NATIONAL
QUALITY FORUM

Measure Information

This document contains the information submitted by measure developers/stewards, but is organized according to NQF's measure evaluation criteria and process. The item numbers refer to those in the submission form but may be in a slightly different order here. In general, the item numbers also reference the related criteria (e.g., item 1b.1 relates to subcriterion 1b).

Brief Measure Information

NQF #: 0439
Corresponding Measures: 0439:2836 (emeasure), 0439:3046
De.2. Measure Title: STK-06: Discharged on Statin Medication
Co.1.1. Measure Steward: The Joint Commission
De.3. Brief Description of Measure: This measure captures the proportion of ischemic stroke patients who are prescribed a statin medication at hospital discharge.

This measure is a part of a set of eight nationally implemented measures that address stroke care (STK-1: Venous Thromboembolism (VTE) Prophylaxis, STK-2: Discharged on Antithrombotic Therapy, STK-3: Anticoagulation Therapy for Atrial Fibrillation/Flutter, STK-4: Thrombolytic Therapy, STK-5: Antithrombotic Therapy By End of Hospital Day 2, STK-8: Stroke Education, and STK-10: Assessed for Rehabilitation) that are used in The Joint Commission's hospital accreditation and Disease-Specific Care certification programs.
1b.1. Developer Rationale: Stroke is the fourth leading cause of death in the United States and a leading cause of serious, long-term disability, associated with significant costs. Recent guidelines recommend high-intensity statin therapy for patients with ischemic stroke unless contraindicated or patient characteristics require dosage modification.

Healthcare organizations that track this measure for internal quality improvement purposes have seen an increase in the measure rate over time. This measure has been included in the CMS Hospital Inpatient Quality Reporting Program for three years (i.e., FY 2015, FY 2016, FY 2017) to promote improvements in quality at the national level.

S.4. Numerator Statement: See details in multiple formats
S.7. Denominator Statement: See details in multiple formats
S.10. Denominator Exclusions: See details in multiple formats

De.1. Measure Type: Process
S.23. Data Source: Electronic Health Record (Only), Paper Records
S.26. Level of Analysis: Facility, Other

IF Endorsement Maintenance – Original Endorsement Date: Jul 31, 2008 **Most Recent Endorsement Date:** Sep 23, 2016

IF this measure is included in a composite, NQF Composite#/title:

IF this measure is paired/grouped, NQF#/title:

De.4. IF PAIRED/GROUPED, what is the reason this measure must be reported with other measures to appropriately interpret results? Not Applicable

1. Evidence, Performance Gap, Priority – Importance to Measure and Report

Extent to which the specific measure focus is evidence-based, important to making significant gains in healthcare quality, and improving health outcomes for a specific high-priority (high-impact) aspect of healthcare where there is variation in or overall less-than-optimal performance. *Measures must be judged to meet all subcriteria to pass this criterion and be evaluated against the remaining criteria.*

1a. Evidence to Support the Measure Focus – See attached Evidence Submission Form
0439_Evidence_MSF5_0_Data.doc

1b. Performance Gap
   Demonstration of quality problems and opportunity for improvement, i.e., data demonstrating:
   - considerable variation, or overall less-than-optimal performance, in the quality of care across providers; and/or
   - disparities in care across population groups.

1b.1. Briefly explain the rationale for this measure *(e.g., the benefits or improvements in quality envisioned by use of this measure)*
Stroke is the fourth leading cause of death in the United States and a leading cause of serious, long-term disability, associated with significant costs. Recent guidelines recommend high-intensity statin therapy for patients with ischemic stroke unless contraindicated or patient characteristics require dosage modification.

Healthcare organizations that track this measure for internal quality improvement purposes have seen an increase in the measure rate over time. This measure has been included in the CMS Hospital Inpatient Quality Reporting Program for three years (i.e., FY 2015, FY 2016, FY 2017) to promote improvements in quality at the national level.

1b.2. Provide performance scores on the measure as specified (current and over time) at the specified level of analysis. *(This is required for endorsement maintenance. Include mean, std dev, min, max, interquartile range, scores by decile. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included). This information also will be used to address the subcriterion on improvement (4b.1) under Usability and Use.*
In October, 2009, The Joint Commission added the stroke (STK) measure set as a new core measure option to meet performance measure requirements for Joint Commission hospital accreditation purposes. Below is the specified level of analysis for STK-6 beginning with discharges 4Q 2009 through December 31, 2014.

4Q 2009: 979 denominator cases; 876 numerator cases; 48 hospitals; 0.89479 national aggregate rate; 0.88567 mean of hospital rates; 0.18656 standard deviation; 1.0 90th percentile rate; 1.0 75th percentile rate/upper quartile; 0.94949 50th percentile rate/median rate; 0.85165 25th percentile rate/lower quartile; and, 0.66667 10th percentile rate.

CY 2010: 12,042 denominator cases; 11,188 numerator cases; 137 hospitals; 0.92908 national aggregate rate; 0.89366 mean of hospital rates; 0.12881 standard deviation; 1.0 90th percentile rate; 0.97059 75th percentile rate/upper quartile; 0.94231 50th percentile rate/median rate; 0.86667 25th percentile rate/lower quartile; and, 0.70647 10th percentile rate.

CY 2011: 18,608 denominator cases; 17,512 numerator cases; 157 hospitals; 0.9411 national aggregate rate; 0.90293 mean of hospital rates; 0.12829 standard deviation; 1.0 90th percentile rate; 0.97297 75th percentile rate/upper quartile; 0.94361 50th percentile rate/median rate; 0.88889 25th percentile rate/lower quartile; and, 0.78571 10th percentile rate.

CY 2012: 18,998 denominator cases; 18,165 numerator cases; 157 hospitals; 0.95615 national aggregate rate; 0.9412 mean of hospital rates; 0.08087 standard deviation; 1.0 90th percentile rate; 0.99371 75th percentile rate/upper quartile; 0.96825 50th percentile rate/median rate; 0.925 25th percentile rate/lower quartile; and, 0.84375 10th percentile rate.

CY 2013: 29,350 denominator cases; 28,374 numerator cases; 262 hospitals; 0.96675 national aggregate rate; 0.9469 mean of hospital rates; 0.09876 standard deviation; 1.0 90th percentile rate; 0.99649 75th percentile rate/upper quartile; 0.97938 50th percentile rate/median rate; 0.94444 25th percentile rate/lower quartile; and, 0.86585 10th percentile rate.

CY 2014: 140,296 denominator cases; 136,545 numerator cases; 1296 hospitals; 0.97326 national aggregate rate; 0.95761 mean of hospital rates; 0.08458 standard deviation; 1.0 90th percentile rate; 1.0 75th percentile rate/upper quartile; 0.98507 50th percentile rate/median rate; 0.95303 25th percentile rate/lower quartile; and, 0.89474 10th percentile rate.

1b.3. If no or limited performance data on the measure as specified is reported in 1b2, then provide a summary of data from the literature that indicates opportunity for improvement or overall less than optimal performance on the specific focus of measurement.
Not applicable

1b.4. Provide disparities data from the measure as specified (current and over time) by population group, e.g., by race/ethnicity,

gender, age, insurance status, socioeconomic status, and/or disability. *(This is required for endorsement maintenance. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities include.) This information also will be used to address the subcriterion on improvement (4b.1) under Usability and Use.*
Not applicable

1b.5. If no or limited data on disparities from the measure as specified is reported in 1b4, then provide a summary of data from the literature that addresses disparities in care on the specific focus of measurement. Include citations.
According to a 2011 report from the American Heart Association/American Stroke Association, racial disparities in stroke care exist and are more predominant among people < 65 years of age. Evidence of disparities in stroke care between minority groups and whites include: lack of knowledge about the risk factors for stroke; lack of awareness about stroke signs and symptoms and the need for urgent treatment; and, access to care respecting prevention services, acute stroke treatment, and rehabilitation. Differences in care are also related to the socioeconomic status of minorities, insurance coverage, cultural beliefs and attitudes, language barriers, immigration status, mistrust of the healthcare system, and the number of providers representing minority groups. These are all factors contributing to the quality of stroke care (Cruz-Flores, et al. 2011).

Each year in the United States, ˜ 55,000 more women than men have a stroke. Statistics reveal that women have a higher "life-time risk of stroke" than men. (Mozaffarian D, et al., 2015). In the Framingham Heart Study, lifetime risk of stroke among those 55 to 75 years of age was 1 in 5 for women (20% to 21%) and ˜1 in 6 for men (14% to 17%).

The burden of stroke is higher in Blacks or African Americans and Hispanics than whites. Racial and ethnic minorities have excess deaths from stroke and also experience greater years of potential life lost than non-Hispanic whites. The risk ratio for stroke mortality in all racial and ethnic minorities is higher in the 35-to-64-year-old age group, however, this risk decreases as people age. After age 64 non-Hispanic whites have an equal risk for stroke when compared to Hispanics and American Indian-Alaskan Natives. This equalization of rate of stroke presents again after age 85 in blacks or African Americans (Cruz-Flores, et al., 2011).

In the national REasons for Geographic and Racial Differences in Stroke (REGARDS) cohort, 27,744 black and white men and women, aged > 45 years, followed over 4.4 years, and stroke-free at baseline, reported an overall age-adjusted and sex-adjusted black/white incidence rate ratio of 1.51. At ages 45 to 54 years, the rate ratio increased to 4.02 compared to 0.86 for > 85 years. A higher incidence of stroke is reported for blacks at younger ages.

The REGARDS investigators found that approximately half of racial disparity in stroke risk is attributable to traditional risk factors (primarily systolic blood pressure) and socioeconomic factors (Howard, et al., 2011). Brown and colleagues (2011) found a higher incidence of ischemic stroke in disadvantaged white neighborhoods, but found no significant associations between neighborhood socioeconomic status and ischemic stroke among blacks. A recent large population-based Canadian study examined gender-adjusted, age-adjusted prevalence of cardiovascular risk factors, heart disease and stroke in four ethnic groups: white (n=154,653); South Asian (N=3364); Chinese (n=3038): and, blacks (n=2742). Stroke incidence was highest in the South Asian group (1.7%) and lowest in the Chinese population (0.6%). The increased risk in the South Asian population was attributed to high susceptibility to insulin resistance and metabolic syndrome, and a tendency to develop diabetes mellitus at younger ages in both men and women as compared to other ethnic groups (Chiu, et al., 2010).

The BASIC (Brain Attack Surveillance in Corpus Christi) project (NINDS) demonstrated an increased incidence of stroke among Mexican Americans compared with non-Hispanic whites in a community in southeast Texas. The crude 3-year cumulative incidence (2000-2003) was 16.8 per 1000 in Mexican Americans and 13.6 per 1000 in non-Hispanic whites. Specifically, Mexican Americans had a higher cumulative incidence for ischemic stroke at younger ages (45-59 years of age: RR 2.04, 95% CI 1.55-2.69; 60-74 years of age: RR 1.58, 95% CI 1.31-1.91) but not at older ages (> 75 years of age : RR 1.12, 95% CI 0.94-1.32). Mexican Americans also had a higher incidence of intracerebral hemorrhage and subarachnoid hemorrhage than non-Hispanic whites, adjusted for age.

Temporal trend data from the BASIC Project for the time period 2000 through 2010 demonstrated that ischemic stroke rates declined significantly in people aged =60 years but remained largely unchanged over time in those aged 45 to 59 years. Rates of decline did not differ significantly for non-Hispanic whites and Mexican Americans in any age group. Therefore, ethnic disparities in stroke rates in the 45- to 59-year-old and 60- to 74-year-old age groups persist (Morgenstern, et al., 2013).

Data from the most recent Greater Cincinnati Northern Kentucky Stroke Study (GCNKSS) show that compared with the 1990s, when incidence rates of stroke were stable, stroke incidence in 2005 was decreased for whites. A similar decline was not seen in blacks. These changes for whites were driven by a decline in ischemic strokes. There were no changes in incidence of ischemic stroke for

blacks or of hemorrhagic strokes in blacks or whites (Kleindorfer,et al., 2010).

In an analysis of temporal trends in ischemic stroke incidence stratified by age, the GCNKSS found an increased incidence of ischemic stroke over time for both blacks and whites aged 20 to 54 years, especially in 2005 compared with earlier time periods. There were declining incidence rates in the oldest age groups for both race groups (Kissela, et al., 2012).

Differences in access to and use of stroke prevention therapies in all racial and ethnic groups has been poorly documented and understudied; however, one study of 5840 stroke survivors as part of the National Health Interview Survey, found that women, blacks or African Americans, and the poor were significantly less likely to fill prescriptions because of costs. Disparities are reduced when patients have health insurance and ready access to care.

According to the literature, minorities are less likely to receive medications for secondary prevention, including statin therapy for hyperlipidemia (Cruz-Flores, et al., 2011). Yood and colleagues (2006) found that blacks or African Americans newly diagnosed with dyslipidemia and prescribed statins were 36% less likely to achieve low-density lipoprotein goals over time (hazard ratio 0.64, 95% CI O.61 to 0.68). This disparity persisted after low-density lipoprotein testing and adjustment for statin adherence (hazard ratio 0.60, 95% CI 0.57 to 0.63). Another study by Mark and associates (2007) noted that blacks or African Americans were less likely than whites to be switched between lipid-lowering agents (OR 0.68 95% CI 0.60 to 0.78), to have treatment adjusted (OR 0.53, 95% CI 0.43 to 0.66), or to be prescribed higher medication dosages (OR 0.75, 95% CI 0.67 to 0.84).

Since the last endorsement date, Schwamm and colleagues (2010) found that black patients with stroke received fewer evidence-based care processes than Hispanic or white patients. Lipid-lowering therapy at discharge for patients with low-density lipoprotein (LDL) > 100, or those on lipid-lowering agents before hospital admission, or in whom LDL was not measured in the past 30 days, was one care process evaluated in this study. Blacks had lower odds relative to white patients of receiving lipid therapy at discharge after adjustment for both patient and hospital level variables: OR 0.91 [95% CI 0.88-0.96]

A more recently published study (Qian F, et al, 2013) from GWTG also noted statistically significant (P<0.01) racial and ethnic disparities for lipid-lowering therapy at discharge. Using patient data (n=200,900) from the American Heart Association/American Stroke Association Get With The Guidelines (GWTG)-Stroke program from April 2003 through December 2008, the following performance measure rates were reported for lipid-lowering medication prescribed at discharged : non-Hispanic White (n=170,694) 84.3%; non-Hispanic Black (n=20,514) 83.8%; Hispanic (n=6632) 85.8%; and non-Hispanic Asian American (n=3060) 86.7%.

2014 data from the Paul Coverdell National Acute Stroke Registry (PCNASR) reported greater disparity for women (95.9%) compared to men (97.0%) prescribed statin therapy at discharge. Similar rates of statin therapy prescribed at discharge were reported for white patients (96.3%) and other races (96.7%); aggregate rate 96.4%; n=45,249 (Centers for Disease Control and Prevention - Division for Heart Disease and Stroke Prevention, 2014).

• Brown AF, Liang LJ, Vassar SD, Stein-Merkin S, Longstreth WT Jr, Ovbiagele B, Yan T, Escarce JJ. Department of Neurology, UCLA GIM&HSR. Neighborhood disadvantage and ischemic stroke: the Cardiovascular Health Study (CHS). Stroke. 2011;42(12): 3363-8.
• Centers for Disease Control and Prevention - Division for Heart Disease and Stroke Prevention, Annual Report, 2014.
• Chiu M, Austin PC, Manuel DG, Tu JV. Camparison of cardiovascular risk profiles among ethnic groups using population health surveys between 1996 and 2007. CMAJ. 2010;182(8):E301-10.
• Cruz-Flores S, Rabinstein A, Biller J, Elkind MSV, Griffith P, Gorelick PB, Howard G, Leira EC, Morgenstern LB, Ovbiagele B, Peterson E, Rosamond W, Trimble B, Valderrama AL, on behalf of the American Heart Association Stroke Council, Concil on Cardiovascular Nursing, Council on Epidemiology and Prevention, and Council on Quality of Care and Outcomes Research. Racial-ethnic disparities in stroke care: the American experience. Stroke. 2011;42:2091-2116.
• Gillum RF,Kwagyan J, Obisesan TO. Division of Geriatrics, Howard University College of Medicine, Washington, DC, USA. Ethnic and geographic variation in stroke mortality trends. Stroke. 2011;42(11):3294-6.
• Howard G, Cushman M, Kissela BM, Kleindorfer DO, McClure LA, Safford MM, Rhodes JD, Soliman EZ, Moy CS, Judd SE, Howard VJ; REsons for Geographic and Racial Differences in Stroke (REGARDS) Investigators. Traditional risk factors as the underlying cause of racial disparities in stroke: lessons from the half-full (empty?) glass. Stroke. 2011;(12):3369-75.
• Howard G, Howard VJ; Reasons for Geographic and Racial Differences in Stroke (REGARDS) Investigators. Ethnic disparities in stroke: the scope of the problem. Ethn Dis. 2001;11:761-768.
• Karve S, Balkrishnan R, Seiber E Nahata M, Levine DA. Department of health Economics, RTI Health Solutions, Research Triangle Park, North Carolina. Population trends and disparities in outpatient utilization of neurologists for ischemic stroke. J Stroke Cerebrovasc Dis. 2011.

• Kissela BM, Khoury JC, Alwell K, Moomaw CJ, Woo D, Adeoye O, Flaherty ML, Khatri P, Ferioli S, De Los Rios La Rosa F, Broderick JP, Kleindorfer DO. Age at stroke: temporal trends in stroke incidence in a large, biracial population. Neurology. 2012;79:1781–1787.
• Kleindorfer DO, Khoury J, Moomaw CJ, Alwell K, Woo D, Flaherty ML, Khatri P, Adeoye O, Ferioli S, Broderick JP, Kissela BM. Stroke incidence is decreasing in whites but not in blacks: a population-based estimate of temporal trends in stroke incidence from the Greater Cincinnati/Northern Kentucky Stroke Study. Stroke. 2010;41:1326–1331.
• Mark TL, Axelsen KJ, Mucha L, Sadkova Y. Racial differences in switching, augmentation, and titration of lipid-lowering agents by Medicare/Medicaid dual-eligible patients. Am J Manag Care. 2007;13(3):S72-S79.
• Morgenstern LB, Smith MA, Sánchez BN, Brown DL, Zahuranec DB, Garcia N, Kerber KA, Skolarus LE, Meurer WJ, Burke JF, Adelman EE, Baek J, Lisabeth LD. Persistent ischemic stroke disparities despite declining incidence in Mexican Americans. Ann Neurol. 2013;74:778–785.
• Mozaffarian D, Benjamin EJ, Go AS, Arnett DK, Blaha MJ, Cushman M, de Ferranti S, Després JP, Fullerton HJ, Howard VJ, Huffman MD, Judd SE, Kissela BM, Lackland DT, Lichtman JH, Lisabeth LD, Simin L, Mackey RH, matchar DB, McGuire DK, Mohler ER III, Moy CS, Muntner P, Mussolino ME, Nasir K, Neumar RW, Graham N, Palaniappan L, Pandey DK, Reeves MJ, Rodriguez CJ, Sorlie PD, Stein J, Towfighi A, Turan TN, Virani SS, Willey JZ, Woo D, Yeh RW, Turner JZ. Heart disease and stroke statistics--2015 update: a report from the American Heart Association. Circulation. 2015;131:e-151-e154.
• Qian F, Fonarow GC, Smith EE, et al. Racial and ethnic differences in outcomes in older patients with acute ischemic stroke. Circ Cardiovasc Qual Outcomes. 2013;6: 284-292.
• Roger VL, Go AS, Lloyd-Jones DM, Benjamin EJ, Berry JD, Borden WB, Bravata DM, Dai S, Ford ES, Fox CS, Fullerton HJ, Gillespie C, Hailpern SM, Heit JA, Howard VJ, Kissela BM, Kittner SJ, Lackland DT, Lichtman, JH, Lisabeth LD, Makuc DM, Marcus GM, Marelli A, Matchar DB, Moy CS, Mozaffarian D, Mussolino ME, Nichol G, Paynter NP, Soliman EZ, Sorlie PD, Sotoodehnia N, Turan TN, Virani SS, Wong ND, Woo D, and Turner MB. Heart disease and stroke statistics--2012 update: a report from the American Heart Association. Circulation. 2012;125:e78-e82.
• Schwamm LH, Syed FA, Reeves MJ, Smith EE, Saver JL, Messe S, Bhatt DL, Grau-Sepulveda MV, Peterson ED, Fonarow GC. Temporal trends in patient characteristics and treatment with intravenous thrombolysis among acute ischemic stroke patients at Get With the Guidelines-Stroke hospitals. Circ Cardiovasc Quality Outcomes. 2013;6:543-549.
• Yood MU, McCarthy BD, Kempf J, Kucera GP, Wells K, Oliveria S, Stang P. Racial differences in reaching target low-density lipoprotein goal among individuals treated with statin therapy. Am Heart J. 2006;152:777-784.

1c. High Priority (previously referred to as High Impact)
  The measure addresses:
  - a specific national health goal/priority identified by DHHS or the National Priorities Partnership convened by NQF; OR
  - a demonstrated high-priority (high-impact) aspect of healthcare (e.g., affects large numbers of patients and/or has a substantial impact for a smaller population; leading cause of morbidity/mortality; high resource use (current and/or future); severity of illness; and severity of patient/societal consequences of poor quality).

1c.1. Demonstrated high priority aspect of healthcare
Affects large numbers, A leading cause of morbidity/mortality, Severity of illness
1c.2. If Other:

1c.3. Provide epidemiologic or resource use data that demonstrates the measure addresses a high priority aspect of healthcare. List citations in 1c.4.
Stroke ranks as the number four cause of death in the United States, following diseases of the heart, cancer, and chronic lung-related diseases. Each year, ˜ 795,000 people experience a new or recurrent stroke. Approximately 610,000 of these are first attacks, and 185,000 are recurrent strokes. These numbers equate to one stroke victim every 40 seconds on average. From 2001 to 2011, the relative rate of stroke death fell by 35.1% and the actual number of stroke deaths declined by 21.2%.; however, one of every 20 deaths in the United States remains attributable to stroke. More women than men die of stroke each year. Women accounted for almost 60% of US stroke deaths in 2008 (Mozaffarian D, et al., 2015).

Stroke is also a leading cause of long-term disability (George M, et al., 2009). Stroke was among the top 18 diseases contributing to years lived with disability in 2010; of these 18 causes, only the age-standardized rates for stroke increased significantly between 1990 and 2010 (P<0.05). (US Burden of Disease Collaborators, 2013) . Among Medicare patients discharged from the hospital after stroke, ˜45% return directly home, 24% are discharged to inpatient rehabilitation facilities, and 31% are discharged to skilled nursing facilities. Of stroke patients returning directly home, 32% use home healthcare services. In 2011, the direct and indirect cost of stroke was $33.6 billion (Mozaffarian D, et al., 2015).

According to the Third Report of the National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III/ATP III) (National Institutes of Health, 2002), statins should be considered as first-line drugs when LDL-lowering drugs are indicated to achieve LDL treatment goals. HMG CoA reductase inhibitors (statins) are powerful LDL-lowering drugs. Statin therapy reduces the risk of acute coronary syndromes, coronary procedures, and other coronary outcomes in both primary and secondary prevention. It also reduces the risk of stroke in secondary prevention.

The Stroke Prevention by Aggressive Reduction of Cholesterol Levels (SPARCL) trial (Amarenco, P, et al., 2006) concluded that in patients with recent stroke or TIA and without known coronary heart disease, 80 mg of atorvastatin per day reduced the overall incidence of strokes and cardiovascular events, despite a small incidence of hemorrhagic stroke. The trial randomly assigned 4731 patients who had had a stroke or TIA within one to six months before study entry, had low-density lipoprotein (LDL) cholesterol levels of 100 to 190 mg per deciliter (2.6 to 4.9 mmol per liter), and had no known coronary heart disease to double-blind treatment with 80 mg of atorvastatin per day or placebo. The primary end point was a first nonfatal or fatal stroke. The mean LDL cholestrerol level during the trial was 73 mg per deciliter (1.9 mmol per liter) among patients receiving atorvastatin and 129 mg per deciliter (3.3 mmol per liter) among patients receiving placebo. During a median follow-up of 4.9 years, 265 patients (11.2 percent) receiving atorvastatin and 311 patients (13.1 percent) receiving placebo had a fatal or nonfatal stroke (5-year absolute reduction in risk, 2.2 percent; adjusted hazard ratio, 0.84; 95 percent confidence interval, 0.71 to 0.99; P=0.03; unadjusted P=0.05) The atorvastatin group had 218 ischemic strokes and 55 hemorrhagic strokes. The five-year absolute reduction in the risk of major cardiovascular events was 3.5 percent (hazard ratio, 0.80; 95 percent confidence interval, 0.69 to 0.92; P=0.002). The overall mortality rate was similar, with 216 deaths in the atorvastatin group and 211 deaths in the placebo group (P=0.98), as were the rates of serious adverse events. Elevated liver enzyme values were more common in patients taking atorvastatin.

In 2013, the American College of Cardiology (ACC) / American Heart Association (AHA) updated the Guideline on the Treatment of Blood Cholesterol to Reduce Atherosclerotic Cardiovascular Risk in Adults, and strongly recommended high-intensity statin therapy for secondary prevention in patients with clinical atherosclerotic cardiovascular disease (ASCVD), unless contraindicated. Patients with ischemic stroke due to atherosclerosis are included in this first of four statin benefit groups. High-intensity statin therapy should be initiated or continued as first-line therapy in both women and men =75 years. When high-intensity statin therapy is contraindicated or for those patients unable to tolerate high-intensity statin therapy, moderate-intensity statin therapy should be used as a second option. High-intensity therapy may also be reasonable for ischemic stroke patients > 75 years, if risk-reduction benefits outweigh the risk of adverse events and the patient can tolerate it (Stone NJ, et al, 2013). AHA/ASA Guidelines for the Prevention of Stroke in Patients with Stroke or Transient Ischemic Attack (Kernan WN, et al, 2014) were revised the following year to align with 2013 ACC/AHA recommendations. Statin therapy was recommended to reduce the risk of stroke and cardiovascular events for patients with ischemic stroke or TIA presumed to be of atherosclerotic origin and LDL > 100 with or without evidence for other ASCVD, as well as, patients with LDL < 100 and no evidence for other clinical ASCVD.

1c.4. **Citations for data demonstrating high priority provided in 1a.3**
• Centers for Disease Control and Prevention (CDC). Prevalence and most common causes of disability among adults-United States 2005. MMWR. 2009;58:421-26.
• George M, Xin T, McGruder H, Yoon P, Rosamond W, Winquist, A., Hinchey J, Wal, H, Pandey D. Centers for Disease Control and Prevention (CDC). Prevalence and most common causes of disability among adults-United States 2005. MMWR. 2009;58:421-26.
• Grundy SM, Cleeman JI, Merz CNB, Brewer, HB, et. al. Implications of Recent Clinical Trials for the National Cholesterol Education Program Adult Treatment Panel III Guidelines. Circulation. 2004;110:227-239
• High-Dose Atorvastatin after Stroke or Transient Ischemic Attack. (New England Journal of Medicine. NEJM Vol. 355 2006:549-559.
• Kernan WN, Ovbiagele B, Black HR, Bravata DM, Chimowitz MI, Ezekowitz MD, Fang MC, Fisher M, Furie KL, Heck DV, Johnston SC, Kasner SE, Kittner SJ, Mitchell PH, Rich MW, Richardson D, Schwamm LH, Wilson JA. Guidelines for the Prevention of Stroke in Patients With Stroke or Transient Ischemic Attack: A Guideline for Healthcare Professionals From the American Heart Association/American Stroke Association. Stroke. 2014;45:241-2160-2236.
• Roger VL, Go AS, Lloyd-Jones DM, Benjamin EJ, Berry JD, Borden WB, Bravata DM, Dai S, Ford ES, Fox CS, Fullerton HJ, Gillespie C, Hailpern SM, Heit JA, Howard VJ, Kissela BM, Kittner SJ, Lackland DT, Lichtman, JH, Lisabeth LD, Makuc DM, Marcus GM, Marelli A, Matchar DB, Moy CS, Mozaffarian D, Mussolino ME, Nichol G, Paynter NP, Soliman EZ, Sorlie PD, Sotoodehnia N, Turan TN, Virani SS, Wong ND, Woo D, and Turner MB. Heart disease and stroke statistics--2012 update: a report from the American Heart Association. Circulation. 2012;125:e78-e82.
• Stone NJ, Robinson J, Lichtenstein AH, Noel Bairey Merz C, Blum CB, Eckel RH, Goldberg AC, Gordon D, Levy D, Lloyd-Jones DM, McBride P, Schwartz JS, Shero Jr, ST, Smith SC, Watson K, Wilson PWF. "Guideline on the Treatment of Blood Cholesterol to Reduce

Atherosclerotic Cardiovascular Disease in Adults: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. [In eng]. Circulation 11, (Nov 2013): 1-84.
• Third Report of the National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III) Final Report Circulation Vol. 106 2002: 3143-3421.

1c.5. If a PRO-PM (e.g. HRQoL/functional status, symptom/burden, experience with care, health-related behaviors), provide evidence that the target population values the measured PRO and finds it meaningful. *(Describe how and from whom their input was obtained.)*
Not applicable.

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2. Reliability and Validity—Scientific Acceptability of Measure Properties

Extent to which the measure, <u>as specified</u>, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. ***Measures must be judged to meet the subcriteria for both reliability and validity to pass this criterion and be evaluated against the remaining criteria.***

2a.1. Specifications The measure is well defined and precisely specified so it can be implemented consistently within and across organizations and allows for comparability. eMeasures should be specified in the Health Quality Measures Format (HQMF) and the Quality Data Model (QDM).

De.5. Subject/Topic Area *(check all the areas that apply):*
Neurology : Stroke/Transient Ischemic Attack (TIA)

De.6. Non-Condition Specific *(check all the areas that apply):*
Primary Prevention, Safety : Complications

S.1. Measure-specific Web Page *(Provide a URL link to a web page specific for this measure that contains current detailed specifications including code lists, risk model details, and supplemental materials. Do not enter a URL linking to a home page or to general information.)*
http://www.jointcommission.org/specifications_manual_for_national_hospital_inpatient_quality_measures.aspx

S.2a. If this is an eMeasure, HQMF specifications must be attached. Attach the zipped output from the eMeasure authoring tool (MAT) - if the MAT was not used, contact staff. (Use the specification fields in this online form for the plain-language description of the specifications)
This is not an eMeasure **Attachment:**

S.2b. Data Dictionary, Code Table, or Value Sets *(and risk model codes and coefficients when applicable) must be attached. (Excel or csv file in the suggested format preferred - if not, contact staff)*
Attachment **Attachment:** Appendix_A.1-635878758534627046.xls

S.3. For endorsement maintenance, please briefly describe any changes to the measure specifications since last endorsement date and explain the reasons.
Since the last endorsement date, the measure specifications have been revised to align with current guideline recommendations from the American College of Cardiology (ACC) / American Heart Association (AHA) for the management of blood cholesterol in adults (Stone, et al, 2013). The 2013 guidelines recognize four statin benefit groups. Patients with ischemic stroke are included in the first statin benefit group along with other patients who have clinical atherosclerotic cardiovascular disease (ASCVD). For these patients, age 75 years or younger, high-intensity statin therapy is recommended unless contraindicated or patient characteristics predispose to adverse effects. The rationale for the measure was revised to reflect these recommendations, emphasizing that statin therapy is indicated for those ischemic stroke patients with evidence of atherosclerosis, i.e., "individuals with ischemic stroke due to large artery atherosclerosis, individuals with ischemic stroke due to intrinsic small vessel disease, and individuals with ischemic stroke not directly due to atherosclerosis but with clinically evident atherosclerotic disease in an uninvolved cerebral or noncerebral bed". The denominator statement was revised to ischemic stroke patients, and the denominator inclusions for patients with LDL greater than or equal to 100 mg/dL, or LDL not measured, or who were on a lipid-lowering medication prior to hospital arrival removed, since they are no longer relevant to current guideline recommendations. Additionally, the data elements that captured these three denominator inclusions were removed from the measure algorithm. Appendix C, Table 1.6 Lipid-Lowering Medications used for abstraction of the data element Pre-Arrival Lipid-Lowering Agent was also removed.

All ICD-9-CM diagnosis codes and ICD-9-CM procedure codes were converted to ICD-10-CM diagnosis and ICD-10-PCS procedure codes throughout the measure specifications. The Department of Health and Human Services (HHS) mandated that all entities covered by the Health Insurance Portability and Accountability Act (HIPAA) must transition to a new set of codes for electronic health care transactions on October 1, 2015.

S.4. **Numerator Statement** *(Brief, narrative description of the measure focus or what is being measured about the target population, i.e., cases from the target population with the target process, condition, event, or outcome)*
IF an OUTCOME MEASURE, state the outcome being measured. Calculation of the risk-adjusted outcome should be described in the calculation algorithm.
See details in multiple formats

S.5. **Time Period for Data** *(What is the time period in which data will be aggregated for the measure, e.g., 12 mo, 3 years, look back to August for flu vaccination? Note if there are different time periods for the numerator and denominator.)*
Episode of care

S.6. **Numerator Details** *(All information required to identify and calculate the cases from the target population with the target process, condition, event, or outcome such as definitions, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b)*
IF an OUTCOME MEASURE, describe how the observed outcome is identified/counted. Calculation of the risk-adjusted outcome should be described in the calculation algorithm.
One data element is used to calculate the numerator:
• Statin Medication Prescribed at Discharge – Documentation that a statin medication was prescribed at hospital discharge. Allowable values: Yes, No/UTD or unable to determine from medical record documentation.

Patients are eligible for the numerator population when the allowable value equals "yes" for the data element.

S.7. **Denominator Statement** *(Brief, narrative description of the target population being measured)*
See details in multiple formats

S.8. **Target Population Category** *(Check all the populations for which the measure is specified and tested if any):*
 Elderly

S.9. **Denominator Details** *(All information required to identify and calculate the target population/denominator such as definitions, specific data collection items/responses , code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b)*
Nine data elements are used to calculate the denominator:

1. Admission Date – The month, day and year of admission to acute inpatient care.
2. Birthdate - The month, day and year the patient was born.
3. Clinical Trial - Documentation that during this hospital stay the patient was enrolled in a clinical trial in which patients with stroke were being studied. Allowable values: Yes or No/UTD.
4. Comfort Measures Only – The earliest day the physician/APN/PA documented comfort measures only after hospital arrival. Allowable values: 1 (Day 0 or 1); 2 (Day 2 or after); 3 (Timing Unclear); 4 (Not Documented/UTD).
5. Discharge Date – The month day and year the patient was discharged from acute care, left against medical advice or expired during the stay.
6. Discharge Disposition – The place or setting to which the patient was discharged on the day of hospital discharge.
7. Elective Carotid Intervention – Documentation demonstrates that the current admission is solely for the performance of an elective carotid intervention (e.g., elective carotid endarterectomy, angioplasty, carotid stenting). Allowable values: Yes or No/UTD.
8. ICD-10-CM Principal Diagnosis Code - The International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) code associated with the diagnosis established after study to be chiefly responsible for occasioning the admission of the patient for this hospitalization.
9. Reason For Not Prescribing Statin Medication at Discharge – Documentation of a reason for not prescribing a statin medication at discharge.

Allowable values: Yes or No/UTD.

Population: Discharges with ICD-10-CM Principal Diagnosis Code for ischemic stroke as defined in Appendix A, Table 8.1.

S.10. **Denominator Exclusions** *(Brief narrative description of exclusions from the target population)*
See details in multiple formats

S.11. **Denominator Exclusion Details** *(All information required to identify and calculate exclusions from the denominator such as definitions, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b)*
• The patient age in years is equal to the Discharge Date minus the Birthdate. Patients less than 18 years are excluded.
• The Length of Stay (LOS) in days is equal to the Discharge Date minus the Admission Date. If the LOS is greater than 120 days, the patient is excluded.
• Patients with Comfort Measures Only allowable value of 1 (Day 0 or 1), 2 (Day 2 or after), and 3 (Timing unclear) are excluded.
• Patients are excluded if "Yes" is selected for Clinical Trial.
• Patients with ICD-10-PCS procedure codes for carotid intervention procedures as identified in Appendix A, Table 8.3,, if medical record documentation states that the patient was admitted for the elective performance of this procedure are excluded.
• Patients with Discharge Disposition allowable value of 2 (Hospice-Home), 3 (Hospice-Health Care Facility), 4 (Acute Care Facility), 6 (Expired), or 7 (Left Against Medical Advice/AMA) are excluded.
• Patients are excluded if "Yes" is selected for Reason For Not Prescribing Statin Medication at Discharge.

S.12. **Stratification Details/Variables** *(All information required to stratify the measure results including the stratification variables, definitions, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format with at S.2b)*
Not applicable, the measure is not stratified.

S.13. **Risk Adjustment Type** (Select type. Provide specifications for risk stratification in S.12 and for statistical model in S.14-15)
No risk adjustment or risk stratification
If other:

S.14. **Identify the statistical risk model method and variables** *(Name the statistical method - e.g., logistic regression and list all the risk factor variables. Note - risk model development and testing should be addressed with measure testing under Scientific Acceptability)*
Not applicable.

S.15. **Detailed risk model specifications** *(must be in attached data dictionary/code list Excel or csv file. Also indicate if available at measure-specific URL identified in S.1.)*
Note: Risk model details (including coefficients, equations, codes with descriptors, definitions), should be provided on a separate worksheet in the suggested format in the Excel or csv file with data dictionary/code lists at S.2b.

S.15a. **Detailed risk model specifications** (*if not provided in excel or csv file at S.2b*)
Not applicable.

S.16. **Type of score:**
Rate/proportion
If other:

S.17. **Interpretation of Score** *(Classifies interpretation of score according to whether better quality is associated with a higher score, a lower score, a score falling within a defined interval, or a passing score)*
Better quality = Higher score

S.18. **Calculation Algorithm/Measure Logic** *(Describe the calculation of the measure score as an ordered sequence of steps including identifying the target population; exclusions; cases meeting the target process, condition, event, or outcome; aggregating data; risk adjustment; etc.)*
1. Start processing. Run cases that are included in the Stroke (STK) Initial Patient Population and pass the edits defined in the

Transmission Data Processing Flow: Clinical through this measure.

2. Check ICD-10-CM Principal Diagnosis Code
a. If the ICD-10-CM Principal Diagnosis Code is not on Table 8.1, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing.
b. If the ICD-10-CM Principal Diagnosis Code is on Table 8.1, continue processing and proceed to Discharge Disposition.

3. Check Discharge Disposition
a. If Discharge Disposition equals 2, 3, 4, 6, 7 the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing.
b. If Discharge Disposition equals 1, 5, 8, continue processing and proceed to Comfort Measures Only.

4. Check Comfort Measures Only
a. If Comfort Measures Only is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
b. If Comfort Measures Only equals 1, 2, or 3, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing.
c. If Comfort Measures Only equals 4, continue processing and proceed to Clinical Trial.

5. Check Clinical Trial
a. If Clinical Trial is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
b. If Clinical Trial equals Yes, the case will proceed to a Measure Category Assignment of B and will not be in the measure population. Stop processing.
c. If Clinical Trial equals No, continue processing and proceed to Elective Carotid Intervention.

6. Check admitted for Elective Carotid Intervention
a. If Elective Carotid Intervention is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
b. If Elective Carotid Intervention equals Yes, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing.
c. If Elective Carotid Intervention equals No, continue processing and proceed to Pre-Arrival Lipid-Lowering Agent.

7. Check Statin Medication Prescribed at Discharge
a. If Statin Medication Prescribed at Discharge is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
b. If Statin Medication Prescribed at Discharge equals Yes, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing.
c. If Statin Medication Prescribed at Discharge equals No, continue processing and check Reason for Not Prescribing Statin Medication at Discharge.

8. Check Reason for Not Prescribing Statin Medication at Discharge
a. If Reason for Not Prescribing Statin Medication at Discharge is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
b. If Reason for Not Prescribing Statin Medication at Discharge equals Yes, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing.
c. If Reason for Not Prescribing Statin Medication at Discharge equals No, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.

S.19. **Calculation Algorithm/Measure Logic Diagram URL or Attachment** *(You also may provide a diagram of the Calculation Algorithm/Measure Logic described above at measure-specific Web page URL identified in S.1 OR in attached appendix at A.1)*
Available at measure-specific web page URL identified in S.1

S.20. **Sampling** *(If measure is based on a sample, provide instructions for obtaining the sample and guidance on minimum sample size.)*
IF a PRO-PM, identify whether (and how) proxy responses are allowed.

Hospitals that choose to sample have the option of sampling quarterly or sampling monthly. A hospital may choose to use a larger sample size than is required. Hospitals whose Initial Patient Population size is less than the minimum number of cases per quarter for the measure set cannot sample.

Regardless of the option used, hospital samples must be monitored to ensure that sampling procedures consistently produce statistically valid and useful data. Due to exclusions, hospitals selecting sample cases MUST submit AT LEAST the minimum required sample size.

Quarterly Sampling
The Quarterly Sample Size "n", i.e., Minimum Required Sample Size, is based on the Initial Patient Population Size "N" for the STK Measure Set. Hospitals performing quarterly sampling for STK must ensure that their Initial Patient Population and sample sizes meet the following conditions:
If "N" >/= 900, then "n" 180
If "N" 226-899, then "n" 20% of Initial Patient Population size
If "N" 45-225, then "n" 45
If "N" 6-44, No sampling; 100% Initial Patient Population required
If "N" 0-5, Submission of patient level data is not required; if submission occurs, 100% Initial Patient Population required

Monthly Sampling
The Monthly Sample Size "n", i.e., Minimum Required Sample Size, is based on the Initial Patient Population Size "N" for the STK Measure Set. Hospitals performing monthly sampling for STK must ensure that their Initial Patient Population and sample sizes meet the following conditions:
If "N >/= 300, then "n" 60
If "N 76-299, then "n" 20% of Initial Patient Population size
If "N 15-75, then "n" 15
If "N < 15, No sampling; 100% Initial Patient Population required

S.21. **Survey/Patient-reported data** *(If measure is based on a survey, provide instructions for conducting the survey and guidance on minimum response rate.)*
IF a PRO-PM, specify calculation of response rates to be reported with performance measure results.
Not applicable. This measure is not based on a survey or a PRO-PM.

S.22. **Missing data** (specify how missing data are handled, e.g., imputation, delete case.)
Required for Composites and PRO-PMs.
Any file with missing data will result in a measure category assignment of X and rejection of the file from the warehouse, unless the data are not used to process the measure. If the data are used to process the measure and have been reported by the abstractor as No/UTD, the case will result in a measure category assignment of D (i.e., failed measure, not rejected).

S.23. **Data Source** *(Check ONLY the sources for which the measure is SPECIFIED AND TESTED).*
If other, please describe in S.24.
 Electronic Health Record (Only), Paper Records

S.24. **Data Source or Collection Instrument** *(Identify the specific data source/data collection instrument e.g. name of database, clinical registry, collection instrument, etc.)*
IF a PRO-PM, identify the specific PROM(s); and standard methods, modes, and languages of administration.
Each data element in the data dictionary includes suggested data sources. The data are collected using contracted Performance Measurement Systems (vendors) that develop data collection tools based on the measure specifications. The tools are verified and tested by Joint Commission staff to confirm the accuracy and conformance of the data collection tool with the measure specifications. The vendor may not offer the measure set to hospitals until verification has been passed.

S.25. **Data Source or Collection Instrument** *(available at measure-specific Web page URL identified in S.1 OR in attached appendix at A.1)*
No data collection instrument provided

S.26. Level of Analysis *(Check ONLY the levels of analysis for which the measure is SPECIFIED AND TESTED)*
Facility, Other

S.27. Care Setting *(Check ONLY the settings for which the measure is SPECIFIED AND TESTED)*
Hospital
If other:

S.28. COMPOSITE Performance Measure - Additional Specifications *(Use this section as needed for aggregation and weighting rules, or calculation of individual performance measures if not individually endorsed.)*
Not applicable

2a. Reliability – See attached Measure Testing Submission Form
2b. Validity – See attached Measure Testing Submission Form
0439_MeasureTesting_MSF5.0_Data-635905388861973443.doc

3. Feasibility

Extent to which the specifications including measure logic, require data that are readily available or could be captured without undue burden and can be implemented for performance measurement.

3a. Byproduct of Care Processes
> For clinical measures, the required data elements are routinely generated and used during care delivery (e.g., blood pressure, lab test, diagnosis, medication order).

3a.1. Data Elements Generated as Byproduct of Care Processes.
generated by and used by healthcare personnel during the provision of care, e.g., blood pressure, lab value, medical condition, Coded by someone other than person obtaining original information (e.g., DRG, ICD-9 codes on claims), Abstracted from a record by someone other than person obtaining original information (e.g., chart abstraction for quality measure or registry), Other
If other: Data element allowable values are selected, either manually or electronically, from clinical and coded data available in medical record documentation. All medical record documentation is used in the abstraction process. Vendor data collection tools are used to import data elements needed for measure rate calculation.

3b. Electronic Sources
> The required data elements are available in electronic health records or other electronic sources. If the required data are not in electronic health records or existing electronic sources, a credible, near-term path to electronic collection is specified.

3b.1. To what extent are the specified data elements available electronically in defined fields? *(i.e., data elements that are needed to compute the performance measure score are in defined, computer-readable fields)*
Some data elements are in defined fields in electronic sources

3b.2. If ALL the data elements needed to compute the performance measure score are not from electronic sources, specify a credible, near-term path to electronic capture, OR provide a rationale for using other than electronic sources.
The Joint Commission recognizes that not all hospitals currently have the capacity to abstract the electronic version of this measure, so continues to offer this chart-abstracted version which allows for data capture from unstructured data fields. All data elements needed to compute the STK-6 performance measure score have been retooled for capture from electronic sources. Annual updates are performed to match the eCQM specifications to the current version of the chart-abstracted specifications.

3b.3. If this is an eMeasure, provide a summary of the feasibility assessment in an attached file or make available at a measure-specific URL.
 Attachment:

3c. Data Collection Strategy
> Demonstration that the data collection strategy (e.g., source, timing, frequency, sampling, patient confidentiality, costs associated with fees/licensing of proprietary measures) can be implemented (e.g., already in operational use, or testing demonstrates that it is ready to put into operational use). For eMeasures, a feasibility assessment addresses the data elements and measure logic and demonstrates the eMeasure can be implemented or feasibility concerns can be adequately addressed.

3c.1. Describe what you have learned/modified as a result of testing and/or operational use of the measure regarding data collection, availability of data, missing data, timing and frequency of data collection, sampling, patient confidentiality, time and cost of data collection, other feasibility/implementation issues.

IF a PRO-PM, consider implications for both individuals providing PROM data (patients, service recipients, respondents) and those whose performance is being measured.

At the present time, hospitals using this performance measure generally collect measure data via manual review of the paper medical record, the EHR or a combination of both. Collected data are submitted to The Joint Commission on a quarterly basis, by way of contracted performance measurement system vendors, as described previously. Specifications for this measure are freely available to anyone who wishes to use the measure. Feedback from hospitals using this measure indicates that required data elements are generally available in the medical record, and measure specifications are robust and easy to understand. As described above, as feedback from measure users has indicated the need for clarification or revision of measure specifications, this has taken place in the form of guidelines for abstraction. Specific revisions are detailed in the Release Notes section of this submission.

3c.2. Describe any fees, licensing, or other requirements to use any aspect of the measure as specified *(e.g., value/code set, risk model, programming code, algorithm).*

There are no fees or licensing requirements to use the Joint Commission performance measures, all of which are in the public domain.

4. Usability and Use

Extent to which potential audiences (e.g., consumers, purchasers, providers, policy makers) are using or could use performance results for both accountability and performance improvement to achieve the goal of high-quality, efficient healthcare for individuals or populations.

4a. Accountability and Transparency

Performance results are used in at least one accountability application within three years after initial endorsement and are publicly reported within six years after initial endorsement (or the data on performance results are available). If not in use at the time of initial endorsement, then a credible plan for implementation within the specified timeframes is provided.

4.1. Current and Planned Use

NQF-endorsed measures are expected to be used in at least one accountability application within 3 years and publicly reported within 6 years of initial endorsement in addition to performance improvement.

Planned	Current Use (for current use provide URL)
	Public Reporting
	Quality Check®
	http://www.qualitycheck.org/consumer/searchQCR.aspx
	Hospital Compare
	https://www.medicare.gov/hospitalcompare/search.html
	Public Health/Disease Surveillance
	Paul Coverdell National Acute Stroke Registry
	http://www.cdc.gov/dhdsp/programs/stroke_registry.htm
	Payment Program
	Hospital Inpatient Quality Reporting Program
	https://www.cms.gov/medicare/quality-initiatives-patient-assessment-instruments/hospitalqualityinits/hospitalrhqdapu.html
	Regulatory and Accreditation Programs
	Hospital Accreditation Program
	http://www.jointcommission.org/
	Quality Improvement (Internal to the specific organization)
	Disease-Specific Care Certification for Comprehensive Stroke Centers

	http://www.jointcommission.org/certification/dsc_home.aspx Disease-Specific Care Certification for Primary Stroke Centers http://www.jointcommission.org/certification/dsc_home.aspx

4a.1. **For each CURRENT use, checked above, provide:**
- Name of program and sponsor
- Purpose
- Geographic area and number and percentage of accountable entities and patients included

• Name of program and sponsor: Quality Check®; The Joint Commission
• Purpose: A public website that allows consumers to: search for accredited and certified organizations by city and state, by name or by zip code (up to 250 miles); find organizations by type of service provided within a geographic area; download free hospital performance measure results; and, print a list of Joint Commission certified disease-specific care programs and health care staffing firms.
• Geographic area and number and percentage of accountable entities and patients included: Nationwide; 3300 Joint Commission-accredited hospitals (2014)

• Name of program and sponsor: Hospital Compare; Centers for Medicare & Medicaid Services
• Purpose: A public website that provides information that helps consumers decide where to obtain healthcare and encourages hospitals to improve the quality of care they provide.
• Geographic area and number and percentage of accountable entities and patients included: Nationwide; 4000+ Medicare-certified hospitals (2015)

• Name of program and sponsor: Paul Coverdell National Acute Stroke Registry; Centers for Disease Control and Prevention
• Purpose: A national registry that measures, tracks, and improves the quality of care and access to care for stroke patients from onset of stroke symptoms through rehabilitation and recovery; decreases rate of premature death and disability from stroke; eliminates disparities in care; supports the comprehensive stroke system across the continuum of care; improves access to rehabilitation and opportunities for recovery after stroke; and, increases the workforce capacity and scientific knowledge of stroke care within stroke systems of care.
• Geographic area and number and percentage of accountable entities and patients included: 11 states; 403 hospitals (CDC, 2014)

• Name of program and sponsor: Hospital Inpatient Quality Reporting Program; Centers for Medicare & Medicaid Services
• Purpose: The Hospital Inpatient Quality Reporting (Hospital IQR) program was mandated by Section 501(b) of the Medicare Prescription Drug, Improvement, and Modernization Act (MMA) of 2003. This section of the MMA authorized CMS to pay hospitals that successfully report designated quality measures a higher annual update to their payment rates.
• Geographic area and number and percentage of accountable entities and patients included: Nationwide; 3500 hospitals (2015)

• Name of program and sponsor: Annual Report-Improving America's Hospitals; The Joint Commission
• Purpose: The annual report summarizes the performance of Joint Commission-accredited hospitals on 46 accountability measures of evidence-based care processes closely linked to positive patient outcomes, and provides benchmarks from Top Performer on Key Quality Measures® hospitals.
•Geographic area and number and percentage of accountable entities and patients included: Nationwide; 3300 Joint Commission-accredited hospitals (2014)

• Name of program and sponsor: Disease-Specific Care Certification for Comprehensive Stroke Centers; The Joint Commission
• Purpose: A certification program that recognizes the specific capabilities of hospitals that treat the most complex stroke cases.
• Geographic area and number and percentage of accountable entities and patients included: Nationwide; 95 hospitals

• Name of program and sponsor Disease-Specific Care Certification for Primary Stroke Centers; The Joint Commission
• Purpose: A certification program that recognizes hospitals that effectively manage and meet the unique and specialized needs of stroke patients, and make exceptional efforts to foster improved outcomes for better stroke care.
• Geographic area and number and percentage of accountable entities and patients included Nationwide; 1079 hospitals

• Name of program and sponsor Hospital Accreditation Program; The Joint Commission
• Purpose: An accreditation program that recognizes hospitals that meet standard requirements to provide safe and effective patient care.

• Geographic area and number and percentage of accountable entities and patients included Nationwide; 3300 Joint Commission-accredited hospitals (2014)

4a.2. **If not currently publicly reported OR used in at least one other accountability application (e.g., payment program, certification, licensing) what are the reasons?** (*e.g., Do policies or actions of the developer/steward or accountable entities restrict access to performance results or impede implementation?*)
Not applicable

4a.3. **If not currently publicly reported OR used in at least one other accountability application, provide a credible plan for implementation within the expected timeframes -- any accountability application within 3 years and publicly reported within 6 years of initial endorsement.** (*Credible plan includes the specific program, purpose, intended audience, and timeline for implementing the measure within the specified timeframes. A plan for accountability applications addresses mechanisms for data aggregation and reporting.*)
Not applicable

4b. Improvement
Progress toward achieving the goal of high-quality, efficient healthcare for individuals or populations is demonstrated. If not in use for performance improvement at the time of initial endorsement, then a credible rationale describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.

4b.1. **Progress on Improvement. (Not required for initial endorsement unless available.)**
Performance results on this measure (current and over time) should be provided in 1b.2 and 1b.4. Discuss:
- **Progress (trends in performance results, number and percentage of people receiving high-quality healthcare)**
- **Geographic area and number and percentage of accountable entities and patients included**

• Progress (trends in performance results, number and percentage of people receiving high-quality healthcare):
Over the past five years, there has been steady but small increases of ~1-2% per year in the percentage of ischemic stroke patients with LDL > 100 mg/dL who are discharged on a statin medication based on Joint Commission ORYX performance measurement data. The national aggregate rate reported for 2014 was 98.7%. A modest gap of ~5% still exists for the lowest decile of hospitals. This trend is consistent with increases in the rates for discharged on a statin medication published by GWTG-Stroke and PCNASR.

Racial and ethnic disparities persist for patients prescribed statin therapy at discharge, especially for black patients, as published based on data from the GWTG database (Schwamm LH, et al., 2010; Qian F, et al., 2013). Women are also less likely to receive a statin medication at discharge when compared to men (PCNASR, 2014).

• Geographic area and number and percentage of accountable entities and patients included:
Nationwide; 1296 hospitals; 140,296 patients (The Joint Commission, 2014)

4b.2. **If no improvement was demonstrated, what are the reasons? If not in use for performance improvement at the time of initial endorsement, provide a credible rationale that describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.**
Although historic data for STK-6 demonstrates improvement over time for those ischemic stroke patients with LDL > 100 mg/dL, LDL not measured, or who were on a lipid-lowering medication prior to hospital arrival, there are no data currently available to evaluate performance for those ischemic stroke patients with LDL < 100 mg/dL who are prescribed a statin medication at discharge. Measure specifications have been revised to reflect current guideline recommendations. Data collection using the revised specifications was initiated with discharges on and after October 1, 2015. Somewhat lower measure rates are anticipated with the addition of those ischemic stroke patients with LDL < 100 mg/dL who are now included in the denominator population.

4c. Unintended Consequences
The benefits of the performance measure in facilitating progress toward achieving high-quality, efficient healthcare for individuals or populations outweigh evidence of unintended negative consequences to individuals or populations (if such evidence exists).

4c.1. **Were any unintended negative consequences to individuals or populations identified during testing; OR has evidence of unintended negative consequences to individuals or populations been reported since implementation? If so, identify the negative unintended consequences and describe how benefits outweigh them or actions taken to mitigate them.**
No unintended consequences due to the previous measure specifications or resulting from the recent changes to the measure

specifications have been identified. One specific change to the measure specifications was modification of the Notes for Abstraction section for the data element definition Reason for Not Prescribing Statin Medication at Discharge. This change allows ischemic stroke patients with LDL < 70 mg/dL to be excluded from the measure population, and mitigates concerns about removal of the LDL data elements or the potential for inappropriate use of statins.

5. Comparison to Related or Competing Measures

If a measure meets the above criteria <u>and</u> there are endorsed or new related measures (either the same measure focus or the same target population) or competing measures (both the same measure focus and the same target population), the measures are compared to address harmonization and/or selection of the best measure.

5. Relation to Other NQF-endorsed Measures
Are there related measures (conceptually, either same measure focus or target population) or competing measures (conceptually both the same measure focus and same target population)? If yes, list the NQF # and title of all related and/or competing measures.
Yes

5.1a. List of related or competing measures (selected from NQF-endorsed measures)
0074 : Chronic Stable Coronary Artery Disease: Lipid Control
0118 : Anti-Lipid Treatment Discharge
0543 : Adherence to Statin Therapy for Individuals with Cardiovascular Disease
0545 : Adherence to Statins for Individuals with Diabetes Mellitus
0547 : Diabetes and Medication Possession Ratio for Statin Therapy
0639 : Statin Prescribed at Discharge
1519 : Statin Therapy at Discharge after Lower Extremity Bypass (LEB)

5.1b. If related or competing measures are not NQF endorsed please indicate measure title and steward.
0543 : Adherence to Statin Therapy for Individuals with Cardiovascular Disease; Centers for Medicare and Medicaid Services
0545 : Adherence to Statins for Individuals with Diabetes Mellitus – measure not in NQF database
0547 : Diabetes and Medication Possession Ratio for Statin Therapy; CMS
0639 : Statin Prescribed at Discharge; CMS

5a. Harmonization
    The measure specifications are harmonized with related measures;
    OR
    The differences in specifications are justified

5a.1. If this measure conceptually addresses EITHER the same measure focus OR the same target population as NQF-endorsed measure(s):
Are the measure specifications completely harmonized?
No

5a.2. If the measure specifications are not completely harmonized, identify the differences, rationale, and impact on interpretability and data collection burden.
Three statin therapy measures were identified from the NQF database. All three measures address target diagnoses other than ischemic stroke or specific surgical procedures for patients 18 years or older: 0074 Coronary Artery Disease; 0118 isolated Coronary Artery Bypass Graft (CABG); and, 1519 Lower Extremity Bypass (LEB). Measure 1519 addresses inpatient organizational performance.. The other two measures, 0074 and 0118 are provider-level measures in the ambulatory care setting.

5b. Competing Measures
    The measure is superior to competing measures (e.g., is a more valid or efficient way to measure);
    OR
    Multiple measures are justified.

5b.1. If this measure conceptually addresses both the same measure focus and the same target population as NQF-endorsed measure(s):
Describe why this measure is superior to competing measures (e.g., a more valid or efficient way to measure quality); OR provide

a rationale for the additive value of endorsing an additional measure. (Provide analyses when possible.)
Not Applicable

Appendix

A.1 Supplemental materials may be provided in an appendix. All supplemental materials (such as data collection instrument or methodology reports) should be organized in one file with a table of contents or bookmarks. If material pertains to a specific submission form number, that should be indicated. Requested information should be provided in the submission form and required attachments. There is no guarantee that supplemental materials will be reviewed.
Available at measure-specific web page URL identified in S.1 **Attachment:**

Contact Information

Co.1 Measure Steward (Intellectual Property Owner): The Joint Commission
Co.2 Point of Contact: JohnMarc, Alban, jalban@jointcommission.org, 630-792-5304-
Co.3 Measure Developer if different from Measure Steward: The Joint Commission
Co.4 Point of Contact: Karen, Kolbusz, kkolbusz@jointcommission.org, 630-792-5931-

Additional Information

Ad.1 Workgroup/Expert Panel involved in measure development
Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.
The role of the Technical Advisory Panel (TAP) is to provide advisory oversight in literature review, measure content and maintenance of the specifications.
Members are:

Harold P. Adams, Jr., MD
University of Iowa Health Care
Iowa City, IA

Mark J. Alberts, MD
University of Texas Southwestern
Dallas, TX

Anne W. Alexandrov, RN
Health Outcomes Institute
Fountain Hills, AZ

Nadine Allyn, RD
American Heart Association
Dallas, Texas

Mary G. George, MD
Centers for Disease Control and Prevention
Atlanta, GA

Martin Gizzi, MD
Legacy Health System
Portland, OR

Marianna Gorbaty
Mathematica Policy Research, Inc.
Washington, DC

Judith Hinchey, MD
Tuft's Medical School
Steward St. Elizabeth's Medical Center
Boston, MA

Edward C. Jauch, MD
Medical University of South Carolina
Charleston, SC 2946

Irene Katzan, MD
Cleveland Clinic
Cleveland, OH

Kimberly E. Levasseur-Franklin, PharmD
Northwestern Memorial Hospital
Chicago, IL

Kathy Morrison, RN
Penn State Hershey Medical Center
Hershey, PA

Marilyn M. Rymer, MD
University of Kansas
Kansas City, MO

Jeffrey Saver, MD
UCLA Medical Center
Los Angeles, CA

Lee H. Schwamm, MD
Harvard Medical School
Massachusetts General Hospital
Boston, MA

Deborah, Summers, RN
St. Luke's Brain and Stroke Institute
Kansas City, MO

Osama O. Zaidat, MD
St.Vincent Mercy Hospital
Toledo, OH

Richard D. Zorowitz, MD
Medstar National Rehabilitation Network
Washington, DC

Measure Developer/Steward Updates and Ongoing Maintenance
Ad.2 Year the measure was first released: 2009
Ad.3 Month and Year of most recent revision: 10, 2015
Ad.4 What is your frequency for review/update of this measure? Biannual
Ad.5 When is the next scheduled review/update for this measure? 07, 2016

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Ad.7 Disclaimers:

Ad.8 Additional Information/Comments: