PERCUTANEOUS CORONARY INTERVENTIONS (PCI) in New York State

1999-2001

New York State Department of Health
February 2004

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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 2001. 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 117,878 patients who underwent PCI and were discharged between January 1, 1999 and December 31, 2001. The number of PCI cases per year has increased during that period from 35,738 in 1999 to 42,906 in 2001. Analyses of risk-adjusted mortality rates and associated risk factors are provided for 2001 and for the three-year period from 1999 through 2001. 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 2001 are included in the one-year results presented in this report. Similarly, all patients undergoing PCI who were discharged between January 1, 1999 and December 31, 2001 are included in the three-year results. Observed and risk-adjusted mortality rates are reported for patients undergoing PCI in each of the 39 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 and two additional centers began in 2001. We will continue to study the impact of the new programs over the next two 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 at which 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 (0.73% for all cases in 2001) 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.

2001 HOSPITAL RISK-ADJUSTED MORTALITY FOR PCI

Table 1 presents the 2001 PCI mortality results for the 39 hospitals performing PCI in New York in 2001. The table contains, for each hospital, the number of PCIs resulting in 2001 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), requiring cardiopulmonary resuscitation immediately prior to the procedure, 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 (89.8% in 2001).

The overall mortality rate for the 42,906 PCIs performed at the 39 hospitals was 0.73%. Observed mortality rates ranged from 0.00% to 3.23%. The range in expected mortality rates, which measure patient severity of illness, was between 0.33% and 3.56%. The risk-adjusted rates, which measure hospital performance, range from 0.00% to 1.78%. Based on confidence intervals for risk-adjusted rates, one hospital (Albany Medical Center) had a significantly higher risk-adjusted mortality rate than the statewide rate. One hospital (Winthrop University Hospital) had a significantly lower risk-adjusted mortality rate than the statewide rate.

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 0.38%. The range of risk-adjusted rates was from 0.00% to 1.77%. One hospital (Albany Medical Center) had a significantly higher risk-adjusted mortality rate than the statewide rate. Two hospitals (Millard Fillmore Hospital and Rochester General Hospital) had significantly lower risk-adjusted mortality rates than the statewide rate.

1999-2001 HOSPITAL DATA FOR PCI

Table 2 provides the number of PCIs, the observed mortality rate, and the risk-adjusted mortality rate for 1999-2001 for each of three types of PCI patients in the 39 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), cardiopulmonary resuscitation (CPR) administered immediately prior to the procedure, 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 1999-2001 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 2.70%, and the risk-adjusted mortality rates ranged from 0.00% to 2.11%. Three hospitals (Albany Medical Center, Montefiore-Einstein, and University Hospital of Brooklyn) had risk-adjusted mortality rates that were significantly higher than the statewide rate, and three hospitals (North Shore University Hospital, St. Francis Hospital, 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 90.1% of cases for the period 1999-2001. The statewide mortality rate for the 106,262 non-emergency cases during the 3-year period was 0.39%. Observed mortality rates for this group of patients ranged from 0.00% - 1.05% and the risk-adjusted mortality rates ranged from 0.00-1.30%. Two hospitals (Albany Medical Center and University Hospital of Brooklyn) had risk-adjusted mortality rates that were significantly higher than the statewide average. One hospital (Winthrop University Hospital) had a risk-adjusted mortality rate 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 9.9% of cases for the period 1999-2001. The statewide mortality rate for the 11,616 emergency PCI cases during the 3-year period was 4.16%. Observed mortality rates for this group ranged from 0.00% to 11.11% and the risk-adjusted mortality rates ranged from 0.00% - 7.50%. Three hospitals (Mount Sinai, North Shore University Hospital, and St. Francis), had risk-adjusted mortality rates that were significantly below the statewide average and no hospital had a risk-adjusted mortality rate that was significantly above 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 (0.73% for all PCI patients in 2001).

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, 2001 Discharges. (Listed Alphabetically by Hospital)

	All Cases						Non-Emergency	
Hospital	Cases	Deaths	OMR	EMR	RAMR	95% CI for RAMR	Cases	RAMR
Albany Medical Center	1025	24	2.34	0.97	1.78 *	(1.14, 2.64)	859	1.77 *
Arnot-Ogden	228	1	0.44	0.44	0.72	(0.01, 4.02)	180	1.18
Bellevue	155	1	0.65	0.33	1.41	(0.02, 7.86)	142	1.09
Beth Israel	1300	9	0.69	0.68	0.75	(0.34, 1.42)	1236	0.22
Buffalo General	1361	2	0.15	0.49	0.22	(0.02, 0.79)	1334	0.16
Columbia Presbyterian	645	5	0.78	0.79	0.72	(0.23, 1.68)	528	0.23
Crouse Hospital	979	4	0.41	0.56	0.54	(0.14, 1.38)	904	0.13
Ellis Hospital	649	10	1.54	0.97	1.16	(0.56, 2.13)	504	0.54
Erie County	259	0	0.00	0.33	0.00	(0.00, 3.11)	256	0.00
Good Samaritan	58	0	0.00	2.83	0.00	(0.00, 1.64)	.	.
LIJ Medical Center	1275	11	0.86	1.11	0.57	(0.28, 1.01)	1085	0.23
Lenox Hill	3238	26	0.80	0.54	1.09	(0.71, 1.59)	3127	0.54
Maimonides	1297	10	0.77	0.84	0.67	(0.32, 1.23)	1233	0.26
Millard Fillmore	1201	4	0.33	0.57	0.43	(0.11, 1.09)	1149	0.00 **
Montefiore - Einstein	621	7	1.13	0.53	1.54	(0.62, 3.18)	551	0.97
Montefiore - Moses	533	3	0.56	0.66	0.62	(0.12, 1.81)	498	0.35
Mount Sinai	2208	12	0.54	0.56	0.70	(0.36, 1.23)	2093	0.42
NY Hospital - Queens	932	7	0.75	0.69	0.79	(0.32, 1.64)	836	0.37
NYU Hospitals Center	612	6	0.98	0.98	0.73	(0.27, 1.60)	532	0.45
North Shore	2912	18	0.62	0.70	0.64	(0.38, 1.02)	2551	0.52
Rochester General	2504	21	0.84	1.14	0.54	(0.33, 0.83)	2189	0.14 **
South Nassau	62	2	3.23	2.94	0.80	(0.09, 2.90)	.	.
Southside Hospital	41	1	2.44	3.56	0.50	(0.01, 2.79)	.	.
St. Elizabeth	1384	8	0.58	0.59	0.72	(0.31, 1.42)	1337	0.39
St. Francis	3330	19	0.57	0.66	0.63	(0.38, 0.99)	3090	0.53
St. Josephs	1700	13	0.76	0.66	0.84	(0.45, 1.44)	1504	0.32
St. Lukes-Roosevelt	600	1	0.17	0.45	0.27	(0.00, 1.52)	567	0.21
St. Peters	1095	9	0.82	0.67	0.90	(0.41, 1.71)	908	0.51
St. Vincents	1330	10	0.75	0.73	0.75	(0.36, 1.39)	1170	0.40
Staten Island Univ Hosp	519	0	0.00	0.36	0.00	(0.00, 1.42)	467	0.00
Strong Memorial	1039	18	1.73	1.44	0.88	(0.52, 1.39)	847	0.51
United Health Services	866	6	0.69	0.94	0.54	(0.20, 1.17)	743	0.27
Univ Hosp-Stony Brook	1334	7	0.52	0.62	0.62	(0.25, 1.28)	1174	0.11
Univ. Hosp. - Upstate	191	4	2.09	1.75	0.87	(0.24, 2.24)	161	0.51
Univ. Hosp. of Brooklyn	450	3	0.67	0.38	1.29	(0.26, 3.78)	441	0.97
Vassar Brothers	655	6	0.92	0.98	0.68	(0.25, 1.49)	455	0.77
Weill Cornell-NYP	1501	9	0.60	0.61	0.72	(0.33, 1.36)	1366	0.32
Westchester Med. Ctr.	1337	14	1.05	0.77	0.99	(0.54, 1.67)	1176	0.57
Winthrop Univ. Hosp.	1480	3	0.20	0.61	0.24 **	(0.05, 0.71)	1334	0.14
Statewide Total	**42906**	**314**	**0.73**				**38527**	**0.38**

* 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

Table 2 Hospital Observed and Risk-Adjusted Mortality Rates (RAMR) for PCI in New York State 1999 - 2001 Discharges.

	All Cases			Non-Emergency Cases			Emergency Cases		
Hospital	Cases	OMR	RAMR	Cases	OMR	RAMR	Cases	OMR	RAMR
Albany Medical Center	3230	1.67	1.44 *	2755	1.05	1.13 *	475	5.26	5.57
Arnot-Ogden	713	0.28	0.46	587	0.34	0.58	126	0.00	0.00
Bellevue	449	1.34	1.67	395	0.76	1.12	54	5.56	7.50
Beth Israel	3753	0.69	0.80	3581	0.34	0.32	172	8.14	6.27
Buffalo General	3558	0.31	0.60	3486	0.26	0.32	72	2.78	3.36
Columbia Presbyterian-NYP	1800	1.06	0.95	1505	0.20	0.24	295	5.42	6.82
Crouse	2624	0.57	0.58	2318	0.13	0.16	306	3.92	3.69
Ellis Hospital	1828	1.20	0.99	1514	0.40	0.51	314	5.10	4.66
Erie County	527	0.00	0.00	517	0.00	0.00	10	0.00	0.00
Good Samaritan	58	0.00	0.00	.	.	.	58	0.00	0.00
LIJ Medical Center	3047	0.79	0.54	2516	0.40	0.28	531	2.64	2.94
Lenox Hill	8231	0.68	0.90	7874	0.46	0.46	357	5.60	4.82
Maimonides	3796	0.76	0.65	3613	0.42	0.29	183	7.65	4.94
Millard Fillmore	3142	0.73	0.89	2973	0.30	0.36	169	8.28	5.81
Montefiore - Einstein	1746	1.09	1.28 *	1575	0.63	0.73	171	5.26	5.36
Montefiore - Moses	1466	0.68	0.77	1358	0.44	0.49	108	3.70	3.12
Mount Sinai	6028	0.53	0.58	5690	0.40	0.36	338	2.66	2.00 **
NYU Hospitals Center	1978	0.96	0.69	1715	0.41	0.34	263	4.56	3.95
New York Hospital - Queens	2461	1.06	0.97	2192	0.59	0.57	269	4.83	4.88
North Shore	8225	0.46	0.52 **	7184	0.28	0.30	1041	1.73	2.49 **
Rochester General	7378	0.84	0.68	6527	0.34	0.29	851	4.70	4.03
South Nassau Communities	74	2.70	0.85	.	.	.	74	2.70	4.21
Southside Hospital	41	2.44	0.77	.	.	.	41	2.44	3.44
St. Elizabeth	3249	0.71	0.93	3152	0.54	0.47	97	6.19	4.85
St. Francis	9017	0.54	0.57 **	8356	0.39	0.41	661	2.42	2.09 **
St. Josephs	4693	0.70	0.79	4153	0.26	0.31	540	4.07	5.39
St. Lukes-Roosevelt	1559	0.64	0.79	1471	0.34	0.36	88	5.68	6.07
St. Peters	3242	0.83	0.83	2747	0.40	0.42	495	3.23	4.64
St. Vincents	4396	0.73	0.78	4028	0.37	0.34	368	4.62	5.32
Staten Island Univ Hosp.	519	0.00	0.00	467	0.00	0.00	52	0.00	0.00
Strong Memorial	2970	1.85	1.01	2414	0.70	0.61	556	6.83	5.17
United Health Services	2751	0.95	0.55	2367	0.30	0.24	384	4.95	3.65
Univ. Hosp. - Stony Brook	3650	0.82	0.99	3244	0.40	0.40	406	4.19	6.55
Univ. Hosp. - Upstate	490	2.04	1.15	427	0.70	0.53	63	11.11	5.76
Univ. Hosp. of Brooklyn	1241	0.97	2.11 *	1187	0.76	1.30 *	54	5.56	6.41
Vassar Brothers	1075	0.74	0.58	778	0.39	0.45	297	1.68	2.67
Weill Cornell-NYP	4523	0.71	0.75	4165	0.36	0.39	358	4.75	3.85
Westchester Medical Center	4280	0.91	0.83	3758	0.37	0.42	522	4.79	4.37
Winthrop Univer. Hosp.	4070	0.42	0.47 **	3673	0.14	0.15 **	397	3.02	3.42
Statewide Total	**117878**	**0.76**		**106262**	**0.39**		**11616**	**4.16**	

* 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.

1999-2001 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 1999-2001 for cardiologists in each of the 39 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 1999-2001, and/or (b) performed at least one PCI in each of the years 1999-2001. 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 1999-2001.

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, CPR, 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, 1999 - 2001 Discharges

	ALL CASES						NON-EMERGENCY	
	Cases	Deaths	OMR	EMR	RAMR	95% CI for RAMR	CASES	RAMR
Statewide Total	**117878**	**899**	**0.76**				**106262**	**0.39**
Albany Medical Center Hospital								
#Delago A	1821	33	1.81	0.74	1.86 *	(1.28, 2.61)	1630	1.34 *
#Esper D	451	9	2.00	1.48	1.03	(0.47, 1.95)	351	0.76
#Herman B	1	0	0.00	0.11	0.00	(0.00,100.0)	1	0.00
Houghton J	450	5	1.11	0.64	1.33	(0.43, 3.10)	390	0.41
#Jafar M	13	0	0.00	0.23	0.00	(0.00,95.61)	13	0.00
#Kantaros L	19	0	0.00	0.16	0.00	(0.00,93.48)	19	0.00
##Kufs W	37	0	0.00	0.39	0.00	(0.00,19.61)	33	0.00
Macina A	194	2	1.03	0.96	0.82	(0.09, 2.94)	129	0.97
#Marmulstein M	15	0	0.00	0.48	0.00	(0.00,38.55)	13	0.00
#Martinelli M	9	0	0.00	0.23	0.00	(0.00,100.0)	8	0.00
#Papandrea L	101	2	1.98	1.50	1.01	(0.11, 3.65)	64	1.47
#Roccario E	16	0	0.00	0.24	0.00	(0.00,71.95)	13	0.00
All Others	103	3	2.91	1.82	1.22	(0.25, 3.57)	91	1.45
TOTAL	**3230**	**54**	**1.67**	**0.89**	**1.44 ***	**(1.08, 1.87)**	**2755**	**1.13 ***
Arnot-Ogden Memorial Hospital								
Laifer L	615	2	0.33	0.44	0.56	(0.06, 2.03)	517	0.66
##Wasserman H	4	0	0.00	0.46	0.00	(0.00,100.0)	3	0.00
All Others	94	0	0.00	0.64	0.00	(0.00, 4.65)	67	0.00
TOTAL	**713**	**2**	**0.28**	**0.47**	**0.46**	**(0.05, 1.65)**	**587**	**0.58**

Table 3 *continued*

	All Cases						Non-Emergency	
	Cases	Deaths	OMR	EMR	RAMR	95% CI for RAMR	Cases	RAMR
Bellevue Hospital Center								
#Attubato M	105	1	0.95	0.39	1.85	(0.02,10.30)	93	1.76
#Chinitz L	2	0	0.00	1.84	0.00	(0.00,75.89)	.	.
#Feit F	124	1	0.81	0.26	2.34	(0.03,13.01)	119	1.45
#Keller N	38	2	5.26	2.19	1.83	(0.21, 6.61)	27	0.00
#Levite H	79	1	1.27	0.95	1.01	(0.01, 5.65)	63	0.00
#Winer H	101	1	0.99	0.37	2.04	(0.03,11.33)	93	2.05
TOTAL	**449**	**6**	**1.34**	**0.61**	**1.67**	**(0.61, 3.64)**	**395**	**1.12**
Beth Israel Medical Center								
##Chadi R	7	0	0.00	0.28	0.00	(0.00,100.0)	7	0.00
##Duvvuri S	121	1	0.83	0.46	1.38	(0.02, 7.69)	117	0.00
Fox J	786	9	1.15	0.75	1.16	(0.53, 2.20)	723	0.54
Patel R	128	1	0.78	0.59	1.00	(0.01, 5.58)	125	0.56
Reimers C	814	6	0.74	0.75	0.75	(0.27, 1.63)	773	0.33
##Rouvelas P	88	0	0.00	0.40	0.00	(0.00, 7.88)	85	0.00
#Sacchi T	337	0	0.00	0.31	0.00	(0.00, 2.68)	337	0.00
##Shaknovich A	254	0	0.00	0.40	0.00	(0.00, 2.76)	252	0.00
#Sherman W	611	7	1.15	0.72	1.22	(0.49, 2.51)	583	0.51
##Wilentz J	229	0	0.00	0.41	0.00	(0.00, 2.96)	223	0.00
All Others	378	2	0.53	0.94	0.43	(0.05, 1.55)	356	0.00
TOTAL	**3753**	**26**	**0.69**	**0.66**	**0.80**	**(0.53, 1.18)**	**3581**	**0.32**
Buffalo General Hospital								
Conley J	1252	1	0.08	0.32	0.19	(0.00, 1.05)	1235	0.11
##Emerson R	26	0	0.00	0.34	0.00	(0.00,31.27)	26	0.00
#Farhi E	654	3	0.46	0.58	0.61	(0.12, 1.77)	625	0.14
#Masud A	21	0	0.00	0.68	0.00	(0.00,19.60)	21	0.00
#Morris W	388	2	0.52	0.42	0.94	(0.11, 3.39)	382	0.54
Paris J	169	0	0.00	0.28	0.00	(0.00, 5.91)	167	0.00
Sullivan P	105	0	0.00	0.22	0.00	(0.00,12.25)	102	0.00
Visco J	894	5	0.56	0.38	1.13	(0.36, 2.63)	880	0.82
All Others	49	0	0.00	0.25	0.00	(0.00,22.81)	48	0.00
TOTAL	**3558**	**11**	**0.31**	**0.39**	**0.60**	**(0.30, 1.08)**	**3486**	**0.32**
Columbia Presbyterian - NY Presbyterian Hospital								
Apfelbaum M	193	2	1.04	1.13	0.70	(0.08, 2.54)	133	0.00
Brogno D	225	3	1.33	0.75	1.35	(0.27, 3.94)	206	0.00
Flyer J	28	0	0.00	0.45	0.00	(0.00,22.34)	28	0.00
#Grose R	143	0	0.00	0.50	0.00	(0.00, 3.89)	133	0.00
##Johnson M	48	0	0.00	0.45	0.00	(0.00,12.89)	48	0.00
Rabbani L	214	3	1.40	1.39	0.77	(0.15, 2.25)	157	0.00
Reison D	65	0	0.00	0.19	0.00	(0.00,22.19)	64	0.00
Schwartz A	34	0	0.00	0.12	0.00	(0.00,66.98)	34	0.00
Simon A	152	1	0.66	0.60	0.84	(0.01, 4.69)	128	0.00
Warshofsky M	143	0	0.00	0.64	0.00	(0.00, 3.05)	135	0.00

Table 3 *continued*

	All Cases						Non-Emergency	
	Cases	Deaths	OMR	EMR	RAMR	95% CI for RAMR	Cases	RAMR
Columbia Presbyterian - NY Presbyterian Hospital *continued*								
##Wasserman H	283	6	2.12	0.98	1.66	(0.61, 3.61)	218	1.12
Weinberger J	185	2	1.08	0.94	0.87	(0.10, 3.16)	144	0.90
All Others	87	2	2.30	0.98	1.79	(0.20, 6.48)	77	0.00
TOTAL	**1800**	**19**	**1.06**	**0.85**	**0.95**	**(0.57, 1.48)**	**1505**	**0.24**
Crouse Hospital								
#Amin N	145	1	0.69	0.71	0.74	(0.01, 4.13)	130	0.00
#Battaglia J	771	4	0.52	0.43	0.92	(0.25, 2.36)	679	0.00
#Berkery W	311	1	0.32	1.54	0.16	(0.00, 0.89)	235	0.00
#Bhan R	16	1	6.25	0.49	9.64	(0.13,53.65)	13	22.21
#Caputo R	228	2	0.88	0.69	0.96	(0.11, 3.48)	216	0.00
#Esente P	218	1	0.46	0.43	0.81	(0.01, 4.53)	213	0.50
#Ford T	141	2	1.42	0.46	2.34	(0.26, 8.45)	124	0.00
#Giambartolomei A	134	2	1.49	1.43	0.79	(0.09, 2.87)	116	1.08
#Lozner E	147	1	0.68	1.30	0.40	(0.01, 2.21)	125	0.00
#Picone M	173	0	0.00	0.83	0.00	(0.00, 1.96)	154	0.00
#Reger M	100	0	0.00	0.57	0.00	(0.00, 4.89)	91	0.00
#Simons A	148	0	0.00	0.61	0.00	(0.00, 3.12)	134	0.00
#Walford G	48	0	0.00	0.79	0.00	(0.00, 7.41)	45	0.00
All Others	44	0	0.00	0.20	0.00	(0.00,31.53)	43	0.00
TOTAL	**2624**	**15**	**0.57**	**0.75**	**0.58**	**(0.33, 0.96)**	**2318**	**0.16**
Ellis Hospital								
#Card H	98	1	1.02	0.84	0.93	(0.01, 5.18)	90	0.00
Cospito P	435	5	1.15	1.01	0.87	(0.28, 2.04)	368	0.00
Jordan M	436	9	2.06	1.09	1.45	(0.66, 2.75)	338	1.49 *
##Kufs W	217	0	0.00	0.90	0.00	(0.00, 1.43)	194	0.00
Parkes R	319	2	0.63	0.57	0.84	(0.09, 3.04)	271	0.00
All Others	323	5	1.55	1.01	1.17	(0.38, 2.74)	253	1.00
TOTAL	**1828**	**22**	**1.20**	**0.93**	**0.99**	**(0.62, 1.50)**	**1514**	**0.51**
Erie County Medical Center								
#Calandra S	8	0	0.00	0.17	0.00	(0.00,100.0)	8	0.00
#Corbelli J	57	0	0.00	0.24	0.00	(0.00,20.08)	57	0.00
#Dashkoff N	434	0	0.00	0.53	0.00	(0.00, 1.21)	424	0.00
##Emerson R	2	0	0.00	0.20	0.00	(0.00,100.0)	2	0.00
#Farhi E	25	0	0.00	0.27	0.00	(0.00,41.05)	25	0.00
All Others	1	0	0.00	0.49	0.00	(0.00,100.0)	1	0.00
TOTAL	**527**	**0**	**0.00**	**0.48**	**0.00**	**(0.00, 1.10)**	**517**	**0.00**
Good Samaritan								
##Deutsch E	16	0	0.00	2.82	0.00	(0.00, 6.20)	.	.
##Gambino A	2	0	0.00	1.32	0.00	(0.00,100.0)	.	.
##Reich D	14	0	0.00	3.50	0.00	(0.00, 5.71)	.	.

Table 3 *continued*

	All Cases						Non-Emergency	
	Cases	Deaths	OMR	EMR	RAMR	95% CI for RAMR	Cases	RAMR
Good Samaritan *continued*								
##Rubino R	7	0	0.00	3.80	0.00	(0.00,10.51)	.	.
##Schwartz R	8	0	0.00	2.46	0.00	(0.00,14.23)	.	.
All Others	11	0	0.00	1.05	0.00	(0.00,24.31)	.	.
TOTAL	**58**	**0**	**0.00**	**2.67**	**0.00**	**(0.00, 1.81)**	**.**	**.**
Lenox Hill Hospital								
Collins M	1563	12	0.77	0.63	0.93	(0.48, 1.62)	1501	0.42
Columbo A	137	2	1.46	0.51	2.16	(0.24, 7.81)	131	0.69
Degregorio J	6	0	0.00	0.19	0.00	(0.00,100.0)	6	0.00
##Geizhals M	76	2	2.63	0.98	2.05	(0.23, 7.41)	75	0.96
Iyer S	489	5	1.02	0.66	1.18	(0.38, 2.74)	435	0.76
Kreps E	922	6	0.65	0.52	0.95	(0.35, 2.06)	856	0.54
Leon M	621	5	0.81	0.56	1.09	(0.35, 2.55)	603	0.48
Moses J	2035	4	0.20	0.40	0.37	(0.10, 0.96)	2015	0.24
Moussa I	834	5	0.60	0.76	0.61	(0.20, 1.41)	790	0.50
Roubin G	375	5	1.33	0.94	1.08	(0.35, 2.53)	345	0.25
##Shaknovich A	272	1	0.37	0.35	0.79	(0.01, 4.40)	267	0.47
Stone G	364	3	0.82	0.57	1.10	(0.22, 3.20)	343	0.63
Teirstein P	261	2	0.77	0.66	0.89	(0.10, 3.21)	247	0.00
All Others	276	4	1.45	0.57	1.92	(0.52, 4.93)	260	1.31
TOTAL	**8231**	**56**	**0.68**	**0.57**	**0.90**	**(0.68, 1.17)**	**7874**	**0.46**
Long Island Jewish Medical Center								
##Friedman G	303	3	0.99	0.98	0.77	(0.16, 2.26)	249	0.58
#Green S	21	0	0.00	3.34	0.00	(0.00, 3.98)	4	0.00
##Grunwald A	601	10	1.66	1.24	1.02	(0.49, 1.88)	499	0.41
##Jauhar R	158	1	0.63	0.81	0.59	(0.01, 3.30)	133	0.00
#Kaplan B	1178	5	0.42	1.14	0.28 **	(0.09, 0.66)	994	0.20
#Katz S	39	1	2.56	1.58	1.24	(0.02, 6.88)	15	0.00
##Koss J	676	4	0.59	0.93	0.49	(0.13, 1.24)	579	0.33
#Marchant D	16	0	0.00	3.83	0.00	(0.00, 4.56)	3	0.00
#Ong L Y	11	0	0.00	0.90	0.00	(0.00,28.21)	6	0.00
##Padmanabhan V	15	0	0.00	0.34	0.00	(0.00,55.17)	11	0.00
##Rubino R	21	0	0.00	1.64	0.00	(0.00, 8.12)	19	0.00
All Others	8	0	0.00	0.64	0.00	(0.00,54.58)	4	0.00
TOTAL	**3047**	**24**	**0.79**	**1.11**	**0.54**	**(0.35, 0.80)**	**2516**	**0.28**
Maimonides Medical Center								
Borgen E	368	5	1.36	1.30	0.80	(0.26, 1.86)	319	0.16
Frankel R	1087	3	0.28	0.75	0.28	(0.06, 0.82)	1050	0.14
Friedman M	506	8	1.58	1.29	0.93	(0.40, 1.84)	460	0.33
#Sacchi T	333	1	0.30	0.39	0.58	(0.01, 3.23)	332	0.36
Shani J	1502	12	0.80	0.90	0.68	(0.35, 1.18)	1452	0.41
TOTAL	**3796**	**29**	**0.76**	**0.90**	**0.65**	**(0.43, 0.93)**	**3613**	**0.29**

Table 3 *continued*

	All Cases						Non-Emergency	
	Cases	Deaths	OMR	EMR	RAMR	95% CI for RAMR	Cases	RAMR
Millard Fillmore Hospital								
#Calandra S	471	4	0.85	0.52	1.24	(0.33, 3.18)	456	0.67
#Corbelli J	676	5	0.74	0.68	0.84	(0.27, 1.95)	632	0.16
#Dashkoff N	6	0	0.00	0.29	0.00	(0.00,100.0)	6	0.00
##Emerson R	131	2	1.53	0.38	3.09	(0.35,11.14)	116	1.60
Gelormini J	399	2	0.50	0.50	0.77	(0.09, 2.77)	382	0.52
#Masud A	699	2	0.29	0.52	0.42	(0.05, 1.51)	661	0.33
#Morris W	760	8	1.05	0.86	0.94	(0.40, 1.85)	720	0.18
TOTAL	**3142**	**23**	**0.73**	**0.63**	**0.89**	**(0.56, 1.34)**	**2973**	**0.36**
Montefiore Medical Center - Einstein Division								
Brown D	369	7	1.90	0.73	1.98 *	(0.79, 4.07)	315	1.30
Gotsis W	438	4	0.91	0.53	1.32	(0.36, 3.39)	415	0.60
Monrad E	504	5	0.99	0.74	1.02	(0.33, 2.38)	463	0.72
##Perry-Bottinger	18	0	0.00	0.18	0.00	(0.00,85.70)	18	0.00
Silverman G	342	2	0.58	0.62	0.72	(0.08, 2.59)	299	0.00
All Others	75	1	1.33	0.55	1.84	(0.02,10.24)	65	2.26
TOTAL	**1746**	**19**	**1.09**	**0.65**	**1.28 ***	**(0.77, 2.00)**	**1575**	**0.73**
Montefiore Medical Center - Moses Division								
Greenberg M	501	4	0.80	0.65	0.93	(0.25, 2.39)	463	0.45
#Grose R	158	0	0.00	0.67	0.00	(0.00, 2.65)	146	0.00
##Johnson M	269	2	0.74	0.52	1.09	(0.12, 3.95)	263	0.46
Menegus M	470	2	0.43	0.84	0.39	(0.04, 1.40)	421	0.25
##Perry-Bottinger	68	2	2.94	0.33	6.85 *	(0.77,24.75)	65	4.80 *
TOTAL	**1466**	**10**	**0.68**	**0.67**	**0.77**	**(0.37, 1.42)**	**1358**	**0.49**
Mount Sinai Hospital								
Karman M	615	4	0.65	0.70	0.71	(0.19, 1.82)	567	0.53
Marmur J	891	4	0.45	0.63	0.54	(0.15, 1.39)	815	0.45
##Reich D	737	12	1.63	0.85	1.46	(0.75, 2.55)	660	1.02 *
Sharma S	3100	7	0.23	0.67	0.26 **	(0.10, 0.53)	3002	0.12 **
#Sherman W	63	0	0.00	0.57	0.00	(0.00, 7.73)	60	0.00
All Others	622	5	0.80	0.75	0.81	(0.26, 1.90)	586	0.54
TOTAL	**6028**	**32**	**0.53**	**0.70**	**0.58**	**(0.40, 0.82)**	**5690**	**0.36**
New York Hospital - Queens								
##Chadi R	1	0	0.00	0.11	0.00	(0.00,100.0)	1	0.00
##Friedman G	12	1	8.33	1.18	5.39	(0.07,29.98)	10	5.50
##Geizhals M	347	4	1.15	0.41	2.15	(0.58, 5.50)	336	1.04
##Grunwald A	58	1	1.72	0.63	2.10	(0.03,11.68)	53	0.00
Gustafson G	759	10	1.32	1.13	0.89	(0.43, 1.64)	661	0.52
##Koss J	14	0	0.00	0.51	0.00	(0.00,39.07)	11	0.00
Papadakos S	866	7	0.81	0.94	0.66	(0.26, 1.35)	757	0.24

Table 3 *continued*

	All Cases						Non-Emergency	
	Cases	Deaths	OMR	EMR	RAMR	95% CI for RAMR	Cases	RAMR
New York Hospital - Queens *continued*								
##Perry-Bottinger	256	1	0.39	0.41	0.72	(0.01, 4.00)	231	0.66
##Rouvelas P	1	0	0.00	0.04	0.00	(0.00,100.0)	1	0.00
#Wong S	147	2	1.36	0.52	2.00	(0.22, 7.23)	131	1.50
TOTAL	**2461**	**26**	**1.06**	**0.83**	**0.97**	**(0.63, 1.42)**	**2192**	**0.57**
New York University Medical Center								
#Attubato M	522	4	0.77	1.02	0.57	(0.15, 1.46)	476	0.33
#Chinitz L	17	0	0.00	0.90	0.00	(0.00,18.29)	15	0.00
#Feit F	505	2	0.40	0.71	0.42	(0.05, 1.53)	453	0.26
#Keller N	153	3	1.96	2.20	0.68	(0.14, 1.99)	103	0.65
#Levite H	386	2	0.52	0.95	0.41	(0.05, 1.49)	325	0.21
#Slater J	5	0	0.00	0.10	0.00	(0.00,100.0)	5	0.00
#Winer H	349	8	2.29	1.16	1.50	(0.65, 2.96)	303	0.59
All Others	41	0	0.00	2.04	0.00	(0.00, 3.35)	35	0.00
TOTAL	**1978**	**19**	**0.96**	**1.06**	**0.69**	**(0.41, 1.08)**	**1715**	**0.34**
North Shore University Hospital								
Albanese J	178	0	0.00	0.26	0.00	(0.00, 6.01)	175	0.00
##Deutsch E	561	0	0.00	0.39	0.00	(0.00, 1.29)	541	0.00
##Friedman G	395	4	1.01	0.63	1.24	(0.33, 3.16)	332	0.41
##Gambino A	134	2	1.49	0.49	2.33	(0.26, 8.40)	119	2.62
#Green S	1185	8	0.68	0.92	0.56	(0.24, 1.11)	980	0.43
##Grunwald A	17	0	0.00	0.68	0.00	(0.00,24.15)	13	0.00
##Jauhar R	15	1	6.67	1.59	3.19	(0.04,17.76)	3	0.00
#Kaplan B	329	1	0.30	0.93	0.25	(0.00, 1.39)	246	0.00
#Katz S	1081	6	0.56	0.72	0.59	(0.21, 1.28)	931	0.47
##Koss J	21	0	0.00	0.58	0.00	(0.00,22.86)	18	0.00
##Lederman S	49	0	0.00	0.41	0.00	(0.00,14.06)	48	0.00
#Marchant D	807	4	0.50	0.80	0.47	(0.13, 1.20)	634	0.29
#Ong L Y	1306	2	0.15	0.73	0.16 **	(0.02, 0.58)	1153	0.09
##Padmanabhan V	173	1	0.58	0.56	0.79	(0.01, 4.38)	136	0.00
#Park J	134	0	0.00	0.71	0.00	(0.00, 2.95)	124	0.00
##Reich D	77	1	1.30	0.49	2.03	(0.03,11.32)	77	1.10
##Rubino R	458	2	0.44	0.43	0.77	(0.09, 2.77)	429	0.32
#Sassower M	138	0	0.00	0.34	0.00	(0.00, 5.98)	133	0.00
##Schwartz R	492	1	0.20	0.63	0.25	(0.00, 1.37)	459	0.18
#Witkes D	39	0	0.00	0.47	0.00	(0.00,15.42)	38	0.00
#Zisfein J	303	1	0.33	0.30	0.83	(0.01, 4.61)	296	0.55
All Others	333	4	1.20	0.70	1.31	(0.35, 3.36)	299	0.50
TOTAL	**8225**	**38**	**0.46**	**0.67**	**0.52 ****	**(0.37, 0.72)**	**7184**	**0.30**
Rochester General Hospital								
Chockalingam S	300	4	1.33	0.93	1.09	(0.29, 2.78)	268	0.30
Doling M	1097	5	0.46	0.71	0.49	(0.16, 1.14)	1029	0.40

Table 3 *continued*

	All Cases						Non-Emergency	
	Cases	Deaths	OMR	EMR	RAMR	95% CI for RAMR	Cases	RAMR
Rochester General Hospital *continued*								
Fitzpatrick P	354	6	1.69	1.11	1.17	(0.43, 2.54)	277	0.61
Gacioch G	413	6	1.45	1.06	1.05	(0.38, 2.28)	337	0.29
Mathew T M	619	6	0.97	0.81	0.92	(0.33, 1.99)	565	0.56
#Mathew T C	92	0	0.00	1.39	0.00	(0.00, 2.18)	79	0.00
#Ong L S	2586	17	0.66	0.79	0.63	(0.37, 1.01)	2374	0.31
Patel T	454	5	1.10	1.41	0.59	(0.19, 1.39)	385	0.00
Scortichini D	326	0	0.00	0.74	0.00	(0.00, 1.15)	305	0.00
Stuver T	693	10	1.44	1.55	0.71	(0.34, 1.31)	525	0.00
Thompson M	214	0	0.00	1.05	0.00	(0.00, 1.25)	186	0.00
All Others	230	3	1.30	0.98	1.01	(0.20, 2.96)	197	0.95
TOTAL	**7378**	**62**	**0.84**	**0.95**	**0.68**	**(0.52, 0.87)**	**6527**	**0.29**
South Nassau Community Hospital								
#Berke A	3	0	0.00	1.73	0.00	(0.00,53.98)	.	.
##David M	4	0	0.00	1.90	0.00	(0.00,36.73)	.	.
#Hamby R	1	0	0.00	0.95	0.00	(0.00,100.0)	.	.
#Lituchy A	25	1	4.00	2.50	1.22	(0.02, 6.80)	.	.
#Minadeo J	11	0	0.00	1.12	0.00	(0.00,22.68)	.	.
#Petrossian G	7	1	14.29	3.99	2.73	(0.04,15.20)	.	.
#Zisfein J	22	0	0.00	2.81	0.00	(0.00, 4.52)	.	.
All Others	1	0	0.00	1.35	0.00	(0.00,100.0)	.	.
TOTAL	**74**	**2**	**2.70**	**2.43**	**0.85**	**(0.10, 3.07)**	**.**	**.**
Southside Hospital								
##Deutsch E	9	0	0.00	3.36	0.00	(0.00, 9.26)	.	.
##Gambino A	1	0	0.00	0.45	0.00	(0.00,100.0)	.	.
##Reich D	17	1	5.88	1.18	3.79	(0.05,21.10)	.	.
##Rubino R	2	0	0.00	2.90	0.00	(0.00,48.29)	.	.
##Schwartz R	3	0	0.00	1.67	0.00	(0.00,55.78)	.	.
All Others	9	0	0.00	4.19	0.00	(0.00, 7.43)	.	.
TOTAL	**41**	**1**	**2.44**	**2.42**	**0.77**	**(0.01, 4.28)**	**.**	**.**
St. Elizabeth Hopital								
Kelberman M	400	3	0.75	0.69	0.82	(0.17, 2.41)	388	0.42
Macisaac H	695	2	0.29	0.62	0.36	(0.04, 1.29)	669	0.13
#Mathew T C	583	9	1.54	0.54	2.19 *	(1.00, 4.17)	560	1.43 *
Nassif R	565	6	1.06	0.70	1.16	(0.42, 2.52)	549	0.54
Patel A	448	1	0.22	0.48	0.35	(0.00, 1.97)	442	0.19
Varma P	502	2	0.40	0.47	0.64	(0.07, 2.33)	489	0.38
All Others	56	0	0.00	0.34	0.00	(0.00,14.73)	55	0.00
TOTAL	**3249**	**23**	**0.71**	**0.58**	**0.93**	**(0.59, 1.40)**	**3152**	**0.47**
St. Francis Hospital								
Abittan M	691	2	0.29	0.71	0.31	(0.03, 1.12)	661	0.17
Arkonac B	202	1	0.50	0.92	0.41	(0.01, 2.29)	166	0.40
#Berke A	471	2	0.42	1.34	0.24	(0.03, 0.87)	421	0.18

Table 3 *continued*

	All Cases						Non-Emergency	
	Cases	Deaths	OMR	EMR	RAMR	95% CI for RAMR	Cases	RAMR
St. Francis Hospital *continued*								
##David M	40	2	5.00	0.53	7.14 *	(0.80,25.76)	39	4.03 *
Ezratty A	398	3	0.75	0.58	1.00	(0.20, 2.91)	375	1.05
Goldman A	339	1	0.29	1.17	0.19	(0.00, 1.07)	298	0.24
Gulotta R	424	2	0.47	0.82	0.44	(0.05, 1.58)	385	0.29
Gulotta S	273	1	0.37	0.45	0.62	(0.01, 3.44)	267	0.40
#Hamby R	300	0	0.00	0.29	0.00	(0.00, 3.19)	299	0.00
Hershman R	505	1	0.20	0.37	0.41	(0.01, 2.27)	496	0.26
#Lituchy A	619	1	0.16	0.75	0.16	(0.00, 0.91)	564	0.16
#Minadeo J	600	7	1.17	1.13	0.79	(0.32, 1.63)	516	0.40
Oruci E	462	1	0.22	0.65	0.26	(0.00, 1.42)	439	0.24
Pappas T	660	4	0.61	0.70	0.66	(0.18, 1.68)	621	0.62
#Petrossian G	630	2	0.32	0.71	0.34	(0.04, 1.24)	586	0.21
Randall A	177	2	1.13	0.98	0.88	(0.10, 3.17)	169	0.72
Rehman A	391	8	2.05	1.07	1.45	(0.63, 2.87)	339	1.09
Schlofmitz R	1234	6	0.49	0.40	0.93	(0.34, 2.02)	1186	0.48
Venditto J	415	0	0.00	0.52	0.00	(0.00, 1.29)	371	0.00
All Others	186	3	1.61	0.92	1.33	(0.27, 3.90)	158	1.03
TOTAL	**9017**	**49**	**0.54**	**0.72**	**0.57 ****	**(0.42, 0.76)**	**8356**	**0.41**
St. Josephs Hospital Health Center								
#Amin N	121	1	0.83	0.65	0.97	(0.01, 5.39)	90	0.00
#Bhan R	448	3	0.67	0.48	1.06	(0.21, 3.10)	404	0.32
#Caputo R	797	3	0.38	0.62	0.46	(0.09, 1.35)	721	0.13
#Esente P	760	10	1.32	0.73	1.37	(0.65, 2.51)	688	0.46
#Ford T	125	0	0.00	1.01	0.00	(0.00, 2.23)	100	0.00
#Giambartolomei A	573	8	1.40	0.91	1.17	(0.50, 2.31)	509	0.91
#Lozner E	94	1	1.06	0.81	1.00	(0.01, 5.56)	66	0.00
#Picone M	131	1	0.76	1.08	0.54	(0.01, 2.99)	91	0.00
#Reger M	448	3	0.67	0.73	0.70	(0.14, 2.04)	405	0.30
#Simons A	643	1	0.16	0.43	0.28	(0.00, 1.54)	585	0.25
#Walford G	548	2	0.36	0.71	0.39	(0.04, 1.42)	489	0.00
All Others	5	0	0.00	0.14	0.00	(0.00,100.0)	5	0.00
TOTAL	**4693**	**33**	**0.70**	**0.68**	**0.79**	**(0.54, 1.10)**	**4153**	**0.31**
St. Lukes Roosevelt Hospital-St. Lukes Div.								
##Geizhals M	22	0	0.00	2.36	0.00	(0.00, 5.39)	21	0.00
Goldman A	148	0	0.00	0.75	0.00	(0.00, 2.52)	140	0.00
Leber R	203	2	0.99	0.44	1.69	(0.19, 6.10)	190	0.69
Palazzo A	146	1	0.68	0.83	0.63	(0.01, 3.49)	129	0.00
Simon C	260	1	0.38	0.65	0.45	(0.01, 2.52)	254	0.29
#Slater J	545	5	0.92	0.58	1.21	(0.39, 2.83)	517	0.48

Table 3 *continued*

	All Cases						Non-Emergency	
	Cases	Deaths	OMR	EMR	RAMR	95% CI for RAMR	Cases	RAMR
St. Lukes Roosevelt Hospital-St. Lukes Div. *continued*								
Tamis J	113	1	0.88	0.63	1.06	(0.01, 5.92)	104	1.21
##Wilentz J	62	0	0.00	0.24	0.00	(0.00,18.50)	59	0.00
All Others	60	0	0.00	0.37	0.00	(0.00,12.67)	57	0.00
TOTAL	**1559**	**10**	**0.64**	**0.62**	**0.79**	**(0.38, 1.45)**	**1471**	**0.36**
St. Peters Hospital								
#Card H	152	1	0.66	0.74	0.67	(0.01, 3.75)	145	0.63
#Delago A	11	0	0.00	1.18	0.00	(0.00,21.49)	2	0.00
Desantis J	227	1	0.44	0.50	0.67	(0.01, 3.73)	204	0.61
#Esper D	276	5	1.81	0.97	1.42	(0.46, 3.31)	238	0.61
#Herman B	163	0	0.00	0.39	0.00	(0.00, 4.46)	158	0.00
##Kufs W	8	0	0.00	0.32	0.00	(0.00,100.0)	7	0.00
#Marmulstein M	372	5	1.34	0.85	1.20	(0.39, 2.81)	291	0.82
#Martinelli M	795	7	0.88	0.73	0.92	(0.37, 1.91)	676	0.35
#Papandrea L	416	2	0.48	0.90	0.41	(0.05, 1.46)	353	0.00
#Roccario E	805	6	0.75	0.77	0.74	(0.27, 1.62)	657	0.49
All Others	17	0	0.00	0.99	0.00	(0.00,16.59)	16	0.00
TOTAL	**3242**	**27**	**0.83**	**0.76**	**0.83**	**(0.55, 1.21)**	**2747**	**0.42**
St. Vincents Hospital and Medical Center								
Acuna D	102	1	0.98	1.06	0.70	(0.01, 3.91)	80	0.00
Ambrose J	118	0	0.00	0.60	0.00	(0.00, 3.94)	108	0.00
Braff R	136	2	1.47	0.64	1.76	(0.20, 6.36)	118	0.86
#Chen T	21	0	0.00	0.18	0.00	(0.00,72.70)	21	0.00
Coppola J	593	8	1.35	1.07	0.96	(0.41, 1.89)	496	0.71
Dominguez A	369	2	0.54	0.88	0.47	(0.05, 1.70)	359	0.14
##Duvvuri S	492	1	0.20	0.79	0.20	(0.00, 1.09)	474	0.15
Elmquist T	127	0	0.00	1.34	0.00	(0.00, 1.65)	104	0.00
Farid A	215	3	1.40	0.68	1.56	(0.31, 4.56)	196	0.84
Giedd K	165	3	1.82	0.40	3.44	(0.69,10.04)	165	1.85
#Hasan C	29	0	0.00	0.26	0.00	(0.00,37.23)	29	0.00
#Homayuni A	250	1	0.40	0.38	0.81	(0.01, 4.52)	240	0.00
##Johnson M	1	0	0.00	0.06	0.00	(0.00,100.0)	1	0.00
Kantrowitz N	339	3	0.88	0.61	1.11	(0.22, 3.24)	319	0.00
Klapholz M	152	2	1.32	1.79	0.56	(0.06, 2.03)	102	0.00
##Kwan T	301	0	0.00	0.31	0.00	(0.00, 3.01)	294	0.00
#Malpeso J	234	1	0.43	0.40	0.82	(0.01, 4.57)	225	0.59
#McCord D	69	0	0.00	0.21	0.00	(0.00,19.55)	67	0.00
Rentrop K	146	0	0.00	0.43	0.00	(0.00, 4.48)	143	0.00
Seldon M	106	2	1.89	1.24	1.16	(0.13, 4.19)	71	0.00
#Snyder S	147	1	0.68	0.38	1.38	(0.02, 7.69)	144	0.78
#Warchol A	90	0	0.00	0.26	0.00	(0.00,11.99)	85	0.00

Table 3 *continued*

	All Cases						Non-Emergency	
	Cases	Deaths	OMR	EMR	RAMR	95% CI for RAMR	Cases	RAMR
St. Vincents Hospital and Medical Center *continued*								
##Wilentz J	110	2	1.82	0.39	3.60	(0.40,13.00)	106	1.05
All Others	84	0	0.00	0.42	0.00	(0.00, 7.89)	81	0.00
TOTAL	**4396**	**32**	**0.73**	**0.71**	**0.78**	**(0.53, 1.10)**	**4028**	**0.34**
State University Hospital Upstate Medical Center								
#Battaglia J	24	0	0.00	0.97	0.00	(0.00,11.97)	22	0.00
#Berkery W	21	1	4.76	0.83	4.36	(0.06,24.24)	18	0.00
Phadke K	441	9	2.04	1.41	1.10	(0.50, 2.09)	383	0.59
All Others	4	0	0.00	0.11	0.00	(0.00,100.0)	4	0.00
TOTAL	**490**	**10**	**2.04**	**1.36**	**1.15**	**(0.55, 2.11)**	**427**	**0.53**
Staten Island University Hospital								
##Duvvuri S	107	0	0.00	0.37	0.00	(0.00, 7.11)	96	0.00
#Homayuni A	85	0	0.00	0.32	0.00	(0.00,10.31)	76	0.00
#Malpeso J	89	0	0.00	0.42	0.00	(0.00, 7.44)	80	0.00
#McCord D	60	0	0.00	0.60	0.00	(0.00, 7.72)	52	0.00
##Rouvelas P	39	0	0.00	0.41	0.00	(0.00,17.31)	38	0.00
#Snyder S	49	0	0.00	0.34	0.00	(0.00,16.98)	47	0.00
#Warchol A	44	0	0.00	0.51	0.00	(0.00,12.53)	38	0.00
All Others	46	0	0.00	0.40	0.00	(0.00,15.31)	40	0.00
TOTAL	**519**	**0**	**0.00**	**0.41**	**0.00**	**(0.00, 1.31)**	**467**	**0.00**
Strong Memorial Hospital								
Cove C	894	19	2.13	1.13	1.43 *	(0.86, 2.23)	746	1.17 *
Cutlip D	600	9	1.50	1.66	0.69	(0.32, 1.31)	489	0.57
Ling F	826	13	1.57	1.55	0.77	(0.41, 1.32)	666	0.25
#Ong L S	51	1	1.96	0.64	2.34	(0.03,13.03)	50	1.42
Pomerantz R	408	9	2.21	1.55	1.09	(0.50, 2.07)	306	0.31
All Others	191	4	2.09	1.13	1.41	(0.38, 3.61)	157	0.00
TOTAL	**2970**	**55**	**1.85**	**1.40**	**1.01**	**(0.76, 1.31)**	**2414**	**0.61**
United Health Services - Wilson Division								
Jamal N	630	5	0.79	1.43	0.42	(0.14, 0.99)	539	0.14
Kashou H	557	5	0.90	1.23	0.56	(0.18, 1.30)	483	0.34
Phillips W	523	3	0.57	0.99	0.44	(0.09, 1.30)	472	0.00
Rehman A	310	5	1.61	1.43	0.86	(0.28, 2.01)	263	0.62
Stamato N	220	3	1.36	1.95	0.53	(0.11, 1.56)	169	0.62
Traverse P	511	5	0.98	1.21	0.62	(0.20, 1.45)	441	0.21
TOTAL	**2751**	**26**	**0.95**	**1.30**	**0.55**	**(0.36, 0.81)**	**2367**	**0.24**
University Hospital at Stony Brook								
Chernilas J	277	4	1.44	0.74	1.49	(0.40, 3.82)	232	1.28
Dervan J	462	4	0.87	0.58	1.14	(0.31, 2.92)	434	0.62
#Grella R	518	5	0.97	0.65	1.13	(0.36, 2.64)	475	0.42
##Jauhar R	233	1	0.43	0.36	0.90	(0.01, 4.99)	210	0.00

Table 3 *continued*

	All Cases						Non-Emergency	
	Cases	Deaths	OMR	EMR	RAMR	95% CI for RAMR	Cases	RAMR
University Hospital at Stony Brook *continued*								
Korlipara G	343	0	0.00	0.36	0.00	(0.00, 2.25)	332	0.00
Lawson W	539	5	0.93	0.85	0.83	(0.27, 1.95)	463	0.46
##Lederman S	89	0	0.00	0.49	0.00	(0.00, 6.44)	81	0.00
Novotny H	527	4	0.76	0.58	1.00	(0.27, 2.55)	446	0.22
Rosenband M	640	7	1.09	0.73	1.14	(0.46, 2.35)	551	0.31
All Others	22	0	0.00	0.73	0.00	(0.00,17.42)	20	0.00
TOTAL	**3650**	**30**	**0.82**	**0.63**	**0.99**	**(0.67, 1.41)**	**3244**	**0.40**
University Hospital of Brooklyn								
Afflu E	123	2	1.63	0.25	4.90	(0.55,17.68)	121	1.69
Alam M	232	2	0.86	0.52	1.26	(0.14, 4.56)	213	1.49
Badero O	98	1	1.02	0.63	1.23	(0.02, 6.84)	96	0.00
##Chadi R	83	1	1.20	0.19	4.82	(0.06,26.79)	83	2.52
Chadow H	303	6	1.98	0.32	4.78 *	(1.74,10.40)	290	2.86 *
#Dukkipati M	12	0	0.00	0.13	0.00	(0.00,100.0)	12	0.00
Feit A	278	0	0.00	0.31	0.00	(0.00, 3.27)	262	0.00
#Hasan C	72	0	0.00	0.17	0.00	(0.00,23.51)	71	0.00
##Kwan T	6	0	0.00	0.15	0.00	(0.00,100.0)	5	0.00
All Others	34	0	0.00	0.26	0.00	(0.00,32.21)	34	0.00
TOTAL	**1241**	**12**	**0.97**	**0.35**	**2.11 ***	**(1.09, 3.68)**	**1187**	**1.30 ***
Vassar Brothers Hospital								
#Dukkipati M	34	0	0.00	0.24	0.00	(0.00,34.52)	34	0.00
#Jafar M	631	6	0.95	0.99	0.73	(0.27, 1.59)	439	0.49
#Kantaros L	334	2	0.60	0.85	0.54	(0.06, 1.94)	262	0.50
All Others	76	0	0.00	1.72	0.00	(0.00, 2.13)	43	0.00
TOTAL	**1075**	**8**	**0.74**	**0.98**	**0.58**	**(0.25, 1.14)**	**778**	**0.45**
Weill Cornell - NY Presbyterian Hospital								
Bergman G	769	11	1.43	0.83	1.32	(0.66, 2.36)	694	0.65
#Charney R	252	1	0.40	0.38	0.79	(0.01, 4.42)	241	0.00
##Deutsch E	228	2	0.88	1.27	0.53	(0.06, 1.90)	206	0.27
Hong M	513	3	0.58	1.28	0.35	(0.07, 1.02)	441	0.19
##Kwan T	54	0	0.00	0.27	0.00	(0.00,19.01)	53	0.00
#Messinger D	179	0	0.00	0.71	0.00	(0.00, 2.22)	163	0.00
Parikh M	1235	8	0.65	0.67	0.73	(0.32, 1.44)	1159	0.43
Reddy C	388	1	0.26	0.32	0.62	(0.01, 3.43)	384	0.00
Sanborn T	235	2	0.85	0.46	1.42	(0.16, 5.14)	215	0.59
##Shaknovich A	1	0	0.00	0.11	0.00	(0.00,100.0)	1	0.00
##Wasserman H	1	0	0.00	0.04	0.00	(0.00,100.0)	1	0.00
#Wong S	527	2	0.38	0.53	0.54	(0.06, 1.96)	481	0.30
All Others	141	2	1.42	0.65	1.66	(0.19, 5.98)	126	1.54
TOTAL	**4523**	**32**	**0.71**	**0.72**	**0.75**	**(0.51, 1.06)**	**4165**	**0.39**

Table 3 *continued*

	All Cases						Non-Emergency	
	Cases	Deaths	OMR	EMR	RAMR	95% CI for RAMR	Cases	RAMR
Westchester Medical Center								
#Charney R	53	0	0.00	0.35	0.00	(0.00,15.12)	52	0.00
Cohen M	792	7	0.88	0.86	0.79	(0.32, 1.62)	695	0.58
Hjemdahl-Monsen C	1289	13	1.01	0.93	0.83	(0.44, 1.42)	1135	0.36
Kalapatapu K	825	13	1.58	0.85	1.41	(0.75, 2.42)	698	0.62
#Messinger D	29	0	0.00	0.43	0.00	(0.00,22.64)	29	0.00
Pucillo A	778	4	0.51	0.67	0.59	(0.16, 1.50)	698	0.20
Weiss M	514	2	0.39	0.85	0.35	(0.04, 1.25)	451	0.27
TOTAL	**4280**	**39**	**0.91**	**0.83**	**0.83**	**(0.59, 1.14)**	**3758**	**0.42**
Winthrop - University Hospital								
Angelopoulos P	46	1	2.17	1.04	1.59	(0.02, 8.84)	37	0.00
#Chen T	1	0	0.00	0.04	0.00	(0.00,100.0)	1	0.00
##David M	99	0	0.00	0.48	0.00	(0.00, 5.92)	99	0.00
##Deutsch E	55	1	1.82	0.45	3.09	(0.04,17.19)	54	1.60
##Gambino A	492	1	0.20	0.58	0.27	(0.00, 1.48)	438	0.00
#Grella R	16	0	0.00	0.29	0.00	(0.00,60.24)	16	0.00
Guidera S	666	5	0.75	1.20	0.48	(0.15, 1.11)	584	0.20
##Jauhar R	6	0	0.00	0.41	0.00	(0.00,100.0)	6	0.00
##Lederman S	96	1	1.04	0.66	1.21	(0.02, 6.75)	90	0.81
Marzo K	899	3	0.33	0.45	0.56	(0.11, 1.64)	815	0.00
##Padmanabhan V	212	2	0.94	0.49	1.47	(0.17, 5.31)	188	0.56
#Park J	106	0	0.00	0.45	0.00	(0.00, 5.91)	102	0.00
##Reich D	29	0	0.00	0.27	0.00	(0.00,35.92)	29	0.00
Robin G	20	1	5.00	1.60	2.38	(0.03,13.26)	11	0.00
##Rubino R	44	0	0.00	0.31	0.00	(0.00,20.45)	43	0.00
#Sassower M	358	1	0.28	0.89	0.24	(0.00, 1.33)	316	0.00
##Schwartz R	680	1	0.15	0.66	0.17	(0.00, 0.94)	617	0.13
#Witkes D	226	0	0.00	0.35	0.00	(0.00, 3.52)	214	0.00
All Others	19	0	0.00	0.49	0.00	(0.00,30.20)	13	0.00
TOTAL	**4070**	**17**	**0.42**	**0.68**	**0.47 ****	**(0.27, 0.76)**	**3673**	**0.15 ****
Statewide Total	**117878**	**899**	**0.76**				**106262**	**0.39**

* 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, 1999-2001.

	All Cases						Non-Emergency	
	Cases	Deaths	OMR	EMR	RAMR	95% CI for RAMR	Cases	RAMR
Amin N	**266**	**2**	**0.75**	**0.68**	**0.84**	**(0.09, 3.03)**	**220**	**0.00**
Crouse	145	1	0.69	0.71	0.74	(0.01, 4.13)	130	0.00
St. Josephs	121	1	0.83	0.65	0.97	(0.01, 5.39)	90	0.00
Attubato M	**627**	**5**	**0.80**	**0.92**	**0.66**	**(0.21, 1.55)**	**569**	**0.46**
Bellevue	105	1	0.95	0.39	1.85	(0.02,10.30)	93	1.76
NYU Medical Center	522	4	0.77	1.02	0.57	(0.15, 1.46)	476	0.33
Battaglia J	**795**	**4**	**0.50**	**0.44**	**0.86**	**(0.23, 2.21)**	**701**	**0.00**
Crouse	771	4	0.52	0.43	0.92	(0.25, 2.36)	679	0.00
Upstate Medical Center	24	0	0.00	0.97	0.00	(0.00,11.97)	22	0.00
Berke A	**474**	**2**	**0.42**	**1.34**	**0.24**	**(0.03, 0.87)**	**421**	**0.18**
South Nassau Comm. Hosp.	3	0	0.00	1.73	0.00	(0.00,53.98)	.	.
St. Francis	471	2	0.42	1.34	0.24	(0.03, 0.87)	421	0.18
Berkery W	**332**	**2**	**0.60**	**1.50**	**0.31**	**(0.03, 1.11)**	**253**	**0.00**
Crouse	311	1	0.32	1.54	0.16	(0.00, 0.89)	235	0.00
Upstate Medical Center	21	1	4.76	0.83	4.36	(0.06,24.24)	18	0.00
Bhan R	**464**	**4**	**0.86**	**0.48**	**1.37**	**(0.37, 3.50)**	**417**	**0.63**
Crouse	16	1	6.25	0.49	9.64	(0.13,53.65)	13	22.21
St. Josephs	448	3	0.67	0.48	1.06	(0.21, 3.10)	404	0.32
Calandra S	**479**	**4**	**0.84**	**0.52**	**1.23**	**(0.33, 3.16)**	**464**	**0.66**
Erie County	8	0	0.00	0.17	0.00	(0.00,100.0)	8	0.00
Millard Fillmore	471	4	0.85	0.52	1.24	(0.33, 3.18)	456	0.67
Caputo R	**1025**	**5**	**0.49**	**0.64**	**0.58**	**(0.19, 1.36)**	**937**	**0.10**
Crouse	228	2	0.88	0.69	0.96	(0.11, 3.48)	216	0.00
St. Josephs	797	3	0.38	0.62	0.46	(0.09, 1.35)	721	0.13
Card H	**250**	**2**	**0.80**	**0.78**	**0.78**	**(0.09, 2.82)**	**235**	**0.40**
Ellis Hospital	98	1	1.02	0.84	0.93	(0.01, 5.18)	90	0.00
St. Peters	152	1	0.66	0.74	0.67	(0.01, 3.75)	145	0.63
Chadi R	**91**	**1**	**1.10**	**0.20**	**4.25**	**(0.06,23.66)**	**91**	**2.23**
Beth Israel	7	0	0.00	0.28	0.00	(0.00,100.0)	7	0.00
New York Hospital - Queens	1	0	0.00	0.11	0.00	(0.00,100.0)	1	0.00
University Hospital, Brooklyn	83	1	1.20	0.19	4.82	(0.06,26.79)	83	2.52
Charney R	**305**	**1**	**0.33**	**0.38**	**0.67**	**(0.01, 3.71)**	**293**	**0.00**
Weill Cornell	252	1	0.40	0.38	0.79	(0.01, 4.42)	241	0.00
Westchester Medical Center	53	0	0.00	0.35	0.00	(0.00,15.12)	52	0.00
Chen T	**22**	**0**	**0.00**	**0.18**	**0.00**	**(0.00,71.97)**	**22**	**0.00**
St. Vincents	21	0	0.00	0.18	0.00	(0.00,72.70)	21	0.00
Winthrop - University Hospital	1	0	0.00	0.04	0.00	(0.00,100.0)	1	0.00
Chinitz L	**19**	**0**	**0.00**	**1.00**	**0.00**	**(0.00,14.74)**	**15**	**0.00**
Bellevue	2	0	0.00	1.84	0.00	(0.00,75.89)	.	.

Table 4 *continued*

	All Cases						Non-Emergency	
	Cases	Deaths	OMR	EMR	RAMR	95% CI for RAMR	Cases	RAMR
NYU Medical Center	17	0	0.00	0.90	0.00	(0.00,18.29)	15	0.00
Corbelli J	**733**	**5**	**0.68**	**0.64**	**0.81**	**(0.26, 1.89)**	**689**	**0.15**
Erie County	57	0	0.00	0.24	0.00	(0.00,20.08)	57	0.00
Millard Fillmore	676	5	0.74	0.68	0.84	(0.27, 1.95)	632	0.16
Dashkoff N	**440**	**0**	**0.00**	**0.53**	**0.00**	**(0.00, 1.20)**	**430**	**0.00**
Erie County	434	0	0.00	0.53	0.00	(0.00, 1.21)	424	0.00
Millard Fillmore	6	0	0.00	0.29	0.00	(0.00,100.0)	6	0.00
David M	**143**	**2**	**1.40**	**0.53**	**2.00**	**(0.22, 7.22)**	**138**	**1.19**
South Nassau Comm. Hosp.	4	0	0.00	1.90	0.00	(0.00,36.73)	.	.
St. Francis	40	2	5.00	0.53	7.14 *	(0.80,25.76)	39	4.03 *
Winthrop - University Hospital	99	0	0.00	0.48	0.00	(0.00, 5.92)	99	0.00
Delago A	**1832**	**33**	**1.80**	**0.75**	**1.84 ***	**(1.27, 2.58)**	**1632**	**1.34 ***
Albany Med Center	1821	33	1.81	0.74	1.86 *	(1.28, 2.61)	1630	1.34 *
St. Peters	11	0	0.00	1.18	0.00	(0.00,21.49)	2	0.00
Deutsch E	**869**	**3**	**0.35**	**0.70**	**0.38**	**(0.08, 1.10)**	**801**	**0.23**
Good Samaritan	16	0	0.00	2.82	0.00	(0.00, 6.20)	.	.
North Shore	561	0	0.00	0.39	0.00	(0.00, 1.29)	541	0.00
Southside	9	0	0.00	3.36	0.00	(0.00, 9.26)	.	.
Weill Cornell	228	2	0.88	1.27	0.53	(0.06, 1.90)	206	0.27
Winthrop - University Hospital	55	1	1.82	0.45	3.09	(0.04,17.19)	54	1.60
Dukkipati M	**46**	**0**	**0.00**	**0.21**	**0.00**	**(0.00,28.86)**	**46**	**0.00**
Univ Hosp, Brooklyn	12	0	0.00	0.13	0.00	(0.00,100.0)	12	0.00
Vassar Brothers Hospital	34	0	0.00	0.24	0.00	(0.00,34.52)	34	0.00
Duvvuri S	**720**	**2**	**0.28**	**0.67**	**0.32**	**(0.04, 1.14)**	**687**	**0.12**
Beth Israel	121	1	0.83	0.46	1.38	(0.02, 7.69)	117	0.00
St. Vincents	492	1	0.20	0.79	0.20	(0.00, 1.09)	474	0.15
Staten Island	107	0	0.00	0.37	0.00	(0.00, 7.11)	96	0.00
Emerson R	**159**	**2**	**1.26**	**0.37**	**2.60**	**(0.29, 9.37)**	**144**	**1.20**
Buffalo General Hospital	26	0	0.00	0.34	0.00	(0.00,31.27)	26	0.00
Erie County	2	0	0.00	0.20	0.00	(0.00,100.0)	2	0.00
Millard Fillmore	131	2	1.53	0.38	3.09	(0.35,11.14)	116	1.60
Esente P	**978**	**11**	**1.12**	**0.67**	**1.29**	**(0.64, 2.30)**	**901**	**0.47**
Crouse	218	1	0.46	0.43	0.81	(0.01, 4.53)	213	0.50
St. Josephs	760	10	1.32	0.73	1.37	(0.65, 2.51)	688	0.46
Esper D	**727**	**14**	**1.93**	**1.29**	**1.14**	**(0.62, 1.91)**	**589**	**0.69**
Albany Med Center	451	9	2.00	1.48	1.03	(0.47, 1.95)	351	0.76
St. Peters	276	5	1.81	0.97	1.42	(0.46, 3.31)	238	0.61
Farhi E	**679**	**3**	**0.44**	**0.57**	**0.59**	**(0.12, 1.74)**	**650**	**0.14**
Buffalo General Hospital	654	3	0.46	0.58	0.61	(0.12, 1.77)	625	0.14

Table 4 *continued*

	All Cases						Non-Emergency	
	Cases	Deaths	OMR	EMR	RAMR	95% CI for RAMR	Cases	RAMR
Erie County	25	0	0.00	0.27	0.00	(0.00,41.05)	25	0.00
Feit F	**629**	**3**	**0.48**	**0.63**	**0.58**	**(0.12, 1.70)**	**572**	**0.43**
Bellevue	124	1	0.81	0.26	2.34	(0.03,13.01)	119	1.45
NYU Medical Center	505	2	0.40	0.71	0.42	(0.05, 1.53)	453	0.26
Ford T	**266**	**2**	**0.75**	**0.72**	**0.80**	**(0.09, 2.89)**	**224**	**0.00**
Crouse	141	2	1.42	0.46	2.34	(0.26, 8.45)	124	0.00
St. Josephs	125	0	0.00	1.01	0.00	(0.00, 2.23)	100	0.00
Friedman G	**710**	**8**	**1.13**	**0.79**	**1.09**	**(0.47, 2.16)**	**591**	**0.66**
Long Island Jewish	303	3	0.99	0.98	0.77	(0.16, 2.26)	249	0.58
New York Hospital - Queens	12	1	8.33	1.18	5.39	(0.07,29.98)	10	5.50
North Shore	395	4	1.01	0.63	1.24	(0.33, 3.16)	332	0.41
Gambino A	**629**	**3**	**0.48**	**0.56**	**0.65**	**(0.13, 1.88)**	**557**	**0.46**
Good Samaritan	2	0	0.00	1.32	0.00	(0.00,100.0)	.	.
North Shore	134	2	1.49	0.49	2.33	(0.26, 8.40)	119	2.62
Southside	1	0	0.00	0.45	0.00	(0.00,100.0)	.	.
Winthrop - University Hospital	492	1	0.20	0.58	0.27	(0.00, 1.48)	438	0.00
Geizhals M	**445**	**6**	**1.35**	**0.60**	**1.71**	**(0.62, 3.71)**	**432**	**0.95**
Lenox Hill	76	2	2.63	0.98	2.05	(0.23, 7.41)	75	0.96
New York Hospital - Queens	347	4	1.15	0.41	2.15	(0.58, 5.50)	336	1.04
St. Lukes	22	0	0.00	2.36	0.00	(0.00, 5.39)	21	0.00
Giambartolomei A	**707**	**10**	**1.41**	**1.01**	**1.07**	**(0.51, 1.97)**	**625**	**0.94**
Crouse	134	2	1.49	1.43	0.79	(0.09, 2.87)	116	1.08
St. Josephs	573	8	1.40	0.91	1.17	(0.50, 2.31)	509	0.91
Green S	**1206**	**8**	**0.66**	**0.96**	**0.53**	**(0.23, 1.04)**	**984**	**0.43**
Long Island Jewish	21	0	0.00	3.34	0.00	(0.00, 3.98)	4	0.00
North Shore	1185	8	0.68	0.92	0.56	(0.24, 1.11)	980	0.43
Grella R	**534**	**5**	**0.94**	**0.64**	**1.12**	**(0.36, 2.60)**	**491**	**0.41**
Univ Hosp, Stony Brook	518	5	0.97	0.65	1.13	(0.36, 2.64)	475	0.42
Winthrop - University Hospital	16	0	0.00	0.29	0.00	(0.00,60.24)	16	0.00
Grose R	**301**	**0**	**0.00**	**0.59**	**0.00**	**(0.00, 1.58)**	**279**	**0.00**
Columbia Presbyterian	143	0	0.00	0.50	0.00	(0.00, 3.89)	133	0.00
Montefiore - Moses Division	158	0	0.00	0.67	0.00	(0.00, 2.65)	146	0.00
Grunwald A	**676**	**11**	**1.63**	**1.17**	**1.06**	**(0.53, 1.89)**	**565**	**0.37**
Long Island Jewish	601	10	1.66	1.24	1.02	(0.49, 1.88)	499	0.41
New York Hospital - Queens	58	1	1.72	0.63	2.10	(0.03,11.68)	53	0.00
North Shore	17	0	0.00	0.68	0.00	(0.00,24.15)	13	0.00
Hamby R	**301**	**0**	**0.00**	**0.29**	**0.00**	**(0.00, 3.15)**	**299**	**0.00**
South Nassau Comm. Hosp.	1	0	0.00	0.95	0.00	(0.00,100.0)	.	.

Table 4 *continued*

	All Cases						Non-Emergency	
	Cases	Deaths	OMR	EMR	RAMR	95% CI for RAMR	Cases	RAMR
St. Francis	300	0	0.00	0.29	0.00	(0.00, 3.19)	299	0.00
Hasan C	**101**	**0**	**0.00**	**0.19**	**0.00**	**(0.00,14.41)**	**100**	**0.00**
St. Vincents	29	0	0.00	0.26	0.00	(0.00,37.23)	29	0.00
Univ Hosp, Brooklyn	72	0	0.00	0.17	0.00	(0.00,23.51)	71	0.00
Herman B	**164**	**0**	**0.00**	**0.38**	**0.00**	**(0.00, 4.45)**	**159**	**0.00**
Albany Med Center	1	0	0.00	0.11	0.00	(0.00,100.0)	1	0.00
St. Peters	163	0	0.00	0.39	0.00	(0.00, 4.46)	158	0.00
Homayuni A	**335**	**1**	**0.30**	**0.36**	**0.63**	**(0.01, 3.50)**	**316**	**0.00**
St. Vincents	250	1	0.40	0.38	0.81	(0.01, 4.52)	240	0.00
Staten Island	85	0	0.00	0.32	0.00	(0.00,10.31)	76	0.00
Jafar M	**644**	**6**	**0.93**	**0.98**	**0.73**	**(0.27, 1.58)**	**452**	**0.49**
Albany Med Center	13	0	0.00	0.23	0.00	(0.00,95.61)	13	0.00
Vassar Brothers Hospital	631	6	0.95	0.99	0.73	(0.27, 1.59)	439	0.49
Jauhar R	**412**	**3**	**0.73**	**0.58**	**0.95**	**(0.19, 2.79)**	**352**	**0.00**
Long Island Jewish	158	1	0.63	0.81	0.59	(0.01, 3.30)	133	0.00
North Shore	15	1	6.67	1.59	3.19	(0.04,17.76)	3	0.00
Univ Hosp, Stony Brook	233	1	0.43	0.36	0.90	(0.01, 4.99)	210	0.00
Winthrop - University Hospital	6	0	0.00	0.41	0.00	(0.00,100.0)	6	0.00
Johnson M	**318**	**2**	**0.63**	**0.51**	**0.95**	**(0.11, 3.42)**	**312**	**0.37**
Columbia Presbyterian	48	0	0.00	0.45	0.00	(0.00,12.89)	48	0.00
Montefiore - Moses Division	269	2	0.74	0.52	1.09	(0.12, 3.95)	263	0.46
St. Vincents	1	0	0.00	0.06	0.00	(0.00,100.0)	1	0.00
Kantaros L	**353**	**2**	**0.57**	**0.81**	**0.53**	**(0.06, 1.92)**	**281**	**0.48**
Albany Med Center	19	0	0.00	0.16	0.00	(0.00,93.48)	19	0.00
Vassar Brothers Hospital	334	2	0.60	0.85	0.54	(0.06, 1.94)	262	0.50
Kaplan B	**1507**	**6**	**0.40**	**1.10**	**0.28 ****	**(0.10, 0.60)**	**1240**	**0.17**
Long Island Jewish	1178	5	0.42	1.14	0.28 **	(0.09, 0.66)	994	0.20
North Shore	329	1	0.30	0.93	0.25	(0.00, 1.39)	246	0.00
Katz S	**1120**	**7**	**0.63**	**0.75**	**0.63**	**(0.25, 1.31)**	**946**	**0.46**
Long Island Jewish	39	1	2.56	1.58	1.24	(0.02, 6.88)	15	0.00
North Shore	1081	6	0.56	0.72	0.59	(0.21, 1.28)	931	0.47
Keller N	**191**	**5**	**2.62**	**2.20**	**0.91**	**(0.29, 2.12)**	**130**	**0.53**
Bellevue	38	2	5.26	2.19	1.83	(0.21, 6.61)	27	0.00
NYU Medical Center	153	3	1.96	2.20	0.68	(0.14, 1.99)	103	0.65
Koss J	**711**	**4**	**0.56**	**0.91**	**0.47**	**(0.13, 1.21)**	**608**	**0.32**
Long Island Jewish	676	4	0.59	0.93	0.49	(0.13, 1.24)	579	0.33
New York Hospital - Queens	14	0	0.00	0.51	0.00	(0.00,39.07)	11	0.00

Table 4 *continued*

	All Cases						Non-Emergency	
	Cases	Deaths	OMR	EMR	RAMR	95% CI for RAMR	Cases	RAMR
North Shore	21	0	0.00	0.58	0.00	(0.00,22.86)	18	0.00
Kufs W	**262**	**0**	**0.00**	**0.81**	**0.00**	**(0.00, 1.32)**	**234**	**0.00**
Albany Med Center	37	0	0.00	0.39	0.00	(0.00,19.61)	33	0.00
Ellis Hospital	217	0	0.00	0.90	0.00	(0.00, 1.43)	194	0.00
St. Peters	8	0	0.00	0.32	0.00	(0.00,100.0)	7	0.00
Kwan T	**361**	**0**	**0.00**	**0.30**	**0.00**	**(0.00, 2.57)**	**352**	**0.00**
St. Vincents	301	0	0.00	0.31	0.00	(0.00, 3.01)	294	0.00
Univ Hosp, Brooklyn	6	0	0.00	0.15	0.00	(0.00,100.0)	5	0.00
Weill Cornell	54	0	0.00	0.27	0.00	(0.00,19.01)	53	0.00
Lederman S	**234**	**1**	**0.43**	**0.54**	**0.60**	**(0.01, 3.36)**	**219**	**0.45**
North Shore	49	0	0.00	0.41	0.00	(0.00,14.06)	48	0.00
Univ Hosp, Stony Brook	89	0	0.00	0.49	0.00	(0.00, 6.44)	81	0.00
Winthrop - University Hospital	96	1	1.04	0.66	1.21	(0.02, 6.75)	90	0.81
Levite H	**465**	**3**	**0.65**	**0.95**	**0.52**	**(0.10, 1.51)**	**388**	**0.19**
Bellevue	79	1	1.27	0.95	1.01	(0.01, 5.65)	63	0.00
NYU Medical Center	386	2	0.52	0.95	0.41	(0.05, 1.49)	325	0.21
Lituchy A	**644**	**2**	**0.31**	**0.82**	**0.29**	**(0.03, 1.04)**	**564**	**0.16**
South Nassau Comm. Hosp.	25	1	4.00	2.50	1.22	(0.02, 6.80)	.	.
St. Francis	619	1	0.16	0.75	0.16	(0.00, 0.91)	564	0.16
Lozner E	**241**	**2**	**0.83**	**1.11**	**0.57**	**(0.06, 2.06)**	**191**	**0.00**
Crouse	147	1	0.68	1.30	0.40	(0.01, 2.21)	125	0.00
St. Josephs	94	1	1.06	0.81	1.00	(0.01, 5.56)	66	0.00
Malpeso J	**323**	**1**	**0.31**	**0.40**	**0.58**	**(0.01, 3.25)**	**305**	**0.46**
St. Vincents	234	1	0.43	0.40	0.82	(0.01, 4.57)	225	0.59
Staten Island	89	0	0.00	0.42	0.00	(0.00, 7.44)	80	0.00
Marchant D	**823**	**4**	**0.49**	**0.86**	**0.43**	**(0.12, 1.10)**	**637**	**0.28**
Long Island Jewish	16	0	0.00	3.83	0.00	(0.00, 4.56)	3	0.00
North Shore	807	4	0.50	0.80	0.47	(0.13, 1.20)	634	0.29
Marmulst M	**387**	**5**	**1.29**	**0.84**	**1.18**	**(0.38, 2.75)**	**304**	**0.79**
Albany Med Center	15	0	0.00	0.48	0.00	(0.00,38.55)	13	0.00
St. Peters	372	5	1.34	0.85	1.20	(0.39, 2.81)	291	0.82
Martinelli M	**804**	**7**	**0.87**	**0.72**	**0.92**	**(0.37, 1.90)**	**684**	**0.34**
Albany Med Center	9	0	0.00	0.23	0.00	(0.00,100.0)	8	0.00
St. Peters	795	7	0.88	0.73	0.92	(0.37, 1.91)	676	0.35
Masud Z	**720**	**2**	**0.28**	**0.53**	**0.40**	**(0.05, 1.45)**	**682**	**0.31**
Buffalo General Hospital	21	0	0.00	0.68	0.00	(0.00,19.60)	21	0.00
Millard Fillmore	699	2	0.29	0.52	0.42	(0.05, 1.51)	661	0.33
Mathew T C	**675**	**9**	**1.33**	**0.65**	**1.56**	**(0.71, 2.95)**	**639**	**1.22 ***
Rochester General Hospital	92	0	0.00	1.39	0.00	(0.00, 2.18)	79	0.00

Table 4 *continued*

	All Cases						Non-Emergency	
	Cases	Deaths	OMR	EMR	RAMR	95% CI for RAMR	Cases	RAMR
St. Elizabeth Hopital	583	9	1.54	0.54	2.19 *	(1.00, 4.17)	560	1.43 *
McCord D	**129**	**0**	**0.00**	**0.39**	**0.00**	**(0.00, 5.53)**	**119**	**0.00**
St. Vincents	69	0	0.00	0.21	0.00	(0.00,19.55)	67	0.00
Staten Island	60	0	0.00	0.60	0.00	(0.00, 7.72)	52	0.00
Messinger D	**208**	**0**	**0.00**	**0.67**	**0.00**	**(0.00, 2.02)**	**192**	**0.00**
Weill Cornell	179	0	0.00	0.71	0.00	(0.00, 2.22)	163	0.00
Westchester Medical Center	29	0	0.00	0.43	0.00	(0.00,22.64)	29	0.00
Minadeo J	**611**	**7**	**1.15**	**1.13**	**0.77**	**(0.31, 1.60)**	**516**	**0.40**
South Nassau Comm. Hosp.	11	0	0.00	1.12	0.00	(0.00,22.68)	.	.
St. Francis	600	7	1.17	1.13	0.79	(0.32, 1.63)	516	0.40
Morris W	**1148**	**10**	**0.87**	**0.71**	**0.94**	**(0.45, 1.72)**	**1102**	**0.32**
Buffalo General Hospital	388	2	0.52	0.42	0.94	(0.11, 3.39)	382	0.54
Millard Fillmore	760	8	1.05	0.86	0.94	(0.40, 1.85)	720	0.18
Ong L S	**2637**	**18**	**0.68**	**0.79**	**0.66**	**(0.39, 1.04)**	**2424**	**0.33**
Rochester General Hospital	2586	17	0.66	0.79	0.63	(0.37, 1.01)	2374	0.31
Strong Memorial Hospital	51	1	1.96	0.64	2.34	(0.03,13.03)	50	1.42
Ong L Y	**1317**	**2**	**0.15**	**0.73**	**0.16 ****	**(0.02, 0.57)**	**1159**	**0.09**
Long Island Jewish	11	0	0.00	0.90	0.00	(0.00,28.21)	6	0.00
North Shore	1306	2	0.15	0.73	0.16 **	(0.02, 0.58)	1153	0.09
Padmanabhan V	**400**	**3**	**0.75**	**0.51**	**1.11**	**(0.22, 3.25)**	**335**	**0.36**
Long Island Jewish	15	0	0.00	0.34	0.00	(0.00,55.17)	11	0.00
North Shore	173	1	0.58	0.56	0.79	(0.01, 4.38)	136	0.00
Winthrop - University Hospital	212	2	0.94	0.49	1.47	(0.17, 5.31)	188	0.56
Papandrea L	**517**	**4**	**0.77**	**1.02**	**0.58**	**(0.16, 1.48)**	**417**	**0.22**
Albany Med Center	101	2	1.98	1.50	1.01	(0.11, 3.65)	64	1.47
St. Peters	416	2	0.48	0.90	0.41	(0.05, 1.46)	353	0.00
Park J	**240**	**0**	**0.00**	**0.59**	**0.00**	**(0.00, 1.97)**	**226**	**0.00**
North Shore	134	0	0.00	0.71	0.00	(0.00, 2.95)	124	0.00
Winthrop - University Hospital	106	0	0.00	0.45	0.00	(0.00, 5.91)	102	0.00
Perry-Bottinger L	**342**	**3**	**0.88**	**0.39**	**1.74**	**(0.35, 5.08)**	**314**	**1.48**
Montefiore - Einstein Division	18	0	0.00	0.18	0.00	(0.00,85.70)	18	0.00
Montefiore - Moses Division	68	2	2.94	0.33	6.85 *	(0.77,24.75)	65	4.80 *
New York Hospital - Queens	256	1	0.39	0.41	0.72	(0.01, 4.00)	231	0.66
Petrossian G	**637**	**3**	**0.47**	**0.74**	**0.48**	**(0.10, 1.41)**	**586**	**0.21**
South Nassau Comm. Hosp.	7	1	14.29	3.99	2.73	(0.04,15.20)	.	.
St. Francis	630	2	0.32	0.71	0.34	(0.04, 1.24)	586	0.21
Picone M	**304**	**1**	**0.33**	**0.94**	**0.27**	**(0.00, 1.49)**	**245**	**0.00**
Crouse	173	0	0.00	0.83	0.00	(0.00, 1.96)	154	0.00

Table 4 *continued*

	All Cases						Non-Emergency	
	Cases	Deaths	OMR	EMR	RAMR	95% CI for RAMR	Cases	RAMR
St. Josephs	131	1	0.76	1.08	0.54	(0.01, 2.99)	91	0.00
Reger M	**548**	**3**	**0.55**	**0.70**	**0.59**	**(0.12, 1.74)**	**496**	**0.24**
Crouse	100	0	0.00	0.57	0.00	(0.00, 4.89)	91	0.00
St. Josephs	448	3	0.67	0.73	0.70	(0.14, 2.04)	405	0.30
Reich D	**874**	**14**	**1.60**	**0.85**	**1.44 ***	**(0.79, 2.41)**	**766**	**1.01 ***
Good Samaritan	14	0	0.00	3.50	0.00	(0.00, 5.71)	.	.
Mount Sinai Hospital	737	12	1.63	0.85	1.46	(0.75, 2.55)	660	1.02 *
North Shore	77	1	1.30	0.49	2.03	(0.03,11.32)	77	1.10
Southside	17	1	5.88	1.18	3.79	(0.05,21.10)	.	.
Winthrop - University Hospital	29	0	0.00	0.27	0.00	(0.00,35.92)	29	0.00
Roccario E	**821**	**6**	**0.73**	**0.75**	**0.74**	**(0.27, 1.61)**	**670**	**0.49**
Albany Med Center	16	0	0.00	0.24	0.00	(0.00,71.95)	13	0.00
St. Peters	805	6	0.75	0.77	0.74	(0.27, 1.62)	657	0.49
Rouvelas P	**128**	**0**	**0.00**	**0.40**	**0.00**	**(0.00, 5.41)**	**124**	**0.00**
Beth Israel	88	0	0.00	0.40	0.00	(0.00, 7.88)	85	0.00
New York Hospital - Queens	1	0	0.00	0.04	0.00	(0.00,100.0)	1	0.00
Staten Island	39	0	0.00	0.41	0.00	(0.00,17.31)	38	0.00
Rubino R	**532**	**2**	**0.38**	**0.52**	**0.55**	**(0.06, 1.97)**	**491**	**0.29**
Good Samaritan	7	0	0.00	3.80	0.00	(0.00,10.51)	.	.
Long Island Jewish	21	0	0.00	1.64	0.00	(0.00, 8.12)	19	0.00
North Shore	458	2	0.44	0.43	0.77	(0.09, 2.77)	429	0.32
Southside	2	0	0.00	2.90	0.00	(0.00,48.29)	.	.
Winthrop - University Hospital	44	0	0.00	0.31	0.00	(0.00,20.45)	43	0.00
Sacchi T	**670**	**1**	**0.15**	**0.35**	**0.32**	**(0.00, 1.80)**	**669**	**0.19**
Beth Israel	337	0	0.00	0.31	0.00	(0.00, 2.68)	337	0.00
Maimonides Medical Center	333	1	0.30	0.39	0.58	(0.01, 3.23)	332	0.36
Sassower M	**496**	**1**	**0.20**	**0.74**	**0.21**	**(0.00, 1.16)**	**449**	**0.00**
North Shore	138	0	0.00	0.34	0.00	(0.00, 5.98)	133	0.00
Winthrop - University Hospital	358	1	0.28	0.89	0.24	(0.00, 1.33)	316	0.00
Schwartz R	**1183**	**2**	**0.17**	**0.67**	**0.19 ****	**(0.02, 0.70)**	**1076**	**0.15**
Good Samaritan	8	0	0.00	2.46	0.00	(0.00,14.23)	.	.
North Shore	492	1	0.20	0.63	0.25	(0.00, 1.37)	459	0.18
Southside	3	0	0.00	1.67	0.00	(0.00,55.78)	.	.
Winthrop - University Hospital	680	1	0.15	0.66	0.17	(0.00, 0.94)	617	0.13
Shaknovich A	**527**	**1**	**0.19**	**0.38**	**0.39**	**(0.01, 2.15)**	**520**	**0.26**
Beth Israel	254	0	0.00	0.40	0.00	(0.00, 2.76)	252	0.00
Lenox Hill	272	1	0.37	0.35	0.79	(0.01, 4.40)	267	0.47
Weill Cornell	1	0	0.00	0.11	0.00	(0.00,100.0)	1	0.00

Table 4 *continued*

	All Cases						Non-Emergency	
	Cases	Deaths	OMR	EMR	RAMR	95% CI for RAMR	Cases	RAMR
Sherman W	**674**	**7**	**1.04**	**0.70**	**1.12**	**(0.45, 2.32)**	**643**	**0.48**
Beth Israel	611	7	1.15	0.72	1.22	(0.49, 2.51)	583	0.51
Mount Sinai Hospital	63	0	0.00	0.57	0.00	(0.00, 7.73)	60	0.00
Simons A	**791**	**1**	**0.13**	**0.46**	**0.21**	**(0.00, 1.16)**	**719**	**0.19**
Crouse	148	0	0.00	0.61	0.00	(0.00, 3.12)	134	0.00
St. Josephs	643	1	0.16	0.43	0.28	(0.00, 1.54)	585	0.25
Slater J	**550**	**5**	**0.91**	**0.57**	**1.21**	**(0.39, 2.83)**	**522**	**0.48**
NYU Medical Center	5	0	0.00	0.10	0.00	(0.00,100.0)	5	0.00
St. Lukes	545	5	0.92	0.58	1.21	(0.39, 2.83)	517	0.48
Snyder S	**196**	**1**	**0.51**	**0.37**	**1.06**	**(0.01, 5.92)**	**191**	**0.63**
St. Vincents	147	1	0.68	0.38	1.38	(0.02, 7.69)	144	0.78
Staten Island	49	0	0.00	0.34	0.00	(0.00,16.98)	47	0.00
Walford G	**596**	**2**	**0.34**	**0.72**	**0.36**	**(0.04, 1.29)**	**534**	**0.00**
Crouse	48	0	0.00	0.79	0.00	(0.00, 7.41)	45	0.00
St. Josephs	548	2	0.36	0.71	0.39	(0.04, 1.42)	489	0.00
Warchol A	**134**	**0**	**0.00**	**0.34**	**0.00**	**(0.00, 6.13)**	**123**	**0.00**
St. Vincents	90	0	0.00	0.26	0.00	(0.00,11.99)	85	0.00
Staten Island	44	0	0.00	0.51	0.00	(0.00,12.53)	38	0.00
Wasserman H	**288**	**6**	**2.08**	**0.97**	**1.65**	**(0.60, 3.58)**	**222**	**1.11**
Arnot-Ogden Memorial	4	0	0.00	0.46	0.00	(0.00,100.0)	3	0.00
Columbia Presbyterian	283	6	2.12	0.98	1.66	(0.61, 3.61)	218	1.12
Weill Cornell	1	0	0.00	0.04	0.00	(0.00,100.0)	1	0.00
Wilentz J	**401**	**2**	**0.50**	**0.38**	**1.00**	**(0.11, 3.62)**	**388**	**0.31**
Beth Israel	229	0	0.00	0.41	0.00	(0.00, 2.96)	223	0.00
St. Lukes	62	0	0.00	0.24	0.00	(0.00,18.50)	59	0.00
St. Vincents	110	2	1.82	0.39	3.60	(0.40,13.00)	106	1.05
Winer H	**450**	**9**	**2.00**	**0.99**	**1.55**	**(0.71, 2.94)**	**396**	**0.77**
Bellevue	101	1	0.99	0.37	2.04	(0.03,11.33)	93	2.05
NYU Medical Center	349	8	2.29	1.16	1.50	(0.65, 2.96)	303	0.59
Witkes D	**265**	**0**	**0.00**	**0.37**	**0.00**	**(0.00, 2.87)**	**252**	**0.00**
North Shore	39	0	0.00	0.47	0.00	(0.00,15.42)	38	0.00
Winthrop - University Hospital	226	0	0.00	0.35	0.00	(0.00, 3.52)	214	0.00
Wong S	**674**	**4**	**0.59**	**0.53**	**0.85**	**(0.23, 2.18)**	**612**	**0.64**
New York Hospital - Queens	147	2	1.36	0.52	2.00	(0.22, 7.23)	131	1.50
Weill Cornell	527	2	0.38	0.53	0.54	(0.06, 1.96)	481	0.30
Zisfein J	**325**	**1**	**0.31**	**0.47**	**0.50**	**(0.01, 2.76)**	**296**	**0.55**
North Shore	303	1	0.33	0.30	0.83	(0.01, 4.61)	296	0.55
South Nassau Comm. Hosp.	22	0	0.00	2.81	0.00	(0.00, 4.52)	.	.

Criteria Used in Reporting Significant Risk Factors (2001)

Based on Documentation in Medical Record

Patient Risk Factor	Definitions
Hemodynamic State	Determined just prior to the intervention
• Unstable	Patient requires pharmacologic or mechanical support to maintain blood pressure or cardiac output
• Shock	Acute hypotension (systolic blood pressure < 80 mmHg) or low cardiac index (< 2.0 liters/min/m2), despite pharmacologic or mechanical support
• Cardiopulmonary Resuscitation	Patient requires cardiopulmonary resuscitation within one hour of the procedure
Comorbidities	
• Congestive Heart Failure (CHF), Current	Within 2 weeks prior to the procedure, a physician has diagnosed CHF by one of the following: • Paroxysmal nocturnal dyspnea (PND) • Dyspnea on exertion (DOE) due to heart failure, or • Chest X-Ray showing pulmonary congestion.
• Congestive Heart Failure (CHF), Past	Between 2 weeks to 6 months prior to the procedure, a physician has diagnosed CHF by one of the following: • Paroxysmal nocturnal dyspnea (PND) • Dyspnea on exertion (DOE) due to heart failure, or • Chest X-Ray showing pulmonary congestion.
• Renal Failure, Creatinine > 2.5	Pre-intervention creatinine greater than 2.5 mg/dl
• Renal Failure, Dialysis	The patient is on chronic peritoneal or hemodialysis
• Stent Thrombosis	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.
Ventricular Function	
• Previous MI less than 6 hours	One or more myocardial infarctions (MI) less than 6 hours before the intervention
• Previous MI, more than 6 hours and less than 12 hours	One or more myocardial infarctions (MI) more than 6 hours and less than 12 hours before the intervention
• Previous MI, 12 to 23 hours	One or more myocardial infarctions (MI) occurring 12 to 23 hours before the intervention
• Previous MI, 1 to 7 days	One or more myocardial infarctions (MI) occurring 1 to 7 days before the intervention

Criteria Used in Reporting Significant Risk Factors (2001) *continued*

Ventricular Function cont'd	
• 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
Severity of Atherosclerotic Process	
• Cerebrovascular Disease	Patient has either Carotid/Cerebrovascular Disease or Previous Stroke as defined below.
• Carotid Cerebrovascular Disease	Angiographic or ultrasound demonstration of at least 50% narrowing in a major cerebral or carotid artery (common or internal), history of a non-embolic stroke, or previous surgery for such disease. A history of bruits or transient ischemic attacks (TIA) is not sufficient evidence of carotid/cerebrovascular disease.
• Previous Stroke	A history of stroke, with or without residual deficit.
Vessels Diseased	
• Three Vessels Diseased	The patient has at least a 70% blockage in each of three native coronary arteries including the Left Anterior Descending (LAD), the Right Coronary Artery (RCA), and the Left Circumflex Artery (LCX) or their major branches.

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 (such as atherectomies, stent or ultrasound) are sometimes used in conjunction with the catheter to remove plaque.

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. Lesions of Type C are more problematic than lesions of Type B, which in turn are more dangerous than lesions of Type A.

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

2001 Risk Factors For PCI In-Hospital Mortality (ALL CASES)

The significant pre-procedural risk factors for in-hospital mortality following PCI in 2001 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 "Cerebrovascular Disease" is 1.780. This means that a patient with Cerebrovascular Disease is approximately 1.780 times as likely to die in the hospital during or after undergoing PCI as a patient without Cerebrovascular 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 60 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 1.081 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 60 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 1.702, meaning that a female undergoing PCI is 1.702 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 11.990 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 two ranges (<20% and 20% or more). The latter range, which does not appear in the Appendix 1 table, 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 20% or more. Thus, a PCI patient with an ejection fraction of <20% is about 2.541 times as likely to die in the hospital as a patient with an ejection fraction of 20% 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 11 hours without stent thrombosis, 12-23 hours without stent thrombosis, 1-7 days with or without stent thrombosis, and no MI within 7 days 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 within 7 days 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.

"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.

Appendix 1 Multivariate Risk-Factor Equation for In-Hospital Deaths During or Following PCI in New York State 2001 *(All Cases)*.

		Logistic Regression		
Patient Risk Factor	**Prevalence (%)**	**Coefficient**	**P-Value**	**Odds Ratio**
Demographic				
Age: # of years > 60	—	0.0775	<.0001	1.081
Female Gender	32.02	0.5317	<.0001	1.702
Hemodynamic State				
Hemodynamically Stable	99.07	——Reference——		1.000
Unstable	0.76	2.4840	<.0001	11.990
Shock	0.17	3.3336	<.0001	28.038
Ventricular Function				
Ejection Fraction < 20%	0.65	0.9325	0.0032	2.541
Pre-Procedure MI				
No MI within 7 days	75.37	——Reference——		1.000
MI < 24 hrs with Stent Thrombosis	0.21	3.3882	<.0001	29.614
MI < 6 hrs w/o Stent Thrombosis	5.26	2.0184	<.0001	7.526
MI 6 - 11 hrs w/o Stent Thrombosis	1.76	1.9089	<.0001	6.745
MI 12 - 23 hrs w/o Stent Thrombosis	2.73	1.5182	<.0001	4.564
MI 1 - 7 days with or w/o Stent Thrombosis	14.66	0.6803	<.0001	1.974
Severity of Atherosclerotic Process				
Cerebrovascular Disease	7.41	0.5765	0.0004	1.780
Comorbidities				
Congestive Heart Failure (CHF)				
No CHF	89.68	——Reference——		1.000
CHF, Current	5.90	1.3271	<.0001	3.770
CHF, Past but not Current	4.42	0.9064	<.0001	2.475
Renal Failure				
No Renal Failure	97.42	——Reference——		1.000
Renal Failure, Creatinine > 2.5	1.29	0.9268	0.0011	2.526
Renal Failure, requiring dialysis	1.29	1.7242	<.0001	5.608
Vessels				
Three Vessels Diseased	19.06	0.5499	<.0001	1.733

Intercept = -7.3892
C Statistic = 0.890

Appendix 2

2001 Risk Factors For In-Hospital Mortality For Non-Emergency PCI

Appendix 2 contains the significant pre-procedural risk factors for 2001 New York PCI patients who were not emergency patients (were not in shock or hemodynamically unstable, did not undergo CPR immediately prior to the procedure, 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 1.061 times the odds of dying for a patient who is 54, all other risk factors being the same.

Previous MI is represented by two groups (MI 1 to 7 days prior to PCI, and the reference group, no MI within 7 days prior to the procedure). The odds of dying in the hospital for a patient who had an MI 1-7 days prior to the procedure are 1.911 times the odds of dying for a patient who did not, all other risk factors being the same.

The variables for Cerebrovascular Disease, CHF (Current and Past) and Three Vessels Diseased are interpreted in the same manner as they were in Appendix 1.

In this model, "Renal Failure, requiring dialysis" compares patients with renal failure on dialysis to patients that have renal failure that are not on dialysis as well as to patients that do not have renal failure.

Appendix 2 Multivariate Risk-Factor Equation for In-Hospital Deaths During or Following PCI in New York State, 2001 (Non-Emergency Cases)

		Logistic Regression		
Patient Risk Factor	**Prevalence (%)**	**Coefficient**	**P-Value**	**Odds Ratio**
Demographic				
Age	—	0.0588	<.0001	1.061
Ventricular Function				
Previous MI 1-7 days	16.19	0.6476	0.0005	1.911
Severity of Atherosclerotic Process				
Cerebrovascular Disease	7.64	0.7446	0.0002	2.106
Comorbidities				
Congestive Heart Failure				
No CHF	89.79	——Reference——		1.000
CHF, Current	5.48	1.7861	<.0001	5.966
CHF, Past but not current	4.73	0.9279	0.0008	2.529
Renal Failure, requiring dialysis	1.35	1.5180	<.0001	4.563
Vessels				
Three Vessels Diseased	19.53	0.6133	0.0004	1.847

Intercept = -10.5325
C Statistic = 0.836

Appendix 3

1999-2001 Risk Factors for PCI In-Hospital Mortality (ALL CASES)

The significant pre-procedural risk factors for in-hospital mortality following PCI in the 1999-2001 time period are presented in the table below. The interpretation of this table is similar to the interpretation of Appendices 1 and 2 that is described previously. The variables Female Gender, Cardiopulmonary Resuscitation, Cerebrovascular Disease, Peripheral Vascular Disease, COPD, and Left Main Attempted are interpreted in the same manner as Cerebrovascular Disease in Appendix 1. For example, patients with COPD have odds of dying in the hospital that are 3.096 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 4 categories (<20%, 20-29%, 30-39%, and 40% 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 40% or more. Thus, a PCI patient with an ejection fraction < 20% is about 5.042 times as likely to die in the hospital as a patient with an ejection fraction of 40% or higher, all other significant risk factors being the same.

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 1999- 2001 *(All Cases)*.

Patient Risk Factor	Prevalence (%)	Logistic Regression Coefficient	P-Value	Odds Ratio
Demographic				
Age: # of years > 55	—	0.0586	<.0001	1.060
Female Gender	31.90	1.0585	<.0001	2.882
Hemodynamic State				
Hemodynamically Stable	98.90	——Reference——		1.000
Unstable	0.81	2.4837	<.0001	11.986
Shock	0.29	3.4956	<.0001	32.969
Cardiopulmonary Resuscitation	0.17	2.3887	<.0001	10.900
Ventricular Function				
Ejection Fraction				
Ejection Fraction 40% or greater	88.37	——Reference——		1.000
Ejection Fraction < 20%	0.66	1.6179	<.0001	5.042
Ejection Fraction 20-29%	3.19	1.2541	<.0001	3.505
Ejection Fraction 30-39%	7.78	0.9619	<.0001	2.617
Pre-Procedure MI				
No MI within 7 days	75.44	——Reference——		1.000
MI < 24 hrs with Stent Thrombosis	0.25	2.9937	<.0001	19.959
MI < 6 hrs w/o Stent Thrombosis	5.02	2.4375	<.0001	11.444
MI 6 - 23 hrs w/o Stent Thrombosis	4.24	2.2606	<.0001	9.589
MI 1 - 7 days with or w/o Stent Thrombosis	15.04	1.2946	<.0001	3.650
Severity of Atherosclerotic Process				
Cerebrovascular Disease	7.22	1.1251	<.0001	3.081
Peripheral Vascular Disease	5.72	1.2639	<.0001	3.539
Comorbidities				
Congestive Heart Failure (CHF)				
No CHF	89.05	——Reference——		1.000
CHF, Current	6.03	1.7339	<.0001	5.663
CHF, Past but not Current	4.92	1.1074	<.0001	3.027
COPD	5.53	1.1302	<.0001	3.096
Renal Failure				
No Renal Failure	97.63	——Reference——		1.000
Renal Failure, Creatinine > 2.5	1.17	1.7526	<.0001	5.770
Renal Failure, Requiring Dialysis	1.20	2.1110	<.0001	8.257
Vessels				
Left Main Attempted	1.38	1.7386	<.0001	5.689
Number of Risk Factors Squared	—	-0.1124	<.0001	0.894

Intercept = -7.8512
C Statistic = 0.889

Appendix 4

1999-2001 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 1999-2001 time period are presented in the Appendix 4 table below. In this model, the risk factor CHF, Current compares patients diagnosed with CHF within 2 weeks prior to the procedure to those not diagnosed with CHF within the previous 2 weeks. The interpretation for the rest 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 1999- 2001 *(Non-Emergency Cases)*

		Logistic Regression		
Patient Risk Factor	**Prevalence (%)**	**Coefficient**	**P-Value**	**Odds Ratio**
Demographic				
Age: # of years > 55	—	0.0513	<.0001	1.053
Female Gender	32.21	1.0541	<.0001	2.870
Ventricular Function				
Ejection Fraction				
Ejection Fraction 40 % or greater	84.47	——Reference——		1.000
Ejection Fraction < 20%	0.60	1.7672	<.0001	5.854
Ejection Fraction 20-29%	2.87	1.4674	<.0001	4.338
Ejection Fraction 30-39%	7.07	1.0772	<.0001	2.936
Pre-Procedure MI				
MI 1 - 7 days Pre-Procedure	16.53	1.1747	<.0001	3.237
Severity of Atherosclerotic Process				
Cerebrovascular Disease	7.39	1.2312	<.0001	3.425
Peripheral Vascular Disease	5.86	1.2044	<.0001	3.335
Comorbidities				
CHF, Current	5.46	1.7630	<.0001	5.830
COPD	5.52	1.1827	<.0001	3.263
Renal Failure				
No Renal Failure	97.56	——Reference——		1.000
Renal Failure, Creatinine > 2.5	1.19	1.5606	<.0001	4.762
Renal Failure, requiring dialysis	1.25	2.1718	<.0001	8.774
Vessels				
Left Main Attempted	1.45	1.4995	<.0001	4.479
Number of Risk Factors Squared	—	-0.1145	<.0001	0.892

Intercept = -7.7414
C Statistic = 0.823

Appendix 5

1999-2001 Risk Factors for In-Hospital Mortality for Emergency PCI

The significant pre-procedural risk factors for in-hospital mortality following Emergency PCI in the 1999-2001 time period are presented in the Appendix 5 table below. The interpretation 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 1999-2001 *(Emergency Cases)*

		Logistic Regression		
Patient Risk Factor	**Prevalence (%)**	**Coefficient**	**P-Value**	**Odds Ratio**
Demographic				
Age: # of years > 55	—	0.0685	<.0001	1.071
Female Gender	29.01	0.3283	0.0024	1.389
Hemodynamic State				
Hemodynamically Stable	88.88	——Reference——		1.000
Unstable	8.23	1.3815	<.0001	3.981
Shock	2.89	2.6075	<.0001	13.565
Cardiopulmonary Resuscitation	1.76	1.4976	<.0001	4.471
Comorbidities				
Congestive Heart Failure (CHF)				
No CHF	86.6	——Reference——		1.000
CHF, Current	11.20	1.0480	<.0001	2.852
CHF, Past but not Current	2.20	0.9998	<.0001	2.718
Renal Failure	1.64	1.0698	<.0001	2.915
Vessels				
Left Main Attempted	0.72	1.1885	<.0001	3.282
Stent Thrombosis	2.57	0.7964	0.0006	2.218

Intercept = -5.0766
C Statistic = 0.872

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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

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

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
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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

* Approval limited to primary PCI, that is, only those patients with a heart attack occurring within 24 hours prior to the procedure.

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02/04