaster, Ltd. 13
Vincent D. Glielmi, 2 • Jeffrey N. Levine, 1 • Thomas L. Showers, 1 • Scott D. Silverstein, 9



Solo Practitioners (not rated)

John F. Brabazon 1
Paul E. Gause 2
David M. Revak 1
Joseph W. Strangarity 1

Cases

Actual to Expected Mortality
Heart Attack

Evangelical Community Hospital 222

Practice Groups with 30 or more cases

Family Practice Center 39

Charles P. Fasano, 6 • David B. Gray, 4 • Christopher D. Olson, 10 • Scott Steven Prince, 1 • Gene W. Reisinger, 7 • Domenick N. Ronco, 6 • Kevin E. Shafer, 5

John H Persing, MD, Inc. 39

John H. Persing, 21 • Dennis R. Smith, 18

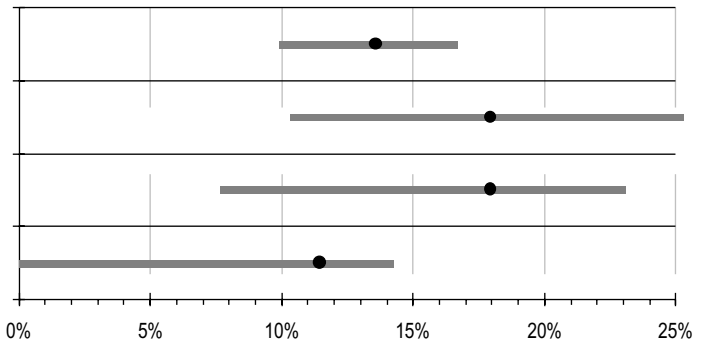
Lewisburg CardioMed Associates 35

Charles E. Heid, 13 • Donald C. Steckel, 22

Practice Groups with less than 30 cases (not rated)

Brookpark Family Practice and Obstetrics 8
Michael D. Brown, 3 • Andrew Martin Edinger, 5

Milton Family Practice 6
Michael J. Weisner, 6



Solo Practitioners (not rated)

Amador G. Calderon 4
John Lawrence Ginsburg 15
Linda L. Granath 7
Steven R. Kramm 3
William T. Musser 8
Regulus D. Regalado 10
Harold Richard Ward 17
John M. Weston 5
Barclay M. Wilson 1
Stephen G. Wood 8
Paul Ronald Zug 17

Cases Actual to Expected Mortality Heart Attack

Geisinger Wyoming Valley Medical Center 171

Practice Groups with 30 or more cases

Geisinger Medical Group 104

Matthew J. Connolly, 21 • Seth W. Fisher, 18 • Jeffrey R. Folk, 18 • Mark J. Nelson, 26 • E. Joseph Schwiter, 21

MSUSP, MDs, Associates, PC 47

Jose V. Manrique, 9 • Robert D. J. Potorski, 11 • Anilkumar T. Shah, 11 • Farook K. Shroff, 8 • Mallapa B. Udoshi, 8

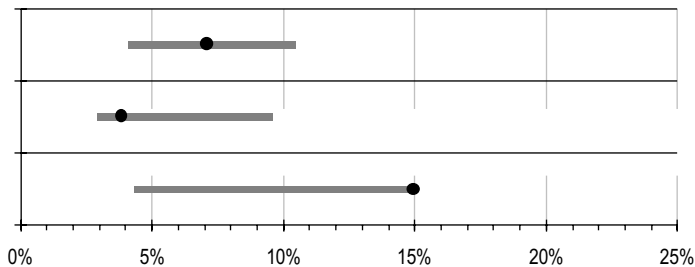
Practice Groups with less than 30 cases (not rated)

Cardiology Associates 13

John H. Ellis, IV, 2 • Nicholas J. Ruggiero, 5 • Thomas J. Turissini, 6

Geisinger Medical Group - Central Wilkes-Barre 3

David W. Kistler, 1 • John A. Stankoski, 2



Solo Practitioner (not rated)

Mark M. Bernardi 4

Cases Actual to Expected Mortality Heart Attack

Gettysburg Hospital 118

Practice Groups with 30 or more cases

Gettysburg Internal Medicine Associates, Inc. 47

John R. Kalloz, 8 • David F. Kamsler, 14 • Ronald Krablin, 25

Practice Groups with less than 30 cases (not rated)

Adams Cumberland Medical Center 6

Orville G. McBeth, 6

Drs. James H and James N Hammett 10

James H. Hammett, 3 • James N. Hammett, 7

Gettysburg Family Practice, Inc. 20

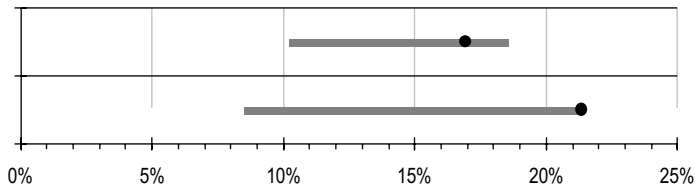
Michael J. McGlaughlin, 7 • Dwight I. Michael, 4 • Adam Ira Wasserman, 4 • Paul Joseph Zeshonsky, 5

Herr's Ridge Family Practice 4

Andrew Blosschichak, 4

York Springs Family Practice 6

Jeffrey S. Nolt, 6



Solo Practitioners (not rated)

Alan Lee Carroll 1

Maureen L. Durkin 9

Horace Frederick Martin 6

Byravan Viswanathan 9

KEY

- Actual Mortality Rate, 1993
- Range of Expected Mortality
- * Actual Mortality significantly higher than Expected Range
- Actual Mortality significantly lower than Expected Range

Cases

Actual to Expected Mortality
Heart Attack

Good Samaritan Hospital /Lebanon 263

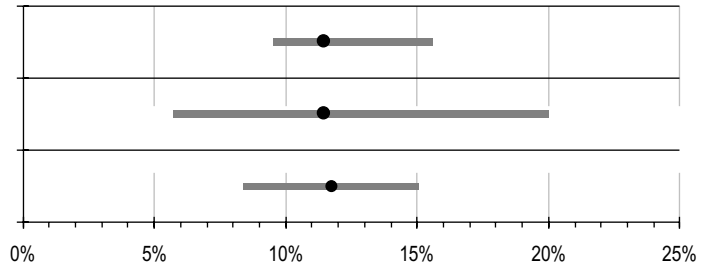
Practice Groups with 30 or more cases

Cardiovascular Medicine Specialists, Inc. 35

David J. Blazer, 15 • William F. Hallahan, 20

Lebanon Cardiology Associates, PC 179

Ronald G. Boogaard, 44 • Thomas M. Clemens, 36 •
William R. Davidson, 43 • Paul R. DiGiacomo, 30 •
Lawrence Willson Gaul, 1 • Mark Glick, 23 • Maryanne
Noris, 1 • Louis Andre Telesford, 1



Practice Groups with less than 30 cases (not rated)

Annvile Family Practice, PC 4

Victoria Ann Brown, 1 • Kenneth Lepone, 1 •
Robert K. Nielsen, 1 • Karen Dembeck Poehailos, 1

Fredericksburg Community Health Center 13

Dale E. Brown-Bieber, 4 • Robert Anthony
Haggard, 1 • William J. Lovett, 2 • Myron Duane
Miller, 2 • James D. Stauffer, 4

Lebanon Internal Medicine Associates, PC 9

Robert A. Fuld, 4 • Thomas Victor Kantor, 1 •
D. Mark Potter, 2 • William E. Schaeffer, Jr., 2

Sayson and Rim 18

Jeung K. Rim, 11 • Jose N. R. Sayson, 7

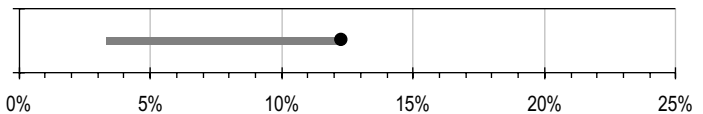
The Good Samaritan Family Practice Centers 4

Robert Maurice Howse, Jr., 2 • Thomas C.
Overholt, 2 • Wilson S. Morris, 1

Cases

Actual to Expected Mortality
Heart Attack

Good Samaritan Medical Center /Johnstown 90



Practice Groups with less than 30 cases (not rated)

Highland Independent Physician Associates 1

Chester J. Beres, 1

Johnstown Internists, Inc. 5

William F. Pruchnic, 5

Tri-County Ambulatory Care Centers 3

Fredrick William Munzer, 3

Solo Practitioners (not rated)

Krishna M. Bhat	2
David C. Borecky	10
Carmen Chinae	1
Michael G. Comas	3
Gary M. Davidson	6
Virender P.S. Dhawar	1
Dennis L. Eckels	3
Erden Fikri	1
Sharon Elizabeth Goff	5
George D. Hanzel	2
David Charles Johns	6
John S. Karduck	2
Richard M. Kastelic	9
George F. Kresak	1
Dinesh P. Mathur	1
Leo E. O'Connor	9
Harry H. Pote, Jr.	6
Paul A. Raymond	1
Charles Stotler	2
Phillip J. Turco	3
Richard E. Voytko	5
Jean M. Weaver	1
J. Eric Wiczorek	1

Cases Actual to Expected Mortality Heart Attack

Hanover General Hospital 205

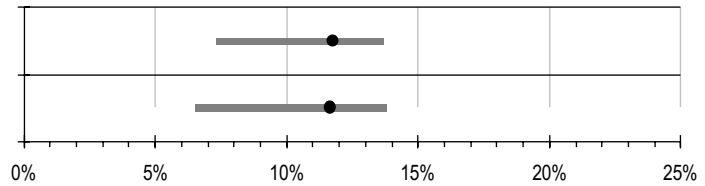
Practice Group with 30 or more cases

Hanover Cardiology Associates 138

George Alan Bridenbaugh, 44 • Lawrence S. Freer, 52
• Walter F. Janusz, 42

Solo Practitioners (not rated)

Michael Harris Ader 2
Hy Joseph DePamphilis 7
Judith E. Diffenderfer 2
Robert S. Fawcett 4
Robert J. Henke, Jr. 3
William C. Konchar 1
John George Lieb 3
Andre F. Lijoi 1



John W. Lunsford, Jr. 6
Oscar F. Murillo 11
R. Wayne Phillips 17
M. Elizabeth Rahn 4
Thomas D. Rapp 1
Richard Dean Strobbe 3
David E. Zickafoose 2

Cases Actual to Expected Mortality Heart Attack

Hazleton General Hospital 168

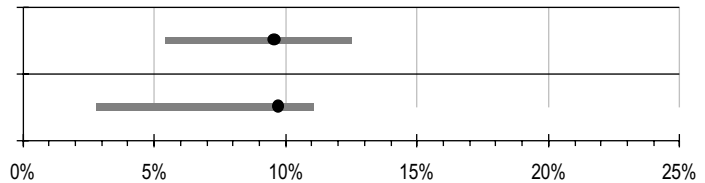
Practice Group with 30 or more cases

Cardiology Associates of Greater Hazleton 72

Thomas J. Ciotola, 22 • Chandra M. Mohan, 21 •
Murthappa N. Prakash, 19 • Stephen Wolk, 10

Practice Groups with less than 30 cases (not rated)

Edward S Polashenski, DO, PC 2
Edward S. Polashenski, 1 • Stephen N. Shoemaker, 1
Hazleton Cardiology Center 11
Seymour Bronstein, 10 • Michael Keith
Dovnarsky, 1
Internal Medicine Associates of Hazleton 2 8
Carl L. Furner, 1 • Francisco Alberto Gazek, 25
Leocadia T. Prawdzik, 2



Solo Practitioners (not rated)

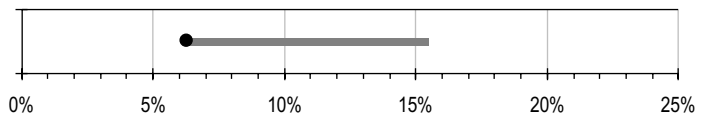
Larry Albert Antolick 1
Rudolph Silas Fellin 3
Ernst O. Larsson 1
Deborah J. Mistal 1
Jude Francis Sidari 3
Dean A. Smith 2
Anthony Valente 1
Barbara A. Vilushis 1
Young K. Yoo 1
Myung S. Yoon 40
George D. Yurko 1

Cases Actual to Expected Mortality Heart Attack

Hazleton Saint Joseph Medical Center 97

Practice Groups with less than 30 cases (not rated)

Cardiology Associates of Greater Hazleton 8
Thomas J. Ciotola, 1 • Chandra M. Mohan, 3
Murthappa N. Prakash, 2 • Stephen Wolk, 2
Edward S Polashenski, DO, PC 4
Edward S. Polashenski, 1 • Stephen N. Shoemaker, 2
Robert Yamulla, 1
Freeland Health Center 1
Cynthia Maczuga, 1
Hazleton Cardiology Center 1
Michael Keith Dovnarsky, 1
Internal Medicine Associates of Hazleton 12
Thomas H. Dittman, 2 • Carl L. Furner, 2 •
Francisco Alberto Gazek, 6 • Leocadia T.
Prawdzik, 2
Rural Health Corporation 5
George D. Yurko, 5



Solo Practitioners (not rated)

Larry Albert Antolick 2
Robert W. Baran 2
Phillip Benyo 7
Kalpana A. Chikarmane 1
August A. Ciotola 1
Rudolph Silas Fellin 3
Eugene Gorski 4
Arthur L. Koch 5
Joseph B. Laczi 5
Mark J. Lobitz 3
Vikram Gouinda Menon 1
Lawrence E. Mumie 2
Adrian Secheresiu 3
Emilia Secheresiu 1
Philip T. Selvarayan 5
Jude Francis Sidari 5
Dean A. Smith 2
Eugene R. Stish 5
Anthony Valente 2
Barbara A. Vilushis 1
Myung S. Yoon 6

Cases Actual to Expected Mortality Heart Attack

Holy Spirit Hospital 322

Practice Groups with 30 or more cases

Conner, Rich, Kearney, and Torchia Associates 35

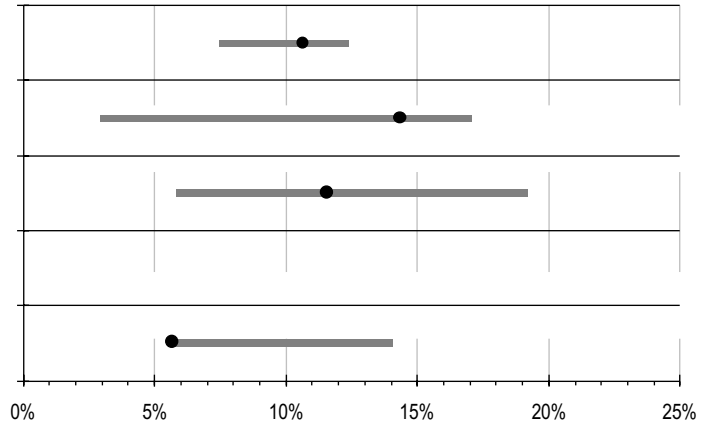
Kenneth B. Conner, 4 • James D. Kearney, 3 • James F. Rich, 22 • Joseph A. Torchia, 6

Cowley Medical Associates 52

Virginia C. Calega, 6 • Mohamed F. Elnour, 1 • Mark C. Friedman, 4 • Daniel M. Levin, 1 • Stanley B. Lewin, 19 • Venkatesh K. Nadar, 1 • Wendy Schaenen, 4 • Kenneth L. Smeltzer, 3 • George M. Sylvestri, 7 • Jonathan P. Whitney, 6

Internists of Central Pennsylvania, Ltd. 71

Peter M. Brier, 16 • L. Lynne Britton, 22 • Michael L. Gluck, 12 • Ira J. Packman, 4 • Richard Schreiber, 8 • James A. Tyndall, 9



Practice Groups with less than 30 cases (not rated)

Associated Cardiologists 3

Jeffrey S. Fugate, 2 • Kenneth J. May, Jr., 1

Cumberland Family Practice 6

Lisa M. Davis, 4 • Richard L. Davis, 2

Edmundowicz, Watkin and Freshman Associates 1

Frank J. Andriola, 1

Fairview Family Health Center 3

Clem Anthony Ciccarelli, 3

Family Medicine Center of Camp Hill 1

David A. Long, 1

Family/Internal Medicine Associates 17

Carlos F. Delafuente, 17

Gadani Associates 4

Manu R. Gadani, 4

Good Hope Family Physicians 4

Michael R. Gawlas, 2 • Kenneth R. Harm, 1 • Ernest M. Josef, 1

Inners and Davis Associates 8

Stephen J. Davis, 5 • Charles R. Inners, 3

Ira Sackman, MD FACC, PC 5

Robert D. Aronoff, 1 • Ira Sackman, 4

Moffitt, Pease, and Lim Associates 2

David G. Pawlush, 1 • Paul A. Piccini, 1

Raymond C Grandon, MD, PC 9

William J. Boyd, 9

Sanford and Roumm 1

Robert G. Sanford, II, 1

Susquehanna Internal Medicine Associates, PC 12

Greg R. Ehgartner, 3 • Roger B. Gustavson, 5

Maurice J. Lewis, 4

Tzanis and Wallendjack 11

Loucas C. Tzanis, 7 • John C. Wallendjack, 4

Solo Practitioners (not rated)

Howard R. Cohen 18

Karen R. Ginn 2

George H. Harhigh 1

Frank W. Jackson 3

Thomas P. Kunkle 1

Edward E. Lamarque 4

Robert D. McInroy 1

Francis X. Perna 10

John C. Schiro 6

John S. Snoko 2

Ljubisa M. Stankovic 2

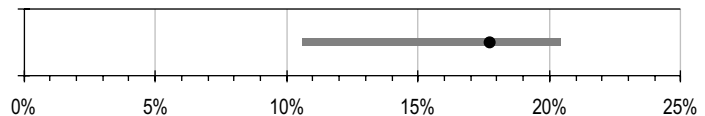
William Alan Sullivan 19

Paul D. Williams 1

William W. Young 7

Cases Actual to Expected Mortality Heart Attack

Indiana Hospital 113



Practice Groups with less than 30 cases (not rated)

Indiana Internal Medicine 3

Mark R. Lentz, 3

McDowell/Lim 7

Elizabeth G. Lim, 2 • Edward P. McDowell, 5

Rose Medical Associates 15

Stella Marie Boron, 5 • Bernard Louis Coppolo, Jr., 8 • Ruth B.J. Woolcock, 2

Solo Practitioners (not rated)

Joseph Ambrose, Jr. 9

Richard L. Barnes 2

Robert F. Cosharek 5

Russell Alexander Drozdiak 7

James Albert Garrettson 4

Herbert L. Hanna 2

Neil A. Jacobson 5

Victor Sung-Shu Lan 15

Joseph L. Parks 3

Richard R. Sandrowicz 3

Manharpreet Singh Sekhon 6

Bijai B. Singh 6

Barry E. Troyan 9

Edward M. Tsai 2

Roberto Esteban Turnbull 4

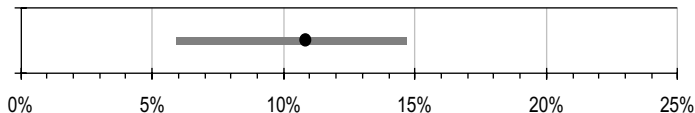
Ralph Fordyce Waldo 6

KEY

- Actual Mortality Rate, 1993 — Range of Expected Mortality
- * Actual Mortality significantly higher than Expected Range
- Actual Mortality significantly lower than Expected Range

Cases Actual to Expected Mortality Heart Attack

J C Blair Memorial Hospital 102

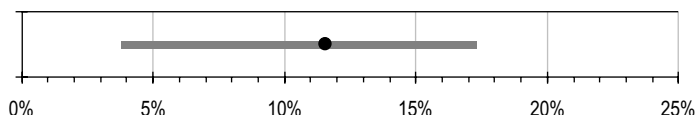


Practice Groups with less than 30 cases (not rated)

Huntingdon Gastroenterology Associates 2	Solo Practitioners (not rated)	
Michael Frederick Gaugler, 1 • Keith A. Waddle, 1	Brett Lawrence Acker 5	Robert C. Lamey 8
Internal Medicine Associates of Huntingdon, PC 7	William L. Bressler 5	Ronald A. Long 6
Bruce L. Thomas, 7	Richard S. Buza 3	David S. Miller 3
	Michael Damien Cesare 3	Mark Russell Minor 4
	David H. Clymer 7	James E. Savory 11
	Daniel Lamar Delp 5	Theodore Shively 3
	William S. Depp-Hutchinson 2	Philip E. Shoaf 7
	James Bernard Hayden 2	Thomas C. Smith 3
	Alice M. Kelsey 2	A. Keith Sutton 6
		Gary V Wertman 8

Cases Actual to Expected Mortality Heart Attack

Jersey Shore Hospital 52

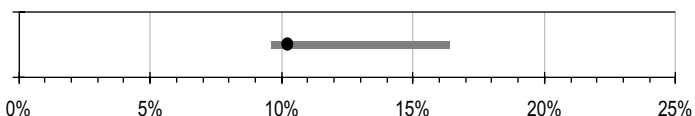


Practice Group with less than 30 cases (not rated)

Jersey Shore Family Practice 1	Solo Practitioners (not rated)	
Stephen Goykovich, 1	Alice Garcia-Hamoy 19	
	Gilbert L. Nicklas 4	
	Rajesh J. Patel 5	
	Carmen E. Spinney 16	
	E. Milton Withhoff, Jr. 7	

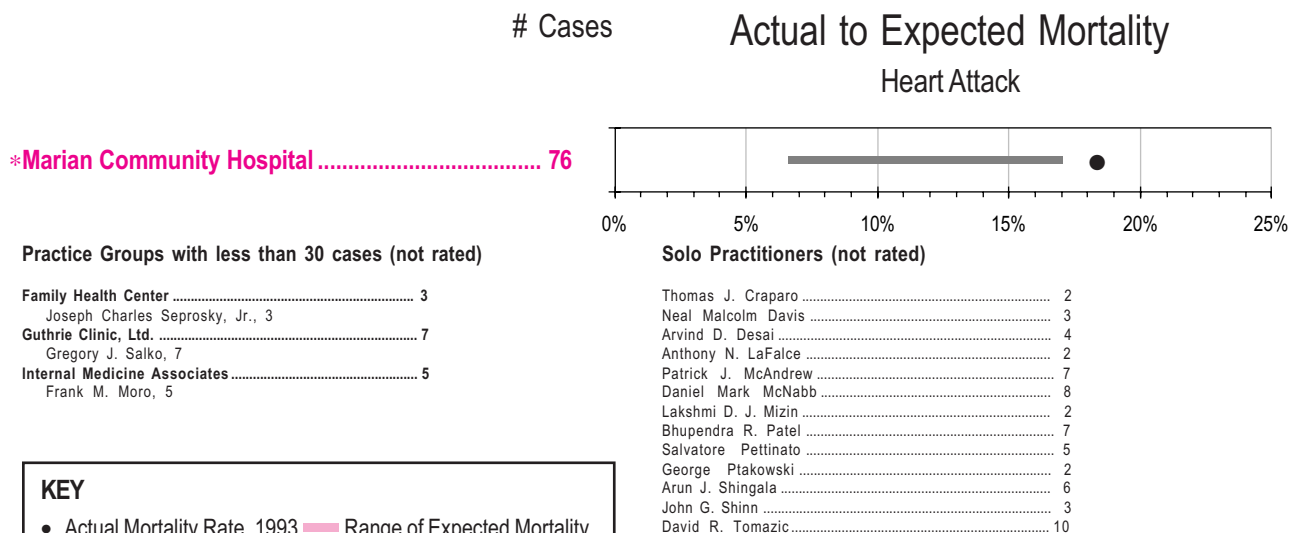
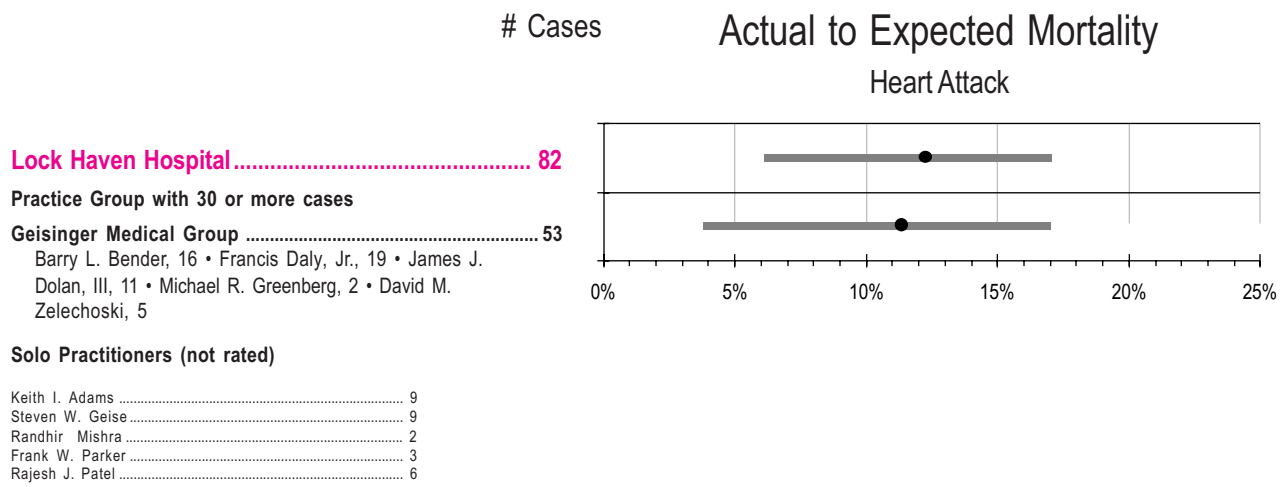
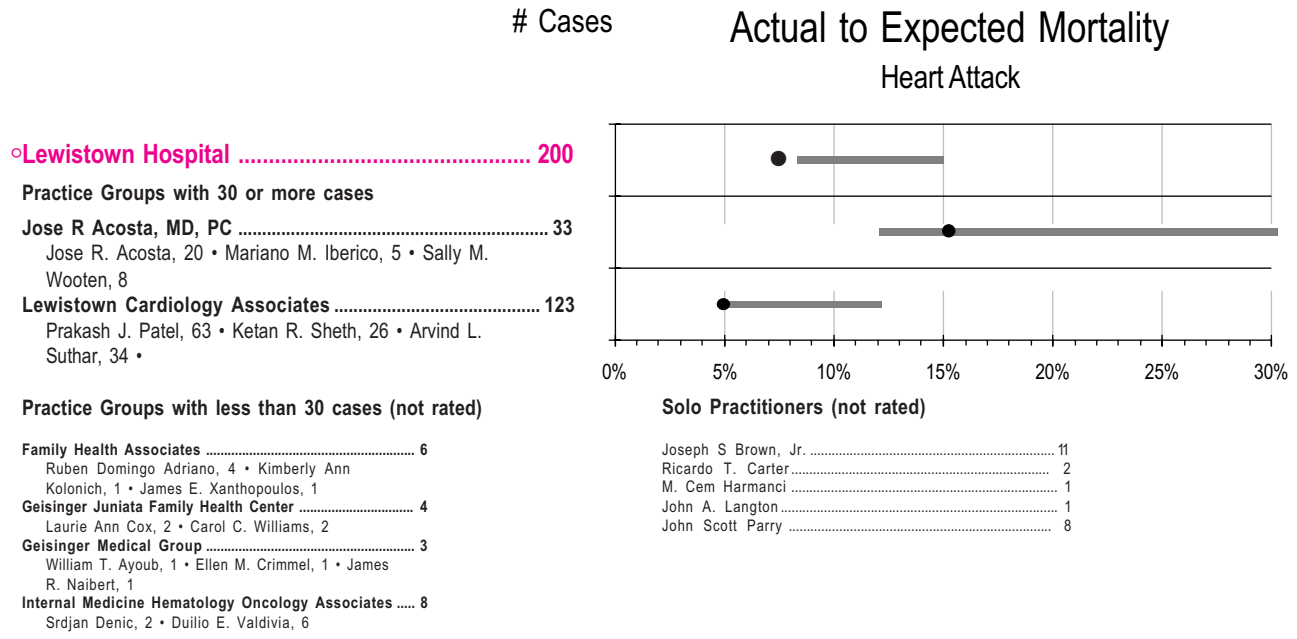
Cases Actual to Expected Mortality Heart Attack

Lee Hospital 177



Practice Groups with less than 30 cases (not rated)

Cambria Cardiology, Inc. 2 4	Solo Practitioners (not rated)	
Virender P.S. Dhawer, 4 • William Smeal, 14 •	Lawrence T. Beatty 2	
David Mark Witkes, 6	Krishna M. Bhat 3	
Cambria Internists, Inc. 9	Richard L. Cartwright 6	
Sheonath P. Srivastava, 9	Girija Chandran 4	
Central Medical Associates, Inc. 12	Dennis L. Eckels 2	
Bernard S. Panek, 12	Thomas R. Ellenberger, Jr. 14	
Highland Independent Physician Associates 7	Richard J. Green 3	
Chester J. Beres, 5 • William P. Hirsch, 2	Stephen A. Hoffman, Sr. 1	
Johnstown Internists, Inc. 1	Bruce D. Jeffries 7	
William F. Pruchnic, 1	John S. Karduck 3	
Lee Hospital Occupational Health 3	Michael E. Kordek 3	
Robert A. Plummer, 3	David F. Lawless 1	
Tri-County Ambulatory Care Centers 2 4	Vijay K. Malhotra 10	
Rashid Awan, 3 • Henry Baldinucci, 10 • Fredrick	Dinesh P. Mathur 13	
William Munzer, 5 • John Michael Wisniewski, 6	Michael E. Sahlaney 2	
	Michael E. Sewak 6	
	Sunil K. Soi 3	
	Charles Stotler 9	
	Phillip J. Turco 1	
	J. Eric Wieczorek 3	
	Samuel J. Wint 1	

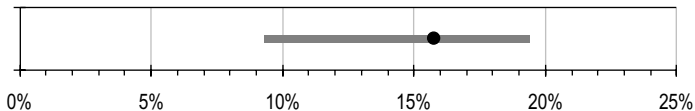


KEY

- Actual Mortality Rate, 1993
- Range of Expected Mortality
- * Actual Mortality significantly higher than Expected Range
- Actual Mortality significantly lower than Expected Range

Cases Actual to Expected Mortality Heart Attack

Memorial Hospital of Bedford County 108



Practice Group with less than 30 cases (not rated)

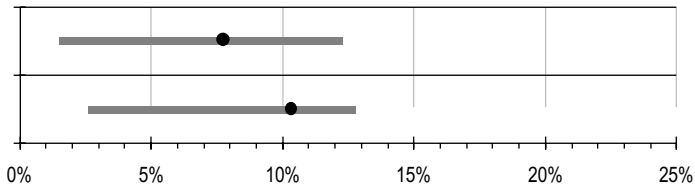
Pennwood Family Medicine 13
David G. Baer, 8 • George E. Fleming, 5

Solo Practitioners (not rated)

Ernesto M. de las Alas 25
Vincente A. Mendez 8
Kaushik Jayantilal Patel 4
Henry W. Shoenthal 11
Earl S. Shope 3
Gregory D. Slick 15
Flora Macalintal Torres 4
Eric Weaverling 13
Enrico A. Zabat 6
George M. Zubak 6

Cases Actual to Expected Mortality Heart Attack

Memorial Hospital Inc. /Towanda 65



Practice Group with 30 or more cases

Guthrie Clinic, Ltd. 39
Michael F. Boyek, 5 • Joseph Cama, 6 • Peter Cartaginense, 7 • George C. Meikle, 1 • Raymond A. Perry, 13 • Paul R. Webb, III, 7

Practice Group with less than 30 cases (not rated)

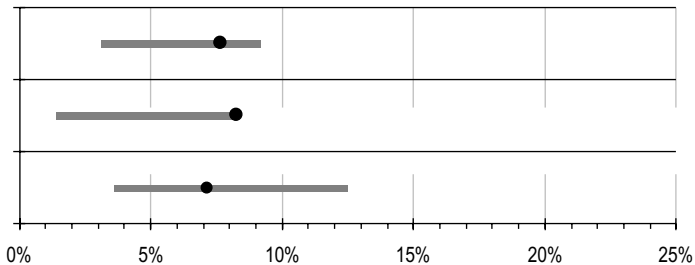
PhysicianCare, PC 25
Stephen E. Becker, 2 • Tahirul Hoda, 5 • Elting Caudebec Johnson, 2 • Larry W Linnell, 3 • John William Paulish, 13

Solo Practitioner (not rated)

James P. Noone 1

Cases Actual to Expected Mortality Heart Attack

Memorial Hospital /York 131



Practice Groups with 30 or more cases

Elmwood Center Medical Associates, PC 73
Carl S. Colombo, 25 • William S. Frank, 23 • Gregory W. Otte, 25

Internal Medicine Consultants of York, Inc. 56
Mark A. Illfelder, 13 • W. Rowland Leedy, 21 • Chester J. Madzellan, 22

Practice Group with less than 30 cases (not rated)

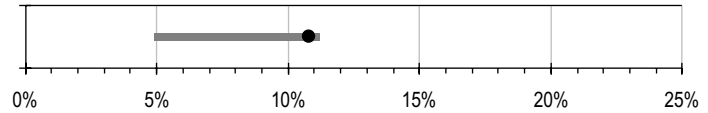
Mt. Rose Family Practice, PC 2
Hugh Eliot Palmer, 1 • K. Barry Wentland, 1

KEY

- Actual Mortality Rate, 1993
- Range of Expected Mortality
- * Actual Mortality significantly higher than Expected Range
- Actual Mortality significantly lower than Expected Range

Cases Actual to Expected Mortality Heart Attack

Mercy Hospital /Wilkes-Barre 206

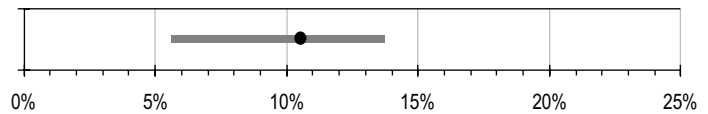


Practice Groups with less than 30 cases (not rated)

Associated Internists of Wyoming Valley 2	Solo Practitioners (not rated)	
David E. Owens, 2	Richard A. Alley 9	Vincent A. Drapiewski 7
Dallas Family Practice 1	Peter J. Andrews, Sr. 2	Edward A. Groblewski 4
Diane A. Lowe, 1	Joseph A. Anistranski 3	Richard A. Hiscox 10
Linden Medical Group 3	Henry S. Bobeck 5	Jung Tsung Huang 6
William David Hottenstein, 2 • Joseph Szustak, 1	John J. Bobeck 10	James M. Junta 1
Mercy Family Practice-East End 7	Mark Bohn 3	Raymond Joseph 8
James Majdic, 7	Louise A. Breakstone 6	Leonard A. Kuchemba 3
MSUSP, MDs, Associates, PC 7	John P. Brennan 5	Frank E. Kulbaski 1
Jose V. Manrique, 3 • Farook K. Shroff, 4	James Stephen Butcofski 11	Edward L. Kurello 8
	John F. Callahan 1	Clinton J. Lehman 5
	Jihad Charabati 10	Arthur B. Mitchell 1
	Helen Claire Cooper 1	Glenn M. Panzer 1
	Joseph E. Cooper 2	Eugene W. Pelczar 5
	Robert Czwalina 3	Basil M. Rudusky 1
	Albert G. Danishanko 14	Peter J. Savage 4
	Gary Raymond Decker 1	Henry F. Smith 12
	Peter Decker 9	William Wasnick 7
		Janusz Wolanin 7

Cases Actual to Expected Mortality Heart Attack

Mercy Regional Health System 124

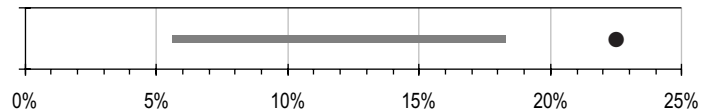


Practice Groups with less than 30 cases (not rated)

Family Health Center 2	Solo Practitioners (not rated)	
Jitendra K. Patel, 2	William Aigner 5	Christopher J. Begley 2
Holidaysburg Family Practice Associates 9	Mohammad Aboo Naeem Dowlut 12	Joseph W. Gattuso, Jr. 26
Johannes L. Dekoning, 9	William I. Geitgey 1	Vijayaraghavan Janakiraman 19
Keystone Family Medicine 7	Anthony J. Maniglia 2	Rashmikant S. Pandit 1
Johnson Grant Hormell, 1 • Daniel Wesley Johnson, 3 • Aiden Posner Zwerling, 3	Manickam Sankaran 5	Kumbalataru A. Siripala 1
Logan Medical Associates 8	Karl F. Stine 2	Robert Daniel Sullivan 1
B Rolf Hissom, Jr., 1 • Anne-Marie Liszka, 1	Asha L. Swain 12	David Ming C. Tsai 9
Laura B. Sollenberger, 6		

Cases Actual to Expected Mortality Heart Attack

*Mid-Valley Hospital Association 71

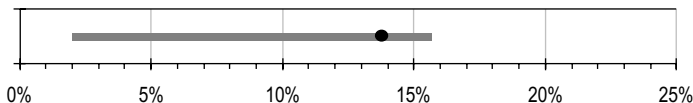


Practice Groups with less than 30 cases (not rated)

Brundage and Williams Internal Medicine Associates ... 10	Solo Practitioners (not rated)	
Randall G. Brundage, 5 • Kevin G. Williams, 5	Lee T. Besen 9	Susan M. Biancarelli 5
Cardiovascular Consultants, Ltd. 2	Mariel G. Carino 2	Thomas F. Clauss 8
David Lee Lohin, 1 • Madhava S. Rao, 1	Arvind D. Desai 1	Joseph B. Krisanda 5
Northeast Cardiology Associates 1	Adrian John Morris 4	Mario J. Sebastianelli 2
Leonard J. Denis, 1	Roy W. Simpson 9	Lang Pao Su 2
Piczon-Manahan Associates 1	Donald C. Wright 10	
Ferdinand J. Manahan, 1		

Cases Actual to Expected Mortality Heart Attack

Miners Hospital of Northern Cambria 51

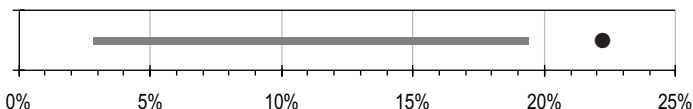


Solo Practitioners (not rated)

Daniel A. Burwell.....	2
Frank W. Conn.....	6
John Crawford, III.....	4
Matthew Dvorchak.....	7
Glicerio V Ignacio.....	3
Robert C. Magley.....	6
Thomas A. Owens.....	6
William J. Paronish.....	5
Joseph R. Sabo.....	4
Patricia Ann Timek.....	1
George Francis Weber.....	7

Cases Actual to Expected Mortality Heart Attack

* Montrose General Hospital 36

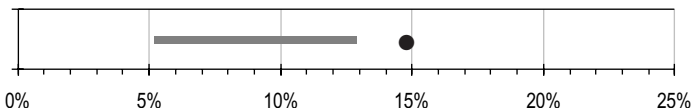


Solo Practitioners (not rated)

Rajnikant Kadiwar.....	4
Ellis Donnell Rucker.....	8
Joseph M. Speicher.....	2 3
Alexander Wong.....	1

Cases Actual to Expected Mortality Heart Attack

* Moses Taylor Hospital 155



Practice Groups with less than 30 cases (not rated)

Borowski and Crech, PC	4
Gregory D. Borowski, 4	
Geisinger Medical Group	12
Michael J. Fox, 1 • Alexander Theodossi Lalos, 1	
• William H. Newman, III, 7 • Michael John Rogan, 3	
Hematology/Oncology Associates	1
Salvatore J. Scialla, 1	
HMO of Northeast Pennsylvania	1
Carmella M. Sebastian, 1	
Internal Medicine Associates	3
Edward J. Dzielak, 1 • Joseph Peter Greco, 2	
Northeast Cardiology Associates	1
Neal E. Soifer, 1	
Northeast Medical Associates	1
Phillip A. Boccagno, 1	
Northeast Medical Institute	16
John Diakiv, 15 • Sandy A. Furey, 1	
Piczon-Manahan Associates	6
Ferdinand J. Manahan, 1 • Oscar Y. Piczon, 5	
Primary Medical Associates	6
Carmen A. Brutico, Jr., 6	

Solo Practitioners (not rated)

Thomas A. Artabane.....	8
Emile William Blomain.....	4
Ralph C. Demario.....	3
Meena B. Desai.....	1
Charles R. Druffner.....	2
Lewis Christian J Druffner.....	1
Darlene Ann Dunay.....	3
Jeremiah W. Eagen.....	1
Steven B. Eisner.....	2
John R. Guzek.....	4
Michele Hazzouri.....	4
Donald A. Kachline.....	6
Sander J. Levinson.....	1
Dale D. Lindholm.....	2
Mary Ann McDonald.....	1
Thomas L. Minora.....	4
Michael K. Montella.....	5
Mark Michael Murnin.....	2
Patrick J. Murnin.....	5
Daniel Parsick.....	1
John William Peters.....	3
Joseph F. Philbin.....	4
Paul F. Remick.....	1
Kenneth H. Rudolph.....	4
J. Bruce Ruppenthal.....	7
David Rutta.....	1
Mohammad A. Saleem.....	4
Kenneth J. Sebastianelli.....	4
Mario J. Sebastianelli.....	5
Julie M. Speicher.....	2
Sang John Suh.....	2
David Alan Waibel.....	1
John J. Wandalowski.....	4
Henry C. Yeager.....	2
Ann Clarice Zaydon.....	1

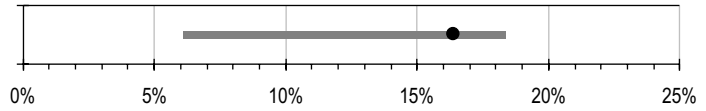
KEY

- Actual Mortality Rate, 1993
- Range of Expected Mortality
- * Actual Mortality significantly higher than Expected Range
- Actual Mortality significantly lower than Expected Range

Cases

Actual to Expected Mortality
Heart Attack

Muncy Valley Hospital 49



Practice Groups with less than 30 cases (not rated)

Geisinger Medical Group	1
Jay Kenneth Miller, 1	
Muncy Family Practice	1
Leo M. Hartz, 1	

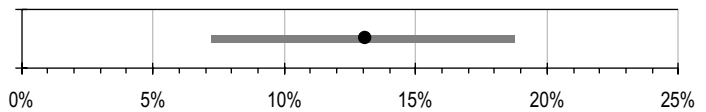
Solo Practitioners (not rated)

Gary W. Berger	1
Harry E. Dilcher	14
Rajidi M. Reddy	18
William A. Sorber	14

Cases

Actual to Expected Mortality
Heart Attack

Nason Hospital 69



Practice Group with less than 30 cases (not rated)

Claysburg Medical Associates	12
Donald W. Bulger, 9 • Edward Donald Schultz, 3	

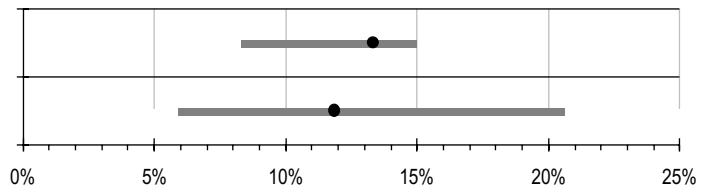
Solo Practitioners (not rated)

Robert Bridenbaugh	9
Ramon C. Burket	15
Duane P. Dilling	9
Darron B. Locke	4
Ronald D. Walters	20

Cases

Actual to Expected Mortality
Heart Attack

Nesbitt Memorial Hospital /WVHCS 240



Practice Group with 30 or more cases

Associated Internists of Wyoming Valley	34
Richard P. Abramowitz, 1 • Lanning A. Anselmi, 5 •	
Thomas E. Baker, 1 • David C. Cramton, 1 • Paul J.	
Latzko, 8 • John N. Menio, 8 • David E. Owens, 1 •	
David F. Rimple, 4 • Durelle T. Scott, III, 2 • Daniel K.	
Silverstein, 3	

Practice Groups with less than 30 cases (not rated)

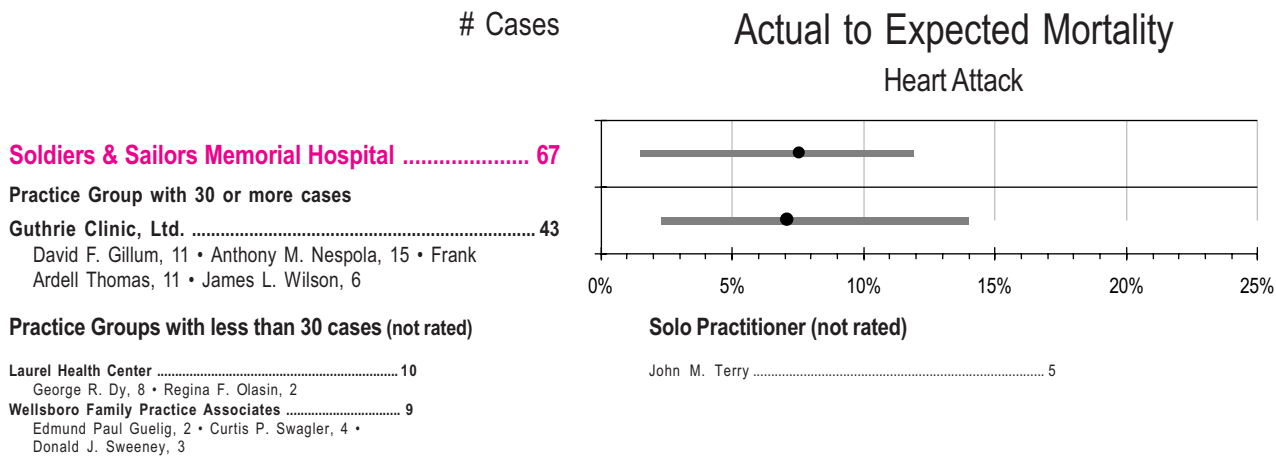
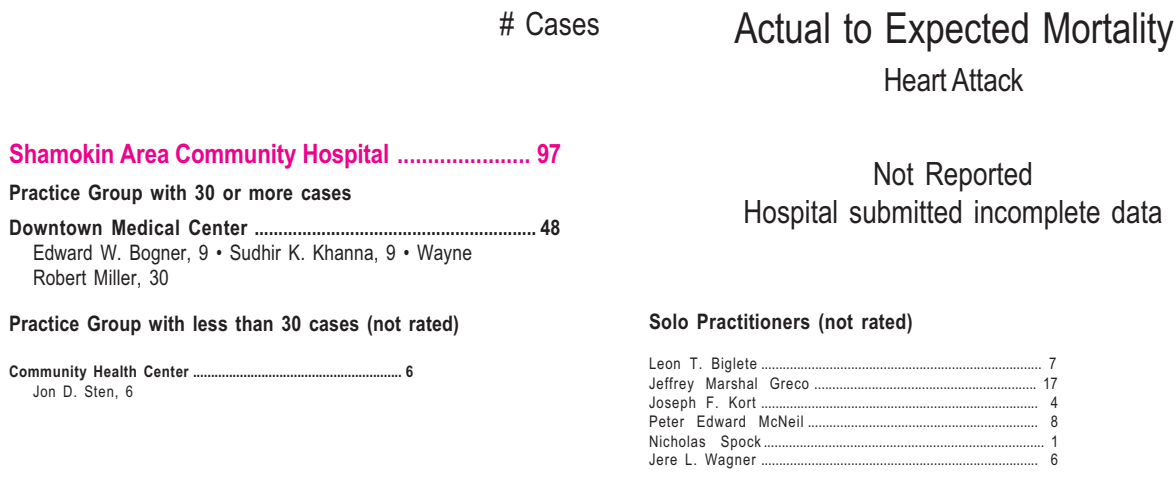
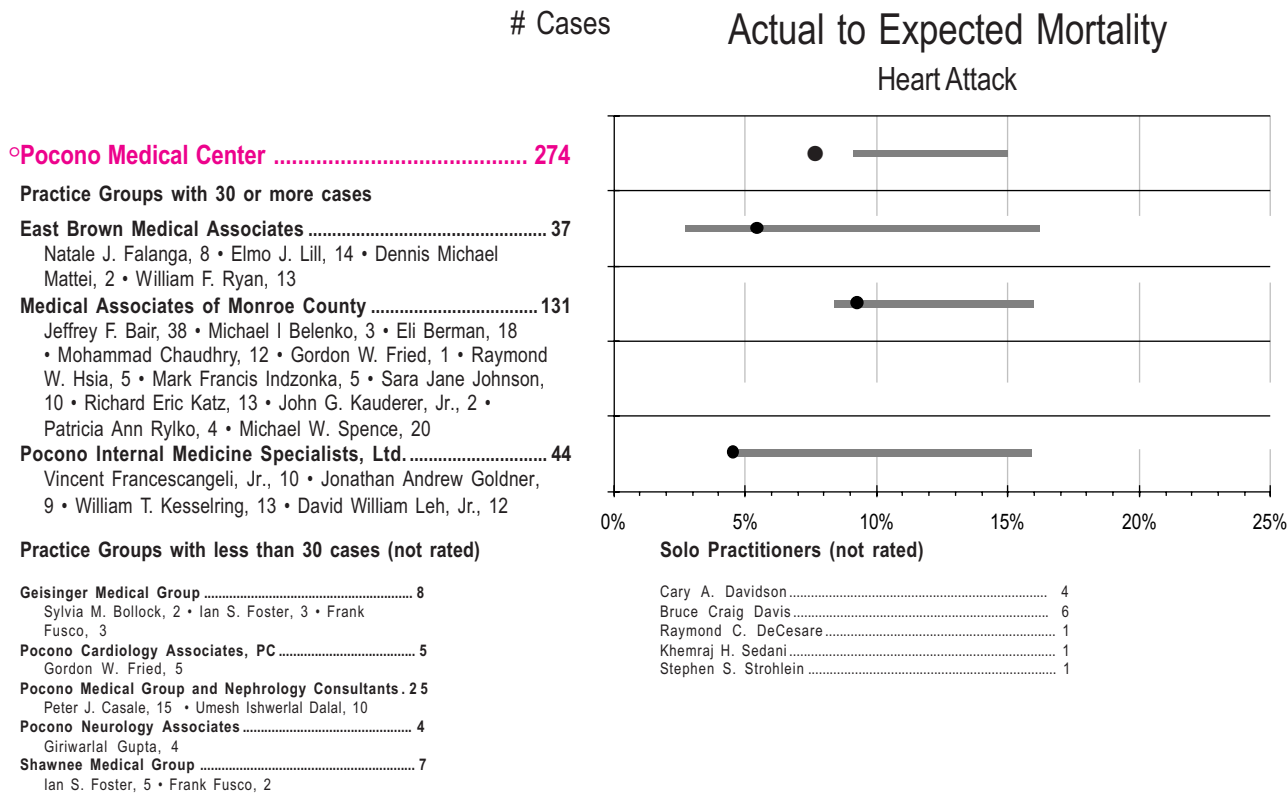
Back Mountain Family Practice	4
Gary M. Smith, 3 • John Tomedi, 1	
CEC Associates	22
Edward John Carey, 9 • John L. Carey, 11 •	
Richard B. English, 2	
Dallas Family Practice	2
Thomas M. Campbell, 1 • Gary D. Nothstein, 1	
Internal Medicine Associates	1
John C. Querci, 1	
Kingston Anesthesia Associates	2
Charles J. Aquilina, 2	
Lentini Medical Associates, Inc.	1
J. Charles Lentini, 1	
Luzerne County General Practice Associates	8
Andrew J. Stuka, 8	
MSUSP, MDs, Associates, PC	8
Jose V. Manrique, 3 • Robert D. J. Potorski, 1	
Farook K. Shroff, 1 • Mallapa B. Udoshi, 3	

Rural Health Corporation	1
Richard A. Benoit, 1	
Stanley A Lobitz, MD and Michael F Lombard, MD	9
Stanley A. Lobitz, 7 • Michael F. Lombard, 2	
Wyoming Valley Family Practice Residency Program ...	10
Julie A. Dostal, 1 • Maureen M. Litchman, 3 •	
Stephen W. Marcella, 3 • Toni Jo Parmelee, 2 •	
Deborah A. Spring, 1	

Solo Practitioners (not rated)

Harry Alexanderian	5
A. Anthony Anzalone	4
Fernando Araya	3
Alan L. Boonin	6
William H. Boyle	20
John P. Brady	3
Joseph P. Chollak	4
Thomas Cohen	11

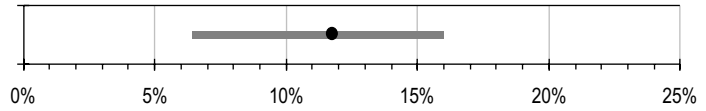
Nirode C. Das	1
George M. DeCurtis	10
Charles S. Debonis	2
David Russell Fields	2
Ernest R. Gelb	5
Gerald P. Gibbons	4
Nicholas D. Giordano	1
Robert Douglas Greenhalgh	1
Edward A. Groblewski	4
Ronald I Harris	2
Bernard Leo Holleran	6
Leonard A. Kuchemba	2
Phillip J. Kurello	1
Arthur B. Mitchell	12
Glenn M. Panzer	6
Mark W. Puffenberger	7
James Rondina	9
Donald M. Shapiro	2
Paul J. Witt	2
Janusz Wolanin	3



Cases

Actual to Expected Mortality
Heart Attack

Somerset Hospital Center for Health 94



Practice Groups with less than 30 cases (not rated)

Highlands Family Medicine	8
David R Battista, 3 • John Thomas Brennan, 5	
Laurel Medical Associates	3
Harold Stanley Hay, 2 • Gregory D. Mock, 1	
Medical Associates of Boswell, Inc.	13
Mohammed Aslam, 7 • Jan R. J. DeVries, 2 •	
William O'Brien Thompson, 4	
Mount Laurel Family Medicine	12
Gary Thomas Cannon, 12	
Somerset Family Practice, Inc.	14
S. D. Brown, 2 • Kenneth J. Van Antwerp, 8 •	
Mark F. Yaros, 4	

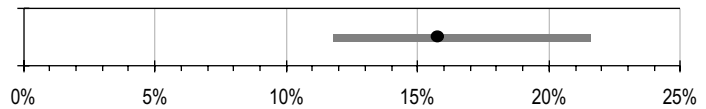
Solo Practitioners (not rated)

Deborah A. Baceski	6
Jayesh B. Desai	2
Robert V Jacobs	6
Harold E. Musser	3
V.K. Nair	15
Alfred J. Poggi	4
Leonard Tensuan	8

Cases

Actual to Expected Mortality
Heart Attack

Sunbury Community Hospital 102



Practice Group with less than 30 cases (not rated)

Munir and Samad	19
Mohammad M. Munir, 10 • Mohammad A. Samad, 9	

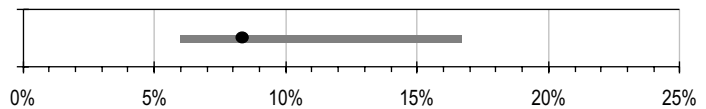
Solo Practitioners (not rated)

Meral O. Bodmer	2
Christopher R. Brancato	9
Michael R. Green	27
Basant Kumar Mittal	20
John P. Pagana	9
Edsel A. Rodriguez	8
Fred Schreck	8

Cases

Actual to Expected Mortality
Heart Attack

Tyler Memorial Hospital 84



Solo Practitioners (not rated)

John N. Benner	7
John C. Gardner	8
Tony Abdo Hanna	1
R. Laverne Landis	4
George H. Limpert	1
John W. Magill	2
Clarence Mast, Jr.	8
John F. McIntyre	6
Rodger C. Sayre	3
Arthur Sherwood	12
Jon A. Sorber	20
Cheryle A. Stone	10
Edward G. Zurad	2

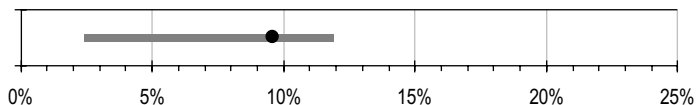
KEY

- Actual Mortality Rate, 1993
- Range of Expected Mortality
- * Actual Mortality significantly higher than Expected Range
- o Actual Mortality significantly lower than Expected Range

Cases

Actual to Expected Mortality
Heart Attack

Tyrone Hospital 42



Practice Groups with less than 30 cases (not rated)

Blair Medical Associates	12
Thomas M. Mextorf, 12	
Geisinger Medical Group	10
Michael R. Halter, 7 • Kevin James Kollman, 3	

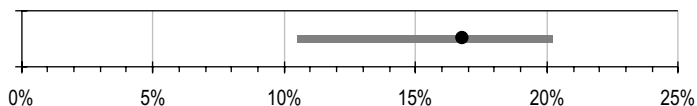
Solo Practitioners (not rated)

A. Reid Allison, Jr.	1
Lawrence S. Levinson	4
Romulo Q. Parente	5
Victor H. Santillan	6
Carlos A. Wiegering	4

Cases

Actual to Expected Mortality
Heart Attack

Wayne Memorial Hospital 114



Practice Groups with less than 30 cases (not rated)

Family Practice Associates, PC	9
George J. Gustainis, 2 • James J. McGraw, Jr., 7	
Healthquest Medical Services, Inc.	10
Marcellus Andre Walker, 10	
Highland Physicians, Ltd.	24
Paula Rickard Bennett, 3 • William F. Davis, 7	
Jon Kogod Sternburg, 2 • Ronald N. Talaga, 3	
Vincent Jerome Tully, 9	
Wallenpaupack Medical Group	23
William R. Dewar, III, 20 • Michael Theodore Peterson, 3	

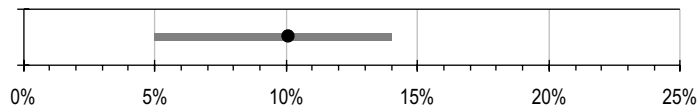
Solo Practitioners (not rated)

Pasquale D. Baratta	2
Philip C. Guthertz	11
Donald W. Henderson	7
Matthew T. Kuber	14
Bradley W. Layton	12
Patrick J. Murnin	1
Karl Salman	1

Cases

Actual to Expected Mortality
Heart Attack

Waynesboro Hospital 100



Practice Groups with less than 30 cases (not rated)

Greencastle Family Practice	8
Martin Hudzinski, 1 • Duane Eugene Sipes, 3 • Joseph K. Thornton, 4	
Hess Medical Clinic	25
Louis Evins Coda, 6 • D. Robert Hess, Jr., 7 • Douglas B. Hess, 6 • Reuben D. Hess, 6	
Mont Alto Family Practice	9
Garrett H. Blanchet, 4 • Diana Joan Lyon-Loftus, 1 • Gregory Thomas Lyon-Loftus, 4	
Waynesboro Family Medical Associates	9
Joseph H. Stewart, III, 9	
Waynesboro Internal Medicine	25
Robert F. Goldman, 4 • Steven Walter Mussey, 13 • Robert J. Ternes, 8	
Waynesboro Family Medical Associates	5
Stephen J. Rettig, 5	

Solo Practitioners (not rated)

Rose M. Dagen	1
John E. Farmer	4
Domingo A. Garcia	5
Mohammad S. Haq	6
Sylvia A. Warrenfeltz	3

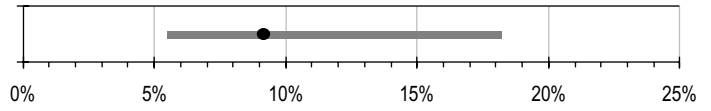
KEY

- Actual Mortality Rate, 1993
- Range of Expected Mortality
- * Actual Mortality significantly higher than Expected Range
- Actual Mortality significantly lower than Expected Range

Cases

Actual to Expected Mortality
Heart Attack

Windber Hospital & Wheeling Clinic 55



Solo Practitioners (not rated)

Rashid Awan	7
David J. Bencie	7
David A. Csikos	17
Jerry L. Gray	9
Nelson Guelbenzu	2
Stephen A. Hoffman, Sr.	1
Robert Swansiger	12

ACUTE CARE HOSPITALS WITH ADVANCED CARDIAC SERVICES

Figure D

Cases Actual to Expected Mortality Heart Attack

Altoona Hospital 284

Practice Groups with 30 or more cases

Blair Medical Associates 130

Niyaz Azad, 5 • Robert F. Barnes, 2 • Jeffrey N. Binney, 2 • Craig S. Brandt, 10 • Janelle Brumbaugh, 1 • Steven P. Draskoczy, 10 • Leonard A. Haduck, 11 • William A. Hilshey, 13 • Philip W. Hoovler, 3 • Paula Zak Johnson, 10 • Ralph C. Macek, 4 • Marvin H. Meisner, 7 • John H. Meloy, 6 • Peter Friery Pontzer, 5 • Mario J. Poon, 8 • John G. Sheedy, 9 • Jerry R. Singer, 3 • Adam G. Trybus, 16 • Mark R. Wilford, 5

Cardiovascular and Thoracic Surgery of Altoona, Inc. 50

John Anastasi, 15 • Burt Fazi, 35

Practice Groups with less than 30 cases (not rated)

Allegheny Family Physicians 14

Donald M. Beckstead, 3 • Richard L. Decker, 7 • Regino J. Flores, 1 • John T. Symons, 3

Altoona Lung Specialists 2

Craig W. Hartman, 2

Mainline Medical Associates 17

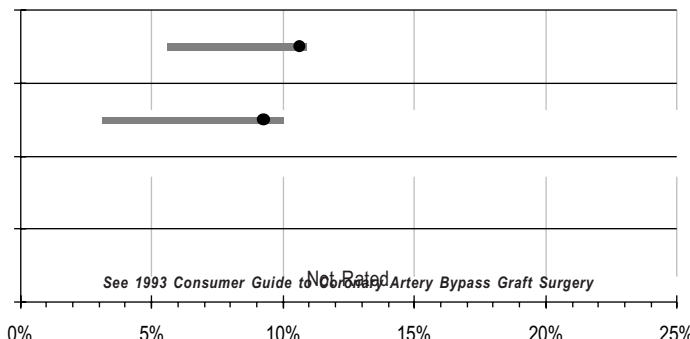
Mitchell W. Joseph, 1 • Brett Laurence Scharf, 7 • Lawrence R. Stem, 8 • Gregory Charles Sweeney, 1

Mid-State Medical Group, Inc. 15

Kenneth L. Beers, 4 • Kumbalatarata A. Siripala, 11

Solo Practitioners (not rated)

Ralph A. Cardamone 1	Michael Kline 1
Joseph W. Gattuso, Jr. 4	Anthony J. Maniglia 5
Zvi H. Goldschmidt 3	John P. Martin 6
Richard S. Helffrich 2	Peter Joseph McConnell 6
Anand Namasayya Hiremath 1	Manickam Sankaran 1
John Scott Hommer, Jr. 2	Stafford M. Smith 1
Judith Lynn Jacobus 2	Karl F. Stine 2
Vijayaraghavan Janakiraman 1	Herbert A. Strunk 1
Benjamin Charles Jenkins 4	Robert Daniel Sullivan 7
Gregory A. Kimble 3	Mary E. Tipton 3



Conemaugh Valley Memorial Hospital 530

Practice Groups with 30 or more cases

Cambria Cardiology, Inc. 40

William Smeal, 1 • David Mark Witkes, 39

Cardiac Surgery, PC 66

Rajsekhar Devineni, 42 • Jacob Kolff, 24

Cardiology Associates of Johnstown 99

T. J. Cardellino, 11 • David M. Evans, 23 • Mohan S. Mital, 15 • Charles J. Oschwald, 25 • Robert Gregory Stenberg, 24 • Rod A. Wall, 1

Practice Groups with less than 30 cases (not rated)

Central Medical Associates, Inc. 2

Bernard S. Panek, 2

Gress and Patel, MD's, Inc. 2

Gordon A. Gress, 15 • Jagdish D. Patel, 7

Johnstown Internists, Inc. 18

William F. Pruchnic, 18

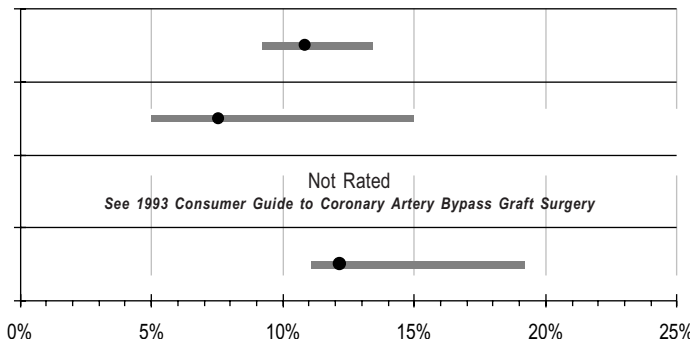
Tri-County Physicians 18

James H. Hollingsworth, 18

Solo Practitioners (not rated)

Herbert A. Allen, Jr. 1	Carmen China 2	George F. Kresak 19
Amany Sarkis K. Azab 4	Michael G. Comas 1	David F. Lawless 5
Krishna M. Bhat 4	Gary M. Davidson 13	Daniel James Leonard 3
Romuald J. Caroff 12	Paul J. Donrovich 7	Balkisson Maharajh 1
Judith M. Carrier 3	Dennis L. Eckels 5	Vijay K. Malhotra 9
	William H. Fink 6	Dinesh P. Mathur 1
	Sharon Elizabeth Goff 3	Mark A. Messinese 3
	Richard J. Green 14	Gregory D. Mock 5
	Richard I. Hardy 3	Robert Mrkich 1
	William D. Hauger 11	George Pueblitz 9
	Stephen F. Hightower 3	Paul A. Raymond 1
	David Franklin Holsinger 5	George E. Rogers 3
	David Charles Johns 7	Suryakant Maneklal Shah 6
	John S. Karduck 9	Jay D. Stearns 1
	Richard M. Kastelic 7	Charles Stotler 8
	Dana S. Kellis 2	Michael Tataro 9
	Royal R. Koeller 1	Gary Stephen Thomas 2
		Phillip J. Turco 5
		Nanna Warikoo 4
		J. Eric Wieczorek 1
		Richard S. Wozniak 3

Cases Actual to Expected Mortality Heart Attack



KEY

- Actual Mortality Rate, 1993 — Range of Expected Mortality
- * Actual Mortality significantly higher than Expected Range
- Actual Mortality significantly lower than Expected Range

Cases

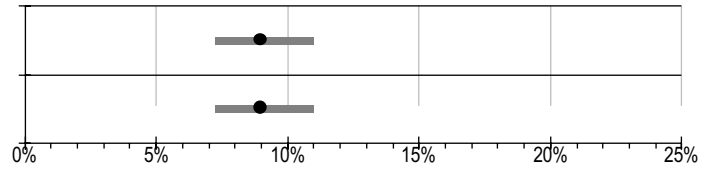
Actual to Expected Mortality
Heart Attack

Geisinger Medical Center /Danville..... 517

Practice Group with 30 or more cases

Geisinger Medical Group 517

Thomas P. Balz, 2 • Gregory W. Benkovic, 5 • Charles H. Benoit, 18 • Anthony Billas, 2 • Joseph E. Bisordi, 1 • James C. Blankenship, 32 • Frederick G. Brown, 1 • Mark Douglas Burd, 3 • Greg Francis Burke, 2 • Richard J. Butcher, 38 • John H. Chapman, 22 • Margaret Eileen Chappen, 1 • Joseph P. Colancecco, 2 • John M. Costello, Jr., 30 • Mary Catherine Cruciani, 7 • Frances E. DeChurch, 1 • Charles Albert Dietl, 32 • Norman L. Ekberg, 2 • Chris W. Fellin, 3 • Henry Francis Fesniak, 15 • David E. Fisk, 1 • Jeffrey R. Folk, 1 • Alan C. Ford, 7 • Keith Gibson, 3 • Christian Lee Gilbert, 15 • Meredith Ann Goodwin, 3 • Robert M. Haddad, 2 • Thomas Harrington, 1 • Thomas A. Harrison, 4 • Thomas Arthur Hepner, Jr., 1 • Laura M Kennedy, 1 • William J. Kimber, 22 • Michael J. Komar, 1 • Charles A. Laubach, 41 • Niall P. Madigan, 22 • Andrew P. Matragrano, 1 • Francis J. Menapace, 20 • Thomas Anthony Modesto, 28 • Louis A. Nassef, Jr., 32 • Eric D. Newman, 1 • Jess W. Oren, IV, 1 • William F. Pharr, 21 • Sheryl Ann Russ, 1 • Charles S. Sawyer, 1 • Steven Schoenfelder, 1 • Jaan E. Sidorov, 1 • Ellen K. Smith, 20 • Ralph H. Starkey, 1 • Randle Henry Storm, 19 • Paul David Thomas, 2 • Edward Lawson Woods, 23



Cases

Actual to Expected Mortality
Heart Attack

Harrisburg Hospital 376

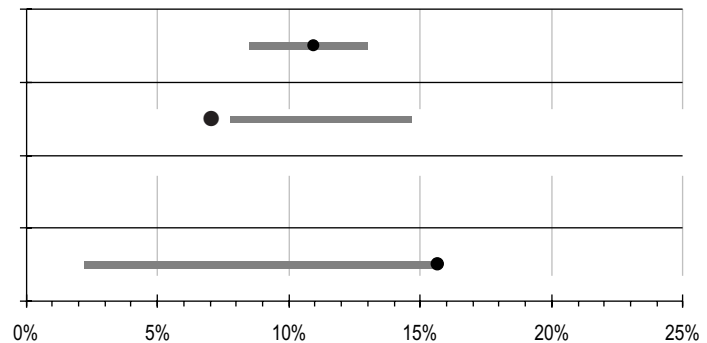
Practice Groups with 30 or more cases

Moffitt, Pease, and Lim Associates 129

Robert G. Baily, 17 • Claude Fanelli, 11 • Felix Gutierrez, 13 • Heng F. Lim, 17 • George R. Moffitt, Jr., 2 • Arthur J. Muller, 14 • Thach N. Nguyen, 24 • David G. Pawlush, 6 • Paul A. Piccini, 16 • John P. Zornosa, 9

Stanley R Goldman, MD and Associates 45

Charles D. Gerlach, 15 • Stanley R. Goldman, 23 • Jack H. Moody, 7



Practice Groups with less than 30 cases (not rated)

Albright and Albright 6
William J. Albright, III, 4 • William J. Albright, IV, 2
Capital Area Cardiovascular Surgical Institute 26
James C. Hart, 5 • William B. Iams, 4 • Eduardo Jorge, 5 • John Pennock, 6 • Frank J. Travisano, 3 • Craig B. Wisman, 3
Cardiovascular and Thoracic Associates, Inc. 9
John P. Judson, 4 • Gregory S. Keagy, 4 • Richard L. Russell, 1
Colonial Park Family Practice 6
Megan J. Borrer, 3 • Kevin J. Kelly, 3
Community Medical Associates, PC 2
Herman Lawson, Jr., 1 • Robert G. Little, 1
Conner, Rich, Kearney, and Torchia Associates 23
Kenneth B. Conner, 13 • James D. Kearney, 1 • James F. Rich, 5 • Joseph A. Torchia, 4
Cummings Associates 5
Cary Cummings, III, 3 • Hugh M. Leavens, 2
Family Medicine Center of Camp Hill 3
David A. Long, 3
Harrisburg Family Practice Center 6
Ellen T. Geminiani, 1 • Julie A. Heil Larson, 1 • David C. Slawson, 2 • Ellen G. Smith, 2

Internists of Central Pennsylvania, Ltd. 20
Peter M. Brier, 5 • L. Lynne Britton, 2 • Michael L. Gluck, 1 • Ira J. Packman, 4 • Richard Schreiber, 3 • James A. Tyndall, 5
Kunkel Surgical Group 1
J. Bret DeLone, 1
Mechanicsburg Family Practice Associates 4
Ann M. Bogdan, 1 • Daniel Collier, 1 • Robert S. Muscalus, 1 • Edward M. Thompson, 1
Primary Care Service 7
Gaspere C. Geraci, 3 • Vernon H. Preston, 4
Raymond C Grandon, MD, PC 10
William J. Boyd, 7 • Raymond C. Grandon, 3
Shaffer-Orecchia Associates 9
Bedford F. Boylston, 4 • Christine M. McCarty, 2 • Carolyn W. Shaffer, 3
Shepherdstown Family Practice 4
Joseph A. Cincotta, 3 • Gary M. Schwartz, 1
Susquehanna Internal Medicine Associates, PC 7
Greg R. Ehgartner, 2 • Roger B. Gustavson, 3 • Maurice J. Lewis, 2
Tzanis and Wallendjack 12
Loucas C. Tzanis, 6 • John C. Wallendjack, 6

Solo Practitioners (not rated)

Alan M. Adelman 2
William B. Bush 8
Joseph R. Carlisi 5
Samuel T. Clayton 2
Philip Charles Grem 2
Robert S. Grossman 4
Ruth L. Hazard 8
William M. Hefley 3
Robert J. Kantor 1
David K. Kelley 1
Deb Miller 1
Earl S. Moyer 1
Francis X. Perna 2
Herbert I. Soller 1
Lawrence Zimmerman 1

Cases

Actual to Expected Mortality
Heart Attack

Lancaster General Hospital 407

Practice Groups with 30 or more cases

Cardiac Consultants, PC 81

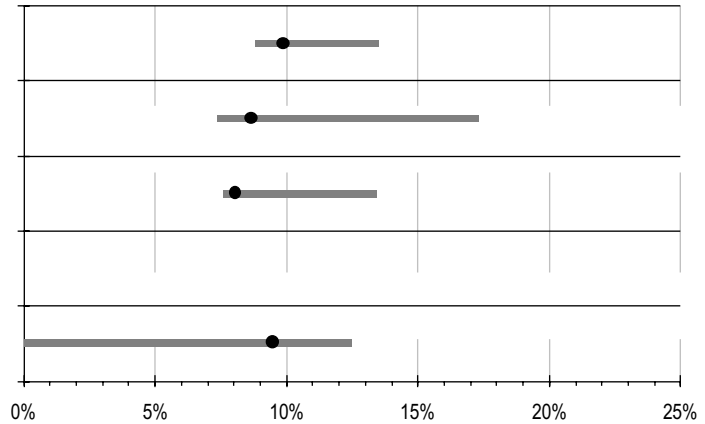
Stephen T. Bell, 15 • Halbert J. Feinberg, 12 • Gordon H. Hutt, 13 • Bertram L. Johnson, Jr., 15 • Michael G. Lesko, 5 • Nicholas John Mandalakas, 7 • Surender Singh, 14

Cardiovascular Associates of Lancaster, Ltd. 238

Rolf L. Andersen, 32 • Paul N. Casale, 8 • Neil R. Clark, 10 • John H. Esbenshade, Jr., 1 • James H. Gault, 32 • Richard D. Gentzler, 27 • Joseluis Ibarra, 20 • John P. Slovak, 21 • Roy Scott Small, 14 • Ian D. Smith, 34 • Edward W. Supple, 19 • Seth J. Worley, 20

Heart Specialists of Lancaster, PC 32

Roddy P. Canosa, 1 • Frank W. Corbally, 2 • Scott Deron, 27 • David M. Loss, 2



Practice Groups with less than 30 cases (not rated)

Brandywine Valley Cardiovascular Associates 12

Alan D. Troy, 12

Cardiothoracic Surgeons of Lancaster 1

Edward F. Lundy, 1

Cornerstone Family Health Associates 3

Guy R. Eshleman, Jr., 1 • Charles R. Mershon, 2

Duke Street Medical Associates, PC 10

Christopher Todhunt Addis, 6 • O. Scott Lauter, 4

Hematology Associates of Lancaster, Ltd. 2

Paul R. Grosh, 1 • Gregory Thomas O'Connor, Jr., 1

Lancaster General Hospital Family and Community Medicine 11

Roland Joseph Larrabee, 1 • Stephen T. Olin, 1 • Alan S. Peterson, 2 • Keith Michael Shute, 3 • Christine M. Stabler, 1 • Nikitas J. Zervanos, 3

Mastropietro and Associates 2

Robert M. Kemp, 1 • Nunzio A. Mastropietro, 1

Medical and Renal Consultants of Lancaster 3

J. Harold Mohler, 2 • Thomas K. Ruth, 1

Nephrology Associates of Lancaster, Ltd. 2

John J. Schubert, 1 • Marc H. Weiner, 1

Norlanco Medical Associates 4

Paul E. Brubaker, 1 • Jeffrey Brian Rittenhouse, 1 • Richard L. Snyder, 1 • Richard C. Yunginger, 1

Stephen G Diamantoni, MD and Associates 2

Stephen G. Diamantoni, 1 • Howard J. Gerstein, 1

Surgical Associates of Lancaster 2

G. Gary Kirchner, 1 • Richard T. Purdy, 1

Solo Practitioners (not rated)

Thomas Joseph Biuso 1

Allan Davis 1

KEY

- Actual Mortality Rate, 1993
- Range of Expected Mortality
- * Actual Mortality significantly higher than Expected Range
- Actual Mortality significantly lower than Expected Range

Cases

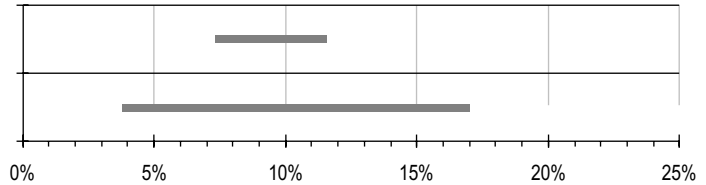
Actual to Expected Mortality
Heart Attack

*Mercy Hospital /Scranton 438

Practice Group with 30 or more cases

*Cardiovascular Consultants, Ltd. 53

Chau Fe Huang, 1 • David Lee Lohin, 10 • Paul H. Menzel,
11 • Kevin H. Olsen, 12 • Madhava S. Rao, 8 • Stephen J.
Voyce, 11



Practice Groups with less than 30 cases (not rated)

Borowski and Crech, PC 1 Solo Practitioners (not rated)

Gregory D. Borowski, 1

Brundage and Williams Internal Medicine Associates 4

Randall G. Brundage, 4

Chest and Cardiovascular Associates, PC 1

Siamak A. Hamzavi, 1

East Brown Medical Associates 2

Dennis Michael Mattel, 2

Geisinger Medical Group 4

Michael J. Fox, 1 • Richard A. Martin, 1 • William H.
Newman, III, 1 • Michael John Rogan, 1

Hematology Oncology Associates 3

Robert M. Curley, 1 • Martin Hyzinski, 2

Internal Medicine Associates 8

Edward J. Dzielak, 2 • Joseph Peter Greco, 6

Lackawanna Medical Group 1

Wayne L. Weston, 1

Lear Von Koch, MD and Associates 20

Lear Von Koch, 15 • Kenneth R. Wilcox, 5

Mercy Family Practice 3

Mark Michael Murnin, 1 • Patrick J. Murnin, 2

Northeast Cardiology Associates 17

Leonard J. Denis, 11 • Neal E. Soifer, 6

Northeast Medical Associates 19

Phillip A. Boccagno, 6 • Martin Christopher
Penetar, 3 • Dominic Ruggiero, 10

Piczon-Manahan Associates 4

Ferdinand J. Manahan, 3 • Oscar Y. Piczon, 1

Scranton Cardiovascular Group 26

Christopher J. Dressel, Jr., 7 • Jay Shechter, 6 •
Gerald P. Tracy, 13

Scranton Primary Health Care Center 4

Alfonso A. Gomar, 4

Scranton Temple Residency Program 3

Diane Louise Dietzen, 3

Krishan Kumar Aneja 1

Linda M. Barrassé 4

Vincent C. Bianca, III 3

Susan M. Biancarelli 2

John D. Cacciamani 2

Gregory E. Cali 1

Thomas F. Clauss 11

Peter A. Cognetti 3

Patrick D. Conaboy 6

Charles F. Connors 4

Nicholas Paul Dardes 2

Neal Malcolm Davis 1

Charles Steven Deck 2

Ralph C. Demario 1

Paul F. Dende 1

Arvind D. Desai 1

Meena B. Desai 1

Charles R. Druffner 2

Lewis Christian J. Druffner 15

Darlene Ann Dunay 5

Jeremiah W. Eagen 4

Steven B. Eisner 2

Anees Robert Fogley 4

Linda A. Sebastian Frantz 1

John Robert Gavin 3

Joseph J. Giombetti 1

John R. Guzek 2

Sun-Tak Han 16

Eugene D. Harasym 3

Michele Hazzouri 3

John J. F. Holmes 5

Lawrence J. Howard 7

Robert W. Kaville 7

Daniel Joseph Kazmierski 2

Dennis J. Kondash 1

Michael Lawrence Kondash 1

E. Donald Kotchick 4

Joseph C. Koval 1

Joseph B. Krisanda 3

Salvatore A. Lawrence, Jr. 4

William P. Mackrell 2

William S. Maigur 1

Thomas G. Majernick 6

Mary Ann McDonald 3

John F. McGeehan 5

Daniel Mark McNabb 1

Michael A. Minora 6

Thomas L. Minora 4

Abul-Kassim Mohamed-Ali 4

Michael K. Montella 4

Kurt P. Moran 4

Joseph E. Moylan 3

Daniel Parsick 1

Bhupendra R. Patel 1

Anthony M. Perry 6

John William Peters 6

Joseph F. Philbin 2

Sheela S. R. Prahalad 3

Olindo J. Preli 1

Srinivasarao Ramakrishna 1

Paul F. Remick 7

Eugene J. Roe 11

Kenneth H. Rudolph 9

Mohammad A. Saleem 1

Kenneth J. Sebastianelli 1

Joseph Charles Seprosky, Jr. 1

Enrico A. Serine 6

Zaher Selim Soliman 2

Eugene G. Stec 3

Charles L. Swisher 3

Eugene A. Turchetti 1

Michael J. Turock 3

David Alan Waibel 3

Richard L. Weinberger 1

Donald J. Werner 1

Christopher C. Woodley 3

Donald C. Wright 2

Henry C. Yeager 1

Cases Actual to Expected Mortality Heart Attack

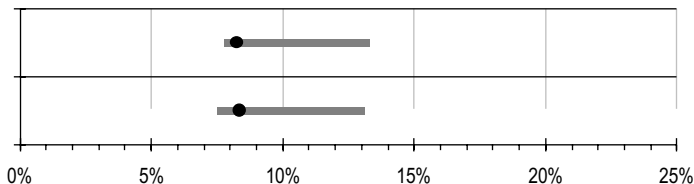
Penn State University Hospital /Hershey 255

Practice Group with 30 or more cases

Division of Cardiology

Penn State University Hospital 252

- Charles E. Chambers, 24 • William R. Davidson, Jr., 22 • Robert DeJoseph, 17 • Ahmed A El-Ghamry-Sabe, 23 • Steven Mark Ettinger, 15 • Joseph A. Gascho, 4 • Ian C. Gilchrist, 12 • Mark Kozak, 16 • David M. Leaman, 7 • Urs A. Leuenberger, 29 • Jerry Luck, 30 • Michael B. McKee, 17 • David G. Pawlush, 1 • Lawrence I Sinoway, 23 • Robert Zelis, 12



Practice Group with less than 30 cases (not rated)

Division of Internal Medicine

Penn State University Hospital 3

- Cheryl A Johnson, 1 • Philip Allen Masters, 1 • Richard J Simons, 1

Cases Actual to Expected Mortality Heart Attack

Polyclinic Medical Center 402

Practice Groups with 30 or more cases

Associated Cardiologists 204

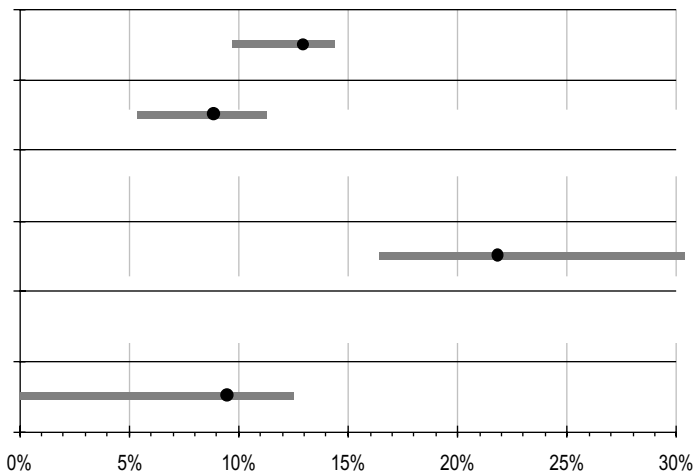
- L. Bruce Althouse, 25 • Joy C. L. Cotton, 3 • Richard Alan Cytryn, 4 • Donald Durbeck, 30 • Jeffrey S. Fugate, 34 • Kenneth J. May, Jr., 37 • Stuart B. Pink, 43 • David L. Scher, 3 • Robert A. Skotnicki, 25

Cowley Medical Associates 55

- Virginia C. Calega, 3 • Carrie Louise Delone, 1 • Mohamed F. Elnour, 2 • Mark C. Friedman, 2 • Stanley B. Lewin, 28 • Venkatesh K. Nadar, 11 • Wendy Schaenen, 1 • Kenneth L. Smeltzer, 3 • George M. Sylvestri, 2 • Jonathan P. Whitney, 2

Ira Sackman, MD FACC, PC 32

- Robert D. Aronoff, 15 • Ira Sackman, 17



Practice Groups with less than 30 cases (not rated)

Bronstein and Jeffries Professional Association 1

- Julie A. Rothman, 1

Carlisle Cardiopulmonary Associates 7

- David Kann, 3 • Dennis E. Line, 4

Cohick and Mueller 4

- Bruce S. Cohick, 2 • Scott Douglas Mueller, 2

Cummings Associates 3

- Cary Cummings, III, 2 • Hugh M. Leavens, 1

Edmundowicz, Watkin and Freshman Associates 28

- Frank J. Andriola, 7 • J. Rodney Freshman, 2 • Ann Marie Markiewicz, 13 • Walter B. Watkin, Jr., 6

Frederick Health Center 1

- Frederick J. Seidel, 1

Internal Medicine Associates of Harrisburg, Inc. 3

- Robert L. Tecau, 1 • Eugene P. York, 2

Kandra, Fierer and Kuskin Associates 14

- Robert R. Fierer, 2 • Darby G. Hand, 5 • Joseph J. Kandra, 4 • Louis F. Kuskin, 3

Kline Family Practice 7

- Lawrence Kay, 3 • Brian Michael Uniacke, 1 • Jennifer E. Weber, 2 • Ronald Jay Williams, 1

Lewistown Cardiologists 12

- Ketan R. Sheth, 3 • Arvind L. Suthar, 9

Locust Lane Medical Center 7

- Henry A. Greenawald, 1 • Brian Carey Quirk, 6

Magill and Gutierrez 9

- Julian Gutierrez, 3 • Richard M. Magill, 6

Stanley R Goldman, MD and Associates 9

- Charles D. Gerlach, 4 • Stanley R. Goldman, 5

Uptown Internal Medicine 2

- Victor R. Cotton, 1 • James McClellan Walker, 1

Solo Practitioners (not rated)

Robert D. McInroy 1

John C. Schiro 1

Paul D. Williams 2

Cases

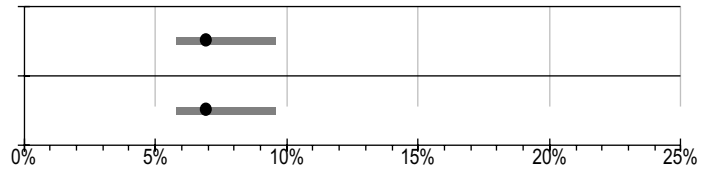
Actual to Expected Mortality
Heart Attack

Robert Packer Hospital 450

Practice Group with 30 or more cases

Guthrie Clinic, Ltd. 450

Joseph Belton Blood, Jr., 2 • Kevin Vincent Carey, 1 • Pramod M. Deshmukh, 22 • Felix Joseph Desio, 2 • Karl Josef Dienhart, 73 • Lewis C. Evans, II, 9 • Michael Georgetson, 1 • John Abner Hinsman, Jr., 1 • Mal R. Homan, 2 • Ronald Lee Kahn, 6 • Ferrol Joseph Lee, 2 • Robert James Lenox, 1 • Dean Ferris Markham, Jr., 1 • Thomas John McDonald, 4 • Kirk Musselman, 81 • David John Pelkowski, 21 • Michael Rupp, 24 • Debra Ann Ryan, 1 • Richard Edmund Shelling, 4 • Lynn Allan Smaha, 8 • Marcis Tots Sodums, 50 • Daniel P. Sporn, 65 • John Lloyd Wanamaker, 69



Cases

Actual to Expected Mortality
Heart Attack

Saint Joseph Hospital /Lancaster 193

Practice Groups with 30 or more cases

Cardiac Consultants, PC 34

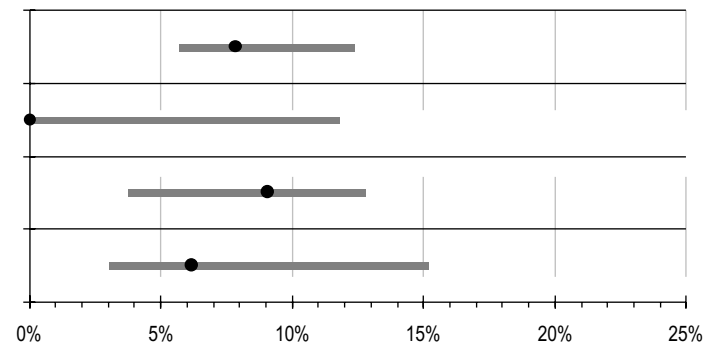
Stephen T. Bell, 9 • Halbert J. Feinberg, 8 • Gordon H. Hutt, 7 • Bertram L. Johnson, Jr., 3 • Michael G. Lesko, 3 • Nicholas John Mandalakas, 4

Cardiovascular Associates of Lancaster, Ltd. 78

Neil R. Clark, 25 • James H. Gault, 2 • Joseluis Ibarra, 8 • John P. Slovak, 1 • Roy Scott Small, 18 • Ian D. Smith, 9 • Edward W. Supple, 14 • Seth J. Worley, 1

Heart Specialists of Lancaster, PC 33

Roddy P. Canosa, 5 • Frank W. Corbally, 5 • Scott Deron, 5 • David M. Loss, 18



Practice Groups with less than 30 cases (not rated)

Cornerstone Family Health Associates 1

Martha M. Y. Coslett, 1

Family Practice Associates of Lancaster 2

William W. Bakken, 1 • William Dotson Roberts, 1

General Internal Medicine of Lancaster 25

Larien G. Bieber, 1 • Marilyn Dandrea-Spica, 4 • Samuel A. Rice, 3 • John J. Scott, 5 • James E. Spicher, 5 • Jonathan S. Staub, 7

Hempfield Family Practice Associates, Ltd. 2

Coleen Marie Smith, 1 • Michael K. Weed, 1

Manor Family Health Center 2

Jon R. Ichter, 1 • Jon H. Schrock, 1

Matlin Goldfarb Pulmonary Associates 1

Robert A. Matlin, 1

Norlanco Medical Associates 1

Gerald R. Baer, 1

Stephen G Diamantoni, MD and Associates 1

Stephen G. Diamantoni, 1

Solo Practitioners (not rated)

Allan Davis 1

Peter S. Novosel 1

John A. Palumbo 1

Rudolph Francis Rigano 7

Robert G. Shultz 1

W. Ronald Weaver 1

Herbert Wilsker 1

KEY

- Actual Mortality Rate, 1993
- Range of Expected Mortality
- * Actual Mortality significantly higher than Expected Range
- Actual Mortality significantly lower than Expected Range

Cases

Actual to Expected Mortality
Heart Attack

Wilkes-Barre General Hospital /WVHCS 443

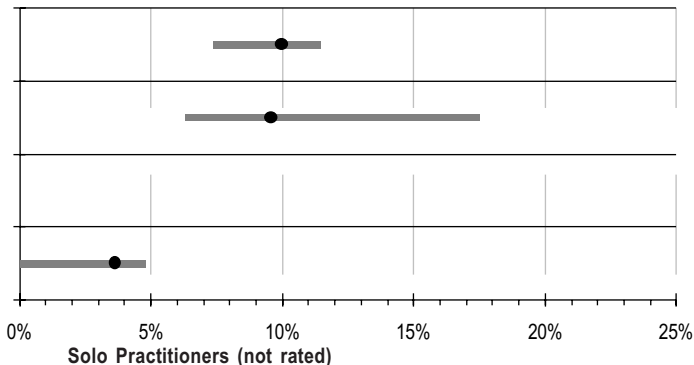
Practice Groups with 30 or more cases

Associated Internists of Wyoming Valley 63

- Richard P. Abramowitz, 8 • Lanning A. Anselmi, 1 • Thomas E. Baker, 4 • John G. Citti, 3 • David C. Cramton, 1 • Paul J. Latzko, 2 • John N. Menio, 3 • Richard Michelstein, 1 • David E. Owens, 5 • David F. Rimple, 7 • Durelle T. Scott, III, 5 • Daniel K. Silverstein, 23

MSUSP, MDs, Associates, PC 84

- Robert D. J. Potorski, 36 • Anilkumar T. Shah, 48



Practice Groups with less than 30 cases (not rated)

- Arthritis Center of Northeast Pennsylvania 1**
Victor A. Labbate, 1
- Back Mountain Family Practice 7**
Gary M. Smith, 5 • John Tomedi, 2
- Cardiology Associates 2 6**
John H. Ellis, IV, 17 • Nicholas J. Ruggiero, 3 • Thomas J. Turissini, 6
- Crestwood Family Practice 2**
Philip Seroska, 2
- Crossroads Medical Associates 4**
Cynthia A. Solomon, 4
- CEC Associates 2**
John L. Carey, 2
- Dallas Family Practice 11**
Thomas M. Campbell, 6 • Irvin Jacobs, 3 • Diane A. Lowe, 1 • Gary D. Nothstein, 1
- Duryea Family Practice 1**
Richard J. Lazar, 1
- Endocrine Specialty Group, Inc. 3**
Herbert Fellerman, 3
- Family Practice Services 3**
Monica L. Cozzone, 3
- Hart Medical Center 8**
Patrick Joseph Kerrigan, 8
- Internal Medicine Associates 3**
John C. Querci, 3
- Internal Medicine Associates of Hazleton 3**
Francisco Alberto Gazek, 3
- Lentini Medical Associates, Inc. 8**
J. Charles Lentini, 8
- Linden Medical Group 19**
William David Hottenstein, 6 • Joseph F. Litchman, 3 • Lester M. Saidman, 5 • Joseph Szustak, 5
- Mercy Family Practice 2**
Louise A. Breakstone, 2
- Mercy Family Practice-East End 1**
James Majdic, 1
- Mountaintop Family Practice 1**
Irene D. Lucas, 1
- Renal Consultants 10**
John Albert Rothschild, 5 • Jeffrey Sands, 2 • Steven Michael Young, 3
- Rural Health Corporation 2**
Richard A. Benoit, 1 • Evelyn M. Shah, 1
- Wyoming Valley Family Practice Residency Program 8**
Julie A. Dostal, 1 • Paul J. Hughes, 3 • Maureen M. Litchman, 1 • Stephen W. Marcella, 1 • Deborah A. Spring, 2

- Solo Practitioners (not rated)**
- Harry Alexanderian 1
- Joseph A. Anistranski 1
- A. Anthony Anzalone 5
- Benjamin S. Berley 2
- Mark M. Bernardi 5
- Mauer T. Biscotti 11
- Richard Blum 5
- Mark Bohn 1
- Louis Biagio Bonita 4
- Raphael J. Bonita 9
- Alan L. Boonin 4
- John P. Brady 1
- James R. Bruno 6
- Joseph P. Chollak 1
- William N. Clearfield 4
- Nirode C. Das 5
- Salvatore C. Depasquale 2
- Guy M. Fasciana 6
- David Russell Fields 6
- Thomas Edward Gazowski 1
- Ernest R. Gelb 1
- Gerald P. Gibbons 11
- Nicholas D. Giordano 6
- Robert Douglas Greenhalgh 1
- Ronald I Harris 1
- David Kasper 1
- John M. Kish 9
- Frank E. Kulbaski 4
- Phillip J. Kurello 1
- Edward A. Lottick 2
- Charles M. Manganiello 9
- Frank C. Olshemski 4
- Glenn M. Panzer 3
- Joseph E. Piszczek 7
- John M. Prater 4
- Mark W. Puffenberger 4
- Joseph F. Radzvilka 2
- James Rondina 1
- Basil M. Rudusky 3
- Donald M. Shapiro 4
- John W. Sherwood 3
- Henry F. Smith, Jr. 1
- Joseph W. Stepanitis 1
- Elaine Czachor Turcan 1
- William B. Weiss 1
- Paul J. Witt 3
- Janusz Wolanin 3

Cases Actual to Expected Mortality
Heart Attack

Williamsport Hospital & Medical Center 174

Practice Group with 30 or more cases

The Heart and Lung Center 141

John M. Burks, 44 • Joseph R. Calder, Jr., 33 •
Edward C. Keating, 39 • Donald Thomas Nardone, 25

Practice Groups with less than 30 cases (not rated)

Cornerstone Family Health, PC 1

Philip R. Byler, 1

Family Practice Group 2

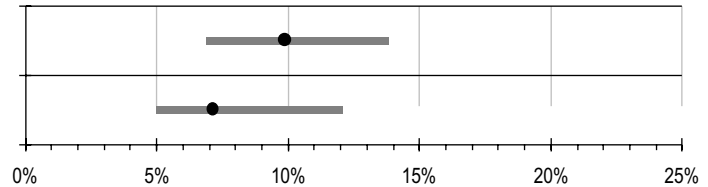
Timothy Michael Heilmann, 1 • Jeffrey B. Wetstone, 1

Lycoming Cardiology Associates, PC 18

M. Raashid Mirza, 5 • Mohammad Shafique, 13

Williamsport Cardiology Associates, Inc. 1

Christopher Tobiasz, 1



Solo Practitioners (not rated)

Lee Michael Ciccarelli	1
Michael W. Jones	2
William W. Judson	1
Eric W. Longenbach	1
William J. Peck	1
Raghavan Vasudevan	5

Cases Actual to Expected Mortality
Heart Attack

York Hospital 531

Practice Groups with 30 or more cases

Brockie Internal Medicine Consultants, Ltd. 127

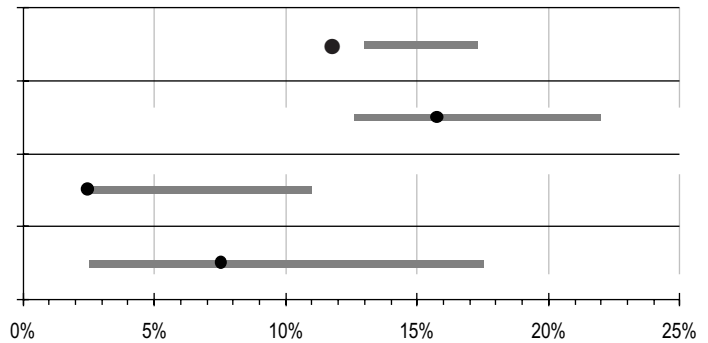
David J. Hoffman, 23 • Benjamin A. Hoover, II, 23 •
William A. Landis, 29 • Cathy J. Manning, 11 • Milton J. Menchey, 25 • John K. Sanstead, 7 • Andrew T. Winand, 9

Cardiac Diagnostic Associates, PC 82

Gregory P. Fazio, 6 • Jack G. Gracey, 8 • C. Edwin Martin, 20 • W. Jay Nicholson, 13 • Thomas E. Schryver, 19 • Lyle A. Siddoway, 3 • Samuel J. Solomon, 13

Gotham Medical Associates 40

Mary J. Hudak, 2 • Fred W. Kephart, 11 • Steven M. Krieger, 19 • Edward Q. Rogers, 8



Practice Groups with less than 30 cases (not rated)

Apple Hill Internal Medicine Associates 2 2

Jack A. Kline, 22

Associated Internists, Inc. 2

William T. Lampe, II, 2

Dallastown Family Practice 13

Gary W. Ardison, 2 • Andrew T. Delp, 1 •
Thomas R. McGann, 7 • Cynthia M. Patterson, 1 •
Paul B. Schwartzkopf, 2

Dallastown Medical Associates 13

Michael J. Dobish, 1 • Nicholas A. Giuliani, 3
Dale L. Kresge, 3 • David L. Neuburger, 2 •
Randall W. Rowand, 4

Elmwood Center Medical Associates, PC 1

Carl S. Colombo, 1

Family Practice Center of East Berlin 9

Michael E. Brown, 5 • J. Stephen Long, 3 •
Edward A. Nelson, 1

Hayshire Medical Center 5

Thaddeus Lekawa, 5

Hunters Hill Family Practice 1

George E. Eder, 1

Kurz-Kurz 8

Richard B. Kurz, 8

Medical Resident Attending Service 15

Robert L. Clinton, 6 • Joseph William Cook, 3
• Paula A. Jacobus, 4 • Stephanie L. Linder, 2

Northeastern Medical Center 16

John J. Bobin, 4 • Christopher F. Due, 3 •
Leon W. Gibble, 9

Queen Surgical Associates 16

Bradley H. Levin, 7 • John M. Mathai, 8
• Nche Zama, 1

Spring Garden Family Practice 4

Cathy P. Carpenter, 3 • Robert C. Glorioso, 1

Thomas M Hart Family Practice Center 12

Bruce M. Bushwick, 6 • Wanda D. Filer, 4 •
Kevin H. Mosser, 2

York Health Corporation 3

Eric J. Binder, 1 • Rita E. VanWyk, 2

Yorktowne Family Medical Associates 13

Deborah M. McMillan, 3 • James F. Mulligan, 2
Kenneth F. Woerthwein, 8

Solo Practitioners (not rated)

Cyrus E. Beekey, Jr.	4
John W. Blotzer	1
Thomas W. Cann, III	13
John N. Carson, III	2
Edwin N. Foster	11
Jeffrey A. Frey	2
Raymond J. Gaspari	10
Richard Harootunian	6
Ronald J. Herman	7
Clifford C. Hudson	3
Richard L. Keeports	2
Richard J. Murray, Jr.	10
Ronald J. Reinhard	12
Leo Samelson	18
Paul B. Schendel	4
Ming-Der Wong	24

KEY

- Actual Mortality Rate, 1993 — Range of Expected Mortality
- * Actual Mortality significantly higher than Expected Range
- o Actual Mortality significantly lower than Expected Range

Heart Attack Rates by County and Community, 1993

Previous Council reports have focused on hospital-specific data and to a limited degree physician-specific data. However, in examining a disease such as heart attack, there may be other factors, outside of the direct control of hospitals and physicians, contributing to the survival and mortality rates of patients. Community factors - residents' health status, geographic access to medical facilities, socioeconomic and other factors - have been demonstrated to contribute to who will suffer a heart attack, as well as the odds of surviving one.

The Health Care Cost Containment Council and the Pennsylvania Department of Health have joined forces to present a detailed picture of how heart attack affects the residents of Pennsylvania counties and communities. This is achieved by presenting the Council's hospitalization rate and inpatient hospital mortality data as well as the Health Department's heart attack mortality data.

In this section, the mortality and hospitalization rates are based on patients' county and community of residence, irrespective of where they were hospitalized. For example, if a resident of Allegheny County is hospitalized for a heart attack in Philadelphia, that patient will count towards Allegheny's hospitalization rate, *not* Philadelphia's rate.

IMPORTANT NOTE: The Pennsylvania Health Care Cost Containment Council data and the Pennsylvania Department of Health data are collected from different sources and are adjusted differently. Therefore, they should be considered separately and cannot be used together to make additional calculations.

What information does this section include?

COUNCIL DATA — For every 1,000 Pennsylvania residents, 2.8 persons were admitted to a Pennsylvania hospital for treatment of a heart attack in 1993, a total of 33,718 individuals. The Council estimates that this number accounts for about 85% of total heart attack occurrences statewide. In this section, each Pennsylvania county's rate is compared to the statewide rate and the percent difference between the county rate and the state rate is calculated. In other words, the data show whether a county is above or below the state rate and whether the difference is statistically significant. The same formula is applied to community-size areas, although only significant differences are shown. It is important to note that communities are defined by zip codes. They do not follow minor civil division lines precisely and may include zip codes from nearby communities or surrounding areas. A full listing of zip codes and corresponding communities is available from the Council upon request.

The same approach is applied to inpatient hospital mortality. By inpatient hospital mortality we mean patients who were admitted to a hospital for a heart attack and died while in the hospital. It does not include patients who died in the emergency room, a hospice, nursing home, outpatient facility or at home. The 1993 state rate for inpatient hospital mortality was .35 for every 1,000 residents. The county and community rates are compared to the state rate and a percent difference above or below the state rate is calculated. All counties are reported but only communities with a rate that is significantly different, statistically, from the state rate are listed.

Caution: In the graphs on the following pages, the figures refer to the percent above or below the state rate, not the percent of residents hospitalized for or dying of a heart attack. For example, if a county's hospital admission rate for heart attack is 47% above the state hospital admission rate (2.8 per 1,000), it does not mean that 47% percent of the county's residents were hospitalized for a heart attack or died from a heart attack.

These data are age and sex adjusted, according to the state rate, meaning that differences among geographic areas are not attributable to age or sex differences. The Council data include only Pennsylvania residents admitted to Pennsylvania hospitals.

PENNSYLVANIA DEPARTMENT OF HEALTH DATA — Using data provided by the Pennsylvania Department of Health, the Council is able to report the total number of heart attack deaths for residents of each county. These data are age-adjusted to the 1940 standard million U.S. population. They are not adjusted for sex. The state rate of total mortality due to heart attack is 0.55 deaths per 1,000 residents. These data include all Pennsylvania residents who died of a heart attack, even if they died outside of Pennsylvania. *It is important to note that caution should be exercised in examining the death rates of counties, especially rural counties, with small populations. The death rate in those counties may be based on a very small number, and the actual death rate could change significantly from year to year.*

Why is this information according to County/Communities important?

These data point out differences in the hospitalization and mortality rate of heart attack patients, according to where patients live. These variations provide a broader picture of the impact of heart attack than can be seen by examining only hospital and physician-specific rates. They can help to raise important questions about the differences among communities. By identifying differences in population-based hospital admission rates and in-hospital mortality rates, the possible reasons for those differences can be analyzed.

For example, suppose the residents of a given community have an inpatient hospital mortality rate that is significantly greater than the state rate. Is that due to the health status of the community, which may be related to socioeconomic or other factors? If so, can prevention and health education efforts be better targeted or increased in this area? Is the rate influenced by the effectiveness of the health care system in treating patients?

If heart attack patients are dying outside the inpatient hospital setting, is it due to the amount of time needed for transport to distant hospitals? If so, could the emergency medical system better address that need? Could medical facilities be better located?

If heart attack patients are dying before reaching the hospital, does it suggest that people are delaying action? If so, what steps can be taken to address this problem?

If hospitalization rates are high, is that due to the health status of the residents or other demographic issues? If the hospitalization rate is low, but the *overall* mortality rate for the area is high, are more patients, relatively speaking, dying before they reach the hospital?

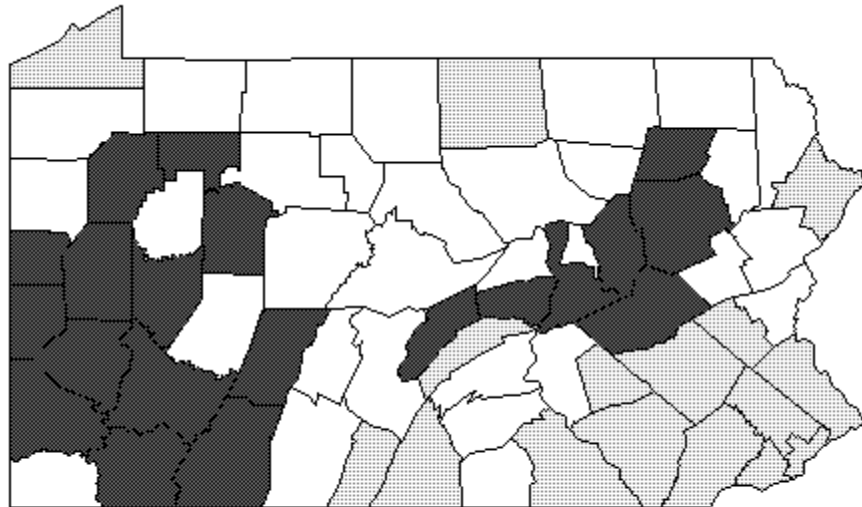
Why do these differences exist?

There are well-documented risk factors which may contribute to variation in admission and mortality rates. Diabetes, smoking and hypertension have been linked to higher incidence of heart attack and mortality rates following heart attack. Socioeconomic factors such as race, level of education, accessibility to medical care, insurance coverage, and income level may also impact hospital admission rates and survival rates.

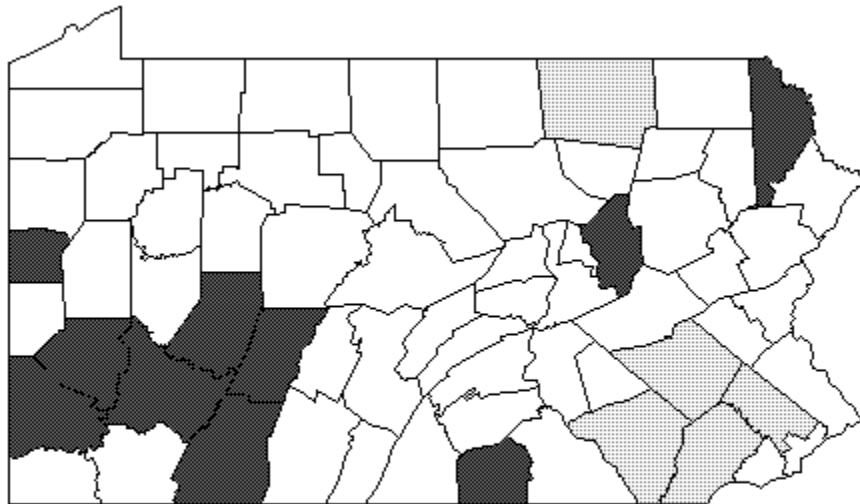
If you compare the data in this report's hospital section to the data in this section, you may find that communities or counties with a high rate of heart attack deaths or inpatient hospital heart attack deaths may not necessarily correspond to hospitals with significantly high rates of inpatient mortality. Other factors would need to be explored to understand any relationship between the two. For example, which hospitals did residents go to for treatment? How many residents died outside the inpatient hospital setting?

The usefulness of these type of data is to provide a broad descriptive picture of hospital utilization and mortality according to where people live. The information serves as a point of departure for more in-depth data collection, analysis and planning.

Heart Attack Hospital Admissions by County, Pennsylvania Residents, 1993 Compared to State Rate*

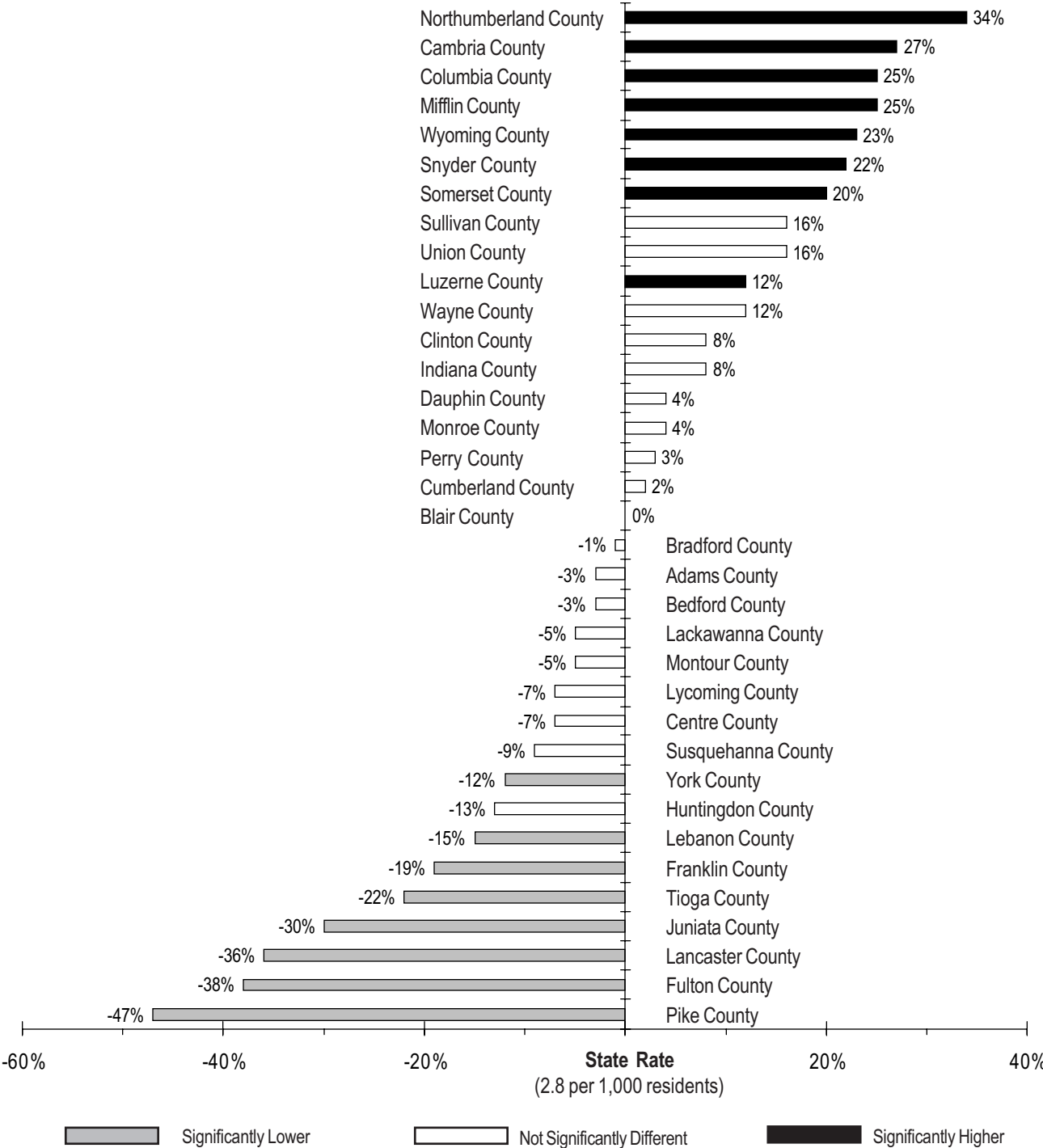


In-Hospital Heart Attack Deaths by County, Pennsylvania Residents, 1993 Compared to State Rate*



Significantly Lower Not Significantly Different Significantly Higher

Heart Attack Hospital Admissions by County, Pennsylvania Residents, 1993 Compared to State Rate*

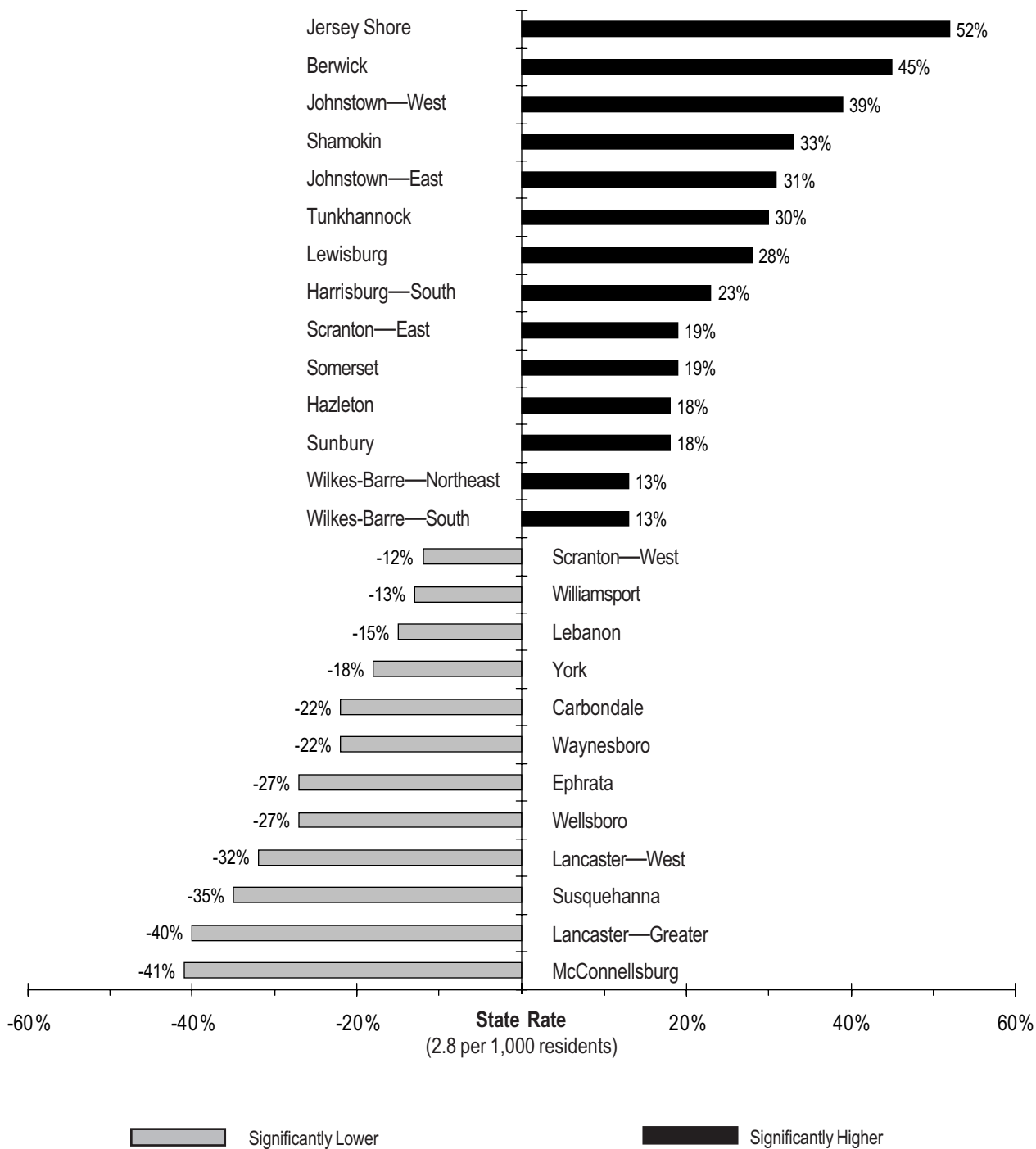


* The actual state rate of heart attack hospital admissions was 2.8 per 1,000 residents in 1993. In the graph above, the residents of Northumberland County were hospitalized for heart attacks at 34% above the state rate. Pike County residents were hospitalized at 47% below the state rate. These data are adjusted for age and sex based on statewide figures.

IMPORTANT NOTE: The Pennsylvania Health Care Cost Containment data and the Pennsylvania Department of Health data are collected from different sources and are adjusted differently. Therefore, they should be considered separately and cannot be used together to make additional calculations.

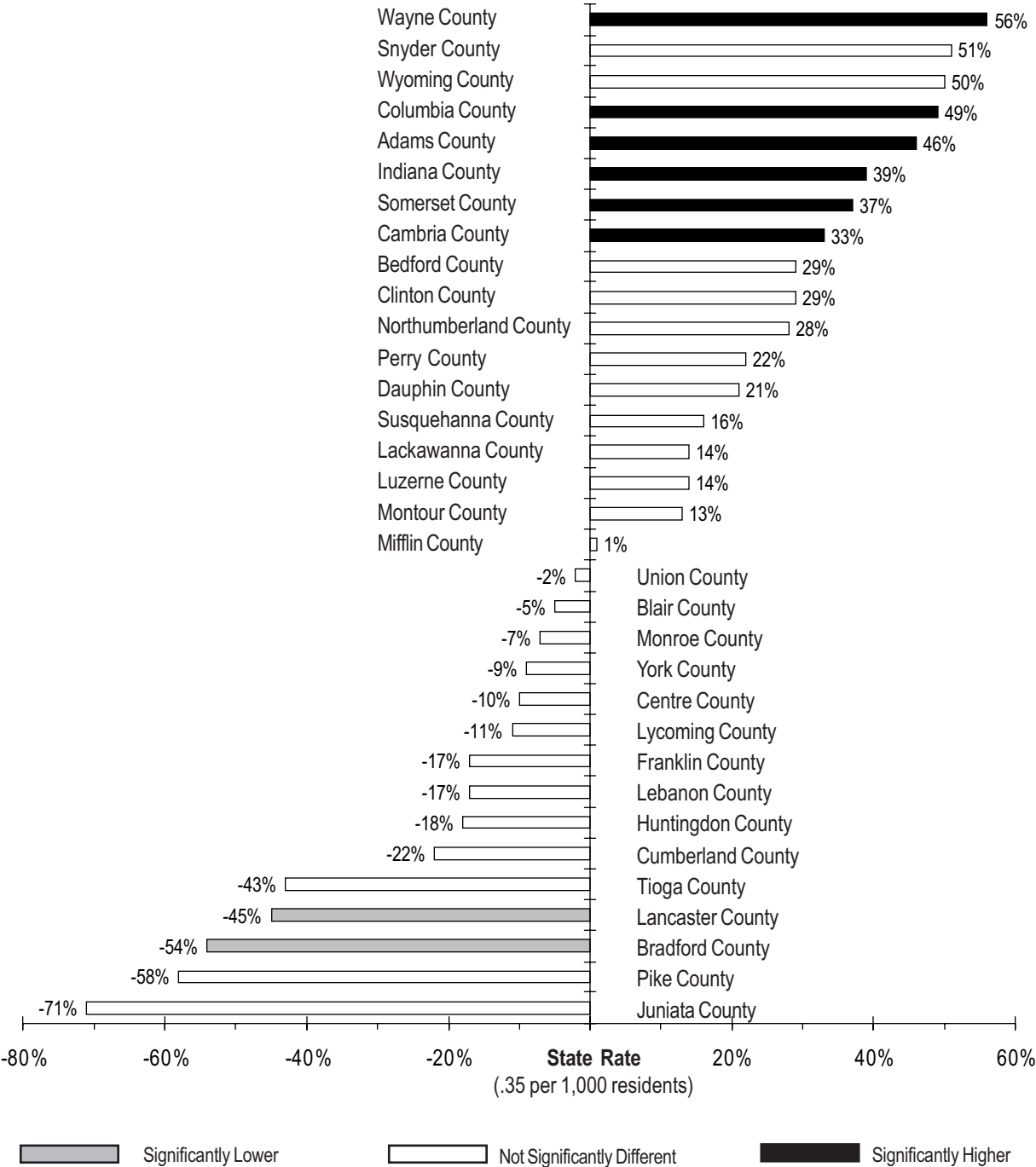
Heart Attack Hospital Admissions, Selected Communities, 1993

Significantly Higher or Lower Compared to State Rate*



* The actual state rate of heart attack hospital admissions was 2.8 per 1,000 residents in 1993. In the graph above, the residents of Jersey Shore community were hospitalized for heart attacks at 52% above the state rate. McConnellsburg community residents were hospitalized at 41% below the state rate. These data are adjusted for age and sex based on statewide figures. The above are community names, not hospital names.

In-Hospital Heart Attack Deaths by County, Pennsylvania Residents, 1993 Compared to State Rate*

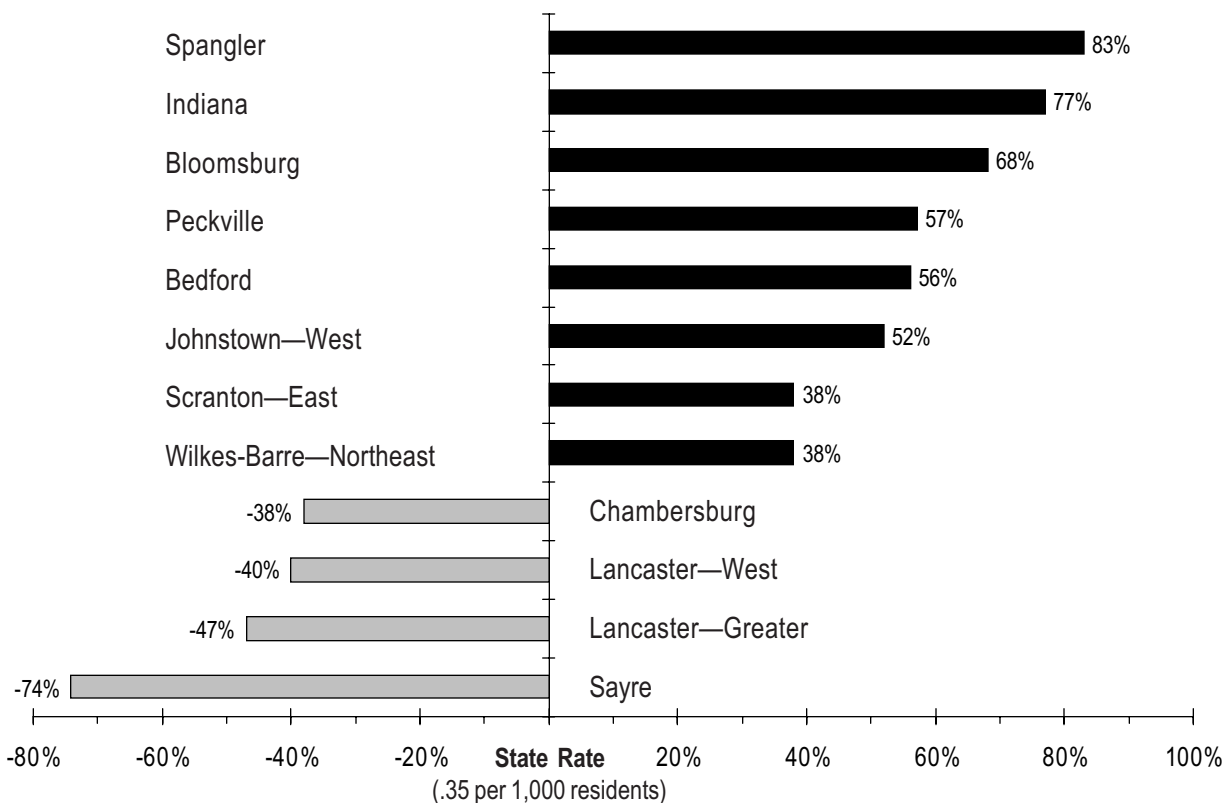


* The actual state rate of in-hospital heart attack deaths was .35 per 1,000 residents in 1993. In the graph above, the residents of Wayne County died while hospitalized for a heart attack at 56% above the state rate. Juniata County residents died in the hospital at 71% below the state rate. These data are adjusted for age and sex based on statewide figures. The statistics for Fulton County and Sullivan County are not reported due to small numbers.

IMPORTANT NOTE: The Pennsylvania Health Care Cost Containment data and the Pennsylvania Department of Health data are collected from different sources and are adjusted differently. Therefore, they should be considered separately and cannot be used together to make additional calculations.

In-Hospital Heart Attack Deaths, Selected Communities, 1993

Significantly Higher or Lower Compared to State Rate*



Significantly Lower
 Significantly Higher

* The actual state rate of in-hospital heart attack deaths was .35 per 1,000 residents in 1993. In the graph above, the residents of Spangler community died while hospitalized for a heart attack at 83% above the state rate. Sayre community residents died at 74% below the state rate. These data are adjusted for age and sex based on statewide figures. The above are community names, not hospital names.

IMPORTANT NOTE: The Pennsylvania Health Care Cost Containment data and the Pennsylvania Department of Health data are collected from different sources and are adjusted differently. Therefore, they should be considered separately and cannot be used together to make additional calculations.

Heart Attack Deaths by County, Pennsylvania Residents, 1993*

County	Number	% Outside Inpatient Hospital Setting	Rate of Death per 1,000 Residents
All Counties—Statewide	14,524	60.8%	0.55
Fulton	14	92.3%	0.53
Sullivan	18	88.9%	1.07
Juniata	29	82.8%	0.51
Bradford	55	76.9%	0.47
Pike	32	76.0%	0.46
Tioga	65	75.0%	0.65
Lancaster	339	70.8%	0.37
Cumberland	210	67.6%	0.49
Cambria	272	66.9%	0.72
Susquehanna	81	66.2%	0.89
Huntingdon	59	66.1%	0.79
Montour	26	65.4%	0.64
Monroe	95	64.9%	0.53
Wayne	73	64.8%	0.80
Mifflin	76	64.5%	0.71
Luzerne	566	64.0%	0.68
Bedford	68	63.6%	0.64
Lebanon	115	62.8%	0.40
Columbia	95	61.7%	0.69
York	396	61.5%	0.59
Wyoming	31	61.3%	0.55
Blair	192	60.5%	0.63
Dauphin	283	59.3%	0.59
Franklin	110	58.9%	0.45
Somerset	105	58.8%	0.56
Centre	68	57.6%	0.40
Snyder	54	57.4%	0.82
Perry	44	56.8%	0.67
Lackawanna	347	56.2%	0.64
Indiana	108	55.1%	0.63
Northumberland	185	55.0%	0.75
Lycoming	127	52.4%	0.47
Adams	94	50.5%	0.57
Union	41	48.8%	0.52
Clinton	39	43.6%	0.48

* **IMPORTANT NOTE:** The Pennsylvania Health Care Cost Containment data and the Pennsylvania Department of Health data are collected from different sources and are adjusted differently. Therefore, they should be considered separately and cannot be used together to make additional calculations.

Information by Payor Categories, Heart Attack, 1993

Why is information by payor included in 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. Payors are evolving 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. While it is important to remember that patients are not treated by payors, it is increasingly the case that in today's market, payors, directly or indirectly, influence the delivery of care. This takes the form of quality improvement efforts, re-certification, utilization management, promulgation of physician practice guidelines, development of select physician and hospital networks, financial incentives - the increasing "management" of care.

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 impact and influence of managed care on health care cost and quality issues. As these newly emerging and evolving health systems work to achieve positive outcomes for those belonging to their health plans in the most cost-efficient manner, it is important to monitor and report on these issues. This section begins that process, one which will be continued and sharpened in future reports.

Cautions And Limitations

It's important to recognize that efforts to compare payor groups are still in their infancy. These data should be interpreted cautiously. This is just a starting point; useful as a basis for identifying differences among payors, asking why such differences exist, and as a basis for further study. Please keep in mind the following limitations:

1. This report includes data from only one year, a snapshot of what occurred during a limited period of time.
2. The data are from 1993. The marketplace, especially with the market penetration of managed care companies, has changed dramatically. The same categories examined today might show very different results.
3. In looking at the level of advanced cardiac services received by members of various payor groups, it is important that one *not* conclude from this report that patients had worse outcomes than expected as a result of receiving fewer advanced procedures. There are many possible reasons behind a lower or higher rate of services; a lower rate does not necessarily mean that patients received worse care, nor does a higher rate guarantee better care.
4. Marked differences in payor populations in terms of social, economic, and behavioral characteristics might put some groups at higher risk of mortality - risk not completely captured by the Council's risk-adjustment model.
5. Ninety-five percent of those enrolled in the Medicare program are above the age of 65. Older patients are generally at a much higher risk of death than younger patients. As a result, they are less likely to be good candidates for advanced cardiac services. It is therefore difficult to compare the mortality rates, lengths of stay and levels of services for Medicare patients to those in HMOs, Indemnity Insurance plans (Blue Cross and Commercial), Medicaid and Other plans.
6. While payors are exerting an increasing influence upon the delivery of care, it is hospitals and doctors who ultimately provide health care for patients.

What do we mean by payor?

This report includes aggregate information by region according to the following categories: Blue Cross, Commercial insurers, HMOs/PPOs, Medicaid, Medicare, and a category called Other. The subscribers to or participants in these programs are aggregated according to the region in which the hospital where they were admitted for a heart attack is located.

IMPORTANT NOTE: These data have been verified by the hospitals according to codes that indicate the following aggregate payor categories. The Council is reporting these data by payor category as they were submitted by the hospitals.

Definitions

BLUE CROSS — includes indemnity fee for service Blue Cross subscribers admitted to hospitals within this region for treatment of a heart attack. Due to inter-regional transfers, these data do not refer to a specific Blue Cross plan. This category was not intended to include participants in Blue Cross-related HMO plans.

COMMERCIAL — includes indemnity subscribers to commercial health plans (example, Aetna, Prudential, Cigna, etc.) admitted to hospitals within this region for treatment of a heart attack. Due to inter-regional transfers, these data do not refer to specific commercial health plans. This category was not intended to include participants in commercial insurer-related HMO plans.

HMO/PPO — includes participants in HMO/PPO plans, including Blue Cross-related and Commercial insurer HMO plans admitted to hospitals within this region for treatment of a heart attack. Due to inter-regional transfers, these data do not refer to specific HMO/PPO plans. This category was not intended to include Medicaid recipients. It does include some Medicare-eligible patients enrolled in licensed HMO/PPO plans.

MEDICAID — includes Medicaid recipients admitted to hospitals within this region for treatment of a heart attack. This category includes Medicaid fee-for-service and HMO members.

MEDICARE — includes Medicare recipients admitted to hospitals within this region for treatment of a heart attack. This category includes Medicare fee-for-service patients and some HMO-enrolled patients when the hospital identified Medicare as the primary payor.

OTHER — includes heart attack patients admitted to hospitals within this region for treatment who were covered under Workers' Compensation, government programs other than Medicare and Medicaid (for example, CHAMPUS), some self-insured employers and health and welfare funds, associations, or were self-paying patients and patients without insurance.

What is an HMO or a PPO?

An HMO provides its subscribers, through a network of selected physicians and hospitals, a basic and supplemental health insurance and treatment package in exchange for a prepaid premium. There are generally no deductibles, small co-payments, and no claims to file. Patient care is managed by a primary care physician, often called a “gatekeeper,” who is responsible for monitoring a patient’s care and deciding when specialized care or tests are needed. A PPO (Preferred Provider Organization) is similar to an HMO except that primary care gatekeepers are generally not utilized.

What is included in this section?

This report allows for comparison of heart attack hospital admission and risk-adjusted mortality rates, risk-adjusted average length of hospital stay, and average hospital charges, according to patients’ insurance coverage. The admission rates allow you to see the payor make-up of heart attack admissions to Pennsylvania hospitals. The risk-adjusted mortality rates and lengths of stay are calculated in the same way as the hospital rates. An expected rate is determined after taking into account significant patient risk factors. In the mortality graphs, these are expressed as percentage points. In the length of stay graphs, these are expressed in number of days. (As in the hospital section, patients who died or were transferred to another hospital were excluded from the length of stay analysis.) An actual to expected statistical rate is reported. Those payor groups whose participants had a significantly higher than expected mortality rate or a significantly greater than expected length of hospital stay are highlighted with an asterisk (*). Those whose patients had a significantly lower than expected mortality rate or length of stay are highlighted with a circle (o).

The information is reported by region for aggregated payor groups, and then broken down by acute care hospitals *without* advanced cardiac services and acute care hospitals *with* advanced cardiac services.

CHARGES

This report provides two ways to view the issue of hospital charges by payor group. It is important to note that charges are what hospitals bill for the cost of treatment, not what hospitals receive in payment from the payor. Physician fees are not included in these figures.

The charge per stay is a measure of resource consumption or intensity over the length of hospitalization after adjusting for the type of treatment or services provided to the patients. This is done through the case-mix index, by which the charges are adjusted according to DRG (Diagnostic Related Group).

The case-mix index is a measure of the relative “costliness” of patients treated. A case-mix index of 1 or greater indicates a greater proportion of patients in the higher cost DRGs.

The average charge per hospital day levels the playing field to a degree. Its value is that it gives a picture of the differences in intensity of resource consumption or services during an average hospital day, independent of length of stay.

LEVELS OF ADVANCED CARDIAC CARE SERVICES

Do heart attack patients across payor groups have different levels of utilization of advanced cardiac care services? This study will report data about the level or intensity of services so that appropriate questions can be raised. Further study can assist in the effort to find the right balance between utilization, efficiency and quality of patient outcomes.

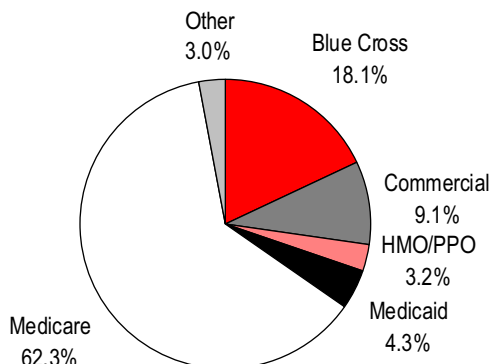
The data in the diagnostic and intervention table are based on episodes of care, not on separate hospital admissions. An episode represents the patient's hospital stay from admission to discharge, including transfers to other hospitals for additional treatment. The figures reflect whether a patient received the listed services during this period. It does not include episodes with incomplete data about transfers to advanced cardiac care hospitals or patients who were discharged and then admitted at a later time for additional treatment.

One way to examine and compare the intensity or level of advanced cardiac services provided for patients in particular payor groups is through the case-mix index as previously described. If a payor group has a case-mix index of one or more, this indicates an intensity of advanced services such as open heart surgery. This measure applies only to the charge per stay figures, not the charge per day data.

A second way is to examine this issue is to directly compare the level of services such as cardiac catheterizations, balloon angioplasty, cardiac surgery, and medical treatment. This section of the study includes a table reporting the percent of each payor group's heart attack population that received advanced cardiac care services. It is important to note that the numbers in this table are not adjusted for patient risk factors. Risk may have an impact on the level of advanced services patients receive. For example, some patients may not be good candidates for angioplasty or bypass surgery because of their particular clinical problems. These data are not adjusted for age, although most patients over 65 are reported in the Medicare category. The mean age of patients in the remaining payor groups is very similar.

These tables present two somewhat different pieces of information about treatment by payor. Once again, more services are not necessarily good, fewer services are not necessarily bad. The Council cautions the reader that these data do not suggest an ideal level of services; a study of medical charts would be necessary to evaluate the indications for the appropriate use of these procedures. This can only serve as a point of departure for additional research and discussion about this issue. Nonetheless, these data can lead to further dialogue between the purchaser, payor and provider communities about appropriate utilization of diagnostic services and cardiac interventions.

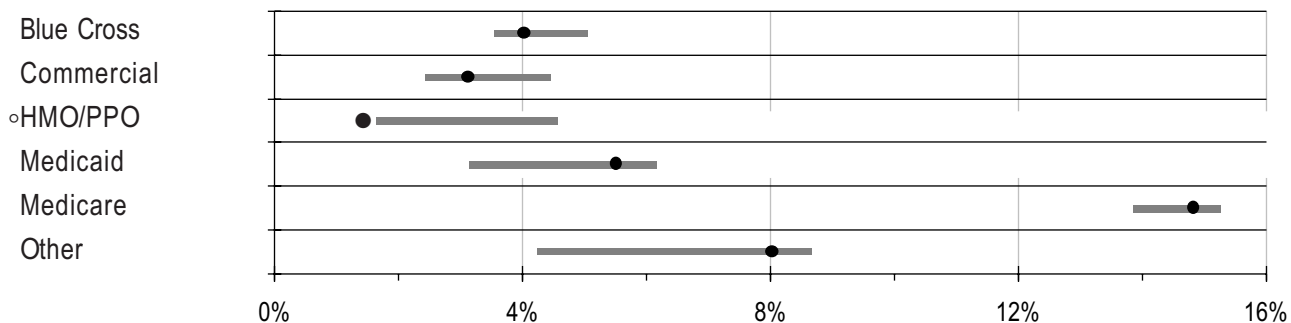
Hospitalizations by Payor, 1993
Heart Attack
Central and Northeastern Pennsylvania



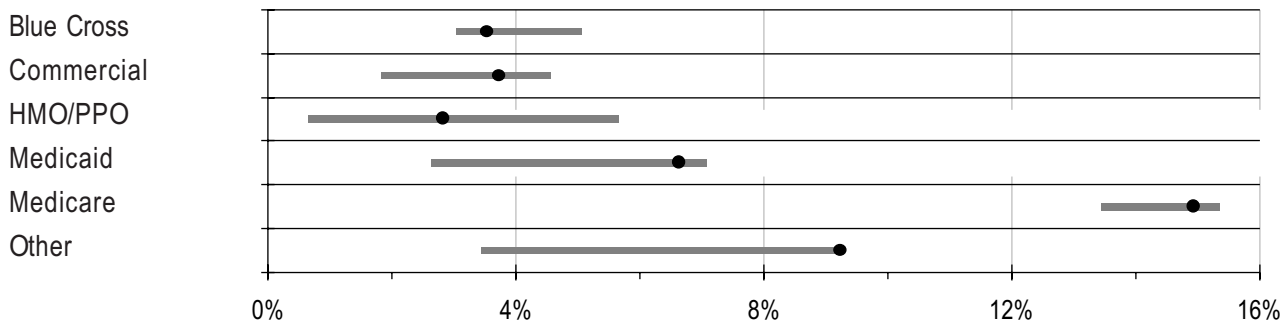
Actual to Expected In-Hospital Mortality, by Payor, 1993

Heart Attack

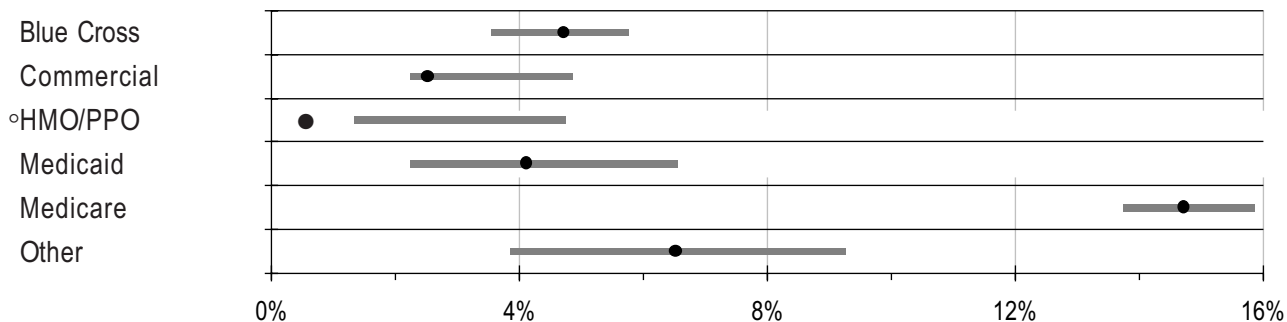
ALL CENTRAL AND NORTHEASTERN HOSPITALS



ACUTE CARE HOSPITALS



ACUTE CARE HOSPITALS WITH ADVANCED CARDIAC SERVICES



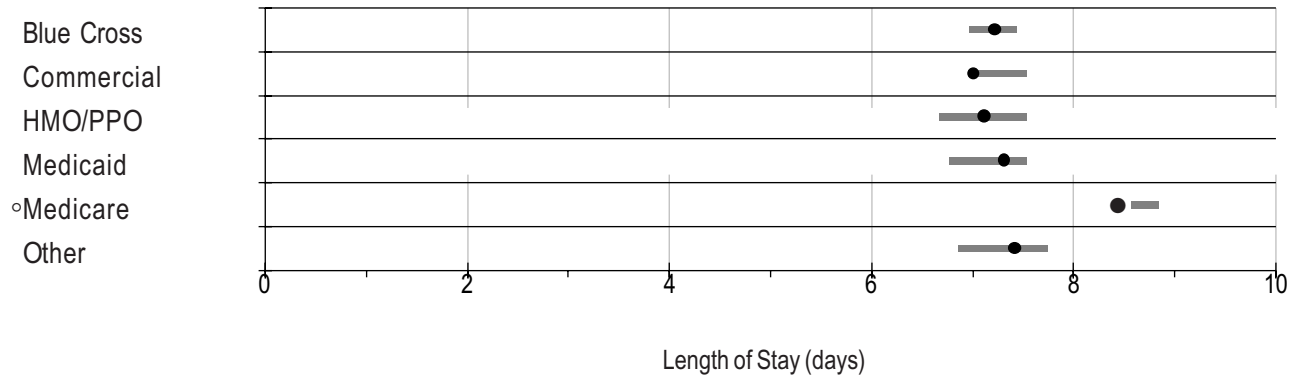
KEY

- Actual Mortality Rate, 1993
- Range of Expected Mortality
- * Actual Mortality significantly higher than Expected Range
- Actual Mortality significantly lower than Expected Range

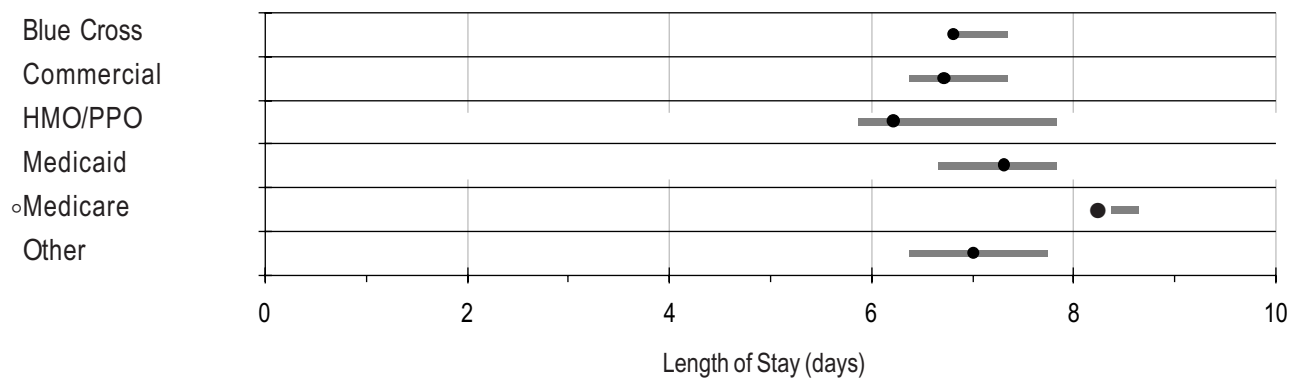
Actual to Expected In-Hospital Length of Stay, by Payor, 1993[▽]

Heart Attack

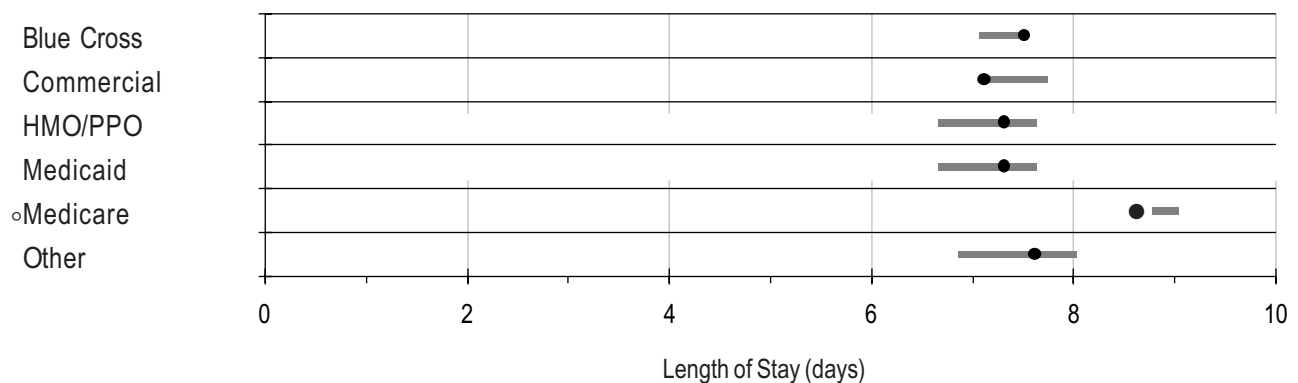
ALL CENTRAL AND NORTHEASTERN HOSPITALS



ACUTE CARE HOSPITALS



ACUTE CARE HOSPITALS WITH ADVANCED CARDIAC SERVICES



[▽] Length of Stay is based on a geometric mean

KEY

- Actual Length of Stay, 1993
- Range of Expected Length of Stay
- * Actual Length of Stay significantly higher than Expected Range
- Actual Length of Stay significantly lower than Expected Range

Payor Information, 1993

Heart Attack

ALL CENTRAL AND NORTHEASTERN HOSPITALS

Payor	# Cases	Mortality Rate %		Length of Stay	
		Actual	Expected Range	Actual	Expected Range
Blue Cross	2,001	4.0	3.6 — 5.0	7.2	7.0 — 7.4
Commercial	1,001	3.1	2.5 — 4.4	7.0	7.0 — 7.5
HMO/PPO	358	°1.4	1.7 — 4.5	7.1	6.7 — 7.5
Medicaid	475	5.5	3.2 — 6.1	7.3	6.8 — 7.5
Medicare	6,887	14.8	13.9 — 15.2	°8.5	8.6 — 8.8
Other	326	8.0	4.3 — 8.6	7.4	6.9 — 7.7

ACUTE CARE HOSPITALS

Payor	# Cases	Mortality Rate %		Length of Stay	
		Actual	Expected Range	Actual	Expected Range
Blue Cross	1,060	3.5	3.1 — 5.0	6.8	6.8 — 7.3
Commercial	484	3.7	1.9 — 4.5	6.7	6.4 — 7.3
HMO/PPO	144	2.8	0.7 — 5.6	6.2	5.9 — 7.8
Medicaid	258	6.6	2.7 — 7.0	7.3	6.7 — 7.8
Medicare	3,929	14.9	13.5 — 15.3	°8.3	8.4 — 8.6
Other	173	9.2	3.5 — 9.2	7.0	6.4 — 7.7

ACUTE CARE HOSPITALS WITH ADVANCED CARDIAC SERVICES

Payor	# Cases	Mortality Rate %		Length of Stay	
		Actual	Expected Range	Actual	Expected Range
Blue Cross	941	4.7	3.6 — 5.7	7.5	7.1 — 7.5
Commercial	517	2.5	2.3 — 4.8	7.1	7.1 — 7.7
HMO/PPO	214	°0.5	1.4 — 4.7	7.3	6.7 — 7.6
Medicaid	217	4.1	2.3 — 6.5	7.3	6.7 — 7.6
Medicare	2,958	14.7	13.8 — 15.8	°8.7	8.8 — 9.0
Other	153	6.5	3.9 — 9.2	7.6	6.9 — 8.0

* Actual is significantly higher than the Expected Range

° Actual is significantly lower than the Expected Range

Average Hospital Charges, by Payor, 1993

Heart Attack

CENTRAL AND NORTHEASTERN ACUTE CARE HOSPITALS

Payor	Charge per Day	Charge per Stay	Case-Mix Index
Blue Cross	\$ 1,751	\$10,857	.9306
Commercial	\$ 1,738	\$ 9,952	.9597
HMO/PPO	\$ 1,902	\$ 9,513	.9176
Medicaid	\$ 1,584	\$10,311	.9429
Medicare	\$ 1,385	\$10,451	1.0145
Other	\$ 1,649	\$10,952	.9310

CENTRAL AND NORTHEASTERN ACUTE CARE HOSPITALS WITH ADVANCED CARDIAC SERVICES

Payor	Charge per Day	Charge per Stay	Case-Mix Index
Blue Cross	\$ 2,695	\$24,439	.9967
Commercial	\$ 2,636	\$22,095	.9778
HMO/PPO	\$ 2,589	\$23,358	.9102
Medicaid	\$ 2,541	\$24,384	.9002
Medicare	\$ 2,256	\$24,464	.9157
Other	\$ 2,447	\$22,614	.9278

Payor Information, Diagnostic and Interventions, 1993

Heart Attack

ALL CENTRAL AND NORTHEASTERN HOSPITALS

Payor	# Episodes	Cardiac Catheterization	Balloon Angioplasty*	Cardiac Surgery*	Medical Treatment *
		Rate %	Rate %	Rate %	Rate %
Blue Cross	1,517	64.3	25.4	14.0	61.9
Commercial	773	69.7	26.3	15.4	59.8
HMO/PPO	265	78.9	34.7	13.6	52.1
Medicaid	388	54.4	21.6	7.7	71.9
Medicare	6,069	30.6	10.3	8.1	82.1
Other	261	50.6	20.7	7.7	72.4

* These figures total more than 100% because 71 patients had both balloon angioplasty and cardiac surgery.

Payor	Mean Age	General Acute Hospitals		Advanced Cardiac Hospitals		
		Direct Admits	Transferred Out/ Lived %	Total Admits	Direct Admits	Transferred In
		#		#	%	%
Blue Cross	56.5	937	44.7	990	58.6	41.4
Commercial	54.8	446	47.7	537	60.9	39.1
HMO/PPO	53.3	131	63.8	218	61.5	38.5
Medicaid	54.1	249	37.2	227	61.2	38.8
Medicare	75.4	3,879	24.0	3,009	72.8	27.2
Other	59.5	159	37.1	156	65.4	34.6

Council

Focus on Heart Attack is a statewide project which has several report components. The *Summary Report* is divided into three regional publications: Western Pennsylvania, Central/Northeastern Pennsylvania, and Southeastern Pennsylvania. The *Technical Report* contains additional and more detailed data about hospitals, physicians, geographic areas and payor groups than can be found in the *Summary Reports*. The *Research Methods and Results* describes the methodology issues and research decisions which form the foundation for these reports.

In addition, hospitals and physician practice groups may have commented on this report. Those comments are published in *Hospital and Physician Practice Group Comments*. Individual physicians may have commented on the report as well. These individual comments are available from the Council upon request.

Information about coronary bypass surgery is published in the Council's *Consumer Guide to Coronary Artery Bypass Graft Surgery*. All of the above mentioned documents are free and available upon request. Copies of these reports can be obtained by contacting:

Pennsylvania Health Care Cost Containment Council
225 Market Street, Suite 400
Harrisburg, PA 17101
Phone (717) 232-6787
Fax (717) 232-3821

Other Sources of Information about Heart Disease

American College of Cardiology
9111 Old Georgetown Road
Bethesda, MD 20814-1699

American Heart Association
Pennsylvania Affiliate
1019 Mumma Road
Wormleysburg, PA 17043

National Heart, Lung and Blood Institute Information Center
P.O. Box 30105
Bethesda, MD 20824-0105

Agency for Health Care Policy Research
2101 East Jefferson Street, Suite 600
Rockville, MD 20852

Womens' Heart Research Foundation
P.O. Box 7827
West Trenton, NJ 08628

Pennsylvania Department of Health
State Center for Health Statistics and Research or/
Bureau of Preventive Health Programs
P.O. Box 90
Harrisburg, PA 17108

Pennsylvania Health Care Cost Containment Council
225 Market Street, Suite 400
Harrisburg, PA 17101