

**PERCUTANEOUS
CORONARY
INTERVENTIONS
(PCI)
in
New York State
*2000-2002***

**New York State Department of Health
October 2004**

Members of the New York State Cardiac Advisory Committee

Chair

Kenneth I. Shine, M.D.
Executive Vice Chancellor for Health Affairs
Office of Health Affairs
University of Texas System

Vice Chair

O. Wayne Isom, M.D.
Professor and Chairman
Department of Cardiothoracic Surgery and
Surgeon-in-Chief
Weill-Cornell Medical Center

Members

George Alfieris, M.D.
Associate Professor of Surgery
Professor of Cardiac Surgery
Strong Memorial Hospital
SUNY-Health Science Center
Rochester and Syracuse, NY

John A. Ambrose, M.D.
Professor of Medicine
Consultant in Interventional Cardiology
New York Medical College
St. Vincent's Hospital & Medical Center
New York, NY

Edward V. Bennett, M.D.
Chief of Cardiac Surgery
St. Peter's Hospital, Albany, NY

Frederick Bierman, M.D.
Director of Pediatric Cardiology
North Shore – LIJ Health System
New Hyde Park, NY

Russell E. Carlson, M.D.
Chairman, Department of Cardiothoracic Surgery
Mercy Hospital
Buffalo, NY

Luther Clark, M.D.
Chief, Division of Cardiovascular Medicine
University Hospital of Brooklyn
Brooklyn, NY

Alfred T. Culliford, M.D.
Professor of Clinical Surgery
NYU Medical Center
New York, NY

Michael H. Gewitz, M.D.
Director of Pediatrics
Westchester Medical Center
Valhalla, NY

Jeffrey P. Gold, M.D.
University Professor of Cardiovascular & Thoracic Surgery
Albert Einstein College of Medicine
Bronx, NY

Mary Hibberd, M.D.
Clinical Associate Professor in Preventative Medicine
SUNY Stony Brook
Stony Brook, NY

David R. Holmes Jr., M.D.
Professor of Medicine
Director, Cardiac Catheterization Laboratory
Mayo Clinic, Rochester, MN

Robert Jones, M.D.
Mary & Deryl Hart Professor of Surgery
Duke University Medical Center, Durham, NC

Stanley Katz, M.D.
Chief, Division of Cardiology
North Shore - LIJ Health System
Manhasset, NY

Eric A. Rose, M.D.
Professor, Chair and Surgeon-in-Chief
Department of Surgery
Columbia-Presbyterian Medical Center
New York, NY

Rev. Robert S. Smith
Chaplain
Cornell University, Ithaca, NY

Gary Walford, M.D.
Director, Cardiac Catheterization Laboratory
St. Joseph's Hospital, Syracuse, NY

Deborah Whalen, R.N.C.S., M.B.A., A.N.P.
Clinical Service Manager
Division of Cardiology
Boston Medical Center
Boston, MA

Roberta Williams, M.D.
V.P. for Pediatrics & Academic Affairs at
Children's Hospital – LA
Professor and Chair of Pediatrics at
Keck School of Medicine at USC
Los Angeles, CA

Consultant

Edward L. Hannan, Ph.D.
Distinguished Professor & Chair
Department of Health Policy,
Management & Behavior
University at Albany, School of Public Health

Program Administrator

Paula M. Waselauskas, RN, MSN
Cardiac Services Program
NYS Department of Health

PCI Reporting System Analysis Workgroup

Members & Consultants

Gary Walford, M.D. (Chair)

Director, Cardiac Catheterization Laboratory
St. Joseph's Hospital

John A. Ambrose, M.D.

Professor of Medicine and
Consultant in Interventional Cardiology
NY Medical College and
St. Vincent's Hospital & Medical Center

Luther Clark, M.D.

Chief, Division of Cardiovascular Medicine
University Hospital of Brooklyn

Edward L. Hannan, Ph.D.

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Department of Health Policy,
Management, & Behavior
University at Albany, School of Public Health

David R. Holmes Jr., M.D.

Professor of Medicine
Director, Cardiac Catheterization Laboratory
Mayo Clinic

Robert Jones, M.D.

Mary & Deryl Hart Professor of Surgery
Duke University Medical Center

Stanley Katz, M.D.

Chief, Division of Cardiology
North Shore – LIJ Health System

Staff to PCI Analysis Workgroup

Paula M. Waselauskas, RN, MSN

Administrator, Cardiac Services Program
New York State Department of Health

Kimberly S. Cozzens, M.A.

Cardiac Initiatives Research Manager
Cardiac Services Program

Casey S. Joseph, M.P.H.

Cardiac Initiatives Research Manager
Cardiac Services Program

Michael Racz, M.A.

Research Scientist
Department of Health Policy,
Management, & Behavior
University at Albany, School of Public Health

Chuntao Wu, M.D., Ph.D.

Research Scientist
Department of Health Policy,
Management, & Behavior
University at Albany, School of Public Health

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MESSAGE FROM COMMISSIONER

I am pleased to provide the information contained in this booklet for use by health care providers, patients and families of patients who are considering treatment options for cardiovascular disease. The report provides data on risk factors associated with in-hospital mortality following percutaneous coronary intervention (also known as angioplasty) and lists hospital and physician-specific mortality rates that have been risk-adjusted to account for differences in patient severity of illness.

The Percutaneous Coronary Interventions (PCI) Reporting System (the data set upon which these analyses are based) represents the largest collection of data available in which all patients undergoing PCI have been reported. Hospitals and doctors involved in cardiac care have worked cooperatively with the Department of Health and the Cardiac Advisory Committee to compile accurate and meaningful data that can and have been used to enhance quality of care. As part of that process, we have included comprehensive information on non-emergency and emergency cases in our PCI analyses. In addition, we provide physician specific analysis of outcomes.

I encourage doctors to discuss this information with their patients and colleagues as they develop treatment plans. While these statistics are an important tool in making informed health care choices, doctors and patients must make individual treatment plans together after careful consideration of all pertinent factors. It is also important to keep in mind that the information in this booklet does not include data after 2002. Important changes may have taken place in some hospitals since that time.

I would also ask that patients and physicians alike give careful consideration to the importance of healthy lifestyles for all those affected by heart disease. Controllable risk factors that contribute to a higher likelihood of developing coronary artery disease are high cholesterol levels, cigarette smoking, high blood pressure, obesity and lack of exercise. Limiting these risk factors will continue to be important in minimizing the occurrence of new blockages.

I extend my appreciation to the providers in this state and to the Cardiac Advisory Committee for their efforts in developing and refining this remarkable system. The Department of Health will continue to work in partnership with hospitals and physicians to ensure high quality of care for patients with heart disease. We look forward to providing reports such as this and the Coronary Artery Bypass Report on an annual basis and to the continuing high quality of care available from our New York State health care providers.

INTRODUCTION

Heart disease is, by far, the leading cause of death in New York State, and the most common form of heart disease is atherosclerotic coronary artery disease. Various treatments are recommended for patients with coronary artery disease. For some people, changes in lifestyle, such as dietary changes, not smoking and regular exercise can result in great improvements in health. In other cases, medication prescribed for high blood pressure or other conditions can make a significant difference.

Sometimes, however, an interventional procedure is recommended. The two most common procedures performed on patients with coronary artery disease are percutaneous coronary intervention (PCI), also known as percutaneous transluminal coronary angioplasty (PTCA), and coronary artery bypass graft surgery (CABG).

During a PCI procedure, a catheter is threaded up to the site of the blockage in a coronary artery. In conjunction with the catheter, devices are used to reopen the blockage. In some cases, PCI is used as an emergency treatment for patients who are experiencing a heart attack or who may be in shock. Most cases, however, are not done on an emergency basis.

Those who have a PCI procedure are not cured of coronary artery disease; the disease can still occur in the treated blood vessels or other coronary arteries. In order to minimize new blockages, patients should continue to reduce their risk factors for heart disease.

The analyses contained in this report are based on the information collected on each of the 128,230 patients who underwent PCI and were discharged between January 1, 2000 and December 31, 2002. The number of PCI cases per year has increased during that period from 39,234 in 2000 to 46,090 in 2002. Analyses of risk-adjusted mortality rates and associated risk factors are provided for 2002 and for the three-year period from 2000 through 2002. Analysis of all cases, non-emergency cases (which represent the majority of procedures) and emergency cases are included.

HEALTH DEPARTMENT PROGRAM

The New York State Department of Health has been studying the effects of patient and treatment characteristics on outcomes for patients with heart disease for several years. Detailed statistical analyses of the information received from the study have been conducted under the guidance of the New York State Cardiac Advisory Committee, a group of independent practicing cardiac surgeons, cardiologists, and other professionals in related fields.

The results have been used to create a cardiac profile system that assesses the performance of hospitals and doctors over time, taking into account the severity of individual patient's pre-operative conditions. Coronary artery bypass surgery results have been assessed since 1989; PCI results were released in 1996 for the first time.

Designed to improve health in people with heart disease, this program is aimed at:

- understanding the health risks of patients that adversely affect how they will fare during and after PCI;
- improving the results of different treatments of heart disease;
- improving cardiac care; and
- providing information to help patients make better decisions about their own care.

PATIENT POPULATION

All adult patients undergoing PCI in New York State hospitals who were discharged during 2002 are included in the one-year results presented in this report. Similarly, all patients undergoing PCI who were discharged between January 1, 2000 and December 31, 2002 are included in the three-year results. Observed and risk-adjusted mortality rates are reported for patients undergoing PCI in each of the 41 New York State hospitals with approval to perform the procedure.

In New York State, PCI is limited to centers with cardiac surgery on-site. However, beginning in the year 2000, a process was put in place to allow time-limited waivers to this policy for centers participating in a special study for heart attack patients. After extensive training and review, hospitals meeting specific

conditions may now be allowed to perform PCI on acute myocardial infarction (heart attack) patients. One hospital began performing PCI under these conditions in 2000, two additional centers began in 2001, and one more was added in 2002. We will continue to study the impact of the new programs over the next several years.

RISK ADJUSTMENT FOR ASSESSING PROVIDER PERFORMANCE

Hospital or physician performance is an important factor that directly relates to patient outcomes. Whether patients recover quickly, experience complications, or die following a procedure is in part a result of the kind of medical care they receive. It is difficult, however, to compare outcomes among hospitals when assessing performance, because different hospitals treat different types of patients. Hospitals with sicker patients may have higher rates of complications and death than other hospitals in the state. The following describes how the New York State Department of Health adjusts for patient risk in assessing outcomes of care in different hospitals.

Data Collection, Data Validation and Identifying In-Hospital Deaths

As part of the risk-adjustment process, hospitals in New York State where PCI is performed provide information to the Department of Health for each patient undergoing those procedures. Data concerning patients' demographic and clinical characteristics are collected by hospitals' cardiac catheterization laboratories. Approximately 40 of these characteristics (or risk factors) are collected for each patient. Along with information about the hospital, physician, and the patient's status at discharge, these data are entered into a computer, and sent to the Department of Health for analysis.

Data are verified through review of unusual reporting frequencies, cross-matching of PCI data with other Department of Health databases and a review of medical records for a selected sample of cases. These activities are extremely helpful in ensuring consistent interpretation of data elements across hospitals.

The analysis bases mortality on deaths occurring during the same hospital stay in which a patient underwent PCI. In this report, an in-hospital death is defined as a patient who died subsequent to PCI during the same acute care admission or was discharged to hospice care.

Assessing Patient Risk

Each person who develops coronary artery disease has a unique health history. A cardiac profile system has been developed to evaluate the risk of treatment for each individual patient based on his or her history, weighing the important health facts for that person based on the experiences of thousands of patients who have undergone the same procedures in recent years. All important risk factors for each patient are combined to create his or her risk profile.

An 80-year-old patient with a heart attack in the past six hours, for example, has a very different risk profile than a 40-year-old who has never suffered a heart attack.

The statistical analyses conducted by the New York State Department of Health consist of determining which of the risk factors collected are significantly related to in-hospital death, and determining how to weight the significant risk factors to predict the chance each patient will have of dying in the hospital given his or her specific characteristics.

Predicting Patient Mortality Rates for Providers

The statistical methods used to predict mortality on the basis of the significant risk factors are tested to determine if they are sufficiently accurate in predicting mortality for patients who are extremely ill prior to undergoing the procedure as well as for patients who are relatively healthy. These tests have confirmed that the models are reasonably accurate in predicting how patients of all different risk levels will fare when undergoing PCI.

The mortality rate for each hospital and cardiologist is also predicted using the statistical model. This is accomplished by adding the predicted probabilities of death for each of the provider's patients and dividing by the number of patients. The resulting rate is an estimate of what the provider's mortality rate would

have been if the hospital's performance was identical to the state performance. The percentage is called the predicted or expected mortality rate (EMR). A hospital's expected mortality rate is contrasted with its observed mortality rate (OMR), which is the number of PCI inpatients who died divided by the total number of PCI inpatients.

Computing the Risk-Adjusted Rate

The risk-adjusted mortality rate (RAMR) represents the best estimate, based on the associated statistical model, of what the provider's mortality rate would have been if the provider had a mix of patients identical to the statewide mix. Thus, the risk-adjusted mortality rate has, to the extent possible, ironed out differences among providers in patient severity of illness, since it arrives at a mortality rate for each provider based on an identical group of patients.

To get the risk-adjusted mortality rate, the observed mortality rate is first divided by the provider's expected mortality rate. If the resulting ratio is larger than one, the provider has a higher mortality rate than expected on the basis of its patient mix; if it is smaller than one, the provider has a lower mortality rate than expected from its patient mix. The ratio is then multiplied by the overall statewide rate (0.70% for all cases in 2002) to obtain the provider's risk-adjusted rate.

Interpreting the Risk-Adjusted Mortality Rate

If the risk-adjusted mortality rate is lower than the statewide mortality rate, the hospital has a better performance than the state as a whole; if the risk-adjusted mortality rate is higher than the statewide mortality rate, the hospital has a worse performance than the state as a whole.

The risk-adjusted mortality rate is used in this report as a measure of quality of care provided by hospitals and cardiologists. However, there are reasons that a provider's risk-adjusted rate may not be indicative of its true quality.

For example, extreme outcome rates may occur due to chance alone. This is particularly true for low-volume providers, for whom very high or very low rates are more likely to occur than for high-volume providers. Another attempt to prevent misinterpretation of differences caused by chance variation is the use of expected ranges (confidence intervals) in the reported results.

Differences in hospital coding of risk factors could be an additional reason that a hospital's risk-adjusted rate may not be reflective of quality of care. The Department of Health monitors the quality of coded data by reviewing patients' medical records to ascertain the presence of key risk factors. When significant coding problems have been discovered, hospitals have been required to recode these data and have been subject to subsequent monitoring.

Some commentators have suggested that patient severity of illness may not be accurately estimated because some risk factors are not included in the data system, and this could lead to misleading risk-adjusted rates. This is not likely because the New York State data system has been reviewed by practicing physicians in the field and updated continually. It now contains virtually every risk factor that has ever been demonstrated to be related to patient mortality in national and international studies.

How This Contributes to Quality Improvement

The goal of the Department of Health and the Cardiac Advisory Committee is to improve the quality of care in relation to coronary artery bypass graft surgery and angioplasty in New York State. Providing the hospitals, cardiac surgeons (who perform CABG surgery), and cardiologists (who perform PCI) in New York State with data about their own outcomes for these procedures allows them to examine the quality of their own care, and to identify opportunities to improve that care.

The data collected and analyzed in this program are reviewed by the Cardiac Advisory Committee, who assist with interpretation and advise the Department of Health regarding which hospitals and physicians may need special attention. Committee members have also conducted site visits to particular hospitals, and have recommended that some hospitals obtain the expertise of outside consultants to design improvements for their programs.

2002 HOSPITAL RISK-ADJUSTED MORTALITY FOR PCI

Table 1 presents the 2002 PCI mortality results for the 41 hospitals performing PCI in New York in 2002. The table contains, for each hospital, the number of PCIs resulting in 2002 discharges, the number of in-hospital deaths, the observed mortality rate, the expected mortality rate based on the statistical model presented in Appendix 1, the risk-adjusted mortality rate, and a 95% confidence interval for the risk-adjusted rate. Also, it contains each hospital's volume of cases and risk-adjusted mortality rate for non-emergency patients. Emergency patients are defined to be patients in shock, a state of hemodynamic instability (very low blood pressure), or patients who experienced a heart attack within 24 hours prior to undergoing PCI. The hospital risk-adjusted rates for non-emergency PCI patients are provided because many studies are confined to this group of patients, and because these patients comprise the majority of all PCI patients (88.99% in 2002).

The overall mortality rate for the 46,090 PCIs performed at the 41 hospitals was 0.70%. Observed mortality rates ranged from 0.00% to 5.26%. The range in expected mortality rates, which measure patient severity of illness, was between 0.31% and 2.94%. The risk-adjusted rates, which measure hospital performance, range from 0.00% to 1.50%. Based on confidence intervals for risk-adjusted rates, no hospitals had risk-adjusted mortality rates that were either higher or lower than the statewide average. This means that no hospitals did statistically better or worse than the State as a whole.

The last column of Table 1 presents the hospital risk-adjusted mortality rates for non-emergency cases only (based on the statistical model presented in Appendix 2.) As presented in the last row, the statewide mortality rate for non-emergency cases is 0.37%. The range of risk-adjusted rates was from 0.00% to 1.11%. There are no high or low outliers for non-emergency cases in 2002, meaning that no hospital did statistically better or worse than the statewide average.

2000-2002 HOSPITAL DATA FOR PCI

Table 2 provides the number of PCIs, the observed mortality rate, and the risk-adjusted mortality rate for 2000-2002 for each of three types of PCI patients in the 41 hospitals performing PCI during the time period. The three types of patients are: all patients, non-emergency patients, and emergency patients (patients in shock, a state of hemodynamic instability (very low blood pressure), or patients who experienced a heart attack within 24 hours prior to undergoing PCI). The statistical models that are the basis for all patients, non-emergency patients, and emergency patients in 2000-2002 are presented in Appendices 3-5, respectively.

As indicated in Table 2, the three-year observed mortality rates for all PCI patients ranged from 0.00% to 3.82%, and the risk-adjusted mortality rates ranged from 0.00% to 1.44%. Three hospitals (Albany Medical Center, Ellis Hospital and Strong Memorial Hospital) had risk-adjusted mortality rates that were significantly higher than the statewide rate, and three hospitals (North Shore University Hospital, Long Island Jewish Medical Center, and Winthrop University Hospital) had risk-adjusted mortality rates that were significantly lower than the statewide rate. It should be noted that hospitals are more likely to have results that show a statistically significant difference from the statewide rate when three years of data are used than when one year of data is used because the three-year volumes are higher.

Table 2 also presents the 3-year risk adjusted mortality rates for non-emergency cases based on the model in Appendix 4. Non-emergency cases comprise 89.6% of cases for the period 2000-2002. The statewide mortality rate for the 114,853 non-emergency cases during the 3-year period was 0.37%. Observed mortality rates for this group of patients ranged from 0.00% to 0.90% and the risk-adjusted mortality rates ranged from 0.00 to 1.00%. Two hospitals (Albany Medical Center and Strong Memorial Hospital) had risk-adjusted mortality rates that were significantly higher than the statewide average. No hospitals had risk-adjusted mortality rates significantly below the statewide rate for non-emergency cases.

The last three columns in Table 2 present data on emergency cases based on the model in Appendix 5. Emergency cases represented 10.4% of cases for the period 2000-2002. The statewide mortality rate for the 13,377 emergency PCI cases during the 3-year period was 3.73%. Observed mortality rates for this group ranged from 0.00% to 10.67% and the risk-adjusted mortality rates ranged from 0.00% to 6.84%. No hospital had a risk-adjusted mortality rate that was significantly above the statewide average and three hospitals (Mt. Sinai Hospital, North Shore University Hospital and St. Francis Hospital) had risk-adjusted mortality rates that were significantly below the statewide average for emergency cases.

Definitions of key terms are as follows:

The **observed mortality rate (OMR)** is the observed number of deaths divided by the number of patients.

The **expected mortality rate (EMR)** is the sum of the predicted probabilities of death for all patients divided by the total number of patients.

The **risk-adjusted mortality rate (RAMR)** is the best estimate, based on the statistical model, of what the provider's mortality rate would have been if the provider had a mix of patients similar to the statewide mix. It is obtained by first dividing the observed mortality rate by the expected mortality rate, and then multiplying that quotient by the statewide mortality rate (0.70% for all PCI patients in 2002).

Confidence intervals indicate which hospitals had significantly more or fewer deaths than expected given the risk factors of their patients. Hospitals with significantly higher rates than expected after adjusting for risk are those with confidence intervals entirely above the statewide rate. Hospitals with significantly lower rates than expected given the severity of illness of their patients before the PCI have confidence intervals entirely below the statewide rate.

Table 1 Hospital Observed, Expected, and Risk-Adjusted Mortality Rates (RAMR) for PCI in New York State, 2002 Discharges.
(Listed Alphabetically by Hospital)

Hospital	All Cases						Non-Emergency	
	Cases	Deaths	OMR	EMR	RAMR	95% CI for RAMR	Cases	RAMR
Albany Medical Center	1033	11	1.06	0.73	1.02	(0.51, 1.82)	873	0.43
Arnot-Ogden	206	5	2.43	1.22	1.38	(0.45, 3.23)	141	1.11
Bellevue	265	2	0.75	0.54	0.98	(0.11, 3.53)	230	0.94
Beth Israel	1259	12	0.95	0.62	1.07	(0.55, 1.87)	1193	0.37
Buffalo General	1454	2	0.14	0.31	0.31	(0.03, 1.11)	1420	0.18
Cornell	1649	9	0.55	0.62	0.61	(0.28, 1.16)	1491	0.15
Crouse Hospital	833	5	0.60	0.46	0.90	(0.29, 2.10)	762	0.35
Ellis Hospital	747	8	1.07	0.83	0.89	(0.38, 1.76)	607	0.18
Elmhurst	8	0	0.00	1.27	0.00	(0.00,25.15)	.	.
Erie County	336	3	0.89	0.46	1.36	(0.27, 3.96)	321	0.37
Good Samaritan	97	1	1.03	1.56	0.46	(0.01, 2.57)	1	0.00
LIJ Medical Center	1430	7	0.49	0.91	0.37	(0.15, 0.77)	1183	0.20
Lenox Hill	3418	12	0.35	0.48	0.51	(0.26, 0.89)	3308	0.26
Maimonides	1218	12	0.99	1.00	0.69	(0.35, 1.20)	1143	0.43
Mercy Hospital	164	0	0.00	0.66	0.00	(0.00, 2.35)	130	0.00
Millard Fillmore	986	5	0.51	0.63	0.56	(0.18, 1.30)	928	0.23
Montefiore-Einstein	635	3	0.47	0.39	0.85	(0.17, 2.49)	578	0.22
Montefiore-Moses	629	4	0.64	0.93	0.48	(0.13, 1.22)	571	0.45
Mount Sinai	2308	17	0.74	0.72	0.71	(0.42, 1.14)	2171	0.52
NY - Queens	1088	13	1.19	0.91	0.92	(0.49, 1.57)	947	0.47
NYU Medical Center	723	7	0.97	0.85	0.80	(0.32, 1.64)	654	0.67
North Shore	3210	13	0.40	0.62	0.45	(0.24, 0.77)	2845	0.22
Presby - Columbia	633	10	1.58	1.01	1.09	(0.52, 2.01)	514	0.56
Rochester General	2455	17	0.69	0.76	0.64	(0.37, 1.02)	2079	0.30
South Nassau	57	3	5.26	2.45	1.50	(0.30, 4.38)	.	.
Southside Hospital	68	0	0.00	2.94	0.00	(0.00, 1.28)	.	.
St. Elizabeth	1418	13	0.92	0.71	0.90	(0.48, 1.54)	1343	0.46
St. Francis	3697	23	0.62	0.52	0.83	(0.53, 1.25)	3500	0.48
St. Josephs	1956	11	0.56	0.58	0.68	(0.34, 1.22)	1709	0.18
St. Lukes-Roosevelt	910	7	0.77	0.56	0.95	(0.38, 1.96)	839	0.55
St. Peters	1132	9	0.80	0.91	0.61	(0.28, 1.15)	942	0.47
St. Vincents	1234	6	0.49	0.74	0.46	(0.17, 1.00)	1077	0.22
Staten Island	972	3	0.31	0.42	0.51	(0.10, 1.50)	885	0.30
Strong Memorial	1281	15	1.17	0.82	0.99	(0.55, 1.63)	1066	0.84
United Health Serv.	922	8	0.87	1.33	0.45	(0.20, 0.89)	761	0.34
Univ.Hosp. of Brooklyn	410	2	0.49	0.31	1.11	(0.12, 4.01)	393	0.79
Univ.Hosp.-Stony Brook	1268	12	0.95	0.68	0.96	(0.50, 1.68)	1072	0.67
Upstate Medical Center	159	2	1.26	1.13	0.78	(0.09, 2.81)	126	0.00
Vassar Brothers	752	6	0.80	1.01	0.55	(0.20, 1.20)	528	0.33
Westchester	1514	18	1.19	0.84	0.99	(0.59, 1.56)	1289	0.53
Winthrop Univ. Hosp.	1556	5	0.32	0.73	0.31	(0.10, 0.72)	1395	0.24
Statewide Total	46090	321	0.70				41015	0.37

Please note that no hospitals were significantly higher or lower than the statewide rate.

Table 2 Hospital Observed and Risk-Adjusted Mortality Rates (RAMR) for PCI in New York State 2000 - 2002 Discharges.

Hospital	All Cases			Non-Emergency Cases			Emergency Cases		
	Cases	OMR	RAMR	Cases	OMR	RAMR	Cases	OMR	RAMR
Albany Medical Center	3132	1.60	1.40 *	2652	0.90	1.00 *	480	5.42	5.56
Arnot-Ogden	653	0.92	0.96	503	0.40	0.78	150	2.67	4.63
Bellevue	520	0.96	1.44	460	0.65	0.77	60	3.33	6.84
Beth Israel	3866	0.75	0.80	3688	0.27	0.27	178	10.67	6.02
Buffalo General	4048	0.22	0.44	3963	0.20	0.25	85	1.18	1.33
Cornell	4771	0.61	0.65	4355	0.25	0.27	416	4.33	3.81
Crouse Hospital	2682	0.67	0.72	2410	0.21	0.25	272	4.78	4.25
Ellis Hospital	2048	1.32	1.14 *	1659	0.42	0.52	389	5.14	5.83
Elmhurst	8	0.00	0.00	.	.	.	8	0.00	0.00
Erie County	743	0.40	0.65	722	0.14	0.17	21	9.52	4.80
Good Samaritan	155	0.65	0.21	1	0.00	0.00	154	0.65	1.16
LIJ Medical Center	3683	0.68	0.48 **	3070	0.36	0.26	613	2.28	2.56
Lenox Hill	9439	0.54	0.73	9082	0.36	0.37	357	5.04	3.68
Maimonides	3762	0.77	0.62	3556	0.45	0.28	206	6.31	4.58
Mercy Hospital	164	0.00	0.00	130	0.00	0.00	34	0.00	0.00
Millard Fillmore	3227	0.56	0.64	3058	0.23	0.25	169	6.51	4.34
Montefiore-Einstein	1789	0.78	1.17	1617	0.56	0.63	172	2.91	5.15
Montefiore-Moses	1652	0.67	0.56	1524	0.39	0.37	128	3.91	2.48
Mount Sinai	6477	0.62	0.66	6094	0.44	0.41	383	3.39	2.02 **
NY - Queens	2815	1.03	0.90	2488	0.48	0.48	327	5.20	4.40
NYU Medical Center	1998	1.00	0.77	1764	0.57	0.51	234	4.27	3.40
North Shore	8847	0.44	0.51 **	7787	0.28	0.31	1060	1.60	2.15 **
Presby - Columbia	1860	1.18	0.98	1514	0.26	0.29	346	5.20	5.88
Rochester General	7509	0.80	0.66	6516	0.32	0.27	993	3.93	3.98
South Nassau	131	3.82	1.06	.	.	.	131	3.82	5.69
Southside Hospital	109	0.92	0.22	.	.	.	109	0.92	1.22
St. Elizabeth	3925	0.71	0.79	3759	0.43	0.36	166	7.23	4.80
St. Francis	9960	0.56	0.63	9288	0.41	0.46	672	2.68	2.11 **
St. Josephs	5175	0.62	0.74	4560	0.22	0.25	615	3.58	5.33
St. Lukes-Roosevelt	1996	0.75	0.93	1866	0.43	0.46	130	5.38	5.81
St. Peters	3282	0.76	0.73	2734	0.44	0.49	548	2.37	3.60
St. Vincents	4134	0.58	0.58	3687	0.30	0.26	447	2.91	3.59
Staten Island	1491	0.20	0.37	1352	0.15	0.22	139	0.72	1.48
Strong Memorial	3376	1.60	1.02 *	2780	0.72	0.68 *	596	5.70	4.40
United Health Serv.	2726	0.77	0.47	2309	0.26	0.22	417	3.60	2.68
Univ.Hosp. of Brooklyn	1260	0.56	1.37	1210	0.41	0.73	50	4.00	5.70
Univ.Hosp.-Stony Brook	3781	0.85	0.87	3287	0.40	0.42	494	3.85	4.55
Upstate Medical Center	503	1.79	0.78	412	0.24	0.21	91	8.79	4.44
Vassar Brothers	1827	0.77	0.56	1306	0.38	0.40	521	1.73	2.51
Westchester	4252	1.01	0.93	3688	0.43	0.45	564	4.79	4.54
Winthrop Univ. Hosp.	4454	0.34	0.37 **	4002	0.20	0.19	452	1.55	2.00
Statewide Total	128230	0.72		114853	0.37		13377	3.73	

* Risk-adjusted mortality rate significantly higher than statewide rate based on 95 percent confidence interval.

** Risk-adjusted mortality rate significantly lower than statewide rate based on 95 percent confidence interval.

2000-2002 HOSPITAL AND CARDIOLOGIST DATA FOR PCI

Table 3 provides the number of PCIs, number of PCI patients who died in the hospital, observed mortality rate, expected mortality rate, risk-adjusted mortality rate, and the 95% confidence interval for the risk-adjusted mortality rate for 2000-2002 for cardiologists in each of the 41 hospitals performing PCI during the time period, and for each of the hospitals. Table 3 also contains the volume and risk-adjusted mortality rate for cardiologists and hospitals for non-emergency cases.

This information is presented for each cardiologist who (a) performed 200 or more PCIs during 2000-2002, and/or (b) performed at least one PCI in each of the years 2000-2002. The results for cardiologists not meeting the above criteria are grouped together and reported as "All Others" in the hospital in which the procedures were performed. Cardiologists who met criterion (a) or (b) above and performed procedures in more than one hospital are noted in the table and are listed in all hospitals in which they performed procedures during 2000-2002.

Also, cardiologists who met criterion (a) and/or criterion (b) above and have performed PCI in two or more New York State hospitals are listed separately in Table 4. For these cardiologists, the table presents the number of PCIs, the number of deaths, observed mortality rate, expected mortality rate and risk-adjusted mortality rate with its 95 percent confidence interval for each hospital in which the cardiologist performed PCI, as well as the aggregate numbers (across all hospitals in which the cardiologist performed procedures). In addition, cardiologists and hospitals with risk-adjusted mortality rates that are significantly lower or higher than the statewide mortality rate (as judged by a 95% confidence interval) are noted in Tables 3 and 4.

It should be noted that MI less than 24 hours before the procedure, shock and hemodynamic instability are significant risk factors in the All Cases model. However, patients with these conditions are excluded from the non-emergency analysis. The outcomes models for the two groups can, therefore, yield substantially different risk-adjusted mortality rates. It is important to compare providers' RAMR to the statewide average mortality rate for the specific group of patients analyzed.

Table 3 Cardiologist Observed, Expected, and Risk-Adjusted Mortality Rates (RAMR) for PCI in New York State, 2000 - 2002 Discharges

	ALL CASES						NON-EMERGENCY	
	Cases	Deaths	OMR	EMR	RAMR	95% CI for RAMR	CASES	RAMR
Statewide Total	128230	919	0.72				114853	0.37
Albany Medical Center								
#Brady S	220	5	2.27	1.13	1.45	(0.47, 3.37)	173	0.55
#Delago A	1540	27	1.75	0.72	1.75 *	(1.15, 2.54)	1370	1.24 *
#Desantis J	1	0	0.00	0.03	0.00	(0.00,100.0)	1	0.00
#Esper D	394	10	2.54	1.42	1.28	(0.61, 2.35)	302	1.18
#Herman B	1	0	0.00	0.08	0.00	(0.00,100.0)	1	0.00
#Hogan R	149	0	0.00	0.25	0.00	(0.00, 7.16)	147	0.00
Houghton J	470	6	1.28	0.63	1.46	(0.53, 3.17)	403	0.81
#Jafar M	13	0	0.00	0.20	0.00	(0.00,100.0)	13	0.00
#Kantaros L	2	0	0.00	0.20	0.00	(0.00,100.0)	2	0.00
##Kufs W	45	0	0.00	0.61	0.00	(0.00, 9.64)	40	0.00
Macina A	170	1	0.59	0.90	0.47	(0.01, 2.61)	109	0.00
#Marmulstein M	5	0	0.00	0.85	0.00	(0.00,61.79)	4	0.00
#Martinelli M	10	0	0.00	0.30	0.00	(0.00,88.62)	9	0.00
#Papandrea L	67	1	1.49	1.28	0.84	(0.01, 4.66)	40	1.99
#Roccario E	14	0	0.00	0.23	0.00	(0.00,82.22)	11	0.00
All Others	31	0	0.00	1.13	0.00	(0.00, 7.51)	27	0.00
TOTAL	3132	50	1.60	0.82	1.40 *	(1.04, 1.84)	2652	1.00 *

Table 3 continued

	Cases	Deaths	OMR	All Cases			Non-Emergency	
				EMR	RAMR	95% CI for RAMR	Cases	RAMR
Arnot-Ogden Memorial Hospital								
#Kahn A	166	2	1.20	1.08	0.80	(0.09, 2.88)	112	0.00
Laifer L	478	4	0.84	0.55	1.09	(0.29, 2.79)	384	1.04
#Wasserman H	4	0	0.00	0.45	0.00	(0.00,100.0)	3	0.00
All Others	5	0	0.00	0.35	0.00	(0.00,100.0)	4	0.00
TOTAL	653	6	0.92	0.68	0.96	(0.35, 2.10)	503	0.78
Bellevue Hospital Center								
#Attubato M	108	1	0.93	0.48	1.37	(0.02, 7.62)	98	0.96
#Feit F	134	0	0.00	0.51	0.00	(0.00, 3.84)	119	0.00
#Keller N	52	2	3.85	0.81	3.39	(0.38,12.25)	37	0.00
#Levite H	95	0	0.00	0.48	0.00	(0.00, 5.80)	82	0.00
#Winer H	131	2	1.53	0.31	3.53	(0.40,12.76)	124	2.11
TOTAL	520	5	0.96	0.48	1.44	(0.46, 3.36)	460	0.77
Beth Israel Medical Center								
#Brown D	90	1	1.11	0.43	1.84	(0.02,10.22)	80	0.00
##Chadi R	17	0	0.00	0.22	0.00	(0.00,71.84)	17	0.00
##Duvvuri S	60	0	0.00	0.36	0.00	(0.00,12.07)	58	0.00
Fox J	996	12	1.20	0.89	0.97	(0.50, 1.69)	920	0.34
Patel R	124	0	0.00	0.35	0.00	(0.00, 6.08)	122	0.00
Reimers C	814	6	0.74	0.64	0.83	(0.30, 1.80)	787	0.33
#Rouvelas P	92	0	0.00	0.31	0.00	(0.00, 9.37)	89	0.00
#Sacchi T	432	0	0.00	0.28	0.00	(0.00, 2.18)	430	0.00
Shaknovich A	351	0	0.00	0.40	0.00	(0.00, 1.88)	349	0.00
#Sherman W	368	6	1.63	0.87	1.35	(0.49, 2.94)	351	0.61
##Wilentz J	145	0	0.00	0.38	0.00	(0.00, 4.81)	141	0.00
All Others	377	4	1.06	1.13	0.67	(0.18, 1.72)	344	0.30
TOTAL	3866	29	0.75	0.67	0.80	(0.53, 1.15)	3688	0.27
Buffalo General Hospital								
Conley J	1401	2	0.14	0.32	0.32	(0.04, 1.14)	1388	0.19
##Emerson R	35	0	0.00	0.29	0.00	(0.00,25.99)	35	0.00
#Farhi E	814	2	0.25	0.51	0.34	(0.04, 1.24)	776	0.12
##Gelormini J	5	0	0.00	0.66	0.00	(0.00,79.13)	5	0.00
#Masud A	184	0	0.00	0.36	0.00	(0.00, 3.98)	178	0.00
#Morris W	400	1	0.25	0.38	0.48	(0.01, 2.65)	394	0.28
Paris J	154	0	0.00	0.28	0.00	(0.00, 6.01)	151	0.00
Sullivan P	113	0	0.00	0.22	0.00	(0.00,10.51)	109	0.00
Visco J	924	4	0.43	0.32	0.96	(0.26, 2.47)	910	0.69
All Others	18	0	0.00	0.35	0.00	(0.00,41.65)	17	0.00
TOTAL	4048	9	0.22	0.36	0.44	(0.20, 0.83)	3963	0.25

Table 3 continued

	Cases	Deaths	OMR	All Cases			Non-Emergency	
				EMR	RAMR	95% CI for RAMR	Cases	RAMR
Columbia Presbyterian - NY Presbyterian Hospital								
Apfelbaum M	202	2	0.99	1.01	0.70	(0.08, 2.54)	142	0.00
Brogno D	208	4	1.92	0.90	1.54	(0.41, 3.94)	178	0.00
#Grose R	165	0	0.00	0.43	0.00	(0.00, 3.74)	151	0.00
#Johnson M	66	1	1.52	1.12	0.97	(0.01, 5.38)	65	0.00
##Perry-Bottinger	1	0	0.00	0.07	0.00	(0.00,100.0)	1	0.00
Rabbani L	243	3	1.23	1.38	0.64	(0.13, 1.88)	179	0.42
Reison D	51	0	0.00	0.18	0.00	(0.00,28.64)	50	0.00
Schwartz A	19	0	0.00	0.15	0.00	(0.00,92.39)	19	0.00
Simon A	140	1	0.71	0.63	0.82	(0.01, 4.55)	115	0.00
Warshofsky M	173	0	0.00	0.66	0.00	(0.00, 2.30)	162	0.00
#Wasserman H	323	5	1.55	0.97	1.14	(0.37, 2.66)	238	0.55
Weinberger J	227	5	2.20	0.83	1.89	(0.61, 4.41)	175	1.10
All Others	42	1	2.38	0.52	3.30	(0.04,18.35)	39	0.00
TOTAL	1860	22	1.18	0.86	0.98	(0.61, 1.48)	1514	0.29
Crouse Hospital								
#Amin N	160	1	0.63	0.70	0.64	(0.01, 3.56)	142	0.00
#Battaglia J	788	6	0.76	0.40	1.36	(0.50, 2.96)	722	0.44
#Berkery W	344	1	0.29	1.27	0.16	(0.00, 0.91)	268	0.00
#Bhan R	13	1	7.69	0.45	12.26	(0.16,68.20)	11	23.69
#Caputo R	244	3	1.23	0.58	1.52	(0.31, 4.45)	227	0.00
#Esente P	242	1	0.41	0.42	0.71	(0.01, 3.94)	238	0.45
#Ford T	143	1	0.70	0.35	1.44	(0.02, 8.03)	131	0.00
#Giambartolomei A	132	2	1.52	0.93	1.16	(0.13, 4.19)	119	1.01
#Lozner E	179	1	0.56	1.03	0.39	(0.01, 2.16)	161	0.00
#Picone M	152	1	0.66	1.06	0.45	(0.01, 2.48)	133	0.00
#Reger M	113	0	0.00	0.37	0.00	(0.00, 6.33)	104	0.00
#Simons A	138	0	0.00	0.64	0.00	(0.00, 2.98)	123	0.00
#Walford G	30	0	0.00	1.11	0.00	(0.00, 7.90)	27	0.00
All Others	4	0	0.00	0.44	0.00	(0.00,100.0)	4	0.00
TOTAL	2682	18	0.67	0.67	0.72	(0.43, 1.13)	2410	0.25
Ellis Hospital								
#Card H	102	1	0.98	0.82	0.86	(0.01, 4.76)	95	0.00
Cospito P	419	6	1.43	1.07	0.96	(0.35, 2.08)	336	0.00
#Hogan R	125	0	0.00	0.28	0.00	(0.00, 7.51)	125	0.00
Jordan M	404	10	2.48	1.07	1.66 *	(0.79, 3.05)	297	2.19 *
##Kufs W	194	0	0.00	0.37	0.00	(0.00, 3.70)	176	0.00
Parkes R	389	5	1.29	0.67	1.38	(0.44, 3.21)	310	0.00
Weitz S	245	1	0.41	1.04	0.28	(0.00, 1.57)	194	0.00
All Others	170	4	2.35	0.69	2.46	(0.66, 6.30)	126	1.82
TOTAL	2048	27	1.32	0.83	1.14 *	(0.75, 1.65)	1659	0.52

Table 3 continued

	Cases	Deaths	OMR	All Cases			Non-Emergency	
				EMR	RAMR	95% CI for RAMR	Cases	RAMR
Elmhurst Hospital								
#Karman M	1	0	0.00	0.55	0.00	(0.00,100.0)	.	.
#Kim M	1	0	0.00	0.99	0.00	(0.00,100.0)	.	.
#Suleman J	6	0	0.00	2.01	0.00	(0.00,21.80)	.	.
TOTAL	8	0	0.00	1.70	0.00	(0.00,19.33)	.	.
Erie County Medical Center								
##Calandra S	11	0	0.00	0.13	0.00	(0.00,100.0)	11	0.00
#Corbelli J	69	1	1.45	0.20	5.25	(0.07,29.23)	69	2.76
#Dashkoff N	510	2	0.39	0.54	0.52	(0.06, 1.89)	494	0.00
##Emerson R	34	0	0.00	0.31	0.00	(0.00,24.95)	31	0.00
#Farhi E	22	0	0.00	0.22	0.00	(0.00,55.43)	22	0.00
##Phadke K	89	0	0.00	0.26	0.00	(0.00,11.52)	88	0.00
All Others	8	0	0.00	0.44	0.00	(0.00,75.16)	7	0.00
TOTAL	743	3	0.40	0.45	0.65	(0.13, 1.90)	722	0.17
Good Samaritan								
##Deutsch E	33	0	0.00	3.46	0.00	(0.00, 2.30)	.	.
##Gambino A	5	0	0.00	0.67	0.00	(0.00,78.93)	.	.
##Patel R	37	1	2.70	1.34	1.45	(0.02, 8.04)	1	0.00
##Reich D	39	0	0.00	2.40	0.00	(0.00, 2.81)	.	.
##Rubino R	7	0	0.00	3.05	0.00	(0.00,12.30)	.	.
##Schwartz R	13	0	0.00	2.05	0.00	(0.00, 9.87)	.	.
All Others	21	0	0.00	1.29	0.00	(0.00, 9.73)	.	.
TOTAL	155	1	0.65	2.17	0.21	(0.00, 1.19)	1	0.00
LIJ Medical Center								
#Freeman J	15	0	0.00	3.41	0.00	(0.00, 5.14)	.	.
##Friedman G	426	4	0.94	0.87	0.77	(0.21, 1.98)	370	0.71
#Green S	28	0	0.00	3.11	0.00	(0.00, 3.02)	6	0.00
##Grunwald A	606	6	0.99	1.09	0.65	(0.24, 1.42)	519	0.23
##Jauhar R	447	3	0.67	0.83	0.58	(0.12, 1.69)	350	0.20
#Kaplan B	1435	6	0.42	1.05	0.29 **	(0.10, 0.62)	1235	0.16
#Katz S	26	1	3.85	3.15	0.87	(0.01, 4.86)	6	0.00
##Koss J	637	5	0.78	0.77	0.73	(0.24, 1.71)	548	0.33
#Marchant D	19	0	0.00	3.00	0.00	(0.00, 4.62)	3	0.00
#Ong L Y	15	0	0.00	2.05	0.00	(0.00, 8.53)	7	0.00
##Rubino R	21	0	0.00	1.70	0.00	(0.00, 7.37)	19	0.00
All Others	8	0	0.00	0.31	0.00	(0.00,100.0)	7	0.00
TOTAL	3683	25	0.68	1.02	0.48 **	(0.31, 0.71)	3070	0.26
Lenox Hill Hospital								
Collins M	1557	5	0.32	0.50	0.46	(0.15, 1.08)	1512	0.19
Columbo A	135	1	0.74	0.57	0.93	(0.01, 5.18)	132	0.00
Dangas G	282	1	0.35	0.67	0.38	(0.00, 2.11)	266	0.39
Degregorio J	14	0	0.00	0.26	0.00	(0.00,73.18)	14	0.00

Table 3 *continued*

	Cases	Deaths	OMR	All Cases			Non-Emergency	
				EMR	RAMR	95% CI for RAMR	Cases	RAMR
Lenox Hill Hospital <i>continued</i>								
##Geizhals M	72	1	1.39	0.51	1.97	(0.03,10.95)	72	1.12
Iyer S	505	4	0.79	0.65	0.87	(0.24, 2.24)	458	0.57
Kreps E	955	5	0.52	0.55	0.68	(0.22, 1.59)	896	0.38
Leon M	951	11	1.16	0.57	1.45 *	(0.72, 2.59)	922	0.71
Moses J	2392	2	0.08	0.38	0.16 **	(0.02, 0.57)	2375	0.11
Moussa I	1033	7	0.68	0.63	0.78	(0.31, 1.60)	990	0.60
Roubin G	453	5	1.10	0.85	0.93	(0.30, 2.16)	424	0.42
Stone G	564	4	0.71	0.54	0.94	(0.25, 2.40)	531	0.38
Teirstein P	293	2	0.68	0.59	0.83	(0.09, 3.01)	274	0.00
All Others	233	3	1.29	0.53	1.74	(0.35, 5.10)	216	1.22
TOTAL	9439	51	0.54	0.53	0.73	(0.54, 0.96)	9082	0.37
Maimonides Medical Center								
Borgen E	645	7	1.09	1.22	0.64	(0.26, 1.32)	564	0.19
Frankel R	1020	4	0.39	0.67	0.42	(0.11, 1.08)	984	0.28
Friedman M	438	5	1.14	1.16	0.71	(0.23, 1.65)	399	0.33
#Sacchi T	282	0	0.00	0.41	0.00	(0.00, 2.29)	281	0.00
Shani J	1377	13	0.94	0.93	0.73	(0.39, 1.24)	1328	0.34
TOTAL	3762	29	0.77	0.90	0.62	(0.41, 0.89)	3556	0.28
Mercy Hospital								
##Calandra S	28	0	0.00	0.30	0.00	(0.00,31.16)	27	0.00
##Emerson R	69	0	0.00	0.74	0.00	(0.00, 5.17)	47	0.00
##Gelormini J	15	0	0.00	0.42	0.00	(0.00,42.09)	12	0.00
All Others	52	0	0.00	0.95	0.00	(0.00, 5.33)	44	0.00
TOTAL	164	0	0.00	0.70	0.00	(0.00, 2.29)	130	0.00
Millard Fillmore Hospital								
##Calandra S	560	3	0.54	0.50	0.77	(0.16, 2.25)	543	0.25
#Corbelli J	646	4	0.62	0.69	0.64	(0.17, 1.64)	601	0.30
#Dashkoff N	4	0	0.00	0.33	0.00	(0.00,100.0)	4	0.00
##Emerson R	115	1	0.87	0.40	1.55	(0.02, 8.61)	99	0.00
##Gelormini J	417	3	0.72	0.50	1.03	(0.21, 3.02)	404	0.68
#Masud A	608	0	0.00	0.42	0.00	(0.00, 1.02)	585	0.00
#Morris W	779	6	0.77	0.93	0.60	(0.22, 1.30)	732	0.17
##Phadke K	90	0	0.00	0.72	0.00	(0.00, 4.07)	83	0.00
All Others	8	1	12.50	0.73	12.22	(0.16,67.99)	7	0.00
TOTAL	3227	18	0.56	0.63	0.64	(0.38, 1.00)	3058	0.25
Montefiore Medical Center -Einstein Division								
#Brown D	272	3	1.10	0.51	1.56	(0.31, 4.55)	228	0.92
Gotsis W	445	2	0.45	0.35	0.91	(0.10, 3.28)	421	0.73
Monrad E	519	4	0.77	0.50	1.10	(0.30, 2.82)	482	0.66
Silverman G	335	3	0.90	0.60	1.06	(0.21, 3.11)	293	0.32
Srinivas V	218	2	0.92	0.46	1.44	(0.16, 5.21)	193	0.64
TOTAL	1789	14	0.78	0.48	1.17	(0.64, 1.96)	1617	0.63

Table 3 continued

	Cases	Deaths	OMR	All Cases			Non-Emergency	
				EMR	RAMR	95% CI for RAMR	Cases	RAMR
Montefiore Medical Center -Moses Division								
#Goldman A Y	89	1	1.12	1.89	0.43	(0.01, 2.37)	82	0.37
Greenberg M	552	4	0.72	0.92	0.56	(0.15, 1.44)	505	0.40
#Grose R	168	0	0.00	0.70	0.00	(0.00, 2.24)	153	0.00
#Johnson M	275	2	0.73	0.57	0.91	(0.10, 3.30)	268	0.41
Menegus M	539	4	0.74	0.82	0.65	(0.17, 1.65)	488	0.43
##Perry-Bottinger	29	0	0.00	0.19	0.00	(0.00,48.08)	28	0.00
TOTAL	1652	11	0.67	0.85	0.56	(0.28, 1.01)	1524	0.37
Mount Sinai Hospital								
#Kahn A	101	1	0.99	0.31	2.28	(0.03,12.70)	98	1.46
#Karman M	952	5	0.53	0.61	0.62	(0.20, 1.44)	876	0.48
#Kim M	458	5	1.09	0.78	1.01	(0.33, 2.35)	426	0.49
#Marmur J	670	4	0.60	0.70	0.61	(0.17, 1.57)	608	0.49
##Reich D	549	10	1.82	0.72	1.81 *	(0.87, 3.33)	492	1.29 *
Sharma S	2885	6	0.21	0.65	0.23 **	(0.08, 0.50)	2782	0.10 **
#Sherman W	298	5	1.68	0.98	1.23	(0.40, 2.88)	277	1.12
#Suleman J	391	2	0.51	0.35	1.06	(0.12, 3.82)	379	0.87
All Others	173	2	1.16	1.30	0.64	(0.07, 2.30)	156	0.00
TOTAL	6477	40	0.62	0.67	0.66	(0.47, 0.90)	6094	0.41
NY Hospital - Queens								
##Chadi R	1	0	0.00	0.08	0.00	(0.00,100.0)	1	0.00
##David M	4	0	0.00	0.24	0.00	(0.00,100.0)	4	0.00
##Friedman G	33	1	3.03	1.48	1.47	(0.02, 8.16)	27	0.00
##Geizhals M	394	4	1.02	0.37	1.96	(0.53, 5.01)	382	0.94
##Grunwald A	56	1	1.79	0.60	2.14	(0.03,11.88)	52	1.44
Gustafson G	910	14	1.54	1.02	1.08	(0.59, 1.82)	790	0.56
##Koss J	20	0	0.00	0.42	0.00	(0.00,31.37)	17	0.00
Papadacos S	1004	7	0.70	0.97	0.52	(0.21, 1.06)	863	0.21
##Perry-Bottinger	357	2	0.56	0.45	0.89	(0.10, 3.22)	318	0.45
All Others	36	0	0.00	0.46	0.00	(0.00,15.95)	34	0.00
TOTAL	2815	29	1.03	0.82	0.90	(0.60, 1.29)	2488	0.48
NYU Medical Center								
#Angelopoulos P	9	0	0.00	0.22	0.00	(0.00,100.0)	9	0.00
#Attubato M	548	6	1.09	0.96	0.81	(0.30, 1.77)	491	0.63
#Feit F	500	2	0.40	0.80	0.36	(0.04, 1.29)	451	0.00
#Keller N	97	3	3.09	2.96	0.75	(0.15, 2.19)	61	1.15
#Levite H	407	3	0.74	0.92	0.58	(0.12, 1.68)	348	0.60
#Slater J	77	0	0.00	0.15	0.00	(0.00,23.39)	76	0.00
#Winer H	349	6	1.72	0.75	1.64	(0.60, 3.58)	318	0.56
All Others	11	0	0.00	0.39	0.00	(0.00,61.31)	10	0.00
TOTAL	1998	20	1.00	0.93	0.77	(0.47, 1.19)	1764	0.51

Table 3 continued

	Cases	Deaths	OMR	All Cases			Non-Emergency	
				EMR	RAMR	95% CI for RAMR	Cases	RAMR
North Shore University Hospital								
Albanese J	108	0	0.00	0.22	0.00	(0.00,10.99)	106	0.00
##Deutsch E	758	0	0.00	0.32	0.00	(0.00, 1.10)	730	0.00
#Freeman J	450	3	0.67	0.75	0.64	(0.13, 1.86)	356	0.25
##Friedman G	253	2	0.79	0.64	0.88	(0.10, 3.19)	217	0.00
##Gambino A	191	1	0.52	0.40	0.94	(0.01, 5.24)	178	0.87
#Green S	1169	11	0.94	0.86	0.79	(0.39, 1.41)	988	0.52
##Grunwald A	41	0	0.00	0.49	0.00	(0.00,12.96)	34	0.00
##Jauhar R	30	1	3.33	1.43	1.67	(0.02, 9.27)	3	0.00
#Kaplan B	76	0	0.00	1.16	0.00	(0.00, 2.99)	22	0.00
#Katz S	1159	9	0.78	0.73	0.76	(0.35, 1.45)	988	0.65
##Koss J	46	0	0.00	1.36	0.00	(0.00, 4.20)	41	0.00
##Lederman S	85	0	0.00	0.33	0.00	(0.00, 9.23)	81	0.00
#Marchant D	929	3	0.32	0.76	0.31	(0.06, 0.89)	735	0.27
#Ong L Y	1302	3	0.23	0.64	0.26	(0.05, 0.75)	1149	0.20
#Padmanabhan V	6	0	0.00	0.13	0.00	(0.00,100.0)	6	0.00
#Park J	181	0	0.00	0.61	0.00	(0.00, 2.40)	173	0.00
Patcha R	280	0	0.00	0.42	0.00	(0.00, 2.25)	261	0.00
##Patel R	131	1	0.76	0.41	1.33	(0.02, 7.40)	124	0.72
##Reich D	230	1	0.43	0.30	1.05	(0.01, 5.83)	229	0.55
##Rubino R	249	1	0.40	0.38	0.75	(0.01, 4.17)	236	0.59
#Sassower M	116	0	0.00	0.40	0.00	(0.00, 5.61)	113	0.00
##Schwartz R	470	1	0.21	0.50	0.30	(0.00, 1.68)	444	0.20
#Witkes D	82	0	0.00	0.42	0.00	(0.00, 7.60)	77	0.00
#Zisfein J	293	1	0.34	0.30	0.82	(0.01, 4.57)	289	0.52
All Others	212	1	0.47	0.65	0.52	(0.01, 2.91)	207	0.00
TOTAL	8847	39	0.44	0.62	0.51 **	(0.36, 0.70)	7787	0.31
Rochester General Hospital								
#Chockalingam S	452	6	1.33	0.85	1.12	(0.41, 2.43)	402	0.23
Doling M	1077	3	0.28	0.60	0.34	(0.07, 0.98)	1000	0.30
Fitzpatrick P	402	4	1.00	1.25	0.57	(0.15, 1.46)	309	0.26
Gacioch G	430	5	1.16	1.03	0.81	(0.26, 1.89)	326	0.30
#Mathew T M	544	6	1.10	0.76	1.03	(0.38, 2.25)	494	0.64
#Ong L S	2516	15	0.60	0.78	0.54	(0.30, 0.90)	2270	0.28
Patel T	597	8	1.34	1.21	0.79	(0.34, 1.56)	498	0.15
Scortichini D	313	0	0.00	0.71	0.00	(0.00, 1.18)	293	0.00
Stuver T	853	9	1.06	1.02	0.74	(0.34, 1.40)	656	0.12
All Others	325	4	1.23	0.89	0.99	(0.27, 2.54)	268	0.70
TOTAL	7509	60	0.80	0.86	0.66	(0.51, 0.86)	6516	0.27

Table 3 *continued*

	Cases	Deaths	OMR	All Cases			Non-Emergency	
				EMR	RAMR	95% CI for RAMR	Cases	RAMR
South Nassau Communities Hospital								
#Berke A	4	0	0.00	1.37	0.00	(0.00,47.98)	.	.
##David M	4	0	0.00	1.55	0.00	(0.00,42.49)	.	.
#Hamby R	1	0	0.00	0.76	0.00	(0.00,100.0)	.	.
#Hormozi S	4	0	0.00	0.89	0.00	(0.00,74.17)	.	.
#Lituchy A	49	3	6.12	3.19	1.37	(0.28, 4.01)	.	.
#Minadeo J	24	1	4.17	1.09	2.73	(0.04,15.22)	.	.
#Petrossian G	9	1	11.11	2.19	3.63	(0.05,20.21)	.	.
#Zisfein J	36	0	0.00	3.33	0.00	(0.00, 2.19)	.	.
TOTAL	131	5	3.82	2.58	1.06	(0.34, 2.47)	.	.
Southside Hospital								
##Deutsch E	20	0	0.00	3.91	0.00	(0.00, 3.36)	.	.
##Gambino A	1	0	0.00	0.36	0.00	(0.00,100.0)	.	.
##Patel R	38	0	0.00	3.67	0.00	(0.00, 1.89)	.	.
##Reich D	33	1	3.03	1.97	1.10	(0.01, 6.15)	.	.
##Rubino R	2	0	0.00	2.58	0.00	(0.00,50.98)	.	.
##Schwartz R	5	0	0.00	3.67	0.00	(0.00,14.32)	.	.
All Others	10	0	0.00	1.63	0.00	(0.00,16.08)	.	.
TOTAL	109	1	0.92	2.96	0.22	(0.00, 1.24)	.	.
St. Elizabeth Hospital								
Kelberman M	413	2	0.48	0.69	0.50	(0.06, 1.82)	398	0.19
Macisaac H	752	5	0.66	0.85	0.56	(0.18, 1.30)	707	0.34
Mathew T C	897	10	1.11	0.53	1.51 *	(0.72, 2.77)	865	0.91
Nassif R	636	3	0.47	0.74	0.46	(0.09, 1.34)	614	0.11
Patel A	538	3	0.56	0.55	0.73	(0.15, 2.13)	521	0.17
Varma P	587	4	0.68	0.49	1.00	(0.27, 2.56)	557	0.49
All Others	102	1	0.98	0.83	0.85	(0.01, 4.71)	97	0.00
TOTAL	3925	28	0.71	0.65	0.79	(0.53, 1.14)	3759	0.36
St. Francis Hospital								
Abittan M	635	2	0.31	0.67	0.34	(0.04, 1.22)	604	0.00
Arkonac B	385	3	0.78	1.04	0.53	(0.11, 1.56)	337	0.40
#Berke A	528	3	0.57	1.33	0.31	(0.06, 0.90)	474	0.16
##David M	44	2	4.55	0.43	7.59 *	(0.85,27.41)	42	3.92 *
Ezratty A	427	3	0.70	0.52	0.97	(0.20, 2.85)	408	1.13
Goldman A B	379	2	0.53	1.06	0.36	(0.04, 1.29)	331	0.51
Gulotta R	425	1	0.24	0.72	0.23	(0.00, 1.30)	386	0.00
Gulotta S	216	2	0.93	0.43	1.54	(0.17, 5.54)	210	1.04
#Hamby R	244	0	0.00	0.20	0.00	(0.00, 5.36)	244	0.00
Hershman R	778	1	0.13	0.29	0.31	(0.00, 1.75)	766	0.19
#Hormozi S	323	3	0.93	0.84	0.79	(0.16, 2.30)	288	0.61
#Lituchy A	593	3	0.51	0.73	0.50	(0.10, 1.45)	542	0.17
#Minadeo J	422	7	1.66	1.31	0.91	(0.36, 1.87)	361	0.78
Oruci E	489	3	0.61	0.39	1.12	(0.22, 3.26)	471	0.66

Table 3 *continued*

	Cases	Deaths	OMR	All Cases			Non-Emergency	
				EMR	RAMR	95% CI for RAMR	Cases	RAMR
St. Francis Hospital <i>continued</i>								
Pappas T	671	4	0.60	0.48	0.88	(0.24, 2.26)	639	0.91
#Petrossian G	686	2	0.29	0.58	0.36	(0.04, 1.29)	647	0.41
Randall A	167	1	0.60	0.70	0.61	(0.01, 3.39)	162	0.41
Rehman A	522	6	1.15	0.71	1.16	(0.42, 2.52)	475	0.72
Schlofmitz R	1305	5	0.38	0.27	1.02	(0.33, 2.37)	1268	0.42
Venditto J	410	1	0.24	0.58	0.30	(0.00, 1.67)	364	0.30
All Others	311	2	0.64	0.73	0.63	(0.07, 2.28)	269	0.32
TOTAL	9960	56	0.56	0.64	0.63	(0.48, 0.82)	9288	0.46
St. Josephs Hospital Health Center								
#Amin N	135	1	0.74	0.61	0.87	(0.01, 4.82)	98	0.00
#Bhan R	595	4	0.67	0.48	1.00	(0.27, 2.57)	530	0.23
#Caputo R	846	4	0.47	0.56	0.60	(0.16, 1.55)	763	0.24
#Esente P	806	9	1.12	0.73	1.10	(0.50, 2.08)	731	0.29
#Ford T	137	0	0.00	0.81	0.00	(0.00, 2.38)	107	0.00
#Giambartolomei A	570	5	0.88	0.64	0.98	(0.32, 2.29)	500	0.51
#Lozner E	97	0	0.00	0.72	0.00	(0.00, 3.75)	68	0.00
#Picone M	123	1	0.81	0.80	0.73	(0.01, 4.07)	89	0.00
#Reger M	458	4	0.87	0.67	0.94	(0.25, 2.40)	409	0.30
#Simons A	662	0	0.00	0.40	0.00	(0.00, 0.98)	595	0.00
#Walford G	588	3	0.51	0.53	0.69	(0.14, 2.02)	536	0.46
All Others	158	1	0.63	0.83	0.54	(0.01, 3.03)	134	0.00
TOTAL	5175	32	0.62	0.60	0.74	(0.51, 1.05)	4560	0.25
St. Lukes Roosevelt Hospital-St Luke's Div.								
#Dominguez A	1	0	0.00	0.47	0.00	(0.00,100.0)	1	0.00
##Geizhals M	7	0	0.00	0.49	0.00	(0.00,77.24)	7	0.00
#Goldman A Y	114	0	0.00	0.63	0.00	(0.00, 3.67)	107	0.00
Leber R	197	2	1.02	0.39	1.88	(0.21, 6.79)	184	0.64
Palazzo A	158	1	0.63	0.89	0.51	(0.01, 2.84)	144	0.00
Simon C	286	3	1.05	0.75	1.00	(0.20, 2.93)	280	0.60
Singh V	309	2	0.65	0.48	0.96	(0.11, 3.47)	290	0.48
#Slater J	462	3	0.65	0.56	0.83	(0.17, 2.43)	439	0.35
Tamis J	149	2	1.34	0.53	1.83	(0.21, 6.61)	130	1.20
##Wilentz J	254	1	0.39	0.49	0.57	(0.01, 3.18)	232	0.00
All Others	59	1	1.69	0.57	2.12	(0.03,11.78)	52	1.30
TOTAL	1996	15	0.75	0.58	0.93	(0.52, 1.54)	1866	0.46
St. Peters Hospital								
#Brady S	43	0	0.00	0.81	0.00	(0.00, 7.52)	35	0.00
#Card H	125	1	0.80	0.73	0.78	(0.01, 4.35)	121	0.89
#Delago A	6	0	0.00	0.85	0.00	(0.00,51.77)	0	0.00
#Desantis J	211	1	0.47	0.77	0.44	(0.01, 2.45)	181	0.00
#Esper D	280	5	1.79	1.09	1.17	(0.38, 2.73)	247	1.01
#Herman B	148	1	0.68	0.34	1.43	(0.02, 7.97)	140	0.97

Table 3 *continued*

	Cases	Deaths	OMR	All Cases			Non-Emergency	
				EMR	RAMR	95% CI for RAMR	Cases	RAMR
St. Peters Hospital <i>continued</i>								
##Kufs W	9	0	0.00	0.80	0.00	(0.00,36.57)	8	0.00
#Marmulstein M	339	3	0.88	0.61	1.05	(0.21, 3.06)	251	1.02
#Martinelli M	819	4	0.49	0.58	0.60	(0.16, 1.55)	699	0.38
#Papandrea L	391	1	0.26	0.83	0.22	(0.00, 1.23)	324	0.00
#Roccario E	835	8	0.96	0.89	0.77	(0.33, 1.52)	661	0.35
All Others	76	1	1.32	0.60	1.57	(0.02, 8.75)	67	1.62
TOTAL	3282	25	0.76	0.75	0.73	(0.47, 1.08)	2734	0.49
St. Vincents Hospital and Medical Center								
Acuna D	141	1	0.71	0.66	0.77	(0.01, 4.26)	105	0.00
Ambrose J	118	0	0.00	0.81	0.00	(0.00, 2.74)	102	0.00
Bhambhani G	192	0	0.00	0.51	0.00	(0.00, 2.67)	189	0.00
Braff R	125	1	0.80	0.70	0.82	(0.01, 4.58)	104	1.09
Coppola J	535	5	0.93	1.02	0.65	(0.21, 1.53)	430	0.74
#Dominguez A	442	2	0.45	0.79	0.41	(0.05, 1.48)	426	0.12
##Duvvuri S	344	1	0.29	0.78	0.27	(0.00, 1.49)	330	0.21
Elmquist T	146	2	1.37	1.22	0.80	(0.09, 2.89)	113	0.00
#Farid A	195	1	0.51	0.50	0.73	(0.01, 4.08)	179	0.53
#Hasan C	72	0	0.00	0.20	0.00	(0.00,18.00)	72	0.00
#Homayuni A	125	1	0.80	0.32	1.79	(0.02, 9.93)	117	0.00
Kantrowitz N	398	3	0.75	0.64	0.84	(0.17, 2.46)	366	0.00
Klapholz M	212	1	0.47	1.68	0.20	(0.00, 1.12)	142	0.00
##Kwan T	319	0	0.00	0.29	0.00	(0.00, 2.88)	313	0.00
#Malpeso J	118	0	0.00	0.23	0.00	(0.00, 9.88)	114	0.00
#McCord D	42	0	0.00	0.17	0.00	(0.00,36.15)	41	0.00
Rentrop K	80	1	1.25	0.27	3.32	(0.04,18.49)	79	2.35
#Safi A	1	0	0.00	0.12	0.00	(0.00,100.0)	1	0.00
Seldon M	112	2	1.79	0.91	1.41	(0.16, 5.10)	75	0.00
#Snyder S	80	1	1.25	0.37	2.40	(0.03,13.37)	79	1.11
#Warchol A	46	0	0.00	0.24	0.00	(0.00,23.95)	42	0.00
##Wilentz J	46	0	0.00	0.45	0.00	(0.00,12.78)	45	0.00
All Others	245	2	0.82	0.72	0.81	(0.09, 2.93)	223	0.78
TOTAL	4134	24	0.58	0.72	0.58	(0.37, 0.86)	3687	0.26
Staten Island University Hospital								
##Duvvuri S	321	1	0.31	0.48	0.47	(0.01, 2.59)	293	0.40
#Farid A	9	0	0.00	0.60	0.00	(0.00,48.53)	7	0.00
#Homayuni A	191	0	0.00	0.28	0.00	(0.00, 4.96)	172	0.00
#Malpeso J	230	0	0.00	0.46	0.00	(0.00, 2.46)	199	0.00
#McCord D	169	0	0.00	0.29	0.00	(0.00, 5.36)	151	0.00
#Rouvelas P	125	0	0.00	0.33	0.00	(0.00, 6.43)	123	0.00
#Snyder S	131	1	0.76	0.36	1.52	(0.02, 8.45)	120	0.00
#Warchol A	100	0	0.00	0.42	0.00	(0.00, 6.33)	89	0.00
All Others	215	1	0.47	0.39	0.86	(0.01, 4.76)	198	0.56
TOTAL	1491	3	0.20	0.39	0.37	(0.07, 1.08)	1352	0.22

Table 3 continued

	All Cases						Non-Emergency	
	Cases	Deaths	OMR	EMR	RAMR	95% CI for RAMR	Cases	RAMR
Strong Memorial Hospital								
#Chockalingam S	5	0	0.00	1.18	0.00	(0.00,44.71)	5	0.00
Cove C	882	16	1.81	1.02	1.27 *	(0.73, 2.07)	731	1.37 *
Cutlip D	365	4	1.10	1.38	0.57	(0.15, 1.45)	298	0.71
Ling F	855	16	1.87	1.37	0.98	(0.56, 1.59)	698	0.25
#Mathew T M	22	1	4.55	1.47	2.21	(0.03,12.32)	21	6.27
Narins C	553	7	1.27	0.76	1.19	(0.48, 2.45)	465	0.21
#Ong L S	120	1	0.83	0.39	1.53	(0.02, 8.49)	118	0.91
Pomerantz R	452	9	1.99	1.33	1.07	(0.49, 2.03)	347	0.59
All Others	122	0	0.00	0.93	0.00	(0.00, 2.32)	97	0.00
TOTAL	3376	54	1.60	1.12	1.02 *	(0.77, 1.33)	2780	0.68 *
United Health Services- Wilson Div.								
Jamal N	606	7	1.16	1.25	0.66	(0.27, 1.37)	521	0.28
Kashou H	618	5	0.81	1.08	0.53	(0.17, 1.25)	525	0.16
Phillips W	423	1	0.24	0.91	0.19	(0.00, 1.04)	378	0.00
Rehman A U	325	4	1.23	1.30	0.68	(0.18, 1.74)	271	0.36
Stamato N	240	2	0.83	1.63	0.37	(0.04, 1.32)	180	0.50
Traverse P	448	2	0.45	0.89	0.36	(0.04, 1.29)	381	0.25
All Others	66	0	0.00	2.53	0.00	(0.00, 1.57)	53	0.00
TOTAL	2726	21	0.77	1.17	0.47	(0.29, 0.72)	2309	0.22
University Hospital of Brooklyn								
Afflu E	194	1	0.52	0.20	1.84	(0.02,10.24)	189	0.00
Badero O	143	2	1.40	0.55	1.81	(0.20, 6.55)	140	0.93
##Chadi R	30	0	0.00	0.14	0.00	(0.00,63.49)	30	0.00
Chadow H	266	3	1.13	0.32	2.53	(0.51, 7.39)	258	1.73
#Dukkipati M	4	0	0.00	0.10	0.00	(0.00,100.0)	4	0.00
Feit A	340	0	0.00	0.27	0.00	(0.00, 2.90)	320	0.00
#Hasan C	47	0	0.00	0.12	0.00	(0.00,44.99)	46	0.00
##Kwan T	6	0	0.00	0.11	0.00	(0.00,100.0)	5	0.00
#Marmur J	22	0	0.00	0.63	0.00	(0.00,18.88)	22	0.00
#Safi A	66	0	0.00	0.16	0.00	(0.00,25.59)	65	0.00
All Others	142	1	0.70	0.27	1.85	(0.02,10.32)	131	1.36
TOTAL	1260	7	0.56	0.29	1.37	(0.55, 2.81)	1210	0.73
University Hospital-Stony Brook								
Chernilas J	376	3	0.80	0.73	0.78	(0.16, 2.28)	301	0.99
Dervan J	437	6	1.37	0.71	1.39	(0.51, 3.03)	404	1.04
#Grella R	515	3	0.58	0.65	0.64	(0.13, 1.87)	468	0.23
##Jauhar R	168	1	0.60	0.37	1.15	(0.01, 6.38)	152	0.00
Korlipara G	352	0	0.00	0.37	0.00	(0.00, 2.01)	331	0.00
Lawson W	522	5	0.96	1.00	0.68	(0.22, 1.60)	429	0.26
##Lederman S	150	1	0.67	0.56	0.85	(0.01, 4.75)	134	0.00
Novotny H	517	5	0.97	0.74	0.94	(0.30, 2.19)	440	0.20

Table 3 *continued*

	Cases	Deaths	OMR	All Cases			Non-Emergency	
				EMR	RAMR	95% CI for RAMR	Cases	RAMR
University Hospital-Stony Brook <i>continued</i>								
Rosenband M	608	8	1.32	0.77	1.23	(0.53, 2.42)	506	0.53
All Others	136	0	0.00	0.46	0.00	(0.00, 4.19)	122	0.00
TOTAL	3781	32	0.85	0.70	0.87	(0.60, 1.23)	3287	0.42
Upstate Medical Center								
#Battaglia J	141	2	1.42	0.84	1.21	(0.14, 4.37)	114	0.00
#Berkery W	32	1	3.13	2.42	0.93	(0.01, 5.15)	24	0.00
##Phadke K	326	6	1.84	1.93	0.68	(0.25, 1.49)	270	0.28
All Others	4	0	0.00	0.11	0.00	(0.00,100.0)	4	0.00
TOTAL	503	9	1.79	1.64	0.78	(0.36, 1.48)	412	0.21
Vassar Brothers								
#Dukkipati M	50	0	0.00	0.20	0.00	(0.00,26.91)	50	0.00
Gorwara S	277	2	0.72	1.24	0.42	(0.05, 1.51)	173	0.56
#Jafar M	962	10	1.04	1.00	0.74	(0.36, 1.37)	676	0.43
#Kantaros L	538	2	0.37	0.88	0.30	(0.03, 1.09)	407	0.29
TOTAL	1827	14	0.77	0.98	0.56	(0.31, 0.94)	1306	0.40
Weill Cornell - NY Presbyterian Hospital								
Bergman G	786	9	1.15	0.71	1.15	(0.53, 2.19)	706	0.63
#Charney R	286	2	0.70	0.63	0.80	(0.09, 2.87)	272	0.00
##Deutsch E	10	0	0.00	2.33	0.00	(0.00,11.30)	9	0.00
Hong M	757	6	0.79	1.22	0.47	(0.17, 1.01)	650	0.12
Iacovone F	223	3	1.35	0.88	1.10	(0.22, 3.21)	183	0.80
##Kwan T	39	0	0.00	0.29	0.00	(0.00,23.01)	38	0.00
#Messinger D	210	0	0.00	0.45	0.00	(0.00, 2.80)	190	0.00
Parikh M	1335	5	0.37	0.54	0.49	(0.16, 1.15)	1251	0.19
Reddy C	382	1	0.26	0.31	0.61	(0.01, 3.42)	378	0.00
Wong S	706	3	0.42	0.48	0.63	(0.13, 1.85)	644	0.24
All Others	37	0	0.00	0.48	0.00	(0.00,14.92)	34	0.00
TOTAL	4771	29	0.61	0.67	0.65	(0.44, 0.94)	4355	0.27
Westchester Medical Center								
#Charney R	52	0	0.00	0.33	0.00	(0.00,15.24)	52	0.00
Cohen M	687	5	0.73	0.76	0.69	(0.22, 1.60)	592	0.37
Hjemdahl-Monsen C	1250	9	0.72	0.77	0.67	(0.31, 1.28)	1106	0.18
Kalapatapu K	996	16	1.61	0.87	1.32 *	(0.75, 2.14)	826	0.62
#Messinger D	22	1	4.55	0.89	3.67	(0.05,20.45)	21	2.07
Pucillo A	798	7	0.88	0.66	0.95	(0.38, 1.96)	704	0.35
Weiss M	447	5	1.12	0.88	0.91	(0.29, 2.12)	387	0.96
TOTAL	4252	43	1.01	0.78	0.93	(0.67, 1.25)	3688	0.45

Table 3 continued

	All Cases						Non-Emergency	
	Cases	Deaths	OMR	EMR	RAMR	95% CI for RAMR	Cases	RAMR
Winthrop University Hospital								
#Angelopoulos P	68	1	1.47	1.04	1.01	(0.01, 5.62)	57	0.00
##David M	108	0	0.00	0.38	0.00	(0.00, 6.44)	108	0.00
##Deutsch E	90	1	1.11	0.59	1.36	(0.02, 7.54)	89	0.87
##Gambino A	449	1	0.22	0.59	0.27	(0.00, 1.51)	400	0.25
#Grella R	16	0	0.00	0.23	0.00	(0.00,72.27)	16	0.00
Guidera S	421	1	0.24	0.90	0.19	(0.00, 1.06)	366	0.00
##Jauhar R	6	0	0.00	0.37	0.00	(0.00,100.0)	6	0.00
##Lederman S	111	2	1.80	0.55	2.34	(0.26, 8.46)	100	1.56
Marzo K	934	2	0.21	0.42	0.37	(0.04, 1.33)	845	0.15
#Padmanabhan V	319	2	0.63	0.64	0.71	(0.08, 2.55)	265	0.36
#Park J	148	0	0.00	0.50	0.00	(0.00, 3.53)	138	0.00
##Patel R	26	0	0.00	0.88	0.00	(0.00,11.52)	24	0.00
##Reich D	231	0	0.00	0.37	0.00	(0.00, 3.06)	228	0.00
Robin G	35	1	2.86	1.06	1.93	(0.03,10.74)	22	0.00
##Rubino R	36	0	0.00	0.17	0.00	(0.00,42.12)	35	0.00
#Sassower M	401	2	0.50	1.18	0.30	(0.03, 1.10)	357	0.22
##Schwartz R	751	1	0.13	0.72	0.13	(0.00, 0.74)	678	0.10
#Witkes D	240	0	0.00	0.53	0.00	(0.00, 2.07)	223	0.00
All Others	64	1	1.56	1.13	0.99	(0.01, 5.51)	45	0.00
TOTAL	4454	15	0.34	0.65	0.37 **	(0.21, 0.61)	4002	0.19
Statewide Total	128230	919	0.72				114853	0.37

* Risk-adjusted mortality rate significantly higher than statewide rate based on 95 percent confidence interval.

** Risk-adjusted mortality rate significantly lower than statewide rate based on 95 percent confidence interval.

Performed procedures in another New York State hospital.

Performed procedures in two or more other New York State hospitals.

Table 4 Summary Information for Cardiologists Practicing at More Than One Hospital, 2000-2002.

	All Cases						Non-Emergency	
	Cases	Deaths	OMR	EMR	RAMR	95% CI for RAMR	Cases	RAMR
Amin N	295	2	0.68	0.66	0.74	(0.08, 2.66)	240	0.00
Crouse Hospital	160	1	0.63	0.70	0.64	(0.01, 3.56)	142	0.00
St. Josephs	135	1	0.74	0.61	0.87	(0.01, 4.82)	98	0.00
Angelopoulos P	77	1	1.30	0.95	0.98	(0.01, 5.46)	66	0.00
NYU Medical Center	9	0	0.00	0.22	0.00	(0.00,100.0)	9	0.00
Winthrop Univ. Hosp.	68	1	1.47	1.04	1.01	(0.01, 5.62)	57	0.00
Attubato M	656	7	1.07	0.88	0.86	(0.35, 1.78)	589	0.68
Bellevue	108	1	0.93	0.48	1.37	(0.02, 7.62)	98	0.96
NYU Medical Center	548	6	1.09	0.96	0.81	(0.30, 1.77)	491	0.63
Battaglia J	929	8	0.86	0.47	1.32	(0.57, 2.60)	836	0.35
Crouse Hospital	788	6	0.76	0.40	1.36	(0.50, 2.96)	722	0.44
Upstate Medical Center	141	2	1.42	0.84	1.21	(0.14, 4.37)	114	0.00
Berke A	532	3	0.56	1.33	0.30	(0.06, 0.89)	474	0.16
South Nassau	4	0	0.00	1.37	0.00	(0.00,47.98)	.	.
St. Francis	528	3	0.57	1.33	0.31	(0.06, 0.90)	474	0.16
Berkery W	376	2	0.53	1.37	0.28	(0.03, 1.00)	292	0.00
Crouse Hospital	344	1	0.29	1.27	0.16	(0.00, 0.91)	268	0.00
Upstate Medical Center	32	1	3.13	2.42	0.93	(0.01, 5.15)	24	0.00
Bhan R	608	5	0.82	0.48	1.23	(0.40, 2.87)	541	0.46
Crouse Hospital	13	1	7.69	0.45	12.26	(0.16,68.20)	11	23.69
St. Josephs	595	4	0.67	0.48	1.00	(0.27, 2.57)	530	0.23
Brady S	263	5	1.90	1.08	1.27	(0.41, 2.96)	208	0.43
Albany Medical Center	220	5	2.27	1.13	1.45	(0.47, 3.37)	173	0.55
St. Peters	43	0	0.00	0.81	0.00	(0.00, 7.52)	35	0.00
Brown D	362	4	1.10	0.49	1.62	(0.44, 4.15)	308	0.73
Beth Israel	90	1	1.11	0.43	1.84	(0.02,10.22)	80	0.00
Montefiore-Einstein	272	3	1.10	0.51	1.56	(0.31, 4.55)	228	0.92
Calandra S	599	3	0.50	0.48	0.75	(0.15, 2.18)	581	0.23
Erie County	11	0	0.00	0.13	0.00	(0.00,100.0)	11	0.00
Mercy Hospital	28	0	0.00	0.30	0.00	(0.00,31.16)	27	0.00
Millard Fillmore	560	3	0.54	0.50	0.77	(0.16, 2.25)	543	0.25
Caputo R	1090	7	0.64	0.56	0.81	(0.33, 1.68)	990	0.19
Crouse Hospital	244	3	1.23	0.58	1.52	(0.31, 4.45)	227	0.00
St. Josephs	846	4	0.47	0.56	0.60	(0.16, 1.55)	763	0.24
Card H	227	2	0.88	0.77	0.82	(0.09, 2.95)	216	0.51
Ellis Hospital	102	1	0.98	0.82	0.86	(0.01, 4.76)	95	0.00
St. Peters	125	1	0.80	0.73	0.78	(0.01, 4.35)	121	0.89

Table 4 continued

	Cases	Deaths	OMR	All Cases			Non-Emergency	
				EMR	RAMR	95% CI for RAMR	Cases	RAMR
Chadi R	48	0	0.00	0.16	0.00	(0.00,33.35)	48	0.00
Beth Israel	17	0	0.00	0.22	0.00	(0.00,71.84)	17	0.00
NY - Queens	1	0	0.00	0.08	0.00	(0.00,100.0)	1	0.00
Univ.Hosp. of Brooklyn	30	0	0.00	0.14	0.00	(0.00,63.49)	30	0.00
Charney R	338	2	0.59	0.58	0.73	(0.08, 2.62)	324	0.00
Cornell	286	2	0.70	0.63	0.80	(0.09, 2.87)	272	0.00
Westchester	52	0	0.00	0.33	0.00	(0.00,15.24)	52	0.00
Chockalingam S	457	6	1.31	0.85	1.10	(0.40, 2.40)	407	0.22
Rochester General	452	6	1.33	0.85	1.12	(0.41, 2.43)	402	0.23
Strong Memorial	5	0	0.00	1.18	0.00	(0.00,44.71)	5	0.00
Corbelli J	715	5	0.70	0.64	0.78	(0.25, 1.81)	670	0.43
Erie County	69	1	1.45	0.20	5.25	(0.07,29.23)	69	2.76
Millard Fillmore	646	4	0.62	0.69	0.64	(0.17, 1.64)	601	0.30
Dashkoff N	514	2	0.39	0.54	0.52	(0.06, 1.88)	498	0.00
Erie County	510	2	0.39	0.54	0.52	(0.06, 1.89)	494	0.00
Millard Fillmore	4	0	0.00	0.33	0.00	(0.00,100.0)	4	0.00
David M	160	2	1.25	0.42	2.14	(0.24, 7.74)	154	1.27
NY - Queens	4	0	0.00	0.24	0.00	(0.00,100.0)	4	0.00
South Nassau	4	0	0.00	1.55	0.00	(0.00,42.49)	.	.
St. Francis	44	2	4.55	0.43	7.59 *	(0.85,27.41)	42	3.92 *
Winthrop Univ. Hosp.	108	0	0.00	0.38	0.00	(0.00, 6.44)	108	0.00
Delago A	1546	27	1.75	0.72	1.74 *	(1.15, 2.53)	1370	1.24 *
Albany Medical Center	1540	27	1.75	0.72	1.75 *	(1.15, 2.54)	1370	1.24 *
St. Peters	6	0	0.00	0.85	0.00	(0.00,51.77)	0	0.00
Desantis J	212	1	0.47	0.77	0.44	(0.01, 2.45)	182	0.00
Albany Medical Center	1	0	0.00	0.03	0.00	(0.00,100.0)	1	0.00
St. Peters	211	1	0.47	0.77	0.44	(0.01, 2.45)	181	0.00
Deutsch E	911	1	0.11	0.56	0.14	(0.00, 0.78)	828	0.14
Cornell	10	0	0.00	2.33	0.00	(0.00,11.30)	9	0.00
Good Samaritan	33	0	0.00	3.46	0.00	(0.00, 2.30)	.	.
North Shore	758	0	0.00	0.32	0.00	(0.00, 1.10)	730	0.00
Southside Hospital	20	0	0.00	3.91	0.00	(0.00, 3.36)	.	.
Winthrop Univ. Hosp.	90	1	1.11	0.59	1.36	(0.02, 7.54)	89	0.87
Dominguez A	443	2	0.45	0.79	0.41	(0.05, 1.48)	427	0.12
St. Lukes-Roosevelt	1	0	0.00	0.47	0.00	(0.00,100.0)	1	0.00
St. Vincents	442	2	0.45	0.79	0.41	(0.05, 1.48)	426	0.12

Table 4 continued

	Cases	Deaths	OMR	All Cases			Non-Emergency	
				EMR	RAMR	95% CI for RAMR	Cases	RAMR
Dukkipati M	54	0	0.00	0.19	0.00	(0.00,25.89)	54	0.00
Univ.Hosp. of Brooklyn	4	0	0.00	0.10	0.00	(0.00,100.0)	4	0.00
Vassar Brothers	50	0	0.00	0.20	0.00	(0.00,26.91)	50	0.00
Duvvuri S	725	2	0.28	0.61	0.32	(0.04, 1.17)	681	0.26
Beth Israel	60	0	0.00	0.36	0.00	(0.00,12.07)	58	0.00
St. Vincents	344	1	0.29	0.78	0.27	(0.00, 1.49)	330	0.21
Staten Island	321	1	0.31	0.48	0.47	(0.01, 2.59)	293	0.40
Emerson R	253	1	0.40	0.47	0.61	(0.01, 3.38)	212	0.00
Buffalo General	35	0	0.00	0.29	0.00	(0.00,25.99)	35	0.00
Erie County	34	0	0.00	0.31	0.00	(0.00,24.95)	31	0.00
Mercy Hospital	69	0	0.00	0.74	0.00	(0.00, 5.17)	47	0.00
Millard Fillmore	115	1	0.87	0.40	1.55	(0.02, 8.61)	99	0.00
Esente P	1048	10	0.95	0.66	1.04	(0.50, 1.91)	969	0.33
Crouse Hospital	242	1	0.41	0.42	0.71	(0.01, 3.94)	238	0.45
St. Josephs	806	9	1.12	0.73	1.10	(0.50, 2.08)	731	0.29
Esper D	674	15	2.23	1.29	1.24	(0.69, 2.05)	549	1.10 *
Albany Medical Center	394	10	2.54	1.42	1.28	(0.61, 2.35)	302	1.18
St. Peters	280	5	1.79	1.09	1.17	(0.38, 2.73)	247	1.01
Farhi E	836	2	0.24	0.51	0.34	(0.04, 1.22)	798	0.12
Buffalo General	814	2	0.25	0.51	0.34	(0.04, 1.24)	776	0.12
Erie County	22	0	0.00	0.22	0.00	(0.00,55.43)	22	0.00
Farid A	204	1	0.49	0.51	0.69	(0.01, 3.86)	186	0.51
St. Vincents	195	1	0.51	0.50	0.73	(0.01, 4.08)	179	0.53
Staten Island	9	0	0.00	0.60	0.00	(0.00,48.53)	7	0.00
Feit F	634	2	0.32	0.74	0.31	(0.03, 1.10)	570	0.00
Bellevue	134	0	0.00	0.51	0.00	(0.00, 3.84)	119	0.00
NYU Medical Center	500	2	0.40	0.80	0.36	(0.04, 1.29)	451	0.00
Ford T	280	1	0.36	0.57	0.45	(0.01, 2.49)	238	0.00
Crouse Hospital	143	1	0.70	0.35	1.44	(0.02, 8.03)	131	0.00
St. Josephs	137	0	0.00	0.81	0.00	(0.00, 2.38)	107	0.00
Freeman J	465	3	0.65	0.84	0.55	(0.11, 1.61)	356	0.25
LIJ Medical Center	15	0	0.00	3.41	0.00	(0.00, 5.14)	.	.
North Shore	450	3	0.67	0.75	0.64	(0.13, 1.86)	356	0.25
Friedman G	712	7	0.98	0.82	0.86	(0.35, 1.78)	614	0.50
LIJ Medical Center	426	4	0.94	0.87	0.77	(0.21, 1.98)	370	0.71
NY - Queens	33	1	3.03	1.48	1.47	(0.02, 8.16)	27	0.00
North Shore	253	2	0.79	0.64	0.88	(0.10, 3.19)	217	0.00

Table 4 continued

	All Cases						Non-Emergency	
	Cases	Deaths	OMR	EMR	RAMR	95% CI for RAMR	Cases	RAMR
Gambino A	646	2	0.31	0.53	0.42	(0.05, 1.51)	578	0.39
Good Samaritan	5	0	0.00	0.67	0.00	(0.00,78.93)	.	.
North Shore	191	1	0.52	0.40	0.94	(0.01, 5.24)	178	0.87
Southside Hospital	1	0	0.00	0.36	0.00	(0.00,100.0)	.	.
Winthrop Univ. Hosp.	449	1	0.22	0.59	0.27	(0.00, 1.51)	400	0.25
Geizhals M	473	5	1.06	0.39	1.92	(0.62, 4.49)	461	0.96
Lenox Hill	72	1	1.39	0.51	1.97	(0.03,10.95)	72	1.12
NY - Queens	394	4	1.02	0.37	1.96	(0.53, 5.01)	382	0.94
St. Lukes-Roosevelt	7	0	0.00	0.49	0.00	(0.00,77.24)	7	0.00
Gelormini J	437	3	0.69	0.50	0.99	(0.20, 2.89)	421	0.65
Buffalo General	5	0	0.00	0.66	0.00	(0.00,79.13)	5	0.00
Mercy Hospital	15	0	0.00	0.42	0.00	(0.00,42.09)	12	0.00
Millard Fillmore	417	3	0.72	0.50	1.03	(0.21, 3.02)	404	0.68
Giambartolomei A	702	7	1.00	0.70	1.03	(0.41, 2.12)	619	0.61
Crouse Hospital	132	2	1.52	0.93	1.16	(0.13, 4.19)	119	1.01
St. Josephs	570	5	0.88	0.64	0.98	(0.32, 2.29)	500	0.51
Goldman A Y	203	1	0.49	1.18	0.30	(0.00, 1.66)	189	0.24
Montefiore-Moses	89	1	1.12	1.89	0.43	(0.01, 2.37)	82	0.37
St. Lukes-Roosevelt	114	0	0.00	0.63	0.00	(0.00, 3.67)	107	0.00
Green S	1197	11	0.92	0.91	0.72	(0.36, 1.30)	994	0.52
LIJ Medical Center	28	0	0.00	3.11	0.00	(0.00, 3.02)	6	0.00
North Shore	1169	11	0.94	0.86	0.79	(0.39, 1.41)	988	0.52
Grella R	531	3	0.56	0.64	0.63	(0.13, 1.85)	484	0.23
Univ.Hosp.-Stony Brook	515	3	0.58	0.65	0.64	(0.13, 1.87)	468	0.23
Winthrop Univ. Hosp.	16	0	0.00	0.23	0.00	(0.00,72.27)	16	0.00
Grose R	333	0	0.00	0.56	0.00	(0.00, 1.40)	304	0.00
Montefiore-Moses	168	0	0.00	0.70	0.00	(0.00, 2.24)	153	0.00
Presby - Columbia	165	0	0.00	0.43	0.00	(0.00, 3.74)	151	0.00
Grunwald A	703	7	1.00	1.01	0.70	(0.28, 1.45)	605	0.31
LIJ Medical Center	606	6	0.99	1.09	0.65	(0.24, 1.42)	519	0.23
NY - Queens	56	1	1.79	0.60	2.14	(0.03,11.88)	52	1.44
North Shore	41	0	0.00	0.49	0.00	(0.00,12.96)	34	0.00
Hamby R	245	0	0.00	0.20	0.00	(0.00, 5.28)	244	0.00
South Nassau	1	0	0.00	0.76	0.00	(0.00,100.0)	.	.
St. Francis	244	0	0.00	0.20	0.00	(0.00, 5.36)	244	0.00

Table 4 continued

	Cases	Deaths	OMR	All Cases			Non-Emergency	
				EMR	RAMR	95% CI for RAMR	Cases	RAMR
Hasan C	119	0	0.00	0.17	0.00	(0.00,12.86)	118	0.00
St. Vincents	72	0	0.00	0.20	0.00	(0.00,18.00)	72	0.00
Univ.Hosp. of Brooklyn	47	0	0.00	0.12	0.00	(0.00,44.99)	46	0.00
Herman B	149	1	0.67	0.34	1.43	(0.02, 7.95)	141	0.97
Albany Medical Center	1	0	0.00	0.08	0.00	(0.00,100.0)	1	0.00
St. Peters	148	1	0.68	0.34	1.43	(0.02, 7.97)	140	0.97
Hogan R	274	0	0.00	0.26	0.00	(0.00, 3.67)	272	0.00
Albany Medical Center	149	0	0.00	0.25	0.00	(0.00, 7.16)	147	0.00
Ellis Hospital	125	0	0.00	0.28	0.00	(0.00, 7.51)	125	0.00
Homayuni A	316	1	0.32	0.29	0.77	(0.01, 4.28)	289	0.00
St. Vincents	125	1	0.80	0.32	1.79	(0.02, 9.93)	117	0.00
Staten Island	191	0	0.00	0.28	0.00	(0.00, 4.96)	172	0.00
Hormozi S	327	3	0.92	0.85	0.78	(0.16, 2.27)	288	0.61
South Nassau	4	0	0.00	0.89	0.00	(0.00,74.17)	.	.
St. Francis	323	3	0.93	0.84	0.79	(0.16, 2.30)	288	0.61
Jafar M	975	10	1.03	0.99	0.74	(0.36, 1.36)	689	0.43
Albany Medical Center	13	0	0.00	0.20	0.00	(0.00,100.0)	13	0.00
Vassar Brothers	962	10	1.04	1.00	0.74	(0.36, 1.37)	676	0.43
Jauhar R	651	5	0.77	0.74	0.75	(0.24, 1.74)	511	0.17
LIJ Medical Center	447	3	0.67	0.83	0.58	(0.12, 1.69)	350	0.20
North Shore	30	1	3.33	1.43	1.67	(0.02, 9.27)	3	0.00
Univ.Hosp.-Stony Brook	168	1	0.60	0.37	1.15	(0.01, 6.38)	152	0.00
Winthrop Univ. Hosp.	6	0	0.00	0.37	0.00	(0.00,100.0)	6	0.00
Johnson M	341	3	0.88	0.68	0.93	(0.19, 2.72)	333	0.31
Montefiore-Moses	275	2	0.73	0.57	0.91	(0.10, 3.30)	268	0.41
Presby - Columbia	66	1	1.52	1.12	0.97	(0.01, 5.38)	65	0.00
Kahn A	267	3	1.12	0.79	1.02	(0.20, 2.97)	210	0.78
Arnot-Ogden	166	2	1.20	1.08	0.80	(0.09, 2.88)	112	0.00
Mount Sinai	101	1	0.99	0.31	2.28	(0.03,12.70)	98	1.46
Kantaros L	540	2	0.37	0.88	0.30	(0.03, 1.09)	409	0.28
Albany Medical Center	2	0	0.00	0.20	0.00	(0.00,100.0)	2	0.00
Vassar Brothers	538	2	0.37	0.88	0.30	(0.03, 1.09)	407	0.29
Kaplan B	1511	6	0.40	1.05	0.27 **	(0.10, 0.59)	1257	0.16
LIJ Medical Center	1435	6	0.42	1.05	0.29 **	(0.10, 0.62)	1235	0.16
North Shore	76	0	0.00	1.16	0.00	(0.00, 2.99)	22	0.00

Table 4 continued

	Cases	Deaths	OMR	All Cases			Non-Emergency	
				EMR	RAMR	95% CI for RAMR	Cases	RAMR
Karman M	953	5	0.52	0.61	0.62	(0.20, 1.44)	876	0.48
Elmhurst	1	0	0.00	0.55	0.00	(0.00,100.0)	.	.
Mount Sinai	952	5	0.53	0.61	0.62	(0.20, 1.44)	876	0.48
Katz S	1185	10	0.84	0.78	0.77	(0.37, 1.42)	994	0.65
LIJ Medical Center	26	1	3.85	3.15	0.87	(0.01, 4.86)	6	0.00
North Shore	1159	9	0.78	0.73	0.76	(0.35, 1.45)	988	0.65
Keller N	149	5	3.36	2.21	1.09	(0.35, 2.54)	98	0.88
Bellevue	52	2	3.85	0.81	3.39	(0.38,12.25)	37	0.00
NYU Medical Center	97	3	3.09	2.96	0.75	(0.15, 2.19)	61	1.15
Kim M	459	5	1.09	0.78	1.01	(0.32, 2.35)	426	0.49
Elmhurst	1	0	0.00	0.99	0.00	(0.00,100.0)	.	.
Mount Sinai	458	5	1.09	0.78	1.01	(0.33, 2.35)	426	0.49
Koss J	703	5	0.71	0.80	0.64	(0.21, 1.49)	606	0.30
LIJ Medical Center	637	5	0.78	0.77	0.73	(0.24, 1.71)	548	0.33
NY - Queens	20	0	0.00	0.42	0.00	(0.00,31.37)	17	0.00
North Shore	46	0	0.00	1.36	0.00	(0.00, 4.20)	41	0.00
Kufs W	248	0	0.00	0.43	0.00	(0.00, 2.49)	224	0.00
Albany Medical Center	45	0	0.00	0.61	0.00	(0.00, 9.64)	40	0.00
Ellis Hospital	194	0	0.00	0.37	0.00	(0.00, 3.70)	176	0.00
St. Peters	9	0	0.00	0.80	0.00	(0.00,36.57)	8	0.00
Kwan T	364	0	0.00	0.28	0.00	(0.00, 2.54)	356	0.00
Cornell	39	0	0.00	0.29	0.00	(0.00,23.01)	38	0.00
St. Vincents	319	0	0.00	0.29	0.00	(0.00, 2.88)	313	0.00
Univ.Hosp. of Brooklyn	6	0	0.00	0.11	0.00	(0.00,100.0)	5	0.00
Lederman S	346	3	0.87	0.50	1.24	(0.25, 3.62)	315	0.64
North Shore	85	0	0.00	0.33	0.00	(0.00, 9.23)	81	0.00
Univ.Hosp.-Stony Brook	150	1	0.67	0.56	0.85	(0.01, 4.75)	134	0.00
Winthrop Univ. Hosp.	111	2	1.80	0.55	2.34	(0.26, 8.46)	100	1.56
Levite H	502	3	0.60	0.83	0.51	(0.10, 1.50)	430	0.52
Bellevue	95	0	0.00	0.48	0.00	(0.00, 5.80)	82	0.00
NYU Medical Center	407	3	0.74	0.92	0.58	(0.12, 1.68)	348	0.60
Lituchy A	642	6	0.93	0.92	0.73	(0.27, 1.59)	542	0.17
South Nassau	49	3	6.12	3.19	1.37	(0.28, 4.01)	.	.
St. Francis	593	3	0.51	0.73	0.50	(0.10, 1.45)	542	0.17
Lozner E	276	1	0.36	0.92	0.28	(0.00, 1.56)	229	0.00
Crouse Hospital	179	1	0.56	1.03	0.39	(0.01, 2.16)	161	0.00
St. Josephs	97	0	0.00	0.72	0.00	(0.00, 3.75)	68	0.00

Table 4 continued

	Cases	Deaths	All Cases				Non-Emergency	
			OMR	EMR	RAMR	95% CI for RAMR	Cases	RAMR
Malpeso J	348	0	0.00	0.38	0.00	(0.00, 1.97)	313	0.00
St. Vincents	118	0	0.00	0.23	0.00	(0.00, 9.88)	114	0.00
Staten Island	230	0	0.00	0.46	0.00	(0.00, 2.46)	199	0.00
Marchant D	948	3	0.32	0.80	0.28	(0.06, 0.83)	738	0.27
LIJ Medical Center	19	0	0.00	3.00	0.00	(0.00, 4.62)	3	0.00
North Shore	929	3	0.32	0.76	0.31	(0.06, 0.89)	735	0.27
Marmulstein M	344	3	0.87	0.61	1.03	(0.21, 3.00)	255	1.01
Albany Medical Center	5	0	0.00	0.85	0.00	(0.00,61.79)	4	0.00
St. Peters	339	3	0.88	0.61	1.05	(0.21, 3.06)	251	1.02
Marmur J	692	4	0.58	0.69	0.60	(0.16, 1.53)	630	0.46
Mount Sinai	670	4	0.60	0.70	0.61	(0.17, 1.57)	608	0.49
Univ.Hosp. of Brooklyn	22	0	0.00	0.63	0.00	(0.00,18.88)	22	0.00
Martinelli M	829	4	0.48	0.58	0.60	(0.16, 1.54)	708	0.37
Albany Medical Center	10	0	0.00	0.30	0.00	(0.00,88.62)	9	0.00
St. Peters	819	4	0.49	0.58	0.60	(0.16, 1.55)	699	0.38
Masud A	792	0	0.00	0.41	0.00	(0.00, 0.81)	763	0.00
Buffalo General	184	0	0.00	0.36	0.00	(0.00, 3.98)	178	0.00
Millard Fillmore	608	0	0.00	0.42	0.00	(0.00, 1.02)	585	0.00
Mathew T M	566	7	1.24	0.79	1.12	(0.45, 2.31)	515	0.83
Rochester General	544	6	1.10	0.76	1.03	(0.38, 2.25)	494	0.64
Strong Memorial	22	1	4.55	1.47	2.21	(0.03,12.32)	21	6.27
McCord D	211	0	0.00	0.27	0.00	(0.00, 4.67)	192	0.00
St. Vincents	42	0	0.00	0.17	0.00	(0.00,36.15)	41	0.00
Staten Island	169	0	0.00	0.29	0.00	(0.00, 5.36)	151	0.00
Messinger D	232	1	0.43	0.49	0.63	(0.01, 3.52)	211	0.40
Cornell	210	0	0.00	0.45	0.00	(0.00, 2.80)	190	0.00
Westchester	22	1	4.55	0.89	3.67	(0.05,20.45)	21	2.07
Minadeo J	446	8	1.79	1.30	0.99	(0.43, 1.95)	361	0.78
South Nassau	24	1	4.17	1.09	2.73	(0.04,15.22)	.	.
St. Francis	422	7	1.66	1.31	0.91	(0.36, 1.87)	361	0.78
Morris W	1179	7	0.59	0.74	0.58	(0.23, 1.19)	1126	0.21
Buffalo General	400	1	0.25	0.38	0.48	(0.01, 2.65)	394	0.28
Millard Fillmore	779	6	0.77	0.93	0.60	(0.22, 1.30)	732	0.17
Ong L S	2636	16	0.61	0.77	0.57	(0.32, 0.92)	2388	0.30
Rochester General	2516	15	0.60	0.78	0.54	(0.30, 0.90)	2270	0.28
Strong Memorial	120	1	0.83	0.39	1.53	(0.02, 8.49)	118	0.91

Table 4 continued

	Cases	Deaths	OMR	All Cases			Non-Emergency	
				EMR	RAMR	95% CI for RAMR	Cases	RAMR
Ong L Y	1317	3	0.23	0.66	0.25	(0.05, 0.72)	1156	0.20
LIJ Medical Center	15	0	0.00	2.05	0.00	(0.00, 8.53)	7	0.00
North Shore	1302	3	0.23	0.64	0.26	(0.05, 0.75)	1149	0.20
Padmanabhan V	325	2	0.62	0.63	0.70	(0.08, 2.54)	271	0.36
North Shore	6	0	0.00	0.13	0.00	(0.00,100.0)	6	0.00
Winthrop Univ. Hosp.	319	2	0.63	0.64	0.71	(0.08, 2.55)	265	0.36
Papandrea L	458	2	0.44	0.89	0.35	(0.04, 1.26)	364	0.24
Albany Medical Center	67	1	1.49	1.28	0.84	(0.01, 4.66)	40	1.99
St. Peters	391	1	0.26	0.83	0.22	(0.00, 1.23)	324	0.00
Park J	329	0	0.00	0.56	0.00	(0.00, 1.43)	311	0.00
North Shore	181	0	0.00	0.61	0.00	(0.00, 2.40)	173	0.00
Winthrop Univ. Hosp.	148	0	0.00	0.50	0.00	(0.00, 3.53)	138	0.00
Patel R	232	2	0.86	1.14	0.54	(0.06, 1.95)	149	0.54
Good Samaritan	37	1	2.70	1.34	1.45	(0.02, 8.04)	1	0.00
North Shore	131	1	0.76	0.41	1.33	(0.02, 7.40)	124	0.72
Southside Hospital	38	0	0.00	3.67	0.00	(0.00, 1.89)	.	.
Winthrop Univ. Hosp.	26	0	0.00	0.88	0.00	(0.00,11.52)	24	0.00
Perry-Bottinger L	387	2	0.52	0.43	0.86	(0.10, 3.11)	347	0.42
Montefiore-Moses	29	0	0.00	0.19	0.00	(0.00,48.08)	28	0.00
NY - Queens	357	2	0.56	0.45	0.89	(0.10, 3.22)	318	0.45
Presby - Columbia	1	0	0.00	0.07	0.00	(0.00,100.0)	1	0.00
Petrossian G	695	3	0.43	0.61	0.51	(0.10, 1.49)	647	0.41
South Nassau	9	1	11.11	2.19	3.63	(0.05,20.21)	.	.
St. Francis	686	2	0.29	0.58	0.36	(0.04, 1.29)	647	0.41
Phadke K	505	6	1.19	1.42	0.60	(0.22, 1.31)	441	0.21
Erie County	89	0	0.00	0.26	0.00	(0.00,11.52)	88	0.00
Millard Fillmore	90	0	0.00	0.72	0.00	(0.00, 4.07)	83	0.00
Upstate Medical Center	326	6	1.84	1.93	0.68	(0.25, 1.49)	270	0.28
Picone M	275	2	0.73	0.94	0.55	(0.06, 2.00)	222	0.00
Crouse Hospital	152	1	0.66	1.06	0.45	(0.01, 2.48)	133	0.00
St. Josephs	123	1	0.81	0.80	0.73	(0.01, 4.07)	89	0.00
Reger M	571	4	0.70	0.61	0.83	(0.22, 2.11)	513	0.25
Crouse Hospital	113	0	0.00	0.37	0.00	(0.00, 6.33)	104	0.00
St. Josephs	458	4	0.87	0.67	0.94	(0.25, 2.40)	409	0.30

Table 4 continued

	Cases	Deaths	OMR	All Cases			Non-Emergency	
				EMR	RAMR	95% CI for RAMR	Cases	RAMR
Reich D	1082	12	1.11	0.65	1.21	(0.63, 2.12)	949	0.86 *
Good Samaritan	39	0	0.00	2.40	0.00	(0.00, 2.81)	.	.
Mount Sinai	549	10	1.82	0.72	1.81 *	(0.87, 3.33)	492	1.29 *
North Shore	230	1	0.43	0.30	1.05	(0.01, 5.83)	229	0.55
Southside Hospital	33	1	3.03	1.97	1.10	(0.01, 6.15)	.	.
Winthrop Univ. Hosp.	231	0	0.00	0.37	0.00	(0.00, 3.06)	228	0.00
Roccario E	849	8	0.94	0.88	0.77	(0.33, 1.52)	672	0.34
Albany Medical Center	14	0	0.00	0.23	0.00	(0.00,82.22)	11	0.00
St. Peters	835	8	0.96	0.89	0.77	(0.33, 1.52)	661	0.35
Rouvelas P	217	0	0.00	0.32	0.00	(0.00, 3.81)	212	0.00
Beth Israel	92	0	0.00	0.31	0.00	(0.00, 9.37)	89	0.00
Staten Island	125	0	0.00	0.33	0.00	(0.00, 6.43)	123	0.00
Rubino R	315	1	0.32	0.52	0.44	(0.01, 2.43)	290	0.51
Good Samaritan	7	0	0.00	3.05	0.00	(0.00,12.30)	.	.
LIJ Medical Center	21	0	0.00	1.70	0.00	(0.00, 7.37)	19	0.00
North Shore	249	1	0.40	0.38	0.75	(0.01, 4.17)	236	0.59
Southside Hospital	2	0	0.00	2.58	0.00	(0.00,50.98)	.	.
Winthrop Univ. Hosp.	36	0	0.00	0.17	0.00	(0.00,42.12)	35	0.00
Sacchi T	714	0	0.00	0.33	0.00	(0.00, 1.12)	711	0.00
Beth Israel	432	0	0.00	0.28	0.00	(0.00, 2.18)	430	0.00
Maimonides	282	0	0.00	0.41	0.00	(0.00, 2.29)	281	0.00
Safi A	67	0	0.00	0.16	0.00	(0.00,25.29)	66	0.00
St. Vincents	1	0	0.00	0.12	0.00	(0.00,100.0)	1	0.00
Univ.Hosp. of Brooklyn	66	0	0.00	0.16	0.00	(0.00,25.59)	65	0.00
Sassower M	517	2	0.39	1.00	0.28	(0.03, 1.00)	470	0.18
North Shore	116	0	0.00	0.40	0.00	(0.00, 5.61)	113	0.00
Winthrop Univ. Hosp.	401	2	0.50	1.18	0.30	(0.03, 1.10)	357	0.22
Schwartz R	1239	2	0.16	0.66	0.17 **	(0.02, 0.63)	1122	0.13
Good Samaritan	13	0	0.00	2.05	0.00	(0.00, 9.87)	.	.
North Shore	470	1	0.21	0.50	0.30	(0.00, 1.68)	444	0.20
Southside Hospital	5	0	0.00	3.67	0.00	(0.00,14.32)	.	.
Winthrop Univ. Hosp.	751	1	0.13	0.72	0.13	(0.00, 0.74)	678	0.10
Sherman W	666	11	1.65	0.91	1.29	(0.65, 2.32)	628	0.84
Beth Israel	368	6	1.63	0.87	1.35	(0.49, 2.94)	351	0.61
Mount Sinai	298	5	1.68	0.98	1.23	(0.40, 2.88)	277	1.12

Table 4 continued

	Cases	Deaths	OMR	All Cases			Non-Emergency	
				EMR	RAMR	95% CI for RAMR	Cases	RAMR
Simons A	800	0	0.00	0.44	0.00	(0.00, 0.74)	718	0.00
Crouse Hospital	138	0	0.00	0.64	0.00	(0.00, 2.98)	123	0.00
St. Josephs	662	0	0.00	0.40	0.00	(0.00, 0.98)	595	0.00
Slater J	539	3	0.56	0.50	0.80	(0.16, 2.33)	515	0.32
NYU Medical Center	77	0	0.00	0.15	0.00	(0.00,23.39)	76	0.00
St. Lukes-Roosevelt	462	3	0.65	0.56	0.83	(0.17, 2.43)	439	0.35
Snyder S	211	2	0.95	0.37	1.86	(0.21, 6.72)	199	0.58
St. Vincents	80	1	1.25	0.37	2.40	(0.03,13.37)	79	1.11
Staten Island	131	1	0.76	0.36	1.52	(0.02, 8.45)	120	0.00
Suleman J	397	2	0.50	0.37	0.97	(0.11, 3.51)	379	0.87
Elmhurst	6	0	0.00	2.01	0.00	(0.00,21.80)	.	.
Mount Sinai	391	2	0.51	0.35	1.06	(0.12, 3.82)	379	0.87
Walford G	618	3	0.49	0.56	0.62	(0.13, 1.82)	563	0.44
Crouse Hospital	30	0	0.00	1.11	0.00	(0.00, 7.90)	27	0.00
St. Josephs	588	3	0.51	0.53	0.69	(0.14, 2.02)	536	0.46
Warchol A	146	0	0.00	0.36	0.00	(0.00, 5.01)	131	0.00
St. Vincents	46	0	0.00	0.24	0.00	(0.00,23.95)	42	0.00
Staten Island	100	0	0.00	0.42	0.00	(0.00, 6.33)	89	0.00
Wasserman H	327	5	1.53	0.97	1.13	(0.37, 2.64)	241	0.54
Arnot-Ogden	4	0	0.00	0.45	0.00	(0.00,100.0)	3	0.00
Presby - Columbia	323	5	1.55	0.97	1.14	(0.37, 2.66)	238	0.55
Wilentz J	445	1	0.22	0.45	0.36	(0.00, 1.99)	418	0.00
Beth Israel	145	0	0.00	0.38	0.00	(0.00, 4.81)	141	0.00
St. Lukes-Roosevelt	254	1	0.39	0.49	0.57	(0.01, 3.18)	232	0.00
St. Vincents	46	0	0.00	0.45	0.00	(0.00,12.78)	45	0.00
Winer H	480	8	1.67	0.63	1.90 *	(0.82, 3.74)	442	0.88
Bellevue	131	2	1.53	0.31	3.53	(0.40,12.76)	124	2.11
NYU Medical Center	349	6	1.72	0.75	1.64	(0.60, 3.58)	318	0.56
Witkes D	322	0	0.00	0.50	0.00	(0.00, 1.63)	300	0.00
North Shore	82	0	0.00	0.42	0.00	(0.00, 7.60)	77	0.00
Winthrop Univ. Hosp.	240	0	0.00	0.53	0.00	(0.00, 2.07)	223	0.00
Zisfein J	329	1	0.30	0.63	0.35	(0.00, 1.92)	289	0.52
North Shore	293	1	0.34	0.30	0.82	(0.01, 4.57)	289	0.52
South Nassau	36	0	0.00	3.33	0.00	(0.00, 2.19)	.	.

Criteria Used in Reporting Significant Risk Factors (2002)

Based on Documentation in Medical Record

Patient Risk Factor	Definitions
Hemodynamic State	
<ul style="list-style-type: none"> Unstable Shock 	<p>Determined just prior to the intervention</p> <p>Patient requires pharmacologic or mechanical support to maintain blood pressure or cardiac output</p> <p>Acute hypotension (systolic blood pressure < 80 mmHg) or low cardiac index (< 2.0 liters/min/m²), despite pharmacologic or mechanical support or the patient requires cardiopulmonary resuscitation within one hour of the procedure</p>
Comorbidities	
<ul style="list-style-type: none"> Congestive Heart Failure (CHF), Current Congestive Heart Failure (CHF), Past Renal Failure, Creatinine > 2.5 Renal Failure, Dialysis Stent Thrombosis 	<p>Within 2 weeks prior to the procedure, a physician has diagnosed CHF by one of the following:</p> <ul style="list-style-type: none"> Paroxysmal nocturnal dyspnea (PND) Dyspnea on exertion (DOE) due to heart failure, or Chest X-Ray showing pulmonary congestion. <p>Between 2 weeks to 6 months prior to the procedure, a physician has diagnosed CHF by one of the following:</p> <ul style="list-style-type: none"> Paroxysmal nocturnal dyspnea (PND) Dyspnea on exertion (DOE) due to heart failure, or Chest X-Ray showing pulmonary congestion. <p>Pre-intervention creatinine greater than 2.5 mg/dl</p> <p>The patient is on chronic peritoneal or hemodialysis</p> <p>Formation of a blood clot in the stented segment of the artery and/or adjacent area. This usually results in an acute occlusion, chest pain or development of an acute MI.</p>
Ventricular Function	
<ul style="list-style-type: none"> Previous MI less than 6 hours Previous MI, more than 6 hours and less than 24 hours Previous MI, 1 to 14 days Previous MI, 15 or more days 	<p>One or more myocardial infarctions (MI) less than 6 hours before the intervention</p> <p>One or more myocardial infarctions (MI) more than 6 hours and less than 24 hours before the intervention</p> <p>One or more myocardial infarctions (MI) occurring 1 to 14 days before the intervention.</p> <p>One or more myocardial infarctions (MI) occurring 15 or more days before the intervention</p>

Criteria Used in Reporting Significant Risk Factors (2002) *continued*

Ventricular Function, continued	
<ul style="list-style-type: none">• Ejection Fraction	Value of the ejection fraction taken closest to the procedure. When a calculated measure is unavailable the ejection fraction should be estimated visually from the ventriculogram or by echocardiography. Intraoperative direct observation of the heart is not an adequate basis for a visual estimate of the ejection fraction
<hr/>	
Severity of Atherosclerotic Process	
<ul style="list-style-type: none">• Peripheral Vascular Disease	Patient has either Aortoiliac or Femoral/Popliteal disease as defined below.
<ul style="list-style-type: none">• Aortoiliac Disease	Angiographic demonstration of at least 50% narrowing in a major aortoiliac vessel, previous surgery for such disease, absent femoral pulses, or the inability to insert a catheter or intra-aortic balloon due to iliac aneurysm or obstruction of the aortoiliac arteries.
<ul style="list-style-type: none">• Femoral/Popliteal Disease	Angiographic demonstration of at least 50% narrowing in a major femoral/popliteal vessel, previous surgery for such disease, absent pedal pulses, or inability to insert a catheter or intra-aortic balloon due to obstruction in the femoral arteries.
<hr/>	
Vessels Diseased	
<ul style="list-style-type: none">• Left Main Disease	The patient has at least a 50% blockage in the Left Main Coronary Artery.

MEDICAL TERMINOLOGY

percutaneous coronary intervention (PCI) also known as **angioplasty** or **percutaneous transluminal coronary angioplasty** – typically in this procedure, a balloon catheter is threaded up to the site of blockage in an artery in the heart, and is then inflated to push arterial plaque against the wall of the artery to create a wider channel in the artery. Other procedures or devices are frequently used in conjunction with the catheter to remove plaque. In particular, stents are used for most patients, and procedures such as atherectomies and ultrasound are sometimes used.

angina pectoris - the pain or discomfort felt when blood and oxygen flow to the heart are impeded by blockage in the coronary arteries. This can also be caused by an arterial spasm.

arteriosclerosis - the group of diseases characterized by thickening and loss of elasticity of the arterial walls, popularly called “hardening of the arteries”. Also called *atherosclerotic coronary artery disease* or *coronary artery disease*.

atherosclerosis - one form of arteriosclerosis in which plaques or fatty deposits form in the inner layer of the arteries.

cardiac catheterization - also known as *coronary angiography* - a procedure for diagnosing the condition of the heart and the arteries connecting to it. A thin tube threaded through an artery to the heart releases a dye, which allows doctors to observe blockages with an x-ray camera. This procedure is required before PCI is performed.

cardiovascular disease - disease of the heart and blood vessels, the most common form is coronary artery disease.

coronary arteries - the arteries that supply the heart muscle with blood. When they are narrowed or blocked, blood and oxygen cannot flow freely to the heart muscle or myocardium.

coronary artery bypass graft surgery (CABG) - a procedure in which a vein or artery from another part of the body is used to create an alternate path for blood to flow to the heart, bypassing the arterial blockage. Typically, a section of one of the large saphenous veins in the leg, the radial artery in the arm or the mammary artery in the chest is used to construct the bypass. One or

more bypasses may be performed during a single operation. When no other major heart surgery (such as valve replacement) is included, the operation is referred to as an isolated CABG.

Double, triple, quadruple **bypass**- the average number of bypass grafts created during coronary artery bypass graft surgery is three or four. Generally, all significantly blocked arteries are bypassed unless they enter areas of the heart that are permanently damaged by previous heart attacks. Five or more bypasses are occasionally created. Multiple bypasses are often performed to provide several alternate routes for the blood flow and to improve the long-term success of the procedure, not necessarily because the patient's condition is more severe.

ischemic heart disease (ischemia) - heart disease that occurs as a result of inadequate blood supply to the heart muscle or myocardium.

lesion - an irregular growth of fiber and tissue.

myocardial infarction - partial destruction of the heart muscle due to interrupted blood supply, also called a *heart attack*.

plaque - also called *atheroma*, this is the fatty deposit in the coronary artery that can block blood flow.

risk factors for heart disease - certain risk factors have been found to increase the likelihood of developing heart disease. Some are controllable or avoidable, and some cannot be controlled. The biggest heart disease risk factors are heredity, gender, and age, all of which cannot be controlled. Men are much more likely to develop heart disease than women before the age of 55, although it is the number one killer of both men and women.

Some controllable risk factors that contribute to a higher likelihood of developing coronary artery disease are high cholesterol levels, cigarette smoking, high blood pressure (hypertension), obesity, a sedentary lifestyle or lack of exercise, diabetes, and poor stress management.

stenosis - the narrowing of an artery due to blockage. *Restenosis* is when the narrowing recurs after PCI or surgery.

Appendix 1

2002 Risk Factors For PCI In-Hospital Mortality (ALL CASES)

The significant pre-procedural risk factors for in-hospital mortality following PCI in 2002 are presented in the table below.

Roughly speaking, the odds ratio for a risk factor represents the number of times more likely a patient with that risk factor is of dying in the hospital during or after PCI than a patient without the risk factor, all other risk factors being the same. For example, the odds ratio for the risk factor “Peripheral Vascular Disease” is 1.718. This means that a patient with Peripheral Vascular Disease is approximately 1.718 times as likely to die in the hospital during or after undergoing PCI as a patient without Peripheral Vascular Disease who has the same other significant risk factors.

With regard to age, the odds ratio roughly represents the number of times more likely a patient who is over age 55 is to die in the hospital than another patient who is one year younger, all other significant risk factors being the same. Thus, a patient undergoing PCI who is 63 years old has approximately 1.066 times the chance of dying in the hospital that a 62 year-old patient has, all other risk factors being the same. All patients aged 55 years or younger have roughly the same odds of dying in the hospital if their other risk factors are identical.

The odds ratio for the variable “Female Gender” is 1.492, meaning that a female undergoing PCI is 1.492 times more likely to die in the hospital than a male with all of the same other significant risk factors.

The variables for Hemodynamic State are relative to patients that are not hemodynamically unstable or in shock. So, for example, a patient that is unstable has 7.822 times the odds of death of a hemodynamically stable patient, all of the other significant risk factors being the same.

Ejection fraction, which is the percentage of blood in the heart’s left ventricle that is expelled when it contracts (with more denoting a healthier heart), is subdivided into three ranges (<20%, 20% to 29% and 30% or more). The last range is referred to as the reference category. This means that the odds ratio that appears for the other ejection fraction category in the table is relative to patients with an ejection fraction of 30% or more. Thus, a PCI patient with an ejection fraction of <20% is about 3.016 times as likely to die in the hospital as a patient with an ejection fraction of 30% or higher, all other significant risk factors being the same.

Previous MI is subdivided into six ranges (occurring less than 24 hours prior to the procedure with stent thrombosis, less than 6 hours prior without stent thrombosis, 6 to 23 hours without stent thrombosis, 1-14 days with or without stent thrombosis, 15 or more days with or without stent thrombosis and no MI prior to the procedure). The last range is referred to as the reference category. The odds ratios for the Previous MI ranges are relative to patients who have not had an MI prior to PCI.

The odds ratio for “CHF, Current” compares patients diagnosed with Congestive Heart Failure (CHF) within 2 weeks prior to the procedure to those that have not had CHF diagnosed within 6 months of the PCI. “CHF Past” compares patients with CHF diagnosed between 2 weeks to 6 months prior to the procedure to those that have not had CHF in the past 6 months. In the case of the risk factor “Renal Failure Requiring Dialysis,” the odds ratio given compares patients who have renal failure and are on dialysis with patients who do not have renal failure. In the same manner, the odds ratio for the risk factor “Renal Failure, Creatinine > 2.5” compares patients with renal failure and a Creatinine greater than 2.5 mg/dl with patients who do not have renal failure.

“Left Main Disease” refers to patient with at least a 50% blockage in their Left Main Coronary Artery and is relative to patients without Left Main Disease.

Appendix 1 Multivariate Risk-Factor Equation for In-Hospital Deaths During or Following PCI in New York State 2002 (*All Cases*).

Patient Risk Factor	Prevalence (%)	Logistic Regression		
		Coefficient	P-Value	Odds Ratio
Demographic				
Age: # of years > 55	--	0.0635	<.0001	1.066
Female Gender	32.08	0.3998	0.0014	1.492
Hemodynamic State				
Hemodynamically Stable	99.08	— Reference —		1.000
Unstable	0.67	2.0570	<.0001	7.822
Shock	0.25	2.9919	<.0001	19.924
Ventricular Function				
Ejection Fraction				
Ejection Fraction 30% or greater	95.92	— Reference —		1.000
Ejection Fraction < 20%	0.79	1.1039	<.0001	3.016
Ejection Fraction 20-29%	3.29	0.6518	0.0003	1.919
Pre-Procedure MI				
No MI Pre-Procedure	52.77	— Reference —		1.000
MI < 24 hrs with Stent Thrombosis	0.19	2.9311	<.0001	18.747
MI < 6 hrs w/o Stent Thrombosis	5.52	2.2649	<.0001	9.630
MI 6 - 24 hrs w/o Stent Thrombosis	5.08	1.8208	<.0001	6.177
MI 1-14 days with or w/o Stent Thrombosis	15.54	1.1801	<.0001	3.255
MI 15 or more days with or w/o Stent Thrombosis	20.90	0.4834	0.0196	1.622
Severity of Atherosclerotic Process				
Peripheral Vascular Disease	6.16	0.5411	0.0014	1.718
Comorbidities				
Congestive Heart Failure (CHF)				
No CHF	90.49	— Reference —		1.000
CHF, Current	6.03	1.2791	<.0001	3.593
CHF, Past but not Current	3.48	0.8581	0.0002	2.359
Renal Failure				
No Renal Failure	97.23	— Reference —		
Renal Failure, Creatinine > 2.5	1.28	0.9572	0.0002	2.604
Renal Failure, requiring dialysis	1.49	1.3718	<.0001	3.943
Vessels				
Left Main Disease	4.09	0.8456	<.0001	2.329
Intercept = -7.6597				
C Statistic = 0.886				

Appendix 2

2002 Risk Factors For In-Hospital Mortality For Non-Emergency PCI

Appendix 2 contains the significant pre-procedural risk factors for 2002 New York PCI patients who were not emergency patients (were not in shock or hemodynamically unstable and who did not suffer a heart attack within 24 hours prior to the PCI being performed).

Age is represented by a linear term. The odds ratio represents the number of times more likely a patient is to die in the hospital than a patient who is one year younger, all other significant risk factors being the same. Thus, the odds of dying for a patient who is 55 are 1.058 times the odds of dying for a patient who is 54, all other risk factors being the same.

Previous MI is represented by three groups (MI 1 to 14 days prior to PCI, MI 15 days or more prior to PCI and the reference group, no MI prior to the procedure). The odds of dying in the hospital for a patient who had an MI 1-14 days prior to the procedure are 3.371 times the odds of dying for a patient who did not, all other risk factors being the same.

The variables for Peripheral Vascular Disease, CHF (Current and Past) and Renal Failure (Creatinine >2.5 and dialysis) are interpreted in the same manner as they were in Appendix 1.

Appendix 2 Multivariate Risk-Factor Equation for In-Hospital Deaths During or Following PCI in New York State, 2002 (Non-Emergency Cases)

Patient Risk Factor	Prevalence (%)	Logistic Regression		
		Coefficient	P-Value	Odds Ratio
Demographic				
Age	—	0.0565	<.0001	1.058
Ventricular Function				
Previous MI				
No Previous MI	59.23	— Reference —		1.000
Previous MI 1 - 14 days	17.32	1.2152	<.0001	3.371
Previous MI 15 days or more	23.45	0.6092	0.0050	1.839
Severity of Atherosclerotic Process				
Peripheral Vascular Disease	6.39	0.6893	0.0011	1.992
Comorbidities				
Congestive Heart Failure				
No CHF	90.70	— Reference —		1.000
CHF, Current	5.60	1.6434	<.0001	5.173
CHF, Past but not current	3.70	0.8973	0.0027	2.453
Renal Failure				
No Renal Failure	97.10	— Reference —		1.000
Renal Failure, Creatinine >2.5	1.32	0.8881	0.0055	2.431
Renal Failure, requiring dialysis	1.58	1.4533	<.0001	4.277

Intercept = -10.5334

C Statistic = 0.822

Appendix 3

2000-2002 Risk Factors for PCI In-Hospital Mortality (ALL CASES)

The significant pre-procedural risk factors for in-hospital mortality following PCI in the 2000-2002 time period are presented in the table that follows. The interpretation of this table is similar to the interpretation of Appendices 1 and 2 that is described previously. The variables Female Gender, Peripheral Vascular Disease, COPD, Malignant Ventricular Arrhythmia, and Left Main Disease are interpreted in the same manner as Peripheral Vascular Disease in Appendix 1. For example, patients with COPD have odds of dying in the hospital that are 2.763 times the odds of patients without COPD dying in the hospital, all other risk factors being the same. Unstable, Shock, Pre-Procedure MI, CHF- Current and Past and Renal Failure Dialysis and Creatinine > 2.5 are interpreted in the same manner as they are in Appendix 1.

With regard to age, the odds ratio roughly represents the number of times more likely a patient who is over age 55 is to die in the hospital than another patient who is one year younger, all other significant risk factors being the same. Thus the odds of dying for a patient undergoing PCI who is 57 years old is approximately 1.060 times the chance that a 56 year-old patient undergoing PCI has of dying in the hospital, all other risk factors being the same. All patients aged 55 and younger have roughly the same odds of dying in the hospital if their risk factors are identical.

In this model, Ejection Fraction is divided into 3 categories (<20%, 20-29%, and 30% or more). The last range is referred to as the reference category. This means that the odds ratios that appear for other ejection fraction categories are relative to patients with an ejection fraction of 30% or more. Thus, a PCI patient with an ejection fraction < 20% is about 4.486 times as likely to die in the hospital as a patient with an ejection fraction of 30% or higher, all other significant risk factors being the same.

The risk factors “Two Vessels Diseased” and “Three Vessels Diseased” refer to patient with at least a 70% blockage in two or three of the three native coronary arteries (LAD, RCA, LCX), or their major branches. The odds ratio for this group is relative to patients with disease in no more than one of these arteries.

The Number of Risk Factors Squared term is merely the square of the number of risk factors in Appendix 3 that a patient has (not counting age), and is used to improve the ability of the model to predict mortality.

Appendix 3 Multivariate Risk-Factor Equation for In-Hospital Deaths During or Following PCI in
New York State 2000- 2002 (*All Cases*).

Patient Risk Factor	Prevalence (%)	Logistic Regression		
		Coefficient	P-Value	Odds Ratio
Demographic				
Age: # of years > 55	---	0.0578	<.0001	1.060
Female Gender	31.92	0.9614	<.0001	2.615
Hemodynamic State				
Hemodynamically Stable	98.95	— Reference —		1.000
Unstable	0.78	2.6009	<.0001	13.476
Shock	0.27	3.4067	<.0001	30.164
Ventricular Function				
Ejection Fraction				
Ejection Fraction 30% or greater	96.07	— Reference —		1.000
Ejection Fraction < 20%	0.72	1.5009	<.0001	4.486
Ejection Fraction 20-29%	3.21	1.0149	<.0001	2.759
Pre-Procedure MI				
No MI within 20 days	73.33	— Reference —		1.000
MI < 24 hrs with Stent Thrombosis	0.22	3.1404	<.0001	23.112
MI < 6 hrs w/o Stent Thrombosis	5.18	2.4316	<.0001	11.378
MI 6 - 11 hrs w/o Stent Thrombosis	1.90	2.3028	<.0001	10.002
MI 12 - 23 hrs w/o Stent Thrombosis	2.84	2.0214	<.0001	7.549
MI 1 - 7 days with or w/o Stent Thrombosis	14.41	1.3217	<.0001	3.750
MI 8 - 20 days with or w/o Stent Thrombosis	2.12	1.0316	<.0001	2.806
Severity of Atherosclerotic Process				
Peripheral Vascular Disease	5.88	0.9827	<.0001	2.672
Comorbidities				
Congestive Heart Failure (CHF)				
No CHF	89.67	— Reference —		1.000
CHF, Current	5.99	1.6021	<.0001	4.964
CHF, Past but not current	4.34	1.1564	<.0001	3.179
COPD	5.87	1.0163	<.0001	2.763
Malignant Ventricular Arrhythmia	1.27	1.0908	<.0001	2.977
Renal Failure				
No Renal Failure	97.42	— Reference —		1.000
Renal Failure, Creatinine > 2.5	1.25	1.5916	<.0001	4.912
Renal Failure, Requiring Dialysis	1.33	2.0034	<.0001	7.414
Vessels				
Left Main Diseased	3.97	1.2705	<.0001	3.563
Two Vessels Diseased	29.41	0.7637	<.0001	2.146
Three Vessels Diseased	16.94	0.8131	<.0001	2.255
Number of Risk Factors Squared	---	-0.0754	<.0001	0.927
Intercept = -8.0987				
C Statistic = 0.886				

Appendix 4

2000-2002 Risk Factors for In-Hospital Mortality for Non-Emergency PCI

The significant pre-procedural risk factors for in-hospital mortality following non-emergency PCI in the 2000-2002 time period are presented in the Appendix 4 table below. The risk factor “Three Vessels Diseased” refers to patient with at least a 70% blockage in each of three native coronary arteries (LAD, RCA, LCX), or their major branches. The odds ratio for this group is relative to all other patients. The interpretation of this table is similar to the interpretation of Appendices 1-3 that are described previously.

Appendix 4 Multivariate Risk-Factor Equation for In-Hospital Deaths During or Following PCI in New York State 2000-2002 (*Non-Emergency Cases*)

Patient Risk Factor	Prevalence (%)	Logistic Regression		
		Coefficient	P-Value	Odds Ratio
Demographic				
Age	---	0.0452	<.0001	1.046
Female Gender	32.36	0.9508	<.0001	2.588
Ventricular Function				
Ejection Fraction				
Ejection Fraction 40 % or greater	89.47	— Reference —		1.000
Ejection Fraction < 20%	0.65	1.3792	<.0001	3.972
Ejection Fraction 20-29%	2.90	1.1302	<.0001	3.096
Ejection Fraction 30-39%	6.98	0.7989	<.0001	2.223
Pre-Procedure MI				
No MI within 14 days Pre-Procedure	82.20	— Reference —		1.000
MI 1 - 7 days Pre-Procedure	15.93	1.2146	<.0001	3.369
MI 8 - 14 days Pre-Procedure	1.87	0.9508	<.0001	2.588
Severity of Atherosclerotic Process				
Cerebrovascular Disease	7.54	0.9595	<.0001	2.611
Peripheral Vascular Disease	6.06	0.9334	<.0001	2.543
Comorbidities				
Congestive Heart Failure				
No CHF	89.90	— Reference —		1.000
CHF, Current	5.49	1.7607	<.0001	5.817
CHF, Past but not current	4.62	0.9607	<.0001	2.614
COPD	5.88	1.0419	<.0001	2.835
Renal Failure				
No Renal Failure	97.32	— Reference —		1.000
Renal Failure, Creatinine > 2.5	1.28	1.2990	<.0001	3.666
Renal Failure, requiring dialysis	1.40	2.0154	<.0001	7.504
Vessels				
Left Main Diseased	4.08	1.0050	<.0001	2.732
Three Vessels Diseased	17.36	0.7613	<.0001	2.141
Number of Risk Factors Squared	---	-0.0761	<.0001	0.927
Intercept = -10.3143				
C Statistic = 0.819				

Appendix 5

2000-2002 Risk Factors for In-Hospital Mortality for Emergency PCI

The significant pre-procedural risk factors for in-hospital mortality following Emergency PCI in the 2000-2002 time period are presented in the Appendix 5 table below. In this model, the risk factor CHF compares patients diagnosed with CHF within the past 6 months to those without CHF. The risk factor Renal Failure refers to patients with Renal Failure who are on dialysis or who have a Creatinine greater than 2.5 mg/dl to those who do not have renal failure. The risk factors Malignant Ventricular Arrhythmia and Stent Thrombosis are interpreted in the same way as Peripheral Vascular Disease in Appendix 1. The interpretation of the rest of this table is similar to the interpretations of Appendices 1-3 that are described previously.

Appendix 5 Multivariate Risk-Factor Equation for In-Hospital Deaths During or Following PCI in New York State 2000-2002 (*Emergency Cases*)

Patient Risk Factor	Prevalence (%)	Logistic Regression		
		Coefficient	P-Value	Odds Ratio
Demographic				
Age: # of years > 55	—	0.0652	<.0001	1.067
Female Gender	28.14	0.4392	<.0001	1.552
Hemodynamic State				
Hemodynamically Stable	89.96	— Reference —		1.000
Unstable	7.44	1.6068	<.0001	4.987
Shock	2.60	2.6470	<.0001	14.111
Ventricular Function				
Ejection Fraction				
Ejection Fraction 30% or greater	92.82	— Reference —		1.000
Ejection Fraction < 20%	1.26	0.7240	0.0018	2.063
Ejection Fraction 20-29%	5.91	0.3539	0.0193	1.425
Comorbidities				
Congestive Heart Failure (CHF)	12.23	0.8933	<.0001	2.443
Malignant Ventricular Arrhythmia	3.64	0.6142	0.0004	1.848
Renal Failure	1.74	1.3519	<.0001	3.865
Vessels				
Left Main Diseased	3.02	0.9406	<.0001	2.562
Two or Three Vessels Diseased	43.73	0.4008	0.0002	1.493
Stent Thrombosis	2.15	1.0372	<.0001	2.821
Intercept = -5.4653				
C Statistic = 0.880				

NEW YORK STATE PERCUTANEOUS CORONARY INTERVENTION CENTERS

Albany Medical Center Hospital
New Scotland Avenue
Albany, New York 12208

Arnot Ogden Medical Center
600 Roe Avenue
Elmira, New York 14905

Bellevue Hospital Center
First Avenue and 27th Street
New York, New York 10016

Beth Israel Medical Center
10 Nathan D. Perlman Place
New York, New York 10003

Buffalo General Hospital
100 High Street
Buffalo, New York 14203

Columbia Presbyterian
Medical Center – NY Presbyterian
161 Fort Washington Avenue
New York, New York 10032

Crouse Hospital
736 Irving Avenue
Syracuse, New York 13210

Ellis Hospital
1101 Nott Street
Schenectady, New York 12308

City Hospital at Elmhurst*
79-01 Broadway
Elmhurst, NY 11373

Erie County Medical Center
462 Grider Street
Buffalo, New York 14215

Good Samaritan Hospital
Medical Center*
1000 Montauk Highway
West Islip, New York 11795

Lenox Hill Hospital
100 East 77th Street
New York, New York 10021

Long Island Jewish Medical Center
270-05 76th Avenue
New Hyde Park, New York 11040

Mercy Hospital
565 Abbot Rd.
Buffalo, NY 14220

Maimonides Medical Center
4802 Tenth Avenue
Brooklyn, New York 11219

Millard Fillmore Hospital
3 Gates Circle
Buffalo, New York 14209

Montefiore Medical Center
Henry & Lucy Moses Division
111 East 210th Street
Bronx, New York 11219

Montefiore Medical Center-
Weiler Hospital of
A Einstein College
1825 Eastchester Road
Bronx, New York 10461

Mount Sinai Medical Center
One Gustave L. Levy Place
New York, New York 10019

NYU Hospitals Center
550 First Avenue
New York, New York 10016

New York Hospital Medical
Center-Queens
56-45 Main Street
Flushing, New York 11355

North Shore University Hospital
300 Community Drive
Manhasset, New York 11030

Rochester General Hospital
1425 Portland Avenue
Rochester, New York 14621

South Nassau Communities Hospital*
One Healthy Way
Oceanside, New York 11572

Southside Hospital*
301 East Main Street
Bayshore, New York 11706

St. Elizabeth Medical Center
2209 Genesee Street
Utica, New York 13413

St. Francis Hospital
Port Washington Boulevard
Roslyn, New York 11576

St. Joseph's Hospital
Health Center
301 Prospect Avenue
Syracuse, New York 13203

St. Luke's Roosevelt Hospital Center
11-11 Amsterdam Avenue at 114th Street
New York, New York 10025

St. Peter's Hospital
315 South Manning Boulevard
Albany, New York 12208

St. Vincent's Hospital &
Medical Center of NY
153 West 11th Street
New York, New York 10011

Staten Island University Hospital
475 Seaview Avenue
Staten Island, New York 10305

Strong Memorial Hospital
601 Elmwood Avenue
Rochester, New York 14642

United Health Services
Wilson Hospital Division
33-57 Harrison Street
Johnson City, New York 13790

University Hospital at Stony Brook
SUNY Health Science Center at
Stony Brook
Stony Brook, New York 11794-8410

University Hospital of Brooklyn
450 Lenox Road
Brooklyn, New York 11203

University Hospital Upstate
Medical Center
750 East Adams Street
Syracuse, New York 13210

Vassar Brothers Hospital
45 Reade Place
Poughkeepsie, New York 12601

Weill-Cornell Medical Center –
NY Presbyterian
525 East 68th Street
New York, New York 10021

Westchester Medical Center
Grasslands Road
Valhalla, New York 10595

Winthrop – University Hospital
259 First Street
Mineola, New York 11501

* Hospital is allowed to perform Primary PCI only on acute MI (heart attack) patients.

*Additional copies of this report may be obtained through the
Department of Health web site at <http://www.health.state.ny.us>
or by writing to:*

*Cardiac
Box 2000
New York State Department of Health
Albany, New York 12220*



State of New York
George E. Pataki, Governor

Department of Health
Antonia C. Novello, M.D., M.P.H., Dr. P.H., Commissioner