

Relationship between the Veterans Healthcare Administration Hospital Performance Measures and Outcomes

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Abstract

Health care organizations have been using performance measures to compare hospitals. However, it is unclear if compliance with these performance measures results in better healthcare outcomes. We examined compliance with acute myocardial infarction, congestive heart failure, pneumonia and surgical process of care measures with traditional outcome measures including mortality rates, morbidity rates, length of stay and readmission rates using the Veterans Healthcare Administration Quality and Safety report. Disappointingly, increased compliance with the performance measures was not correlated with better outcomes with the single exception of improved mortality with higher rates of compliance with echocardiography. We also evaluated the hospital level of care and found that higher levels of complexity of care correlated with the acute myocardial infarction performance measure, but not with the congestive heart failure, pneumonia, or surgical process of care performance measures. However, level of complexity of care strongly correlated with all cause mortality ($p < 0.001$), surgical mortality ($p = 0.037$) and surgical morbidity ($p = 0.01$). These data demonstrate that compliance with the performance measures are not correlated with improved healthcare outcomes, and suggest that if measures are used to compare hospitals, different measures need to be developed.

Introduction

The Joint Commission recently released “Improving America’s Hospitals: The Joint Commission’s Annual Report on Quality and Safety 2011 (1). In this report the results of hospital compliance with the Joint Commission’s performance measures are listed. The Joint Commission announced not only is compliance improving but identified 405 hospitals as their “Top Performers on Key Quality Measures Program”. In a letter at the beginning of the report Mark Chassin, President of the Joint Commission, said “This program is designed to be an incentive for better performance on accountability measures and to support organizations in their quest to do better”.

However, there have been several criticisms of the report. First, many hospitals which were recognized as top hospitals by US News & World Report, HealthGrades Top 50 Hospitals, or Thomson Reuters Top Cardiovascular

Hospitals were not included (2). Small community hospitals were overrepresented and large academic medical centers were underrepresented in the report. Chassin commented that this should be "a wake-up call to larger hospitals to put more resources into these programs...". This is surprising since teaching hospitals, which are usually large, urban hospitals, have previously been reported to have lower risk-adjusted mortality rates and lengths of stay (3). Second, it has been pointed out that many of the performance measures are not or only weakly associated with traditional outcomes such as mortality (4-7). Therefore, we compared the compliance with the Joint Commission performance measures compared to mortality rates, morbidity rates, length of stay and readmissions using the Nation's largest healthcare system, the Department of Veterans Affairs. The results demonstrate that compliance with performance measures are not correlated with improved outcomes.

Methods

The study was approved by the Western IRB.

Process Performance Measures. We evaluated hospital performance based on publicly available data from the 2010 VHA Facility Quality and Safety Report (9). These measures evaluate quality of care for acute myocardial infarction, congestive heart failure, pneumonia and surgical care improvement program (SCIP) during fiscal year 2009. For each of the measures, a hospital's performance is calculated as the proportion of patients who received the indicated care out of all the patients who were eligible for the indicated care. The quality indicators are based on, and in most cases identical to those used for the Joint Commission's Hospital Compare (acute myocardial infarction-Appendix 1; congestive heart failure-Appendix 2; pneumonia-Appendix 3, surgical quality-Appendix 4). Data were also available for each component of the congestive heart failure quality measure (see Appendix 2) which was evaluated independently.

Disease specific mortality. Hospital-specific, risk-standardized rates of mortality within 30 days of discharge are reported for patients hospitalized with a principal diagnosis of heart attack, heart failure, and pneumonia. For each condition, the risk-standardized (also known as "adjusted" or "risk-adjusted") hospital mortality rate are calculated using mathematical models that use administrative data to adjust for differences in patient characteristics that affect expected mortality rates (10).

Surgical morbidity and mortality. VA's Surgical Quality Improvement Program (VASQIP) monitors major surgical procedures performed at VHA facilities and tracks risk adjusted surgical complications (morbidity) and mortality rates. Patient data are collected at each facility by a specially trained nurse and entered into the VA's electronic health record: detailed preoperative patient characteristics including chart-abstracted medical conditions, functional status, recent laboratory

tests, information about the surgical procedure performed, and 30-day outcomes data.

The VASQIP program analyzes these patient data using mathematical models to predict an individual patient's expected outcome based on the patient's preoperative characteristics and the type and nature of the surgical procedure. Overall patient outcomes for major surgical procedures are expressed by comparing observed rates of mortality and morbidity to the expected rates for those patients undergoing the procedure as observed-to-expected (O/E) ratios. For example, if, based on patient characteristics, a facility expected 5 deaths following major surgery, but only 4 patients died, the O/E ratio would be reported as 0.8.

Medical Surgical Length of Stay (LOS). These data are the VA hospital average length of stay for patients who were discharged from acute medicine or surgery bed sections. It does not include patients discharged from observation beds or discharged from other areas of the hospital such as mental health.

Readmission rates. A readmission was defined as a patient who has had a recent hospital stay and needs to re-enter the hospital again within 30 days. These rates are not adjusted for patient characteristics that affected expected admission rates, so comparisons among hospitals should be interpreted with caution.

CHF readmissions were reported separately. CHF readmission is defined by patients who had an initial hospitalization for CHF and were readmitted at least once to acute care in the hospital within 30 days following discharge for CHF.

Hospital level of care. For descriptive purposes, hospitals were grouped into levels of care. These are classified into 4 levels: highly complex (level 1); complex (level 2); moderate (level 3), and basic (level 4). In general, level 1 facilities and some level 2 facilities represent large urban, academic teaching medical centers.

Correlation with Outcomes. Pearson's correlation coefficient was used to assess the correlation of compliance with the performance measures and outcomes. Significance was defined as $p < 0.05$. For comparisons among hospital levels, ANOVA or Kruskal-Wallis testing was done, as appropriate.

Results

Disease specific and all cause mortality rates compared to performance measures. Hospital-specific, risk-standardized rates of mortality within 30 days of discharge for patients hospitalized with a principal diagnosis of heart attack, heart failure, and pneumonia were compared to performance measure compliance. There was no correlation (Table 1, $p > 0.05$ all conditions) but with an increased

incidence of pneumonia actually weakly correlating with higher compliance with the pneumonia performance measures (Table 1, $p=0.0411$). Furthermore, there was no correlation between all cause mortality and the average of the three compliance measures (Table 1, $p>0.05$). Because each table is large, only the correlation coefficients are presented in the text. The table data on which the correlations are based are given at the end of the manuscript. (N=the number of hospitals. NA=not available).

Table 1. Disease Specific Mortality Correlated with Performance Measure Compliance

Correlation Coefficients	r value	N	p value
Acute Myocardial Infarction Mortality and AMI Performance Measure	0.0266	103	0.7897
Congestive Heart Failure Mortality and CHF Performance Measure	0.0992	123	0.2752
Pneumonia Mortality and Pneumonia Performance Measure	0.1844	123	0.0411
All Cause Mortality vs. Average of Performance Measures	0.1118	122	0.2202

Each component of the congestive heart failure performance measure was evaluated individually. Performance of echocardiography correlated with improved mortality (Table 2, $p=0.0496$) but there was no correlation with use of a angiotensin converting enzyme inhibitor (ACEI) or angiotensin receptor blocker (ARB) at discharge, discharge instructions, nor smoking cessation advice (Table 2, $p>0.05$ all comparisons).

Table 2. Heart Failure Mortality Correlated with Compliance to Individual Heart Failure Performance Measures

Correlation Coefficients	r value	N	p
ACEI or ARB	-0.1007	112	0.2908
Smoking Cessation	0.0651	112	0.4953
Discharge Instructions	0.1411	111	0.1396
Echocardiography	-0.1860	112	0.0496

Surgical mortality and morbidity rates compared to surgical performance measures. There was no correlation between compliance with the surgical care improvement program (SCIP) and surgical mortality or morbidity (Table 3, $p>0.05$ both comparisons).

Table 3. Surgical Care Improvement Program (SCIP) Compliance Correlated with Observed/Expected (O/E) Morbidity/Mortality

Correlation Coefficients	r value	N	p value
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O/E Mortality	0.0943	99	0.3530
O/E Morbidity	0.0031	99	0.9757

Length of Stay. None of the performance measures correlated with medical-surgical length of stay (Table 4, $p > 0.05$ all comparisons).

Table 4. Length of Stay (LOS) Correlated with Performance Measure Compliance

Correlation Coefficients	r value	N	p value
LOS compared to AMI	0.1047	103	0.2926
LOS compared to CHF	-0.0178	123	0.8451
LOS compared to Pneumonia	-0.1679	123	0.0634
LOS compared to SCIP	-0.0404	106	0.6809
LOS compared to Average	0.0028	123	0.9755

Readmission rates. There was no correlation between all cause readmission rates and the acute myocardial infarction, congestive heart failure, pneumonia or surgical performance measures (Table 5, $p > 0.05$ all comparisons). There was no correlation between heart failure readmission rate and the heart failure performance measure (data not shown, $r = 0.1525$, $p = 0.0921$).

Table 5. Readmission Rate Correlated with Performance Measure Compliance

Correlation Coefficients			
	r value	N	p
AMI	0.1688	103	0.0883
CHF	0.1505	123	0.0966
Pneumonia	0.0581	123	0.5233
Average	0.1281	122	0.1597

Hospital level of care. Acute myocardial infarction performance measures inversely correlated with the hospital level of care, i.e., the higher the hospital complexity level, the better the compliance (Table 6, $p = 0.004$). However, there was no correlation between congestive heart failure, pneumonia, surgical care improvement program or the average of the measures and the hospital level of care (Table 6).

Table 6. Hospital Level Correlated with Performance Measure Compliance

ANOVA	N	p
Acute Myocardial Infarction (AMI)	103	0.004
Congestive Heart Failure (CHF)	120	0.782
Community Acquired Pneumonia	120	0.296

Surgical Care Improvement Program (SCIP)	106	0.801
Average of Process of Care Measures	120	0.285

There was no correlation between the level of hospital care and the acute myocardial infarction, congestive heart failure, nor pneumonia mortality (Table 7, $p > 0.05$ all comparisons). However, there was a strong correlation between all cause mortality ($p < 0.001$) and a correlation between surgical Observed/Expected mortality (Table 7, $p = 0.037$) and surgical Observed/Expected morbidity ($p = 0.010$).

Table 7. Hospital Level Correlated with Mortality and Surgical Morbidity

ANOVA	N	p
Acute Myocardial Infarction (AMI) Mortality	103	0.835
Congestive Heart Failure (CHF) Mortality	120	0.493
Pneumonia Mortality	120	0.547
All Cause Mortality	106	< 0.001
Surgical O/E Mortality	99	0.037
Surgical O/E Morbidity	99	0.010

Discussion

These data from the Nation's largest healthcare system demonstrate that increasing compliance of the performance measures prescribed by the Joint Commission does not affect disease specific mortality, all cause mortality, surgical mortality, surgical morbidity, length of stay or readmissions with the single exception of improved mortality correlating with increased compliance with performance of echocardiography. In contrast to the Joint Commission's list of top hospitals which found smaller and rural hospitals to be overrepresented, we found that only the acute myocardial infarction performance measure correlated with a higher level of hospital care which represents mostly large, urban hospitals. We did find that all cause mortality and surgical morbidity highly correlated with the level of care. This would appear to differ from the Joint Commission's list of top hospitals which tended to be small and rural, since VA hospitals with higher levels of care largely represent large urban, academic teaching medical centers.

There are multiple possible reasons for the lack of correlation between the performance measures and outcomes. Many of the outcomes are evidence based but several are not. For example, there are no randomized, multi-center studies evaluating the efficacy of discharge instructions, smoking cessation advice and pneumococcal vaccination. Studies with discharge instructions are retrospective, observational studies and have largely not shown improved outcomes (11,12). Several meta-analyses have failed to demonstrate the efficacy

of pneumococcal vaccine in adults (13-15). Advice to quit smoking without follow up support or pharmacologic intervention has not been shown to lower smoking cessation rates (16). Mandating ineffective interventions such as these would not be expected to have a positive effect on outcomes. However, this is where most of the improvement in performance measure outcome has occurred (2).

Most of the interventions are grouped or bundled. Lack of compliance with any one of the bundle is taken as noncompliance with the whole. However, if the only difference between hospitals is noncompliance with an ineffective performance measure, there would not be any expected improvement in outcomes.

Many of the strongly evidence-based outcomes have very high compliance, usually exceeding 95% (9). It is possible that small improvements of 1 or 2% in effective performance measures might have too small an impact on outcomes to be detected even in large databases such as the Veterans Administration which examined 485,774 acute medical/surgical discharges in 2009.

The performance measures appear to avoid highly technical or costly interventions and often avoid interventions which have been shown positively affect outcomes. For example, beta blockers and spironolactone have been shown to be effective in heart failure but are not included in the congestive heart failure performance measures (17,18). Furthermore, carvedilol has been shown to be superior to metoprolol in improving survival (19). Why the performance measures include use of an angiotensin converting enzyme inhibitor or angiotensin receptor blocker but not carvedilol and spironolactone is unclear.

Some of the performance measures may have caused inadvertent harm. For example, administration of antibiotics within 4 hours to patients with pneumonia was a previous performance measure. However, studies showed that this performance measurement led to administration of antibiotics in many patients who proved not to have pneumonia or another infectious disease, and a systematic review concluded that “evidence from observational studies fails to confirm decreased mortality with early administration of antibiotics in stable patients with [community acquired pneumonia]” (20-22). The time has since been changed to 6 hours, but it is unclear if that it is any better than the initial 4 hour timing used (7).

We did not confirm the Joint Commission’s findings that the top hospitals are overrepresented by small, rural hospitals. We found no correlation between hospital level of complexity of care and performance measure compliance with the exception of acute myocardial infarction which was higher in hospitals with higher complexities of care. Although we found no correlation of the performance measures with any outcome measures, we did find a strong correlation between the hospital level of complexity of care and overall survival and surgical morbidity with the hospitals having the higher level of complexity having improved survival

and decreased surgical morbidity. This would seem consistent with concept that volume of care correlates with outcomes.

It seems surprising that initiation of performance measures seem to go through such little scrutiny. In a 2005 editorial Angus and Abraham (23) addressed the issue of when there is sufficient evidence for a concept to be widely applied as a guideline or performance measure. Comparing guidelines to evaluation of novel pharmacologic therapies, they point out that promising phase II studies are insufficient for regulatory approval. Instead, one, and usually two, large multicenter phase III trials are necessary to confirm reliability. The same principle is echoed in evidence-based medicine, where grade A recommendations are based on two or more large, positive, randomized, and multicenter trials. This seems a reasonable suggestion. Perhaps what is needed is an independent Federal or private agency to review and approve performance measures, and as Angus and Abraham suggest, require at least two randomized, multicenter trials before implementation

The data presented in this manuscript do not support the usefulness of increasing compliance with the Veterans Administration's (or the Joint Commission's) performance measures in improving outcomes such as mortality, morbidity, length of stay or readmission rates. Until compliance with the performance measures results in improved outcomes, investment to improve these performance measures seems to be a poor utilization of resources. It suggests that oversight of regulatory agencies is needed in developing and implementing performance measures. If performance measures are to be used, new, clinically meaningful measures that correlate with outcomes need to be developed.

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Table 1. Disease Specific Mortality Correlated with Performance Measure Compliance

Facility Name	Mortality				Performance Measure Compliance			
	Acute Myocardial Infarction (AMI)	Congestive Heart Failure (CHF)	Pneumonia	All Cause	Acute Myocardial Infarction (AMI)	Congestive Heart Failure (CHF)	Community Acquired Pneumonia	Average of Process of Care Measures
VA Connecticut Health Care System, West Haven, CT	14.24	9.19	14.10	13.35	89.1	98.2	94.3	93.9
Edith N Rogers Memorial Veterans Hospital, Bedford, MA	NA	NA	NA	NA	NA	NA	NA	NA
VA Boston Health Care System, W Roxbury, Brockton, Jamaica Plains, MA	12.26	7.32	12.86	14.17	96.0	99.6	97.0	97.5
Northampton VAMC, MA	NA	NA	NA	NA	NA	NA	NA	NA
Togus VAMC, Augusta, ME	13.33	8.98	13.95	10.46	77.4	94.7	92.7	88.3
Manchester VAMC, NH	NA	NA	NA	NA	NA	NA	NA	NA
Providence VAMC, RI	13.07	8.98	16.92	14.90	93.4	97.1	96.0	95.5
White River Junction VAMC, VT	12.71	10.02	14.52	13.79	88.1	96.1	95.1	93.1
Samuel S. Stratton VAMC, Albany, NY	14.87	13.78	17.73	13.91	96.5	97.6	97.3	97.1
VA Western New York Health Care System Buffalo, Batavia, NY	14.44	11.06	19.60	14.54	95.7	94.4	93.6	94.6
Bath VAMC, NY	14.04	10.70	16.95	12.35	NA	98.4	97.1	97.8
Canandaigua VAMC, NY	NA	NA	NA	NA	NA	NA	NA	NA
Syracuse VAMC, NY	12.79	11.67	14.40	15.33	94.8	98.3	99.1	97.4
VA New Jersey Health Care System, East Orange, NJ	13.03	9.55	15.65	16.90	NA	95.7	95.8	95.8
James J. Peters VAMC, Bronx, NY	12.42	10.18	12.74	15.69	91.9	96.3	95.4	94.5
VA New York Harbor Health Care System, Manhattan, Brooklyn, NY	11.06	8.07	11.25	15.99	95.7	97.5	94.2	95.8
VA Hudson Valley Health Care System, Montrose, Castle Point, NY	12.98	7.77	14.66	12.42	NA	98.3	96.6	97.5
Northport VAMC, NY	14.54	8.64	15.02	14.84	98.7	94.8	94.4	96.0
Wilmington VAMC, DE	13.80	9.34	13.33	14.50	NA	94.2	94.4	94.3
James E. Van Zandt VAMC, Altoona, PA	13.15	13.86	17.78	10.50	94.7	100.0	98.7	97.8
Butler VAMC, PA	NA	NA	NA	NA	NA	NA	NA	NA
Coatesville VAMC, PA	NA	9.66	16.62	5.56	NA	NA	NA	NA
Erie VAMC, PA	14.03	9.95	13.60	11.62	87.1	93.8	95.1	92.0
Lebanon VAMC, PA	14.92	10.52	15.60	11.95	89.7	98.5	92.4	93.5
Philadelphia VAMC, PA	12.91	7.70	16.13	11.88	89.6	95.7	96.2	93.8
VA Pittsburgh Health Care System, PA	13.79	9.83	14.49	15.59	96.2	97.2	97.2	96.9
Wilkes-Barre VAMC, PA	13.50	10.57	19.06	15.60	93.5	99.5	97.6	96.9
Louis A. Johnson VAMC, Clarksburg, WV	14.36	9.95	14.85	12.79	94.5	99.2	94.8	96.2
Washington DC VAMC, DC	12.65	9.75	14.93	13.71	94.9	97.6	95.5	96.0
VA Maryland Health Care System, Perry Pt, Baltimore, MD	12.41	8.68	12.50	13.91	93.8	96.3	95.9	95.3
Martinsburg VAMC, WV	13.70	9.75	12.89	12.73	86.5	93.7	92.9	91.0

Asheville VAMC, NC	13.03	12.16	15.51	12.96	93.6	94.5	96.4	94.8
Durham VAMC, NC	14.54	9.55	17.04	13.09	96.7	99.2	95.2	97.0
Fayetteville VAMC, NC	12.90	9.22	13.10	10.19	NA	99.7	97.7	98.7
W.G. (Bill) Hefner VAMC, Salisbury, NC	13.38	10.10	16.92	8.79	NA	97.6	98.5	98.1
Hampton VAMC, VA	13.38	9.32	14.78	11.88	NA	100.0	98.0	99.0
Hunter Holmes McGuire VAMC, Richmond, VA	14.91	10.67	16.07	14.24	92.6	94.4	95.3	94.1
Salem VAMC, VA	13.62	9.30	14.69	16.12	96.8	95.7	94.4	95.6
Beckley VAMC, WV	12.94	9.39	15.06	15.97	NA	96.9	95.9	96.4
Birmingham VAMC, AL	13.99	11.36	16.54	13.90	96.9	99.1	97.5	97.8
Central Alabama Veterans Health Care System, Tuskegee, Montgomery, AL	13.92	12.80	13.68	7.58	NA	98.1	94.9	96.5
Tuscaloosa VAMC, AL	NA	NA	NA	NA	NA	NA	NA	NA
Atlanta VAMC, GA	15.15	9.77	17.88	12.66	97.4	99.5	98.6	98.5
Charlie Norwood VAMC, Augusta, GA	14.50	11.14	21.94	13.46	93.9	98.9	96.0	96.3
Carl Vinson VAMC, Dublin, GA	13.14	11.36	16.90	12.12	94.3	98.0	98.8	97.0
Ralph H. Johnson VAMC, Charleston, SC	13.82	9.82	15.11	13.54	93.2	98.8	97.9	96.6
Wm. Jennings Bryan Dorn VAMC, Columbia, SC	13.65	9.79	15.44	14.41	90.0	100.0	99.1	96.4
Bay Pines VA Health Care System, FL	14.76	10.30	16.52	13.73	95.7	99.1	95.0	96.6
N. Florida/S. Georgia Veterans Health Care System Gainesville, Lake City	14.03	9.10	13.46	15.77	94.1	98.3	97.5	96.6
Miami VA Health Care System, FL	12.70	7.56	14.43	14.82	88.5	95.7	99.2	94.5
Orlando VAMC, FL	NA	NA	NA	NA	NA	NA	NA	NA
James A. Haley VAMC, Tampa, FL	12.62	8.13	15.51	15.70	95.0	98.8	97.5	97.1
West Palm Beach VAMC, FL	13.55	8.34	13.37	8.26	95.5	96.9	96.6	96.3
VA Caribbean Health Care System, San Juan, PR	13.91	11.13	18.88	16.88	93.7	97.0	92.6	94.4
Lexington VAMC, KY	13.74	11.18	19.72	16.78	91.7	98.3	96.9	95.6
Louisville VAMC, KY	14.59	10.50	18.89	10.94	95.2	97.9	96.9	96.7
Memphis VAMC, TN	17.55	12.71	16.66	14.64	95.0	98.0	95.8	96.3
Mountain Home VAMC, TN	13.83	10.61	16.31	13.09	97.3	98.6	96.3	97.4
Tennessee Valley Health Care System, Nashville, Murfreesboro, TN	12.61	10.28	15.45	15.26	95.1	97.4	94.7	95.7
Huntington VAMC, WV	12.78	10.13	13.69	13.42	92.1	95.5	95.4	94.3
Chillicothe VAMC, OH	12.79	9.09	13.12	13.73	95.1	98.9	97.7	97.2
Cincinnati VAMC, OH	13.51	9.26	16.28	16.29	97.1	98.9	97.6	97.9
Louis Stokes VAMC, Cleveland, Brecksville, OH	12.75	9.79	15.92	15.98	97.8	100.0	96.6	98.1
Chalmers P. Wylie Outpt Clinic, Columbus, OH	NA	NA	NA	NA	NA	NA	NA	NA
Dayton VAMC, OH	12.62	8.45	12.95	14.75	91.6	95.2	94.2	93.7
VA Illiana Health Care System, Danville, IL	15.68	9.11	13.86	14.36	90.5	96.3	92.8	NA
VA Northern Indiana Health Care System, Marion, Ft Wayne, IN	13.13	10.55	14.41	13.17	NA	91.4	93.5	92.5
Richard L. Roudebush VAMC, Indianapolis, IN	14.44	9.42	13.84	16.26	95.6	98.7	95.0	96.4
VA Ann Arbor Health Care System, MI	11.46	9.74	14.46	14.39	93.6	96.5	93.0	94.4
Battle Creek VAMC, MI	13.29	11.34	14.44	8.68	NA	98.8	95.2	97.0
John D. Dingell VAMC, Detroit, MI	13.22	9.42	16.24	14.37	100.0	98.1	98.9	99.0
Aleda E. Lutz VAMC, Saginaw, MI	13.21	11.55	16.04	14.06	NA	100.0	97.2	98.6
Jessie Brown VAMC, Chicago, IL	12.39	8.16	14.32	16.84	93.7	99.9	94.6	96.1
Edward Hines Jr. VA Hospital, Hines, IL	13.74	9.51	15.32	16.73	97.3	98.9	95.8	97.3
North Chicago VAMC, IL	12.85	11.17	17.55	11.85	100.0	99.1	99.2	99.4
Iron Mountain VAMC, MI	12.43	10.09	14.44	12.43	NA	94.1	96.7	95.4
William S. Middleton Memorial Veterans Hospital, Madison, WI	12.71	11.04	14.52	14.39	95.8	97.5	98.3	97.2
Clement J. Zablocki VAMC, Milwaukee, WI	11.73	8.60	11.26	15.15	93.7	98.0	96.4	96.0
Tomah VAMC, WI	12.99	10.70	15.18	14.08	NA	92.9	98.7	95.8

VA Eastern Kansas Health Care System, Topeka, Leavenworth, KS	13.78	9.68	15.89	14.22	94.1	98.3	97.3	96.6
Robert J. Dole VAMC, Wichita, KS	13.26	9.72	16.49	12.88	92.3	100.0	96.7	96.3
Harry S. Truman VAMC, Columbia, MO	12.57	10.63	15.11	13.52	94.3	99.4	97.3	97.0
Kansas City VAMC, MO	13.33	9.73	13.49	14.98	93.9	92.8	97.4	94.7
Marion VAMC, IL	14.10	11.43	15.11	16.14	71.0	98.5	95.3	88.3
John J. Pershing VAMC, Poplar Bluff, MO	13.99	11.92	15.08	14.77	91.6	98.2	95.3	95.0
St Louis VAMC, St Louis, Jefferson Barracks, MO	12.67	6.61	15.09	14.72	95.4	96.0	96.8	96.1
Fayetteville VAMC, AR	12.67	8.37	14.82	13.46	88.1	97.2	97.3	94.2
Central Arkansas Veterans Health Care System, Little Rock, N Little Rock, AR	13.25	9.96	15.27	14.71	90.8	92.1	95.1	92.7
Alexandria VAMC, LA	11.77	9.68	16.37	13.24	93.7	97.9	98.7	96.8
New Orleans VAMC, LA	NA	NA	NA	NA	NA	NA	NA	NA
Overton Brooks VAMC, Shreveport, LA	13.99	10.52	15.20	15.64	97.6	97.5	97.1	97.4
Gulf Coast Veterans Health Care System, Biloxi, MS	12.67	8.18	15.12	9.51	100.0	99.3	92.9	97.4
G.V. Montgomery VAMC, Jackson, MS	16.52	12.34	21.41	15.22	97.2	99.1	96.1	97.5
Muskogee VAMC, OK	11.66	9.24	13.69	13.53	93.6	97.2	96.4	95.7
Oklahoma City VAMC, OK	13.79	8.73	16.96	13.78	91.9	99.3	95.3	95.5
Michael E. DeBakey VAMC, Houston, TX	13.82	9.51	17.43	14.02	94.2	94.2	95.2	94.5
VA North Texas Health Care System, Dallas, TX	13.65	10.13	14.81	14.99	97.3	98.3	95.2	96.9
South Texas Veterans Health Care System, San Antonio, Kerrville, TX	11.82	9.95	14.38	12.58	96.9	98.9	97.8	97.9
Central Texas Veterans Health Care System, Temple, Waco, Marlin, TX	13.67	9.98	14.11	11.68	89.2	96.1	95.1	93.5
Carl T. Hayden VAMC, Phoenix, AZ	13.96	8.11	15.06	12.32	94.9	99.4	98.3	97.5
No. Arizona VA Health Care System, Prescott, AZ	12.14	12.94	14.96	13.83	95.4	94.6	97.7	95.9
So. Arizona VA Health Care System, Tucson, AZ	13.02	10.78	13.64	15.16	95.6	99.2	97.7	97.5
New Mexico Health Care System, Albuquerque, NM	10.89	11.44	14.96	12.95	92.8	92.4	95.8	93.7
Amarillo VA Health Care System, TX	14.35	10.41	20.76	11.24	96.2	91.5	96.0	94.6
West Texas VA Health Care System, Big Spring, TX	13.71	9.29	16.86	10.40	NA	90.7	100.0	95.4
El Paso VA Health Care System, TX	NA	NA	NA	NA	NA	NA	NA	NA
VA Eastern Colorado Health Care System, Denver, Pueblo, CO	14.24	11.50	12.32	12.27	93.3	93.6	95.3	94.1
Grand Junction VAMC, CO	13.22	9.63	11.78	8.77	NA	98.7	95.6	97.2
VA Montana Health Care System, Fort Harrison, MT	12.90	10.79	12.74	17.61	86.0	97.8	97.5	93.8
VA Salt Lake City Health Care System, UT	13.55	8.31	14.20	14.46	94.8	96.8	94.5	95.4
Cheyenne VAMC, WY	13.19	9.34	13.19	9.12	NA	82.8	87.1	85.0
Sheridan VAMC, WY	13.01	9.75	14.10	14.93	NA	100.0	96.5	98.3
Alaska VA Health Care System and Regional Office, Anchorage, AK	NA	NA	NA	NA	NA	NA	NA	NA
Boise VAMC, ID	13.77	9.26	13.72	12.89	97.7	98.9	99.0	98.5
Portland VAMC, OR	11.53	7.79	10.84	14.10	96.4	95.8	97.2	96.5
VA Roseburg Health Care System, OR	14.54	9.42	14.55	9.77	93.9	99.5	93.9	95.8
Southern Oregon Rehab Center & Clinics, White City, OR	NA	NA	NA	NA	NA	NA	NA	NA
VA Puget Sound Health Care System, Seattle, American Lake, WA	13.55	10.60	14.10	13.77	94.4	94.3	91.0	93.2
Spokane VAMC, WA	12.70	8.94	13.03	8.89	85.4	95.3	98.8	93.2
Jonathan M. Wainwright Memorial VA Medical Center, Walla Walla, WA	NA	NA	NA	NA	NA	NA	NA	NA

VA Central California Health Care System, Fresno, CA	12.86	11.29	18.79	14.29	96.8	100.0	99.3	98.7
VA Northern California Health Care System, Martinez, Sacramento, CA	11.17	9.88	12.95	10.83	88.6	97.7	95.7	94.0
VA Palo Alto Health Care System, Palo Alto, Menlo Pk, Livermore, CA	12.87	8.09	15.89	11.76	94.2	96.8	97.6	96.2
San Francisco VAMC, CA	11.69	8.37	12.32	13.88	94.7	93.3	96.4	94.8
VA Pacific Islands Health Care System, Honolulu, HI	NA	NA	NA	NA	NA	NA	NA	NA
VA Sierra Nevada Health Care System, Reno, NV	13.06	11.15	14.46	12.87	96.3	97.9	96.1	96.8
VA Loma Linda Health Care System, CA	16.45	12.24	18.73	12.90	95.7	99.6	96.5	97.3
VA Long Beach Health Care System, CA	12.33	7.65	14.52	15.70	94.7	93.6	96.1	94.8
VA Greater Los Angeles Health Care System, CA	12.49	6.75	16.90	13.92	87.8	93.4	90.9	90.7
VA San Diego Health Care System, CA	13.13	5.53	15.02	13.96	96.3	99.8	96.2	97.4
VA Southern Nevada Health Care System, Las Vegas, NV	12.61	8.28	12.63	9.98	NA	95.9	94.7	95.3
VA Nebraska Western Iowa Health Care System, Omaha, Grand Is, Lincoln, NE	15.39	11.14	14.85	14.96	93.9	99.7	99.0	97.5
VA Central Iowa Health Care System, Des Moines, Knoxville, IA	14.14	8.55	15.89	13.91	91.7	97.9	98.8	96.1
Iowa City VAMC, IA	11.24	10.95	15.32	12.86	95.3	98.8	94.4	96.2
Minneapolis VAMC, MN	12.18	7.74	11.22	12.52	95.0	96.7	98.4	96.7
St. Cloud VAMC, MN	NA	NA	NA	NA	NA	NA	NA	NA
Fargo VAMC, ND	12.38	8.57	13.33	10.34	86.4	97.7	93.5	92.5
VA Black Hills Health Care System, Ft Meade, Hot Springs, SD	12.69	9.15	13.00	10.35	NA	92.1	95.3	93.7
Sioux Falls VAMC, SD	14.06	9.58	17.04	11.89	78.7	97.4	99.0	91.7
Mean	13.35	9.82	15.16	13.38	93.40	97.05	96.16	95.69
N	123	124	124	124	103	123	123	122
Standard deviation	1.08	1.42	2.04	2.19	4.41	2.61	2.03	2.24
90% Confidence Limits	0.16	0.21	0.30	0.32	0.72	0.39	0.30	0.33
Confidence level high	13.51	10.03	15.46	13.71	94.11	97.44	96.46	96.03
Confidence level low	13.19	9.61	14.85	13.06	92.68	96.67	95.86	95.36

Correlation Coefficients	r value	N	p
Acute Myocardial Infarction Mortality and AMI Performance Measure	0.0266	103	0.7897
Congestive Heart Failure and CHF Performance Measure	0.0992	123	0.2752
Pneumonia and Pneumonia Performance Measure	0.1844	123	0.0411
All Cause Mortality vs. Average of Performance Measures	0.1118	122	0.2202

Table 2. Mortality Correlated with Compliance to Individual Heart Failure Performance Measures

Facility	Congestive Heart Failure (CHF) Mortality	Performance Measure Compliance			
		ACEI or ARB	Smoking Cessation	Discharge Instructions	Echocardiography
VA Connecticut Health Care System, West Haven, CT	9.19	85	79	99	100
Edith N Rogers Memorial Veterans Hospital, Bedford, MA	NA	NA	NA	NA	NA
VA Boston Health Care System, W Roxbury, Brockton, Jamaica Plains, MA	7.32	95	100	100	100
Northampton VAMC, MA	NA	NA	NA	NA	NA
Togus VAMC, Augusta, ME	8.98	88	93	88	100
Manchester VAMC, NH	NA	NA	NA	NA	NA
Providence VAMC, RI	8.98	98	100	95	100
White River Junction VAMC, VT	10.02	100	82	95	98
Samuel S. Stratton VAMC, Albany, NY	13.78	100	100	97	100
VA Western New York Health Care System Buffalo, Batavia, NY	11.06	84	100	95	100
Bath VAMC, NY	10.70	80	100	100	100
Canandaigua VAMC, NY	NA	NA	NA	NA	NA
Syracuse VAMC, NY	11.67	100	100	91	99
VA New Jersey Health Care System, East Orange, NJ	9.55	99	100	87	100
James J. Peters VAMC, Bronx, NY	10.18	89	100	95	99
VA New York Harbor Health Care System, Manhattan, Brooklyn, NY	8.07	95	98	96	100
VA Hudson Valley Health Care System, Montrose, Castle Point, NY	7.77	100	100	100	100
Northport VAMC, NY	8.64	98	100	91	99
Wilmington VAMC, DE	9.34	98	100	77	100
James E. Van Zandt VAMC, Altoona, PA	13.86	100	100	100	100
Butler VAMC, PA	NA	NA	NA	NA	NA
Coatesville VAMC, PA	9.66	NA	NA	NA	NA
Erie VAMC, PA	9.95	71	89	89	100
Lebanon VAMC, PA	10.52	100	100	96	100
Philadelphia VAMC, PA	7.70	93	99	90	100
VA Pittsburgh Health Care System, PA	9.83	99	100	94	100
Wilkes-Barre VAMC, PA	10.57	100	100	100	100
Louis A. Johnson VAMC, Clarksburg, WV	9.95	100	100	100	100
Washington DC VAMC, DC	9.75	94	100	98	99
VA Maryland Health Care System, Perry Pt, Baltimore, MD	8.68	96	100	96	100

Martinsburg VAMC, WV	9.75	93	100	66	100
Asheville VAMC, NC	12.16	81	100	91	99
Durham VAMC, NC	9.55	99	94	99	100
Fayetteville VAMC, NC	9.22	98	97	100	100
W.G. (Bill) Hefner VAMC, Salisbury, NC	10.10	100	100	97	100
Hampton VAMC, VA	9.32	100	100	100	100
Hunter Holmes McGuire VAMC, Richmond, VA	10.67	96	96	93	100
Salem VAMC, VA	9.30	100	100	85	100
Beckley VAMC, WV	9.39	95	100	99	100
Birmingham VAMC, AL	11.36	98	100	98	99
Central Alabama Veterans Health Care System, Tuskegee, Montgomery, AL	12.80	NA	NA	NA	NA
Tuscaloosa VAMC, AL	NA	NA	NA	NA	NA
Atlanta VAMC, GA	9.77	99	100	100	99
Charlie Norwood VAMC, Augusta, GA	11.14	93	100	100	99
Carl Vinson VAMC, Dublin, GA	11.36	97	97	99	99
Ralph H. Johnson VAMC, Charleston, SC	9.82	98	100	96	100
Wm. Jennings Bryan Dorn VAMC, Columbia, SC	9.79	100	100	100	100
Bay Pines VA Health Care System, FL	10.30	98	100	99	100
N. Florida/S. Georgia Veterans Health Care System Gainesville, Lake City	9.10	93	100	99	100
Miami VA Health Care System, FL	7.56	99	100	89	100
Orlando VAMC, FL	NA	NA	NA	NA	NA
James A. Haley VAMC, Tampa, FL	8.13	99	100	99	100
West Palm Beach VAMC, FL	8.34	98	100	95	100
VA Caribbean Health Care System, San Juan, PR	11.13	98	91	98	100
Lexington VAMC, KY	11.18	88	100	100	100
Louisville VAMC, KY	10.50	97	100	98	100
Memphis VAMC, TN	12.71	98	97	98	99
Mountain Home VAMC, TN	10.61	100	97	100	100
Tennessee Valley Health Care System, Nashville, Murfreesboro, TN	10.28	96	99	97	99
Huntington VAMC, WV	10.13	94	100	96	99
Chillicothe VAMC, OH	9.09	97	100	99	97
Cincinnati VAMC, OH	9.26	98	100	98	100
Louis Stokes VAMC, Cleveland, Brecksville, OH	9.79	99	100	100	100
Chalmers P. Wylie Outpt Clinic, Columbus, OH	NA	NA	NA	NA	NA
Dayton VAMC, OH	8.45	98	96	92	100
VA Illiana Health Care System, Danville, IL	9.11	98	100	83	100
VA Northern Indiana Health Care System, Marion, Ft Wayne, IN	10.55	NA	NA	NA	NA
Richard L. Roudebush VAMC, Indianapolis, IN	9.42	92	98	100	100
VA Ann Arbor Health Care System, MI	9.74	96	93	96	100
Battle Creek VAMC, MI	11.34	89	100	100	100
John D. Dingell VAMC, Detroit, MI	9.42	96	100	82	100
Aleda E. Lutz VAMC, Saginaw, MI	11.55	100	100	100	100
Jessie Brown VAMC, Chicago, IL	8.16	99	100	100	100
Edward Hines Jr. VA Hospital, Hines, IL	9.51	100	100	97	100
North Chicago VAMC, IL	11.17	100	100	95	100
Iron Mountain VAMC, MI	10.09	94	83	95	98
William S. Middleton Memorial Veterans Hospital, Madison, WI	11.04	97	100	94	99
Clement J. Zablocki VAMC, Milwaukee, WI	8.60	91	100	97	100
Tomah VAMC, WI	10.70	NA	NA	NA	NA

VA Eastern Kansas Health Care System, Topeka, Leavenworth, KS	9.68	100	97	91	100
Robert J. Dole VAMC, Wichita, KS	9.72	100	100	100	100
Harry S. Truman VAMC, Columbia, MO	10.63	NA	NA	NA	NA
Kansas City VAMC, MO	9.73	98	100	86	99
Marion VAMC, IL	11.43	90	100	100	99
John J. Pershing VAMC, Poplar Bluff, MO	11.92	95	100	100	97
St Louis VAMC, St Louis, Jefferson Barracks, MO	6.61	95	90	96	100
Fayetteville VAMC, AR	8.37	100	100	95	100
Central Arkansas Veterans Health Care System, Little Rock, N Little Rock, AR	9.96	96	95	87	100
Alexandria VAMC, LA	9.68	88	100	100	97
New Orleans VAMC, LA	NA	NA	NA	NA	NA
Overton Brooks VAMC, Shreveport, LA	10.52	100	100	95	99
Gulf Coast Veterans Health Care System, Biloxi, MS	8.18	100	100	100	100
G.V. Montgomery VAMC, Jackson, MS	12.34	99	100	100	99
Muskogee VAMC, OK	9.24	98	100	99	100
Oklahoma City VAMC, OK	8.73	97	100	99	100
Michael E. DeBakey VAMC, Houston, TX	9.51	94	96	90	100
VA North Texas Health Care System, Dallas, TX	10.13	96	99	98	100
South Texas Veterans Health Care System, San Antonio, Kerrville, TX	9.95	99	100	100	100
Central Texas Veterans Health Care System, Temple, Waco, Marlin, TX	9.98	NA	NA	NA	NA
Carl T. Hayden VAMC, Phoenix, AZ	8.11	98	86		100
No. Arizona VA Health Care System, Prescott, AZ	12.94	86	100	100	98
So. Arizona VA Health Care System, Tucson, AZ	10.78	98	100	99	100
New Mexico Health Care System, Albuquerque, NM	11.44	94	90	79	100
Amarillo VA Health Care System, TX	10.41	93	80	90	99
West Texas VA Health Care System, Big Spring, TX	9.29	75	100	81	100
El Paso VA Health Care System, TX	NA	NA	NA	NA	NA
VA Eastern Colorado Health Care System, Denver, Pueblo, CO	11.50	97	89	95	100
Grand Junction VAMC, CO	9.63	100	100	100	98
VA Montana Health Care System, Fort Harrison, MT	10.79	NA	NA	NA	NA
VA Salt Lake City Health Care System, UT	8.31	97	100	94	100
Cheyenne VAMC, WY	9.34	NA	NA	NA	NA
Sheridan VAMC, WY	9.75	NA	NA	NA	NA
Alaska VA Health Care System and Regional Office, Anchorage, AK	NA	NA	NA	NA	NA
Boise VAMC, ID	9.26	100	100	100	100
Portland VAMC, OR	7.79	98	97	91	100
VA Roseburg Health Care System, OR	9.42	100	96	99	100
Southern Oregon Rehab Center & Clinics, White City, OR	NA	NA	NA	NA	NA
VA Puget Sound Health Care System, Seattle, American Lake, WA	10.60	NA	NA	NA	NA
Spokane VAMC, WA	8.94	90	100	94	98
Jonathan M. Wainwright Memorial VA Medical Center, Walla Walla, WA	NA	NA	NA	NA	NA
VA Central California Health Care System, Fresno, CA	11.29	100	100	100	100
VA Northern California Health Care System, Martinez, Sacramento, CA	9.88	NA	NA	NA	NA

VA Palo Alto Health Care System, Palo Alto, Menlo Pk, Livermore, CA	8.09	94	93	96	100
San Francisco VAMC, CA	8.37	94	100	87	100
VA Pacific Islands Health Care System, Honolulu, HI	NA	NA	NA	NA	NA
VA Sierra Nevada Health Care System, Reno, NV	11.15	98	100	98	100
VA Loma Linda Health Care System, CA	12.24	100	98	100	99
VA Long Beach Health Care System, CA	7.65	99	95	93	100
VA Greater Los Angeles Health Care System, CA	6.75	96	96	96	99
VA San Diego Health Care System, CA	5.53	100	100	100	100
VA Southern Nevada Health Care System, Las Vegas, NV	8.28	NA	NA	NA	NA
VA Nebraska Western Iowa Health Care System, Omaha, Grand Is, Lincoln, NE	11.14	100	100	98	100
VA Central Iowa Health Care System, Des Moines, Knoxville, IA	8.55	100	100	91	100
Iowa City VAMC, IA	10.95	94	100	99	100
Minneapolis VAMC, MN	7.74	98	100	95	99
St. Cloud VAMC, MN	NA	NA	NA	NA	NA
Fargo VAMC, ND	8.57	100	88	100	97
VA Black Hills Health Care System, Ft Meade, Hot Springs, SD	9.15	100	100	85	100
Sioux Falls VAMC, SD	9.58	100	100	94	100
Mean	9.82	96.03	97.88	95.30	99.62
N	124	112	112	111	112
Standard deviation	1.42	5.28	4.45	5.90	0.74
90% Confidence Limits	0.21	0.82	0.69	0.92	0.11
Confidence level high	10.03	96.85	98.58	96.22	99.73
Confidence level low	9.61	95.21	97.19	94.38	99.50

Correlation Coefficients	r value	N	p
ACEI or ARB	-0.1007	112	0.2908
Smoking Cessation	0.0651	112	0.4953
Discharge Instructions	0.1411	111	0.1396
Echocardiography	-0.1860	112	0.0496

Table 3. Surgical Care Improvement Program (SCIP) Compliance Correlated with Observed/Expected (O/E) Surgical Morbidity/Mortality

Facility Name	Surgical Care Improvement Program (SCIP) Compliance	Surgical O/E Mortality	Surgical O/E Morbidity
VA Connecticut Health Care System, West Haven, CT	96.6	0.66	0.85
Edith N Rogers Memorial Veterans Hospital, Bedford, MA	NA	NA	NA
VA Boston Health Care System, W Roxbury, Brockton, Jamaica Plains, MA	99.3	0.73	0.97
Northampton VAMC, MA	NA	NA	NA
Togus VAMC, Augusta, ME	96.8	0.73	0.56
Manchester VAMC, NH	NA	NA	NA
Providence VAMC, RI	98.0	1.24	1.01
White River Junction VAMC, VT	97.5	0.76	1.15
Samuel S. Stratton VAMC, Albany, NY	98.1	1.27	0.72
VA Western New York Health Care System Buffalo, Batavia, NY	97.6	1.03	1.15
Bath VAMC, NY	NA	NA	NA
Canandaigua VAMC, NY	NA	NA	NA
Syracuse VAMC, NY	96.4	0.84	0.96
VA New Jersey Health Care System, East Orange, NJ	95.7	1.00	1.00
James J. Peters VAMC, Bronx, NY	95.2	0.83	0.77
VA New York Harbor Health Care System, Manhattan, Brooklyn, NY	97.4	1.05	1.07
VA Hudson Valley Health Care System, Montrose, Castle Point, NY	NA	NA	NA
Northport VAMC, NY	96.8	1.10	1.17
Wilmington VAMC, DE	98.9	0.92	0.73
James E. Van Zandt VAMC, Altoona, PA	NA	NA	NA
Butler VAMC, PA	NA	NA	NA
Coatesville VAMC, PA	NA	NA	NA
Erie VAMC, PA	99.5	NA	NA
Lebanon VAMC, PA	97.1	0.26	1.21
Philadelphia VAMC, PA	94.6	1.20	1.20
VA Pittsburgh Health Care System, PA	98.1	1.41	1.20
Wilkes-Barre VAMC, PA	92.9	NA	NA
Louis A. Johnson VAMC, Clarksburg, WV	94.0	NA	NA
Washington DC VAMC, DC	97.7	1.08	0.95
VA Maryland Health Care System, Perry Pt, Baltimore, MD	95.9	0.79	1.08
Martinsburg VAMC, WV	97.6	1.13	1.15
Asheville VAMC, NC	98.0	1.41	0.94
Durham VAMC, NC	97.3	1.02	0.94

Fayetteville VAMC, NC	96.9	NA	NA
W.G. (Bill) Hefner VAMC, Salisbury, NC	97.3	0.00	0.51
Hampton VAMC, VA	99.5	1.88	0.80
Hunter Holmes McGuire VAMC, Richmond, VA	96.3	0.98	1.13
Salem VAMC, VA	99.4	0.44	1.21
Beckley VAMC, WV	95.2	NA	NA
Birmingham VAMC, AL	97.8	1.14	1.13
Central Alabama Veterans Health Care System, Tuskegee, Montgomery, AL	NA	NA	NA
Tuscaloosa VAMC, AL	NA	NA	NA
Atlanta VAMC, GA	97.4	1.72	0.87
Charlie Norwood VAMC, Augusta, GA	94.4	1.30	1.15
Carl Vinson VAMC, Dublin, GA	97.7	NA	NA
Ralph H. Johnson VAMC, Charleston, SC	97.3	1.45	0.84
Wm. Jennings Bryan Dorn VAMC, Columbia, SC	98.4	0.84	1.05
Bay Pines VA Health Care System, FL	97.6	1.13	0.83
N. Florida/S. Georgia Veterans Health Care System Gainesville, Lake City	98.1	0.88	1.48
Miami VA Health Care System, FL	96.0	1.39	1.01
Orlando VAMC, FL	NA	NA	NA
James A. Haley VAMC, Tampa, FL	96.3	1.02	1.23
West Palm Beach VAMC, FL	95.5	1.38	0.87
VA Caribbean Health Care System, San Juan, PR	97.5	1.57	1.27
Lexington VAMC, KY	97.2	1.06	0.94
Louisville VAMC, KY	95.5	0.86	1.01
Memphis VAMC, TN	96.7	1.16	1.01
Mountain Home VAMC, TN	98.4	1.40	1.20
Tennessee Valley Health Care System, Nashville, Murfreesboro, TN	96.3	1.09	1.12
Huntington VAMC, WV	99.5	1.55	1.44
Chillicothe VAMC, OH	NA	NA	NA
Cincinnati VAMC, OH	99.2	1.31	1.13
Louis Stokes VAMC, Cleveland, Brecksville, OH	97.5	0.67	0.95
Chalmers P. Wylie Outpt Clinic, Columbus, OH	NA	NA	NA
Dayton VAMC, OH	97.6	1.47	0.98
VA Illiana Health Care System, Danville, IL	96.8	1.30	0.73
VA Northern Indiana Health Care System, Marion, Ft Wayne, IN	NA	NA	NA
Richard L. Roudebush VAMC, Indianapolis, IN	99.0	1.02	1.12
VA Ann Arbor Health Care System, MI	96.5	1.10	1.21
Battle Creek VAMC, MI	NA	NA	NA
John D. Dingell VAMC, Detroit, MI	97.2	1.66	0.72
Aleda E. Lutz VAMC, Saginaw, MI	NA	NA	NA
Jessie Brown VAMC, Chicago, IL	97.8	1.24	1.32
Edward Hines Jr. VA Hospital, Hines, IL	99.0	1.13	1.10
North Chicago VAMC, IL	99.0	1.06	0.36
Iron Mountain VAMC, MI	NA	NA	NA
William S. Middleton Memorial Veterans Hospital, Madison, WI	98.0	0.64	1.23
Clement J. Zablocki VAMC, Milwaukee, WI	97.9	0.93	0.70
Tomah VAMC, WI	NA	NA	NA
VA Eastern Kansas Health Care System, Topeka, Leavenworth, KS	97.6	NA	NA
Robert J. Dole VAMC, Wichita, KS	99.6	1.70	0.73
Harry S. Truman VAMC, Columbia, MO	97.9	1.33	1.25
Kansas City VAMC, MO	96.9	1.91	0.98
Marion VAMC, IL	NA	NA	NA
John J. Pershing VAMC, Poplar Bluff, MO	NA	NA	NA
St Louis VAMC, St Louis, Jefferson Barracks, MO	94.1	1.85	0.99
Fayetteville VAMC, AR	94.9	1.40	0.76
Central Arkansas Veterans Health Care System, Little Rock, N Little Rock, AR	95.6	0.66	0.91

Alexandria VAMC, LA	98.6	NA	NA
New Orleans VAMC, LA	NA	NA	NA
Overton Brooks VAMC, Shreveport, LA	95.0	1.24	0.85
Gulf Coast Veterans Health Care System, Biloxi, MS	99.1	0.91	1.39
G.V. Montgomery VAMC, Jackson, MS	99.9	0.82	0.72
Muskogee VAMC, OK	97.0	0.93	0.51
Oklahoma City VAMC, OK	97.4	0.77	1.11
Michael E. DeBakey VAMC, Houston, TX	94.3	0.55	1.05
VA North Texas Health Care System, Dallas, TX	97.5	1.08	1.12
South Texas Veterans Health Care System, San Antonio, Kerrville, TX	95.4	0.53	1.21
Central Texas Veterans Health Care System, Temple, Waco, Marlin, TX	96.9	0.60	0.87
Carl T. Hayden VAMC, Phoenix, AZ	97.1	1.21	1.38
No. Arizona VA Health Care System, Prescott, AZ	NA	NA	NA
So. Arizona VA Health Care System, Tucson, AZ	98.0	0.84	0.73
New Mexico Health Care System, Albuquerque, NM	97.2	1.11	0.87
Amarillo VA Health Care System, TX	97.9	1.12	0.97
West Texas VA Health Care System, Big Spring, TX	NA	NA	NA
El Paso VA Health Care System, TX	NA	NA	NA
VA Eastern Colorado Health Care System, Denver, Pueblo, CO	95.5	1.45	1.00
Grand Junction VAMC, CO	98.1	0.42	0.57
VA Montana Health Care System, Fort Harrison, MT	97.6	0.10	0.45
VA Salt Lake City Health Care System, UT	96.5	0.75	0.82
Cheyenne VAMC, WY	98.6	0.84	0.51
Sheridan VAMC, WY	NA	NA	NA
Alaska VA Health Care System and Regional Office, Anchorage, AK	NA	NA	NA
Boise VAMC, ID	98.4	1.08	0.81
Portland VAMC, OR	96.1	0.94	0.81
VA Roseburg Health Care System, OR	NA	NA	NA
Southern Oregon Rehab Center & Clinics, White City, OR	NA	NA	NA
VA Puget Sound Health Care System, Seattle, American Lake, WA	98.0	1.07	1.13
Spokane VAMC, WA	93.0	0.00	0.64
Jonathan M. Wainwright Memorial VA Medical Center, Walla Walla, WA	NA	NA	NA
VA Central California Health Care System, Fresno, CA	98.8	0.97	1.10
VA Northern California Health Care System, Martinez, Sacramento, CA	95.7	0.87	0.95
VA Palo Alto Health Care System, Palo Alto, Menlo Pk, Livermore, CA	97.3	1.00	0.94
San Francisco VAMC, CA	97.6	0.78	0.93
VA Pacific Islands Health Care System, Honolulu, HI	NA	NA	NA
VA Sierra Nevada Health Care System, Reno, NV	98.4	1.15	1.03
VA Loma Linda Health Care System, CA	98.7	0.83	0.84
VA Long Beach Health Care System, CA	95.2	0.69	1.25
VA Greater Los Angeles Health Care System, CA	97.9	0.73	0.75
VA San Diego Health Care System, CA	98.6	1.29	0.86
VA Southern Nevada Health Care System, Las Vegas, NV	97.6	0.92	0.97
VA Nebraska Western Iowa Health Care System, Omaha, Grand Is, Lincoln, NE	98.2	1.23	1.01
VA Central Iowa Health Care System, Des Moines, Knoxville, IA	97.2	2.10	1.13
Iowa City VAMC, IA	97.9	1.57	0.93
Minneapolis VAMC, MN	97.2	0.66	1.03
St. Cloud VAMC, MN	NA	NA	NA
Fargo VAMC, ND	98.7	0.74	0.85
VA Black Hills Health Care System, Ft Meade, Hot Springs, SD	NA	0.00	0.47
Sioux Falls VAMC, SD	98.3	0.39	1.31
Mean	97.24	1.02	0.97
N	106	99	99

Standard deviation	1.45	0.40	0.23
90% Confidence Limits	0.23	0.07	0.04
Confidence level high	97.47	1.09	1.01
Confidence level low	97.01	0.96	0.93

Correlation Coefficients	r value	N	p value
SCIP vs. O/E Mortality	0.0943	99	0.3530
SCIP vs. O/E Morbidity	0.0031	99	0.9757

Table 4. Length of Stay (LOS) Correlated with Performance Measure Compliance

Facility Name	LOS	Performance Measure Compliance				
	Med Surg Length of Stay (LOS)	Acute Myocardial Infarction (AMI)	Congestive Heart Failure (CHF)	Community Acquired Pneumonia	Surgical Care Improvement Program (SCIP)	Average of Process of Care Measures
VA Connecticut Health Care System, West Haven, CT	7.2	89.1	98.2	94.3	96.6	94.6
Edith N Rogers Memorial Veterans Hospital, Bedford, MA	NA	NA	NA	NA	NA	NA
VA Boston Health Care System, W Roxbury, Brockton, Jamaica Plains, MA	6.3	96.0	99.6	97.0	99.3	98.0
Northampton VAMC, MA	NA	NA	NA	NA	NA	NA
Togus VAMC, Augusta, ME	6.0	77.4	94.7	92.7	96.8	90.4
Manchester VAMC, NH	NA	NA	NA	NA	NA	NA
Providence VAMC, RI	5.1	93.4	97.1	96.0	98.0	96.1
White River Junction VAMC, VT	5.5	88.1	96.1	95.1	97.5	94.2
Samuel S. Stratton VAMC, Albany, NY	6.4	96.5	97.6	97.3	98.1	97.4
VA Western New York Health Care System Buffalo, Batavia, NY	7.4	95.7	94.4	93.6	97.6	95.3
Bath VAMC, NY	3.6	NA	98.4	97.1	NA	97.8
Canandaigua VAMC, NY	NA	NA	NA	NA	NA	NA
Syracuse VAMC, NY	6.0	94.8	98.3	99.1	96.4	97.2
VA New Jersey Health Care System, East Orange, NJ	6.8	NA	95.7	95.8	95.7	95.7
James J. Peters VAMC, Bronx, NY	7.9	91.9	96.3	95.4	95.2	94.7
VA New York Harbor Health Care System, Manhattan, Brooklyn, NY	5.9	95.7	97.5	94.2	97.4	96.2
VA Hudson Valley Health Care System, Montrose, Castle Point, NY	4.0	NA	98.3	96.6	NA	97.5
Northport VAMC, NY	8.1	98.7	94.8	94.4	96.8	96.2
Wilmington VAMC, DE	7.1	NA	94.2	94.4	98.9	95.8
James E. Van Zandt VAMC, Altoona, PA	5.1	94.7	100.0	98.7	NA	97.8
Butler VAMC, PA	NA	NA	NA	NA	NA	NA
Coatesville VAMC, PA	3.1	NA	NA	NA	NA	NA
Erie VAMC, PA	3.8	87.1	93.8	95.1	99.5	93.9
Lebanon VAMC, PA	4.4	89.7	98.5	92.4	97.1	94.4
Philadelphia VAMC, PA	6.4	89.6	95.7	96.2	94.6	94.0
VA Pittsburgh Health Care System, PA	6.0	96.2	97.2	97.2	98.1	97.2
Wilkes-Barre VAMC, PA	4.4	93.5	99.5	97.6	92.9	95.9
Louis A. Johnson VAMC, Clarksburg, WV	5.2	94.5	99.2	94.8	94.0	95.6
Washington DC VAMC, DC	5.6	94.9	97.6	95.5	97.7	96.4
VA Maryland Health Care System, Perry Pt, Baltimore, MD	5.2	93.8	96.3	95.9	95.9	95.5

Martinsburg VAMC, WV	5.6	86.5	93.7	92.9	97.6	92.7
Asheville VAMC, NC	6.1	93.6	94.5	96.4	98.0	95.6
Durham VAMC, NC	6.0	96.7	99.2	95.2	97.3	97.1
Fayetteville VAMC, NC	4.7	NA	99.7	97.7	96.9	98.1
W.G. (Bill) Hefner VAMC, Salisbury, NC	7.5	NA	97.6	98.5	97.3	97.8
Hampton VAMC, VA	8.1	NA	100.0	98.0	99.5	99.2
Hunter Holmes McGuire VAMC, Richmond, VA	5.4	92.6	94.4	95.3	96.3	94.7
Salem VAMC, VA	5.3	96.8	95.7	94.4	99.4	96.6
Beckley VAMC, WV	6.4	NA	96.9	95.9	95.2	96.0
Birmingham VAMC, AL	4.7	96.9	99.1	97.5	97.8	97.8
Central Alabama Veterans Health Care System, Tuskegee, Montgomery, AL	8.8	NA	98.1	94.9	NA	96.5
Tuscaloosa VAMC, AL	NA	NA	NA	NA	NA	NA
Atlanta VAMC, GA	6.7	97.4	99.5	98.6	97.4	98.2
Charlie Norwood VAMC, Augusta, GA	5.5	93.9	98.9	96.0	94.4	95.8
Carl Vinson VAMC, Dublin, GA	3.8	94.3	98.0	98.8	97.7	97.2
Ralph H. Johnson VAMC, Charleston, SC	5.1	93.2	98.8	97.9	97.3	96.8
Wm. Jennings Bryan Dorn VAMC, Columbia, SC	6.7	90.0	100.0	99.1	98.4	96.9
Bay Pines VA Health Care System, FL	4.7	95.7	99.1	95.0	97.6	96.9
N. Florida/S. Georgia Veterans Health Care System Gainesville, Lake City	5.1	94.1	98.3	97.5	98.1	97.0
Miami VA Health Care System, FL	5.7	88.5	95.7	99.2	96.0	94.9
Orlando VAMC, FL	NA	NA	NA	NA	NA	NA
James A. Haley VAMC, Tampa, FL	5.4	95.0	98.8	97.5	96.3	96.9
West Palm Beach VAMC, FL	4.7	95.5	96.9	96.6	95.5	96.1
VA Caribbean Health Care System, San Juan, PR	7.9	93.7	97.0	92.6	97.5	95.2
Lexington VAMC, KY	4.3	91.7	98.3	96.9	97.2	96.0
Louisville VAMC, KY	5.0	95.2	97.9	96.9	95.5	96.4
Memphis VAMC, TN	5.4	95.0	98.0	95.8	96.7	96.4
Mountain Home VAMC, TN	4.7	97.3	98.6	96.3	98.4	97.7
Tennessee Valley Health Care System, Nashville, Murfreesboro, TN	5.6	95.1	97.4	94.7	96.3	95.9
Huntington VAMC, WV	4.7	92.1	95.5	95.4	99.5	95.6
Chillicothe VAMC, OH	4.5	95.1	98.9	97.7	NA	97.2
Cincinnati VAMC, OH	4.5	97.1	98.9	97.6	99.2	98.2
Louis Stokes VAMC, Cleveland, Brecksville, OH	5.9	97.8	100.0	96.6	97.5	98.0
Chalmers P. Wylie Outpt Clinic, Columbus, OH	NA	NA	NA	NA	NA	NA
Dayton VAMC, OH	4.5	91.6	95.2	94.2	97.6	94.7
VA Illiana Health Care System, Danville, IL	3.5	90.5	96.3	92.8	96.8	94.1
VA Northern Indiana Health Care System, Marion, Ft Wayne, IN	5.4	NA	91.4	93.5	NA	92.5
Richard L. Roudebush VAMC, Indianapolis, IN	4.9	95.6	98.7	95.0	99.0	97.1
VA Ann Arbor Health Care System, MI	5.4	93.6	96.5	93.0	96.5	94.9
Battle Creek VAMC, MI	6.8	NA	98.8	95.2	NA	97.0
John D. Dingell VAMC, Detroit, MI	5.2	100.0	98.1	98.9	97.2	98.6
Aleda E. Lutz VAMC, Saginaw, MI	2.8	NA	100.0	97.2	NA	98.6
Jessie Brown VAMC, Chicago, IL	4.7	93.7	99.9	94.6	97.8	96.5
Edward Hines Jr. VA Hospital, Hines, IL	5.1	97.3	98.9	95.8	99.0	97.8
North Chicago VAMC, IL	3.9	100.0	99.1	99.2	99.0	99.3
Iron Mountain VAMC, MI	3.5	NA	94.1	96.7	NA	95.4
William S. Middleton Memorial Veterans Hospital, Madison, WI	6.0	95.8	97.5	98.3	98.0	97.4
Clement J. Zablocki VAMC, Milwaukee, WI	4.9	93.7	98.0	96.4	97.9	96.5
Tomah VAMC, WI	3.4	NA	92.9	98.7	NA	95.8

VA Eastern Kansas Health Care System, Topeka, Leavenworth, KS	4.1	94.1	98.3	97.3	97.6	96.8
Robert J. Dole VAMC, Wichita, KS	4.2	92.3	100.0	96.7	99.6	97.2
Harry S. Truman VAMC, Columbia, MO	4.7	94.3	99.4	97.3	97.9	97.2
Kansas City VAMC, MO	4.7	93.9	92.8	97.4	96.9	95.3
Marion VAMC, IL	4.5	71.0	98.5	95.3	NA	88.3
John J. Pershing VAMC, Poplar Bluff, MO	3.7	91.6	98.2	95.3	NA	95.0
St Louis VAMC, St Louis, Jefferson Barracks, MO	4.5	95.4	96.0	96.8	94.1	95.6
Fayetteville VAMC, AR	4.5	88.1	97.2	97.3	94.9	94.4
Central Arkansas Veterans Health Care System, Little Rock, N Little Rock, AR	5.8	90.8	92.1	95.1	95.6	93.4
Alexandria VAMC, LA	7.3	93.7	97.9	98.7	98.6	97.2
New Orleans VAMC, LA	NA	NA	NA	NA	NA	NA
Overton Brooks VAMC, Shreveport, LA	5.2	97.6	97.5	97.1	95.0	96.8
Gulf Coast Veterans Health Care System, Biloxi, MS	5.7	100.0	99.3	92.9	99.1	97.8
G.V. Montgomery VAMC, Jackson, MS	5.3	97.2	99.1	96.1	99.9	98.1
Muskogee VAMC, OK	4.7	93.6	97.2	96.4	97.0	96.1
Oklahoma City VAMC, OK	6.3	91.9	99.3	95.3	97.4	96.0
Michael E. DeBakey VAMC, Houston, TX	6.0	94.2	94.2	95.2	94.3	94.5
VA North Texas Health Care System, Dallas, TX	4.9	97.3	98.3	95.2	97.5	97.1
South Texas Veterans Health Care System, San Antonio, Kerrville, TX	6.3	96.9	98.9	97.8	95.4	97.3
Central Texas Veterans Health Care System, Temple, Waco, Marlin, TX	6.8	89.2	96.1	95.1	96.9	94.3
Carl T. Hayden VAMC, Phoenix, AZ	5.2	94.9	99.4	98.3	97.1	97.4
No. Arizona VA Health Care System, Prescott, AZ	5.1	95.4	94.6	97.7	NA	95.9
So. Arizona VA Health Care System, Tucson, AZ	4.8	95.6	99.2	97.7	98.0	97.6
New Mexico Health Care System, Albuquerque, NM	5.2	92.8	92.4	95.8	97.2	94.6
Amarillo VA Health Care System, TX	4.6	96.2	91.5	96.0	97.9	95.4
West Texas VA Health Care System, Big Spring, TX	3.0	NA	90.7	100.0	NA	95.4
El Paso VA Health Care System, TX	NA	NA	NA	NA	NA	NA
VA Eastern Colorado Health Care System, Denver, Pueblo, CO	4.8	93.3	93.6	95.3	95.5	94.4
Grand Junction VAMC, CO	3.6	NA	98.7	95.6	98.1	97.5
VA Montana Health Care System, Fort Harrison, MT	4.5	86.0	97.8	97.5	97.6	94.7
VA Salt Lake City Health Care System, UT	4.0	94.8	96.8	94.5	96.5	95.7
Cheyenne VAMC, WY	4.8	NA	82.8	87.1	98.6	89.5
Sheridan VAMC, WY	3.6	NA	100.0	96.5	NA	98.3
Alaska VA Health Care System and Regional Office, Anchorage, AK	NA	NA	NA	NA	NA	NA
Boise VAMC, ID	4.1	97.7	98.9	99.0	98.4	98.5
Portland VAMC, OR	5.2	96.4	95.8	97.2	96.1	96.4
VA Roseburg Health Care System, OR	4.0	93.9	99.5	93.9	NA	95.8
Southern Oregon Rehab Center & Clinics, White City, OR	NA	NA	NA	NA	NA	NA
VA Puget Sound Health Care System, Seattle, American Lake, WA	5.7	94.4	94.3	91.0	98.0	94.4
Spokane VAMC, WA	4.5	85.4	95.3	98.8	93.0	93.1
Jonathan M. Wainwright Memorial VA Medical Center, WallaWalla, WA	NA	NA	NA	NA	NA	NA
VA Central California Health Care System, Fresno, CA	4.9	96.8	100.0	99.3	98.8	98.7
VA Northern California Health Care System, Martinez, Sacramento, CA	3.5	88.6	97.7	95.7	95.7	94.4
VA Palo Alto Health Care System, Palo Alto, Menlo Pk, Livermore, CA	6.1	94.2	96.8	97.6	97.3	96.5

San Francisco VAMC, CA	5.9	94.7	93.3	96.4	97.6	95.5
VA Pacific Islands Health Care System, Honolulu, HI	NA	NA	NA	NA	NA	NA
VA Sierra Nevada Health Care System, Reno, NV	4.7	96.3	97.9	96.1	98.4	97.2
VA Loma Linda Health Care System, CA	5.5	95.7	99.6	96.5	98.7	97.6
VA Long Beach Health Care System, CA	5.7	94.7	93.6	96.1	95.2	94.9
VA Greater Los Angeles Health Care System, CA	6.1	87.8	93.4	90.9	97.9	92.5
VA San Diego Health Care System, CA	5.1	96.3	99.8	96.2	98.6	97.7
VA Southern Nevada Health Care System, Las Vegas, NV	5.3	NA	95.9	94.7	97.6	96.1
VA Nebraska Western Iowa Health Care System, Omaha, Grand Is, Lincoln, NE	4.3	93.9	99.7	99.0	98.2	97.7
VA Central Iowa Health Care System, Des Moines, Knoxville, IA	4.4	91.7	97.9	98.8	97.2	96.4
Iowa City VAMC, IA	4.5	95.3	98.8	94.4	97.9	96.6
Minneapolis VAMC, MN	4.7	95.0	96.7	98.4	97.2	96.8
St. Cloud VAMC, MN	NA	NA	NA	NA	NA	NA
Fargo VAMC, ND	5.2	86.4	97.7	93.5	98.7	94.1
VA Black Hills Health Care System, Ft Meade, Hot Springs, SD	4.1	NA	92.1	95.3	NA	93.7
Sioux Falls VAMC, SD	4.0	78.7	97.4	99.0	98.3	93.4
Mean	5.22	93.40	97.05	96.16	97.24	96.03
N	124	103	123	123	106	123
Standard deviation	1.15	4.41	2.61	2.03	1.45	1.82
90% Confidence Limits	0.17	0.72	0.39	0.30	0.23	0.27
Confidence level high	5.39	94.11	97.44	96.46	97.47	96.30
Confidence level low	5.05	92.68	96.67	95.86	97.01	95.76

Correlation Coefficients	r value	N	p value
LOS compared to AMI	0.1047	103	0.2926
LOS compared to CHF	-0.0178	123	0.8451
LOS compared to Pneumonia	-0.1679	123	0.0634
LOS compared to SCIP	-0.0404	106	0.6809
LOS compared to average	0.0028	123	0.9755

Facility Name	Readmission Rate	Performance Measures			
		Acute Myocardial Infarction (AMI)	Congestive Heart Failure (CHF)	Community Acquired Pneumonia	Average of Process of Care Measures
VA Connecticut Health Care System, West Haven, CT	12.57	89.1	98.2	94.3	93.9
Edith N Rogers Memorial Veterans Hospital, Bedford, MA	NA	NA	NA	NA	NA
VA Boston Health Care System, W Roxbury, Brockton, Jamaica Plains, MA	13.39	96.0	99.6	97.0	97.5
Northampton VAMC, MA	NA	NA	NA	NA	NA
Togus VAMC, Augusta, ME	9.93	77.4	94.7	92.7	88.3
Manchester VAMC, NH	NA	NA	NA	NA	NA
Providence VAMC, RI	14.15	93.4	97.1	96.0	95.5
White River Junction VAMC, VT	13.19	88.1	96.1	95.1	93.1
Samuel S. Stratton VAMC, Albany, NY	13.12	96.5	97.6	97.3	97.1
VA Western New York Health Care System Buffalo, Batavia, NY	13.48	95.7	94.4	93.6	94.6
Bath VAMC, NY	11.60	NA	98.4	97.1	97.8
Canandaigua VAMC, NY	NA	NA	NA	NA	NA
Syracuse VAMC, NY	14.41	94.8	98.3	99.1	97.4
VA New Jersey Health Care System, East Orange, NJ	15.78	NA	95.7	95.8	95.8
James J. Peters VAMC, Bronx, NY	15.00	91.9	96.3	95.4	94.5
VA New York Harbor Health Care System, Manhattan, Brooklyn, NY	16.50	95.7	97.5	94.2	95.8
VA Hudson Valley Health Care System, Montrose, Castle Point, NY	12.05	NA	98.3	96.6	97.5
Northport VAMC, NY	13.77	98.7	94.8	94.4	96.0
Wilmington VAMC, DE	13.93	NA	94.2	94.4	94.3
James E. Van Zandt VAMC, Altoona, PA	9.86	94.7	100.0	98.7	97.8
Butler VAMC, PA	NA	NA	NA	NA	NA
Coatesville VAMC, PA	4.17	NA	NA	NA	NA
Erie VAMC, PA	10.85	87.1	93.8	95.1	92.0
Lebanon VAMC, PA	11.20	89.7	98.5	92.4	93.5
Philadelphia VAMC, PA	11.10	89.6	95.7	96.2	93.8
VA Pittsburgh Health Care System, PA	14.85	96.2	97.2	97.2	96.9
Wilkes-Barre VAMC, PA	15.09	93.5	99.5	97.6	96.9
Louis A. Johnson VAMC, Clarksburg, WV	11.92	94.5	99.2	94.8	96.2
Washington DC VAMC, DC	12.92	94.9	97.6	95.5	96.0
VA Maryland Health Care System, Perry Pt, Baltimore, MD	13.15	93.8	96.3	95.9	95.3
Martinsburg VAMC, WV	12.15	86.5	93.7	92.9	91.0
Asheville VAMC, NC	12.25	93.6	94.5	96.4	94.8

Durham VAMC, NC	12.32	96.7	99.2	95.2	97.0
Fayetteville VAMC, NC	9.88	NA	99.7	97.7	98.7
W.G. (Bill) Hefner VAMC, Salisbury, NC	8.10	NA	97.6	98.5	98.1
Hampton VAMC, VA	11.03	NA	100.0	98.0	99.0
Hunter Holmes McGuire VAMC, Richmond, VA	13.40	92.6	94.4	95.3	94.1
Salem VAMC, VA	15.50	96.8	95.7	94.4	95.6
Beckley VAMC, WV	15.09	NA	96.9	95.9	96.4
Birmingham VAMC, AL	13.05	96.9	99.1	97.5	97.8
Central Alabama Veterans Health Care System, Tuskegee, Montgomery, AL	7.22	NA	98.1	94.9	96.5
Tuscaloosa VAMC, AL	NA	NA	NA	NA	NA
Atlanta VAMC, GA	12.16	97.4	99.5	98.6	98.5
Charlie Norwood VAMC, Augusta, GA	12.84	93.9	98.9	96.0	96.3
Carl Vinson VAMC, Dublin, GA	11.69	94.3	98.0	98.8	97.0
Ralph H. Johnson VAMC, Charleston, SC	12.82	93.2	98.8	97.9	96.6
Wm. Jennings Bryan Dorn VAMC, Columbia, SC	13.54	90.0	100.0	99.1	96.4
Bay Pines VA Health Care System, FL	13.01	95.7	99.1	95.0	96.6
N. Florida/S. Georgia Veterans Health Care System Gainesville, Lake City	15.02	94.1	98.3	97.5	96.6
Miami VA Health Care System, FL	14.02	88.5	95.7	99.2	94.5
Orlando VAMC, FL	NA	NA	NA	NA	NA
James A. Haley VAMC, Tampa, FL	15.01	95.0	98.8	97.5	97.1
West Palm Beach VAMC, FL	7.74	95.5	96.9	96.6	96.3
VA Caribbean Health Care System, San Juan, PR	15.85	93.7	97.0	92.6	94.4
Lexington VAMC, KY	16.15	91.7	98.3	96.9	95.6
Louisville VAMC, KY	10.31	95.2	97.9	96.9	96.7
Memphis VAMC, TN	13.74	95.0	98.0	95.8	96.3
Mountain Home VAMC, TN	12.62	97.3	98.6	96.3	97.4
Tennessee Valley Health Care System, Nashville, Murfreesboro, TN	14.54	95.1	97.4	94.7	95.7
Huntington VAMC, WV	12.82	92.1	95.5	95.4	94.3
Chillicothe VAMC, OH	12.78	95.1	98.9	97.7	97.2
Cincinnati VAMC, OH	15.63	97.1	98.9	97.6	97.9
Louis Stokes VAMC, Cleveland, Brecksville, OH	15.21	97.8	100.0	96.6	98.1
Chalmers P. Wylie Outpt Clinic, Columbus, OH	NA	NA	NA	NA	NA
Dayton VAMC, OH	14.04	91.6	95.2	94.2	93.7
VA Illiana Health Care System, Danville, IL	13.55	90.5	96.3	92.8	NA
VA Northern Indiana Health Care System, Marion, Ft Wayne, IN	12.56	NA	91.4	93.5	92.5
Richard L. Roudebush VAMC, Indianapolis, IN	15.45	95.6	98.7	95.0	96.4
VA Ann Arbor Health Care System, MI	13.54	93.6	96.5	93.0	94.4
Battle Creek VAMC, MI	8.38	NA	98.8	95.2	97.0
John D. Dingell VAMC, Detroit, MI	13.77	100.0	98.1	98.9	99.0
Aleda E. Lutz VAMC, Saginaw, MI	13.58	NA	100.0	97.2	98.6
Jessie Brown VAMC, Chicago, IL	15.99	93.7	99.9	94.6	96.1
Edward Hines Jr. VA Hospital, Hines, IL	15.88	97.3	98.9	95.8	97.3
North Chicago VAMC, IL	11.43	100.0	99.1	99.2	99.4
Iron Mountain VAMC, MI	11.38	NA	94.1	96.7	95.4
William S. Middleton Memorial Veterans Hospital, Madison, WI	13.56	95.8	97.5	98.3	97.2
Clement J. Zablocki VAMC, Milwaukee, WI	14.54	93.7	98.0	96.4	96.0
Tomah VAMC, WI	13.61	NA	92.9	98.7	95.8
VA Eastern Kansas Health Care System, Topeka, Leavenworth, KS	13.20	94.1	98.3	97.3	96.6
Robert J. Dole VAMC, Wichita, KS	11.96	92.3	100.0	96.7	96.3

Harry S. Truman VAMC, Columbia, MO	12.99	94.3	99.4	97.3	97.0
Kansas City VAMC, MO	14.05	93.9	92.8	97.4	94.7
Marion VAMC, IL	15.26	71.0	98.5	95.3	88.3
John J. Pershing VAMC, Poplar Bluff, MO	14.00	91.6	98.2	95.3	95.0
St Louis VAMC, St Louis, Jefferson Barracks, MO	13.88	95.4	96.0	96.8	96.1
Fayetteville VAMC, AR	12.83	88.1	97.2	97.3	94.2
Central Arkansas Veterans Health Care System, Little Rock, N Little Rock, AR	14.00	90.8	92.1	95.1	92.7
Alexandria VAMC, LA	12.57	93.7	97.9	98.7	96.8
New Orleans VAMC, LA	NA	NA	NA	NA	NA
Overton Brooks VAMC, Shreveport, LA	14.70	97.6	97.5	97.1	97.4
Gulf Coast Veterans Health Care System, Biloxi, MS	9.06	100.0	99.3	92.9	97.4
G.V. Montgomery VAMC, Jackson, MS	14.41	97.2	99.1	96.1	97.5
Muskogee VAMC, OK	12.84	93.6	97.2	96.4	95.7
Oklahoma City VAMC, OK	13.03	91.9	99.3	95.3	95.5
Michael E. DeBakey VAMC, Houston, TX	13.14	94.2	94.2	95.2	94.5
VA North Texas Health Care System, Dallas, TX	14.32	97.3	98.3	95.2	96.9
South Texas Veterans Health Care System, San Antonio, Kerrville, TX	11.95	96.9	98.9	97.8	97.9
Central Texas Veterans Health Care System, Temple, Waco, Marlin, TX	11.00	89.2	96.1	95.1	93.5
Carl T. Hayden VAMC, Phoenix, AZ	11.82	94.9	99.4	98.3	97.5
No. Arizona VA Health Care System, Prescott, AZ	13.04	95.4	94.6	97.7	95.9
So. Arizona VA Health Care System, Tucson, AZ	14.26	95.6	99.2	97.7	97.5
New Mexico Health Care System, Albuquerque, NM	12.46	92.8	92.4	95.8	93.7
Amarillo VA Health Care System, TX	10.78	96.2	91.5	96.0	94.6
West Texas VA Health Care System, Big Spring, TX	10.21	NA	90.7	100.0	95.4
El Paso VA Health Care System, TX	NA	NA	NA	NA	NA
VA Eastern Colorado Health Care System, Denver, Pueblo, CO	11.50	93.3	93.6	95.3	94.1
Grand Junction VAMC, CO	8.33	NA	98.7	95.6	97.2
VA Montana Health Care System, Fort Harrison, MT	NA	86.0	97.8	97.5	93.8
VA Salt Lake City Health Care System, UT	13.66	94.8	96.8	94.5	95.4
Cheyenne VAMC, WY	8.70	NA	82.8	87.1	85.0
Sheridan VAMC, WY	14.93	NA	100.0	96.5	98.3
Alaska VA Health Care System and Regional Office, Anchorage, AK	NA	NA	NA	NA	NA
Boise VAMC, ID	12.04	97.7	98.9	99.0	98.5
Portland VAMC, OR	13.26	96.4	95.8	97.2	96.5
VA Roseburg Health Care System, OR	9.55	93.9	99.5	93.9	95.8
Southern Oregon Rehab Center & Clinics, White City, OR	NA	NA	NA	NA	NA
VA Puget Sound Health Care System, Seattle, American Lake, WA	13.01	94.4	94.3	91.0	93.2
Spokane VAMC, WA	8.80	85.4	95.3	98.8	93.2
Jonathan M. Wainwright Memorial VA Medical Center, Walla Walla, WA	NA	NA	NA	NA	NA
VA Central California Health Care System, Fresno, CA	13.42	96.8	100.0	99.3	98.7
VA Northern California Health Care System, Martinez, Sacramento, CA	10.34	88.6	97.7	95.7	94.0
VA Palo Alto Health Care System, Palo Alto, Menlo Pk, Livermore, CA	10.89	94.2	96.8	97.6	96.2

San Francisco VAMC, CA	13.18	94.7	93.3	96.4	94.8
VA Pacific Islands Health Care System, Honolulu, HI	NA	NA	NA	NA	NA
VA Sierra Nevada Health Care System, Reno, NV	12.16	96.3	97.9	96.1	96.8
VA Loma Linda Health Care System, CA	12.17	95.7	99.6	96.5	97.3
VA Long Beach Health Care System, CA	14.96	94.7	93.6	96.1	94.8
VA Greater Los Angeles Health Care System, CA	13.09	87.8	93.4	90.9	90.7
VA San Diego Health Care System, CA	13.18	96.3	99.8	96.2	97.4
VA Southern Nevada Health Care System, Las Vegas, NV	9.06	NA	95.9	94.7	95.3
VA Nebraska Western Iowa Health Care System, Omaha, Grand Is, Lincoln, NE	14.27	93.9	99.7	99.0	97.5
VA Central Iowa Health Care System, Des Moines, Knoxville, IA	13.08	91.7	97.9	98.8	96.1
Iowa City VAMC, IA	12.27	95.3	98.8	94.4	96.2
Minneapolis VAMC, MN	11.98	95.0	96.7	98.4	96.7
St. Cloud VAMC, MN	0	NA	NA	NA	NA
Fargo VAMC, ND	10.12	86.4	97.7	93.5	92.5
VA Black Hills Health Care System, Ft Meade, Hot Springs, SD	9.75	NA	92.1	95.3	93.7
Sioux Falls VAMC, SD	11.71	78.7	97.4	99.0	91.7
Mean	12.56	93.40	97.05	96.16	95.69
N	124	103	123	123	122
Standard deviation	2.39	4.41	2.61	2.03	2.24
90% Confidence Limits	0.35	0.72	0.39	0.30	0.33
Confidence level high	12.92	94.11	97.44	96.46	96.03
Confidence level low	12.21	92.68	96.67	95.86	95.36

Correlation Coefficients			
	r value	N	p
AMI	0.1688	103	0.0883
CHF	0.1505	123	0.0966
Pneumonia	0.0581	123	0.5233
Average	0.1281	122	0.1597

Table 6. Hospital Level Correlated with Performance Measure Compliance

Facility Name	Hospital Level	Performance Measure Compliance				
		Acute Myocardial Infarction (AMI)	Congestive Heart Failure (CHF)	Community Acquired Pneumonia	Surgical Care Improvement Program (SCIP)	Average of Process of Care Measures
VA Connecticut Health Care System, West Haven, CT	1	89.1	98.2	94.3	96.6	94.6
Edith N Rogers Memorial Veterans Hospital, Bedford, Ma	NA	NA	NA	NA	NA	NA
VA Boston Health Care System, W Roxbury, Brockton, Jamaica Plains, MA	1	96.0	99.6	97.0	99.3	98.0
Northampton VAMC, MA	NA	NA	NA	NA	NA	NA
Togus VAMC, Augusta, ME	3	77.4	94.7	92.7	96.8	90.4
Manchester VAMC, NH	NA	NA	NA	NA	NA	NA
Providence VAMC, RI	3	93.4	97.1	96.0	98.0	96.1
White River Junction VAMC, VT	3	88.1	96.1	95.1	97.5	94.2
Samuel S. Stratton VAMC, Albany, NY	2	96.5	97.6	97.3	98.1	97.4
VA Western New York Health Care System Buffalo, Batavia, NY	1	95.7	94.4	93.6	97.6	95.3
Bath VAMC, NY	4	NA	98.4	97.1	NA	97.8
Canandaigua VAMC, NY	NA	NA	NA	NA	NA	NA
Syracuse VAMC, NY	2	94.8	98.3	99.1	96.4	97.2
VA New Jersey Health Care System, East Orange, NJ	2	NA	95.7	95.8	95.7	95.7
James J. Peters VAMC, Bronx, NY	2	91.9	96.3	95.4	95.2	94.7
VA New York Harbor Health Care System, Manhattan, Brooklyn, NY	1	95.7	97.5	94.2	97.4	96.2
VA Hudson Valley Health Care System, Montrose, Castle Point, NY	NA	NA	98.3	96.6	NA	97.5
Northport VAMC, NY	2	98.7	94.8	94.4	96.8	96.2
Wilmington VAMC, DE	3	NA	94.2	94.4	98.9	95.8
James E. Van Zandt VAMC, Altoona, PA	4	94.7	100.0	98.7	NA	97.8
Butler VAMC, PA	NA	NA	NA	NA	NA	NA
Coatesville VAMC, PA	NA	NA	NA	NA	NA	NA
Erie VAMC, PA	4	87.1	93.8	95.1	99.5	93.9
Lebanon VAMC, PA	3	89.7	98.5	92.4	97.1	94.4
Philadelphia VAMC, PA	1	89.6	95.7	96.2	94.6	94.0
VA Pittsburgh Health Care System, PA	1	96.2	97.2	97.2	98.1	97.2
Wilkes-Barre VAMC, PA	3	93.5	99.5	97.6	92.9	95.9
Louis A. Johnson VAMC, Clarksburg, WV	3	94.5	99.2	94.8	94.0	95.6
Washington DC VAMC, DC	1	94.9	97.6	95.5	97.7	96.4

VA Maryland Health Care System, Perry Pt, Baltimore, MD	1	93.8	96.3	95.9	95.9	95.5
Martinsburg VAMC, WV	3	86.5	93.7	92.9	97.6	92.7
Asheville VAMC, NC	2	93.6	94.5	96.4	98.0	95.6
Durham VAMC, NC	1	96.7	99.2	95.2	97.3	97.1
Fayetteville VAMC, NC	4	NA	99.7	97.7	96.9	98.1
W.G. (Bill) Hefner VAMC, Salisbury, NC	3	NA	97.6	98.5	97.3	97.8
Hampton VAMC, VA	3	NA	100.0	98.0	99.5	99.2
Hunter Holmes McGuire VAMC, Richmond, VA	1	92.6	94.4	95.3	96.3	94.7
Salem VAMC, VA	2	96.8	95.7	94.4	99.4	96.6
Beckley VAMC, WV	4	NA	96.9	95.9	95.2	96.0
Birmingham VAMC, AL	1	96.9	99.1	97.5	97.8	97.8
Central Alabama Veterans Health Care System, Tuskegee, Montgomery, AL	4	NA	98.1	94.9	NA	96.5
Tuscaloosa VAMC, AL	NA	NA	NA	NA	NA	NA
Atlanta VAMC, GA	1	97.4	99.5	98.6	97.4	98.2
Charlie Norwood VAMC, Augusta, GA	1	93.9	98.9	96.0	94.4	95.8
Carl Vinson VAMC, Dublin, GA	4	94.3	98.0	98.8	97.7	97.2
Ralph H. Johnson VAMC, Charleston, SC	1	93.2	98.8	97.9	97.3	96.8
Wm. Jennings Bryan Dorn VAMC, Columbia, SC	2	90.0	100.0	99.1	98.4	96.9
Bay Pines VA Health Care System, FL	2	95.7	99.1	95.0	97.6	96.9
N. Florida/S. Georgia Veterans Health Care System Gainesville, Lake City	1	94.1	98.3	97.5	98.1	97.0
Miami VA Health Care System, FL	1	88.5	95.7	99.2	96.0	94.9
Orlando VAMC, FL	3	NA	NA	NA	NA	NA
James A. Haley VAMC, Tampa, FL	1	95.0	98.8	97.5	96.3	96.9
West Palm Beach VAMC, FL	3	95.5	96.9	96.6	95.5	96.1
VA Caribbean Health Care System, San Juan, PR	1	93.7	97.0	92.6	97.5	95.2
Lexington VAMC, KY	1	91.7	98.3	96.9	97.2	96.0
Louisville VAMC, KY	1	95.2	97.9	96.9	95.5	96.4
Memphis VAMC, TN	1	95.0	98.0	95.8	96.7	96.4
Mountain Home VAMC, TN	3	97.3	98.6	96.3	98.4	97.7
Tennessee Valley Health Care System, Nashville, Murfreesboro, TN	1	95.1	97.4	94.7	96.3	95.9
Huntington VAMC, WV	3	92.1	95.5	95.4	99.5	95.6
Chillicothe VAMC, OH	4	95.1	98.9	97.7	NA	97.2
Cincinnati VAMC, OH	1	97.1	98.9	97.6	99.2	98.2
Louis Stokes VAMC, Cleveland, Brecksville, OH	1	97.8	100.0	96.6	97.5	98.0
Chalmers P. Wylie Outpt Clinic, Columbus, OH	NA	NA	NA	NA	NA	NA
Dayton VAMC, OH	2	91.6	95.2	94.2	97.6	94.7
VA Illiana Health Care System, Danville, IL	3	90.5	96.3	92.8	96.8	94.1
VA Northern Indiana Health Care System, Marion, Ft Wayne, IN	3	NA	91.4	93.5	NA	92.5
Richard L. Roudebush VAMC, Indianapolis, IN	1	95.6	98.7	95.0	99.0	97.1
VA Ann Arbor Health Care System, MI	1	93.6	96.5	93.0	96.5	94.9
Battle Creek VAMC, MI	NA	NA	98.8	95.2	NA	97.0
John D. Dingell VAMC, Detroit, MI	2	100.0	98.1	98.9	97.2	98.6
Aleda E. Lutz VAMC, Saginaw, MI	4	NA	100.0	97.2	NA	98.6
Jessie Brown VAMC, Chicago, IL	1	93.7	99.9	94.6	97.8	96.5
Edward Hines Jr. VA Hospital, Hines, IL	1	97.3	98.9	95.8	99.0	97.8
North Chicago VAMC, IL	3	100.0	99.1	99.2	99.0	99.3
Iron Mountain VAMC, MI	4	NA	94.1	96.7	NA	95.4
William S. Middleton Memorial Veterans Hospital, Madison, WI	1	95.8	97.5	98.3	98.0	97.4

Clement J. Zablocki VAMC, Milwaukee, WI	1	93.7	98.0	96.4	97.9	96.5
Tomah VAMC, WI	NA	NA	92.9	98.7	NA	95.8
VA Eastern Kansas Health Care System, Topeka, Leavenworth, KS	4	94.1	98.3	97.3	97.6	96.8
Robert J. Dole VAMC, Wichita, KS	2	92.3	100.0	96.7	99.6	97.2
Harry S. Truman VAMC, Columbia, MO	1	94.3	99.4	97.3	97.9	97.2
Kansas City VAMC, MO	2	93.9	92.8	97.4	96.9	95.3
Marion VAMC, IL	4	71.0	98.5	95.3	NA	88.3
John J. Pershing VAMC, Poplar Bluff, MO	NA	91.6	98.2	95.3	NA	95.0
St Louis VAMC, St Louis, Jefferson Barracks, MO	1	95.4	96.0	96.8	94.1	95.6
Fayetteville VAMC, AR	3	88.1	97.2	97.3	94.9	94.4
Central Arkansas Veterans Health Care System, Little Rock, N Little Rock, AR	1	90.8	92.1	95.1	95.6	93.4
Alexandria VAMC, LA	4	93.7	97.9	98.7	98.6	97.2
New Orleans VAMC, LA	NA	NA	NA	NA	NA	NA
Overton Brooks VAMC, Shreveport, LA	2	97.6	97.5	97.1	95.0	96.8
Gulf Coast Veterans Health Care System, Biloxi, MS	3	100.0	99.3	92.9	99.1	97.8
G.V. Montgomery VAMC, Jackson, MS	1	97.2	99.1	96.1	99.9	98.1
Muskogee VAMC, OK	4	93.6	97.2	96.4	97.0	96.1
Oklahoma City VAMC, OK	1	91.9	99.3	95.3	97.4	96.0
Michael E. DeBakey VAMC, Houston, TX	1	94.2	94.2	95.2	94.3	94.5
VA North Texas Health Care System, Dallas, TX	1	97.3	98.3	95.2	97.5	97.1
South Texas Veterans Health Care System, San Antonio, Kerrville, TX	1	96.9	98.9	97.8	95.4	97.3
Central Texas Veterans Health Care System, Temple, Waco, Marlin, TX	3	89.2	96.1	95.1	96.9	94.3
Carl T. Hayden VAMC, Phoenix, AZ	2	94.9	99.4	98.3	97.1	97.4
No. Arizona VA Health Care System, Prescott, AZ	4	95.4	94.6	97.7	NA	95.9
So. Arizona VA Health Care System, Tucson, AZ	1	95.6	99.2	97.7	98.0	97.6
New Mexico Health Care System, Albuquerque, NM	1	92.8	92.4	95.8	97.2	94.6
Amarillo VA Health Care System, TX	3	96.2	91.5	96.0	97.9	95.4
West Texas VA Health Care System, Big Spring, TX	4	NA	90.7	100.0	NA	95.4
El Paso VA Health Care System, TX	NA	NA	NA	NA	NA	NA
VA Eastern Colorado Health Care System, Denver, Pueblo, CO	1	93.3	93.6	95.3	95.5	94.4
Grand Junction VAMC, CO	3	NA	98.7	95.6	98.1	97.5
VA Montana Health Care System, Fort Harrison, MT	3	86.0	97.8	97.5	97.6	94.7
VA Salt Lake City Health Care System, UT	1	94.8	96.8	94.5	96.5	95.7
Cheyenne VAMC, WY	4	NA	82.8	87.1	98.6	89.5
Sheridan VAMC, WY	4	NA	100.0	96.5	NA	98.3
Alaska VA Health Care System and Regional Office, Anchorage, AK	NA	NA	NA	NA	NA	NA
Boise VAMC, ID	3	97.7	98.9	99.0	98.4	98.5
Portland VAMC, OR	1	96.4	95.8	97.2	96.1	96.4
VA Roseburg Health Care System, OR	4	93.9	99.5	93.9	NA	95.8
Southern Oregon Rehab Center & Clinics, White City, OR	NA	NA	NA	NA	NA	NA

VA Puget Sound Health Care System, Seattle, American Lake, WA	1	94.4	94.3	91.0	98.0	94.4
Spokane VAMC, WA	4	85.4	95.3	98.8	93.0	93.1
Jonathan M. Wainwright Memorial VA Medical Center, Walla Walla, WA	NA	NA	NA	NA	NA	NA
VA Central California Health Care System, Fresno, CA	3	96.8	100.0	99.3	98.8	98.7
VA Northern California Health Care System, Martinez, Sacramento, CA	3	88.6	97.7	95.7	95.7	94.4
VA Palo Alto Health Care System, Palo Alto, Menlo Pk, Livermore, CA	1	94.2	96.8	97.6	97.3	96.5
San Francisco VAMC, CA	1	94.7	93.3	96.4	97.6	95.5
VA Pacific Islands Health Care System, Honolulu, HI	NA	NA	NA	NA	NA	NA
VA Sierra Nevada Health Care System, Reno, NV	3	96.3	97.9	96.1	98.4	97.2
VA Loma Linda Health Care System, CA	1	95.7	99.6	96.5	98.7	97.6
VA Long Beach Health Care System, CA	2	94.7	93.6	96.1	95.2	94.9
VA Greater Los Angeles Health Care System, CA	1	87.8	93.4	90.9	97.9	92.5
VA San Diego Health Care System, CA	1	96.3	99.8	96.2	98.6	97.7
VA Southern Nevada Health Care System, Las Vegas, NV	3	NA	95.9	94.7	97.6	96.1
VA Nebraska Western Iowa Health Care System, Omaha, Grand Is, Lincoln, NE	2	93.9	99.7	99.0	98.2	97.7
VA Central Iowa Health Care System, Des Moines, Knoxville, IA	2	91.7	97.9	98.8	97.2	96.4
Iowa City VAMC, IA	2	95.3	98.8	94.4	97.9	96.6
Minneapolis VAMC, MN	1	95.0	96.7	98.4	97.2	96.8
St. Cloud VAMC, MN	NA	NA	NA	NA	NA	NA
Fargo VAMC, ND	3	86.4	97.7	93.5	98.7	94.1
VA Black Hills Health Care System, Ft Meade, Hot Springs, SD	3	NA	92.1	95.3	NA	93.7
Sioux Falls VAMC, SD	3	78.7	97.4	99.0	98.3	93.4
Mean	2.18	93.40	97.05	96.16	97.24	96.03
N	120	103	123	123	106	123
Standard deviation	1.15	4.41	2.61	2.03	1.45	1.82
90% Confidence Limits	0.17	0.72	0.39	0.30	0.23	0.27
Confidence level high	2.35	94.11	97.44	96.46	97.47	96.30
Confidence level low	2.00	92.68	96.67	95.86	97.01	95.76

ANOVA	N	p
Acute Myocardial Infarction (AMI)	103	0.004
Congestive Heart Failure (CHF)	120	0.782
Community Acquired Pneumonia	120	0.296
Surgical Care Improvement Program (SCIP)	106	0.801
Average of Process of Care Measures	120	0.285

Facility Name	Level	Mortality					Surgical O/E Mortality	Surgical O/E Morbidity
		Acute Myocardial Infarction (AMI)	Congestive Heart Failure (CHF)	Pneumonia	All Cause			
VA Connecticut Health Care System, West Haven, CT	1	14.24	9.19	14.10	13.35	0.66	0.85	
Edith N Rogers Memorial Veterans Hospital, Bedford, MA	NA	NA	NA	NA	NA	NA	NA	
VA Boston Health Care System, W Roxbury, Brockton, Jamaica Plains, MA	1	12.26	7.32	12.86	14.17	0.73	0.97	
Northampton VAMC, MA	NA	NA	NA	NA	NA	NA	NA	
Togus VAMC, Augusta, ME	3	13.33	8.98	13.95	10.46	0.73	0.56	
Manchester VAMC, NH	NA	NA	NA	NA	NA	NA	NA	
Providence VAMC, RI	3	13.07	8.98	16.92	14.90	1.24	1.01	
White River Junction VAMC, VT	3	12.71	10.02	14.52	13.79	0.76	1.15	
Samuel S. Stratton VAMC, Albany, NY	2	14.87	13.78	17.73	13.91	1.27	0.72	
VA Western New York Health Care System Buffalo, Batavia, NY	1	14.44	11.06	19.60	14.54	1.03	1.15	
Bath VAMC, NY	4	14.04	10.70	16.95	12.35	NA	NA	
Canandaigua VAMC, NY	NA	NA	NA	NA	NA	NA	NA	
Syracuse VAMC, NY	2	12.79	11.67	14.40	15.33	0.84	0.96	
VA New Jersey Health Care System, East Orange, NJ	2	13.03	9.55	15.65	16.90	1.00	1.00	
James J. Peters VAMC, Bronx, NY	2	12.42	10.18	12.74	15.69	0.83	0.77	
VA New York Harbor Health Care System, Manhattan, Brooklyn, NY	1	11.06	8.07	11.25	15.99	1.05	1.07	
VA Hudson Valley Health Care System, Montrose, Castle Point, NY	NA	12.98	7.77	14.66	12.42	NA	NA	
Northport VAMC, NY	2	14.54	8.64	15.02	14.84	1.10	1.17	
Wilmington VAMC, DE	3	13.80	9.34	13.33	14.50	0.92	0.73	
James E. Van Zandt VAMC, Altoona, PA	4	13.15	13.86	17.78	10.50	NA	NA	
Butler VAMC, PA	NA	NA	NA	NA	NA	NA	NA	
Coatesville VAMC, PA	NA	NA	9.66	16.62	5.56	NA	NA	
Erie VAMC, PA	4	14.03	9.95	13.60	11.62	NA	NA	
Lebanon VAMC, PA	3	14.92	10.52	15.60	11.95	0.26	1.21	
Philadelphia VAMC, PA	1	12.91	7.70	16.13	11.88	1.20	1.20	
VA Pittsburgh Health Care System, PA	1	13.79	9.83	14.49	15.59	1.41	1.20	
Wilkes-Barre VAMC, PA	3	13.50	10.57	19.06	15.60	NA	NA	
Louis A. Johnson VAMC, Clarksburg, WV	3	14.36	9.95	14.85	12.79	NA	NA	
Washington DC VAMC, DC	1	12.65	9.75	14.93	13.71	1.08	0.95	
VA Maryland Health Care System, Perry Pt, Baltimore, MD	1	12.41	8.68	12.50	13.91	0.79	1.08	
Martinsburg VAMC, WV	3	13.70	9.75	12.89	12.73	1.13	1.15	
Asheville VAMC, NC	2	13.03	12.16	15.51	12.96	1.41	0.94	
Durham VAMC, NC	1	14.54	9.55	17.04	13.09	1.02	0.94	

Fayetteville VAMC, NC	4	12.90	9.22	13.10	10.19	NA	NA
W.G. (Bill) Hefner VAMC, Salisbury, NC	3	13.38	10.10	16.92	8.79	0.00	0.51
Hampton VAMC, VA	3	13.38	9.32	14.78	11.88	1.88	0.80
Hunter Holmes McGuire VAMC, Richmond, VA	1	14.91	10.67	16.07	14.24	0.98	1.13
Salem VAMC, VA	2	13.62	9.30	14.69	16.12	0.44	1.21
Beckley VAMC, WV	4	12.94	9.39	15.06	15.97	NA	NA
Birmingham VAMC, AL	1	13.99	11.36	16.54	13.90	1.14	1.13
Central Alabama Veterans Health Care System, Tuskegee, Montgomery, AL	4	13.92	12.80	13.68	7.58	NA	NA
Tuscaloosa VAMC, AL	NA	NA	NA	NA	NA	NA	NA
Atlanta VAMC, GA	1	15.15	9.77	17.88	12.66	1.72	0.87
Charlie Norwood VAMC, Augusta, GA	1	14.50	11.14	21.94	13.46	1.30	1.15
Carl Vinson VAMC, Dublin, GA	4	13.14	11.36	16.90	12.12	NA	NA
Ralph H. Johnson VAMC, Charleston, SC	1	13.82	9.82	15.11	13.54	1.45	0.84
Wm. Jennings Bryan Dorn VAMC, Columbia, SC	2	13.65	9.79	15.44	14.41	0.84	1.05
Bay Pines VA Health Care System, FL	2	14.76	10.30	16.52	13.73	1.13	0.83
N. Florida/S. Georgia Veterans Health Care System Gainesville, Lake City	1	14.03	9.10	13.46	15.77	0.88	1.48
Miami VA Health Care System, FL	1	12.70	7.56	14.43	14.82	1.39	1.01
Orlando VAMC, FL	3	NA	NA	NA	NA	NA	NA
James A. Haley VAMC, Tampa, FL	1	12.62	8.13	15.51	15.70	1.02	1.23
West Palm Beach VAMC, FL	3	13.55	8.34	13.37	8.26	1.38	0.87
VA Caribbean Health Care System, San Juan, PR	1	13.91	11.13	18.88	16.88	1.57	1.27
Lexington VAMC, KY	1	13.74	11.18	19.72	16.78	1.06	0.94
Louisville VAMC, KY	1	14.59	10.50	18.89	10.94	0.86	1.01
Memphis VAMC, TN	1	17.55	12.71	16.66	14.64	1.16	1.01
Mountain Home VAMC, TN	3	13.83	10.61	16.31	13.09	1.40	1.20
Tennessee Valley Health Care System, Nashville, Murfreesboro, TN	1	12.61	10.28	15.45	15.26	1.09	1.12
Huntington VAMC, WV	3	12.78	10.13	13.69	13.42	1.55	1.44
Chillicothe VAMC, OH	4	12.79	9.09	13.12	13.73	NA	NA
Cincinnati VAMC, OH	1	13.51	9.26	16.28	16.29	1.31	1.13
Louis Stokes VAMC, Cleveland, Brecksville, OH	1	12.75	9.79	15.92	15.98	0.67	0.95
Chalmers P. Wylie Outpt Clinic, Columbus, OH	NA	NA	NA	NA	NA	NA	NA
Dayton VAMC, OH	2	12.62	8.45	12.95	14.75	1.47	0.98
VA Illiana Health Care System, Danville, IL	3	15.68	9.11	13.86	14.36	1.30	0.73
VA Northern Indiana Health Care System, Marion, Ft Wayne, IN	3	13.13	10.55	14.41	13.17	NA	NA
Richard L. Roudebush VAMC, Indianapolis, IN	1	14.44	9.42	13.84	16.26	1.02	1.12
VA Ann Arbor Health Care System, MI	1	11.46	9.74	14.46	14.39	1.10	1.21
Battle Creek VAMC, MI	NA	13.29	11.34	14.44	8.68	NA	NA
John D. Dingell VAMC, Detroit, MI	2	13.22	9.42	16.24	14.37	1.66	0.72
Aleda E. Lutz VAMC, Saginaw, MI	4	13.21	11.55	16.04	14.06	NA	NA
Jessie Brown VAMC, Chicago, IL	1	12.39	8.16	14.32	16.84	1.24	1.32
Edward Hines Jr. VA Hospital, Hines, IL	1	13.74	9.51	15.32	16.73	1.13	1.10
North Chicago VAMC, IL	3	12.85	11.17	17.55	11.85	1.06	0.36
Iron Mountain VAMC, MI	4	12.43	10.09	14.44	12.43	NA	NA
William S. Middleton Memorial Veterans Hospital, Madison, WI	1	12.71	11.04	14.52	14.39	0.64	1.23
Clement J. Zablocki VAMC, Milwaukee, WI	1	11.73	8.60	11.26	15.15	0.93	0.70
Tomah VAMC, WI	NA	12.99	10.70	15.18	14.08	NA	NA

VA Eastern Kansas Health Care System, Topeka, Leavenworth, KS	4	13.78	9.68	15.89	14.22	NA	NA
Robert J. Dole VAMC, Wichita, KS	2	13.26	9.72	16.49	12.88	1.70	0.73
Harry S. Truman VAMC, Columbia, MO	1	12.57	10.63	15.11	13.52	1.33	1.25
Kansas City VAMC, MO	2	13.33	9.73	13.49	14.98	1.91	0.98
Marion VAMC, IL	4	14.10	11.43	15.11	16.14	NA	NA
John J. Pershing VAMC, Poplar Bluff, MO	NA	13.99	11.92	15.08	14.77	NA	NA
St Louis VAMC, St Louis, Jefferson Barracks, MO	1	12.67	6.61	15.09	14.72	1.85	0.99
Fayetteville VAMC, AR	3	12.67	8.37	14.82	13.46	1.40	0.76
Central Arkansas Veterans Health Care System, Little Rock, N Little Rock, AR	1	13.25	9.96	15.27	14.71	0.66	0.91
Alexandria VAMC, LA	4	11.77	9.68	16.37	13.24	NA	NA
New Orleans VAMC, LA	NA	NA	NA	NA	NA	NA	NA
Overton Brooks VAMC, Shreveport, LA	2	13.99	10.52	15.20	15.64	1.24	0.85
Gulf Coast Veterans Health Care System, Biloxi, MS	3	12.67	8.18	15.12	9.51	0.91	1.39
G.V. Montgomery VAMC, Jackson, MS	1	16.52	12.34	21.41	15.22	0.82	0.72
Muskogee VAMC, OK	4	11.66	9.24	13.69	13.53	0.93	0.51
Oklahoma City VAMC, OK	1	13.79	8.73	16.96	13.78	0.77	1.11
Michael E. DeBakey VAMC, Houston, TX	1	13.82	9.51	17.43	14.02	0.55	1.05
VA North Texas Health Care System, Dallas, TX	1	13.65	10.13	14.81	14.99	1.08	1.12
South Texas Veterans Health Care System, San Antonio, Kerrville, TX	1	11.82	9.95	14.38	12.58	0.53	1.21
Central Texas Veterans Health Care System, Temple, Waco, Marlin, TX	3	13.67	9.98	14.11	11.68	0.60	0.87
Carl T. Hayden VAMC, Phoenix, AZ	2	13.96	8.11	15.06	12.32	1.21	1.38
No. Arizona VA Health Care System, Prescott, AZ	4	12.14	12.94	14.96	13.83	NA	NA
So. Arizona VA Health Care System, Tucson, AZ	1	13.02	10.78	13.64	15.16	0.84	0.73
New Mexico Health Care System, Albuquerque, NM	1	10.89	11.44	14.96	12.95	1.11	0.87
Amarillo VA Health Care System, TX	3	14.35	10.41	20.76	11.24	1.12	0.97
West Texas VA Health Care System, Big Spring, TX	4	13.71	9.29	16.86	10.40	NA	NA
El Paso VA Health Care System, TX	NA	NA	NA	NA	NA	NA	NA
VA Eastern Colorado Health Care System, Denver, Pueblo, CO	1	14.24	11.50	12.32	12.27	1.45	1.00
Grand Junction VAMC, CO	3	13.22	9.63	11.78	8.77	0.42	0.57
VA Montana Health Care System, Fort Harrison, MT	3	12.90	10.79	12.74	17.61	0.10	0.45
VA Salt Lake City Health Care System, UT	1	13.55	8.31	14.20	14.46	0.75	0.82
Cheyenne VAMC, WY	4	13.19	9.34	13.19	9.12	0.84	0.51
Sheridan VAMC, WY	4	13.01	9.75	14.10	14.93	NA	NA
Alaska VA Health Care System and Regional Office, Anchorage, AK	NA	NA	NA	NA	NA	NA	NA
Boise VAMC, ID	3	13.77	9.26	13.72	12.89	1.08	0.81
Portland VAMC, OR	1	11.53	7.79	10.84	14.10	0.94	0.81
VA Roseburg Health Care System, OR	4	14.54	9.42	14.55	9.77	NA	NA
Southern Oregon Rehab Center & Clinics, White City, OR	NA	NA	NA	NA	NA	NA	NA
VA Puget Sound Health Care System, Seattle, American Lake, WA	1	13.55	10.60	14.10	13.77	1.07	1.13

Spokane VAMC, WA	4	12.70	8.94	13.03	8.89	0.00	0.64
Jonathan M. Wainwright Memorial VA Medical Center, Walla Walla, WA	NA	NA	NA	NA	NA	NA	NA
VA Central California Health Care System, Fresno, CA	3	12.86	11.29	18.79	14.29	0.97	1.10
VA Northern California Health Care System, Martinez, Sacramento, CA	3	11.17	9.88	12.95	10.83	0.87	0.95
VA Palo Alto Health Care System, Palo Alto, Menlo Pk, Livermore, CA	1	12.87	8.09	15.89	11.76	1.00	0.94
San Francisco VAMC, CA	1	11.69	8.37	12.32	13.88	0.78	0.93
VA Pacific Islands Health Care System, Honolulu, HI	NA	NA	NA	NA	NA	NA	NA
VA Sierra Nevada Health Care System, Reno, NV	3	13.06	11.15	14.46	12.87	1.15	1.03
VA Loma Linda Health Care System, CA	1	16.45	12.24	18.73	12.90	0.83	0.84
VA Long Beach Health Care System, CA	2	12.33	7.65	14.52	15.70	0.69	1.25
VA Greater Los Angeles Health Care System, CA	1	12.49	6.75	16.90	13.92	0.73	0.75
VA San Diego Health Care System, CA	1	13.13	5.53	15.02	13.96	1.29	0.86
VA Southern Nevada Health Care System, Las Vegas, NV	3	12.61	8.28	12.63	9.98	0.92	0.97
VA Nebraska Western Iowa Health Care System, Omaha, Grand Is, Lincoln, NE	2	15.39	11.14	14.85	14.96	1.23	1.01
VA Central Iowa Health Care System, Des Moines, Knoxville, IA	2	14.14	8.55	15.89	13.91	2.10	1.13
Iowa City VAMC, IA	2	11.24	10.95	15.32	12.86	1.57	0.93
Minneapolis VAMC, MN	1	12.18	7.74	11.22	12.52	0.66	1.03
St. Cloud VAMC, MN	NA	NA	NA	NA	NA	NA	NA
Fargo VAMC, ND	3	12.38	8.57	13.33	10.34	0.74	0.85
VA Black Hills Health Care System, Ft Meade, Hot Springs, SD	3	12.69	9.15	13.00	10.35	0.00	0.47
Sioux Falls VAMC, SD	3	14.06	9.58	17.04	11.89	0.39	1.31
Mean	2.18	13.35	9.82	15.16	13.38	1.02	0.97
N	120	123	124	124	124	99	99
Standard deviation	1.15	1.08	1.42	2.04	2.19	0.40	0.23
90% Confidence Limits	0.17	0.16	0.21	0.30	0.32	0.07	0.04
Confidence level high	2.35	13.51	10.03	15.46	13.71	1.09	1.01
Confidence level low	2.00	13.19	9.61	14.85	13.06	0.96	0.93

ANOVA	N	p
Acute Myocardial Infarction (AMI) Mortality	103	0.835
Congestive Heart Failure (CHF) Mortality	120	0.493
Pneumonia Mortality	120	0.547
All Cause Mortality	106	<0.001
Surgical O/E Mortality	99	0.037
Surgical O/E Morbidity	99	0.01

Appendix 1. Comparison of VA and Joint Commission Acute Myocardial Infarction Quality Indicators.

VA	Joint Commission
Without aspirin contraindications who received aspirin within 24 hours of arriving at the hospital.	Aspirin at arrival
Without aspirin contraindications who are prescribed aspirin at hospital discharge.	Aspirin at discharge
With left ventricular systolic dysfunction and without both angiotensin converting enzyme inhibitor (ACEI) and angiotensin receptor blocker (ARB) contraindications who are prescribed an ACEI or ARB at hospital discharge.	ACEI or ARB at discharge
Without beta blocker contraindications who are prescribed a beta blocker at hospital discharge.	Beta-blocker at discharge
Receiving thrombolytic therapy during the hospital stay and having a time from hospital arrival to thrombolysis of 30 minutes or less	Fibrinolytic therapy within 30 minutes
Receiving primary percutaneous coronary intervention (PCI) during the hospital stay with a time from hospital arrival to PCI of 90 minutes or less.	PCI therapy within 90 minutes
With a history of smoking cigarettes who are given smoking cessation advice or counseling during hospital stay.	
Without beta blocker contraindications who received a beta blocker within 24 hours after hospital arrival.	
With documentation of low-density lipoprotein cholesterol (LDL-C) level in the hospital record or documentation that LDL-C testing was done during the hospital stay or is planned for after discharge.	
With elevated low-density lipoprotein cholesterol (LDL-C \geq 130 mg/dL or narrative equivalent) who are prescribed a lipid-lowering medication at hospital discharge.	

Median time from, time of arrival to the hospital to administration of a thrombolytic agent. This measure applies in cases where an electrocardiogram, performed closest to time of arrival, shows a specific electrocardiogram pattern, referred to as an ST elevation or LBBB, indicating that a patient is having a myocardial infarction or heart attack.	
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Appendix 2: Comparison of VA and Joint Commission Heart Failure Quality Indicators.

VA	Joint Commission
With left ventricular systolic dysfunction (LVSD) and without both angiotensin converting enzyme inhibitor (ACEI) and angiotensin receptor blocker (ARB) contraindications who are prescribed an ACEI or ARB at hospital discharge.	ACEI or ARB at discharge*
Discharged home with written discharge instructions or educational material given to patient or caregiver at discharge or during the hospital stay addressing all of the following: activity level, diet, discharge medications, follow-up appointment, weight monitoring, and what to do if symptoms worsen.	Discharge instructions
With documentation in the hospital record that left ventricular function (LVF) was assessed before arrival, during hospitalization, or is planned for after discharge.	LVS assessment
With a history of smoking cigarettes who are given smoking cessation advice or counseling during hospital stay.	Smoking cessation advice

*Only ACE or ARB at discharge is used in calculating the Joint Commissions composite index.

Appendix 3. Comparison of VA and Joint Commission Pneumonia Quality Indicators.

VA	Joint Commission
Age 65 and older who were screened for pneumococcal vaccine status and	Pneumococcal vaccination

were administered the vaccine prior to discharge, if indicated.	
Whose initial emergency room blood culture specimen was collected prior to first hospital dose of antibiotics.	Blood culture in ED
Who receive an initial antibiotic regimen during the first 24 hours that is consistent with current guidelines.	Antibiotics to immunocompetent patients*
Age 50 years and older, hospitalized during October, November, December, January, or February who were screened for influenza vaccine status and were vaccinated prior to discharge, if indicated.	Influenza vaccination
Who had an assessment of arterial oxygenation by arterial blood gas measurement or pulse oximetry within 24 hours of arriving at the hospital.	
Transferred or admitted to the ICU within 24 hours of hospital arrival, who had blood cultures performed within 24 hours prior to or 24 hours after hospital arrival.	
With a history of smoking cigarettes who are given smoking cessation advice or counseling during hospital stay.	
Who receive their first dose of antibiotics within 6 hours after arrival at the hospital.	

Appendix 4. Comparison of VA and Joint Commission Surgical Care Quality Indicators.

VA (SCIP)	Joint Commission
Surgical patients who received prophylactic antibiotics within 1 hour prior to surgical incision.	Antibiotics within one hour before the first surgical cut
Prophylactic antibiotic selection for surgical patients.	Appropriate prophylactic antibiotics
Surgical patients whose prophylactic antibiotics were discontinued within 24 hours after surgery end time.	Stopping antibiotics within 24 hours
Cardiac surgery patients with controlled blood glucose at 6 a.m. on the morning following surgery.	Cardiac patient with 6 a.m. postoperative blood glucose

Surgery patients with appropriate hair removal.	Patients with appropriate hair removal
Patients on beta-blocker therapy prior to admission who received a beta-blocker during the perioperative period.	Beta-blocker patients who received beta-blocker perioperatively
Surgery patients with recommended venous thromboembolism prophylaxis ordered.	Prescribing VTE medicine/treatment
Surgery patients who received appropriate venous thromboembolism prophylaxis within 24 hours prior to surgery to 24 hours after surgery.	Receiving VTE medicine/treatment