Measure Instrument Development and Support (MIDS)
Task Order T0001

Subtask 3.1 MMS Form 8.3: Verbatim Public Comments for the Stroke Mortality and Readmission Measures

Submitted August 20, 2010 to:

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Contract Number: HHSM-500-2008-0025I-MIDS Task Order T0001

Form 8.3. Verbatim Public Comments

Date Posted	Measure Set or Measure	Text of Comments	Name, Credentials, and Organization of Commenter	E-Mail Address	Type of Organization
8/5/10	Stroke Mortality and Readmission	Thank you for allowing this public commentary period. The publication of your results is likely to have significant impacts in numerous countries throughout the country. 30 day mortality and 30 day readmission are limited by not controlling for severity of stroke which is the greatest predictor (not clinical care) of mortality and readmission. Thus, the effect is to identify the referral patterns for severity of stroke, not the actual quality that a hospital is providing in care. Example: In our hospital system, we have a regional stroke team that provides service to 15 area hospitals for acute stroke care, in-person urgent evaluation and then facilitates transfer of the sickest patients for neurosurgical intensive care unit, neurointerventional therapy and potential neurosurgical therapy such as hemicraniectomy. Because of this, we are likely to have a higher mortality rate and published locally, may discourage residents in the region from allowing a transfer despite the obviously higher level of care that we could provide than the community hospital. Emergency services, knowing of the specialization of a particular hospital, may transfer the most severely affected to those hospitals. I note that MedPar includes the variables related to where the patient is discharged to (nursing home, home, etc). This seems to be a highly relevant indicator of how severe a patient population is at a particular center and one could compare mortality rates based on those hospitals that have the highest rates of discharge to nursing home (or the lowest rates of discharge to home) rather than comparing them to hospitals that have very low rates of transfer to nursing homes and very high rates of transfer to homes (because they only keep mild strokes). It is unlikely that nursing homes/rehab would accept patients that don't have true disability after stroke or that people would take patients home that they can't handle at home and this may serve as a useful surrogate for severity, is already available in the medpar database and would be di minimi with respect to work. You can also check to see if severity predicts mortality. Hospitals with the highest transfer to nursing homes are, if my hypothesis is correct, likely to have the highest percentage of 30 day mortality because they accept more severe strokes. If I'm right, please consider comparing hospitals that have similar 'severity' of stroke as measured by nursing home discharge rates. Thank you for taking the time to review comments.	Daniel Woo, MD, MS Director of Cerebrovascular Genetics Associate Professor of Neurology University of Cincinnati College of Medicine	WOODL@ucmail.uc.edu	Individual

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8/9/10	Stroke Mortality and Readmission	Unfortunately, I think these are particularly POOR measures of the quality of stroke care. Unlike acute MI, where there are really only three main vessels, and a few syndromes associated with each, there are literally dozens of different distinct vascular occulsive patterns in the brain, and the level of danger to the patient varies enormously among them.The clinicians in the first ED stratify the patients based upon the degree of neurological impairment and acuity of the process, so that the cases where care is simplest and outcome best are often retained at the originating hospital, and the most critical patients are transferred to tertiary centers. As a result, the tertiary centers have especially sick patients, with an especially high risk. While a risk-adjustment strategy could potentially mitigate against this process, it is not clear that we have such measures available. The comorbidities are only a very small part of the issue. The key feature is the neurological risk, based upon a complex assessment of the vessels that have been occluded, the cause, the likelihood of re-embolization, the degree of reperfusion, the risk of bleed into the infarct, and the natural progression of infarcted tissue damage with edema. We have no straightforward way of predicting this at present, let alone stratifying risk by these features, most of which are only determined post-hoc when you have a bad outcome.A further concern is that the centers that do the best at salvaging marginal patients will almost always have the highest readmission rates. This puts tertiary centers at even greater risk: the better a job they do of helping people survive the initial damage, the greater the risk that a deterioration of health in the same patient, for reasons almost always beyond the control of the tertiary center, will result in a readmission. Nearly all severe stroke patients will spend 3-5 days at an acute hospital, and then 27-25 days of the remaining month in a rehab center, that is usually unrelated. Most of the complications that occur are due to failure of care at the rehab center, not the tertiary hospital. These include the failure of the rehab facility to maintain venous thrombosis prophylaxis; frequent changes in position to prevent bedsores; good oral care to prevent aspiration pneumonia; and good urological care to prevent urinary tract infections, which are among the most common causes of readmission, and almost always have nothing to do with the quality of care at the tertiary center. In addition, recurrent ischemic stroke, which can occur no matter how reasonable the treatment offered at the tertiary center, is unpredictable, and more likely to occur in the patients who are the sickest in the first place.For all of these reasons, the simplistic measures of 30 day, all cause mortality and 30 day all-cause readmission rates, while fine for UTIs, pneumonia,	Clifford B. Saper, MD, PhD James Jackson Putnam Professor of Neurology and Neuroscience, Harvard Medical SchoolChairman, Department of NeurologyBeth Israel Deaconess Medical Center	csaper@bidmc.harvard.edu	Individual

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		and other simple, controllable conditions, remain extremely inappropriate measures of stroke care. I can tell you from our own experience, that before we had a full-time stroke service, we had many fewer strokes (about 300 per year) and very few deaths (less than one per month). As we developed a high acuity, full-service stroke team, with neurointerventional capabilities and 24/7 expert stroke coverage, our volume of strokes doubled, and the number of deaths more than tripled, the difference being that we were being shipped many more very sick stroke patients, who previously would have died at the primary hospital, or another tertiary center. We have also saved many more people than we would have previously. But the 30 day all-cause mortality is perhaps the WORST POSSIBLE measure of stroke care one could imagine, as in our experience; it is almost completely INVERSE to actual quality of care.			
8/9/10	Stroke Mortality and Readmission	My name is Jeremiah Lanford. I'm the system stroke director at Scott & White Healthcare in central Texas. My first concern is in regards to the denominator of stroke and new diagnostic criteria. Some hospitals don't have the availability to perform MRI but yet admit stroke patients and will not include transient symptoms with positive DWI and likely have a higher mortality (as patients with transient sx will be excluded) but potentially lower readmission since a stroke patient with positive DWI will have a higher risk of recurrent ischemia in the next few weeks and thus be a readmission. Other hospitals, such as the Keiser system of hospitals in California do not regularly perform MRI's to save money on their patient population and as well will have issues with the diagnosis of transient symptoms with positive DWI. I believe this area needs more attention than just using ICD-9 codes. My second concern is with patients receiving Iv thrombolysis and is a drip and ship patient. As of yet CMS has not recognized these patients as being a higher risk of complication and care. Patients will receive IVrtPA at an outside ED and be transferred in to a hospital with higher level of care. Since they weren't admitted to the outside hospital it will go as an admission to the tertiary center but there is no greater CC or MCC for tPA patients that weren't given thrombolysis at the receiving hospital. Presumably there wouldn't be an increase in death/mortality when looking at the NINDS trial but you are presuming that the outside ED has followed protocol and if not the receiving hospital will be charged with the mortality. Third is the use of CC and MCC as a risk adjustment when this doesn't take into account stroke severity unless the patient has complete hemiplegia. Changes in CC and MCC in regards to stroke are needed from a CMS level and this will cause problems with	Jeremiah Lanford, MDStroke DirectorDepartment of NeurologyScott & White Healthcare	JLANFORD@swmail.sw.org	Individual

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		hospitals that are tertiary referral centers. EMS is being trained throughout the US to take stroke patients to designated stroke facilities and will typically take more sever stroke patients to comprehensive centers as apposed to primary stroke facilities or non stroke facilities. Without a way to truly designate stroke severity appropriately how can we justify comparisons of mortality rates between facilities? Finally is the public reporting. With so many issues I would hope that public reporting would not be done until preliminary data can be looked at and reporting adjusted to address these issues as most of the comprehensive facilities in the US will look poorly at an unfair level.			
8/9/10	Stroke Mortality and Readmission	It is unclear whether the denominator used for these proposed measures is stroke discharges or admissions. Use of stroke discharges will systematically bias against tertiary centers that are referred complicated cases which may have a higher mortality, residual disability, and comorbidity. The risk adjustment methods will sub optimally account for these and these centers will compare unfavorably to the centers that refer these patients. This is already occurring in some states whose public health depts. have implemented publicly available hospital report cards. The risk of reporting biased results will inevitably be that tertiary centers may refuse taking these cases in transfer so as to protect their quality data. However, using cases that originate and are discharged from a tertiary center would minimize this bias. Another reasonable approach would be to attribute the 30 day outcomes to the originating institution.	Sean Ruland	sruland@uic.edu	Individual
8/11/10	Stroke Mortality and Readmission	The Consumer-Purchaser Disclosure Project appreciates the opportunity to provide comments on the quality outcome measures for patients undergoing elective total hip and total knee replacement and ischemic stroke hospitalization. Please don't hesitate to reach out if you have any questions. Many thanks, Christine **Attachment:** The Consumer-Purchaser Disclosure Project is an initiative that is improving health care quality and affordability by advancing public reporting of provider performance information so it can be used for improvement, consumer choice, and payment. We are a collaboration of over sixty leading national and local employer, consumer, and labor organizations. We appreciate the opportunity to comment on YNHHSC/CORE's two elective total hip or knee replacement measures and two ischemic stroke measures. We wholeheartedly applaud the development of measures to address outcomes, in particular the procedure-specific measures, and the intention of using	Christine Chen, MPP Policy Analyst Pacific Business Group on Health	CChen@pbgh.org	Private Company

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		these measures for public reporting as well as internal quality improvement. This is particularly of importance when it comes to hip and knee replacement procedures, given not only their volume, but the fact that they are the types of procedures for which consumers often do have the opportunity research the provider and setting where they would like to receive care. We also encourage CMS to add measures of patient reported outcomes for knee and hip replacement, which are becoming more common and are most amenable to this form of measurement. While the total hip or knee replacement and ischemic stroke measures are directionally appropriate, we caution against the use of risk adjustment methods that obscure variation in the data results, such as the hierarchical generalized linear model (HGLM). This analytical technique can wash away nearly all of the variation observed in the raw data because it shrinks performance data towards the mean. 1,2 The result is that most providers (i.e., individual hospitals) being profiled will be labeled as "average," regardless of the level of statistical significance imposed. This thereby limits the value of such measures for public reporting and quality improvement. For example, across the 25th to 75th percentiles, YNHHSC/CORE notes that unadjusted hospital-level mortality rates for ischemic stroke range from 9.4% to 21.4%. This range, after applying HGLM, was reduced to 14.2% -16.3%. Given this compression of results, we are uncertain about the claim made by YNHHSC/CORE that "the results of the risk-standardized rates show continued meaningful difference even after risk adjustments." At the end of this document we provide a powerful visual of how drastically HGLM shrank the range of values for a hospital outcome measure related to complications from ICDs for heart patients. HGLM is highly specific – meaning that those who are identified as outliers almost surely are outliers – but lacking in sensitivity – meaning that it does not identify as many outliers as there are. HGLM makes adjustments for sample size that result in providers being pulled towards the mean. The smaller a given provider's volume the less weight is attached to their observed results and the more weight is given to the mean value. This results in fewer providers being designated as outliers and, depending on the statistical confidence level that is chosen, may not identify any low volume provider as different from average even when their observed result is quite different from the mean. There are other analytical approaches that give more equal weight to specificity and sensitivity so that the chances that a provider is identified as an outlier when they are not are more balanced against the chances			

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		that a provider is not identified as an outlier when they are. Also, others in the academically-based biostatistics community have confirmed that there is no agreement that HGLM is superior to other, more traditional techniques and, in fact, two separate articles that came out earlier this year point out that traditional methods yield better discrimination (Kipnis et al. 2010 and Racz et al. 2010). Inequitable and/or unreliable methods of risk adjustment may lead to profiling that subsequently results in severe consequences. One consequence is that providers who provide relatively good quality of care go unrecognized. More importantly, consumers may be mistakenly led to providers of relatively poor quality care who are displayed as being "no different than average." We therefore recommend that any analytical approach for estimating risk-adjustment models should incorporate a reasonable balance between specificity and sensitivity in identifying performance that is higher or lower than the norm. On behalf of consumers and purchasers across the country, thank you for your consideration of our comments. If you have any questions, please don't hesitate to contact David Hopkins (dhopkins@pbgh.org), who is a team member of the Disclosure Project. [1] Racz, M. J. and J. Sedransk, "Bayesian and Frequentist Methods for Provider Profiling Using Risk-Adjusted Assessments of Medical Outcomes," *J. of the American Statistical Association*, 105:489 (March 2010), 48-58. [2] Kipnis, P., G. J. Escobar, and D. Draper, "Effect of Choice of Estimation Method on Inter-Hospital Mortality Rate Comparisons," *Medical Care*, 48:5 (May 2010), 458-465. Excerpted from Hospital Risk-Standardized Complication Rate following Implantation of Implantable Cardioverter-Defibrillator (ICD) Measure Methodology Report:			

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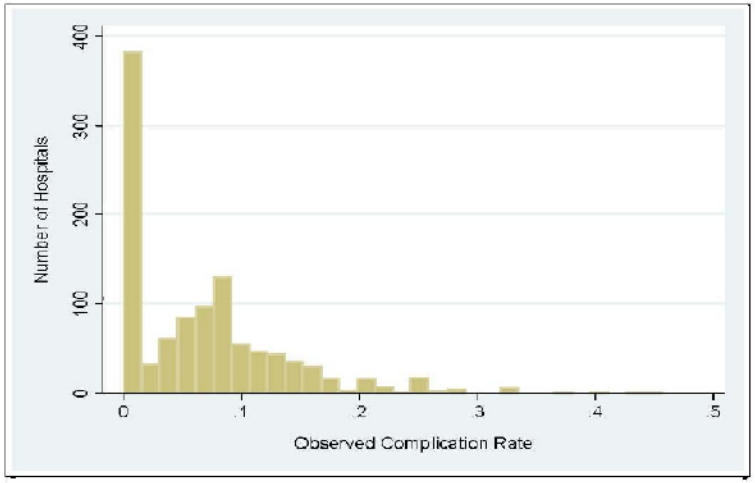
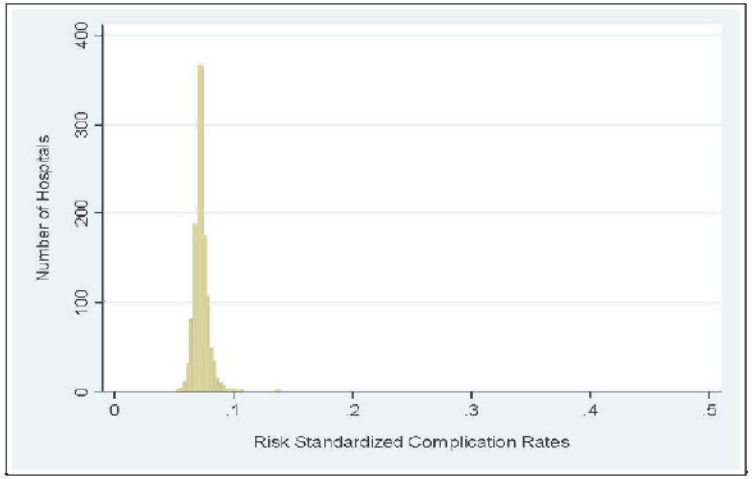
		Figure 5 – Distribution of Hospital Unadjusted Complication Rates (2007 Development Sample; N=1,080 Hospitals)  **Figure 6** – Distribution of Hospital Risk-Standardized Complication Rates (2007 Development Sample; N=1,080 Hospitals) – HGLM  			

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8/12/10	Stroke Readmission	Dear Sir or Madam, I am concerned about the 30 day all-cause readmission metric for acute ischemic stroke. I propose that readmissions for carotid endarterectomy, angioplasty and stenting, or other revascularization procedure would not count - i.e. be excluded. There are many valid clinical reasons to wait for some period of time before pursuing these semi-elective procedures. Thanks. I am commenting as an individual.	Colin P. Derdeyn, M.D.Professor of Radiology, Neurology and Neurological Surgery Director, Center for Stroke and Cerebrovascular Disease Washington Univ. School of Medicine	derdeync@wustl.edu	Individual
8/13/10	Stroke Mortality and Readmission	You have probably chosen the two most important parameters. I think the next three important measureable items at 30 days would be: 1. Patient's function (several methods and scales of measurement are widely used) 2. Patient's living arrangement (home, rehab. hospital, SNF, etc.) 3. Total cost incurred (broken down by category would also be helpful) Adding these items to your data collection would be very helpful in measuring success and not be a burdensome cost. As the website requested, I am a physician board certified in Physical Medicine and Rehabilitation, and Medical Director at Siskin Hospital for Physical Rehabilitation in Chattanooga, TN. Thank you for your consideration.	David Bowers, MD Siskin Hospital for Physical Rehabilitation	dbowers@siskinrehab.org	Individual
8/13/10	Stroke Mortality and Readmission	What time period are you currently looking at? Will our readmission data for this be available to download? Thanks, Jamie	Jamie E. Matt, RHIA Clinical Quality Analyst Quality Management Services Carle Foundation Hospital	Jamie.Matt@Carle.com	Individual
8/13/10	Stroke Mortality and Readmission	Unless the outcome can be adjusted for stroke severity (not just for comorbidities) and stroke type, the measure may give misleading results.	Don B. Smith, MD	Dbsmd1@gmail.com	Individual

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8/13/10	Stroke Mortality and Readmission	Dear sir or madam: I saw with great interest the call for comments regarding stroke outcomes and readmissions. As measures for quality, please consider: 1. the American Stroke Association's "Get with the Guidelines", which indicates important guidelines with respect to ischemic stroke care. See http://www.strokeassociation.org/presenter.jhtml?identifier=3002728. 2. tissue plasminogen activator use. this is an important indicator of quality, and recent literature finds few hospitals use it appropriately [only 3-8.5% of eligible stroke patient receive tPA, and only 2% of community hospitals use it]. because stroke is the third largest killer [second if you do not aggregate all neoplasms], effective treatment, particularly for the growing elderly population, is essential for quality and safety in health care delivery. See Liang BA, Lew R, Zivin JA. Review of tissue plasminogen activator, ischemic stroke, and potential legal issues. Arch Neurol. 2008;65(11):1429-1433. best, Bryan	Bryan A. Liang, MD, PhD, JD E. Donald Shapiro Distinguished Professor Executive Director, Institute of Health Law Studies California Western School of Law Professor of Anesthesiology Co-Director, San Diego Center for Patient Safety University of California San Diego School of Medicine	baliang@alum.mit.edu	Individual
8/16/10	Stroke Mortality and Readmission	I would suggest adding 90 day functional outcome (modified Rankin score) to the core measures, as 30 days may be insufficient time to derive full recovery. Mb-z	Michael Brant-Zawadzki, MD FACR The Judy and Richard Voltmer Chair, Executive Medical Director: Neurosciences Hoag Memorial Hospital	michael.brantzawadzki@hoaghospital.org	Individual

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8/16/10	Stroke Mortality and Readmission	Good afternoon, Could you please clarify how specific the comments on this topic should be as well as if there will be a follow up period for comments and is there a possibility for extension of this comment period? Thank you so much for your time.	John R. Hunt, MA, CCC-SLP Director of Performance Support Hospital Rehabilitation Services Division	jrhunt@rehabcare.com	Individual
8/16/10	Stroke Readmission	It is interesting that admission to an acute inpatient rehab program is not an acceptable planned all source re-admission, as much as for a corrective surgical procedure; in the presence of stroke intensive therapy readmission - directed at rehabilitation - would indicate quality care.	Betsy Schimelpfenig	Betsy.Schimelpfenig@LPNT.net	Individual
8/16/10	Stroke Mortality and Readmission	I am a practicing interventional neuroradiologist at the UCLA Medical Center. We evaluate over 400 acute ischemic stroke patients each year and treat over 100 of these patients with endovascular interventional therapies. I have been in practice at our center for now 11 years. The patient population we deal with are typically acute stroke patients with severe symptoms as measured by the National Institute of Health Stroke Scale (NIHSS). These patients are for the most part emergently referred to our institution from emergency rooms in community hospitals not capable of managing such severe strokes. Our patient population then tends to be sicker patients that by virtue of their initial presenting symptoms, have worse outcomes despite appropriate intervention and treatment. AS SUCH, I WOULD LIKE TO REGISTER MY OPPOSITION TO THESE MEASURES IN THEIR CURRENT FORM BECAUSE THE METRICS DO NOT APPROPRIATELY ADJUST FOR DISEASE SEVERITY. The performance of this risk adjustment model Yale/CMS group has devised has not been described previously. Any model used for public reporting must have its performance features transparently stated. Moreover, on its face, the model appears almost certain to be inaccurate. It does not include as a predictor variable presenting stroke severity, which is the DOMINANT predictor of mortality and readmission in stroke patients. Using an invalid model will produce a risk that hospitals that do interventional procedures will start cherry picking only very good patients, lest they be classified as poor performers because they take care of sick patients. That would deprive the public of access to useful interventional procedures. Thank you for your attention to this matter. I hope my comments are useful.	Reza Jahan, MD Associate Professor Director of Academic Affairs Division of Interventional Neuroradiology Department of Radiological Sciences David Geffen School of Medicine at UCLA	RJahan@mednet.ucla.edu	Individual

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8/16/10	Stroke Mortality and Readmission	On behalf of the American Hospital Association, we are pleased to submit the attached comments on the stroke readmission and mortality measures. If you have any additional questions or follow-up, please contact Lisa Grabert (lgrabert@aha.org). The American Hospital Association (AHA), which represents more than 5,000 member hospitals, health systems and other health care organizations and over 40,000 individual members, appreciates the opportunity to comment on these draft measures. Providing feedback through several stages of the measurement development process is critical to producing the best possible product. Today we are taking the opportunity to comment in the early stages of development and we are committed to providing feedback through further testing and possible endorsement phases as well. We thank CMS for making this opportunity available. *30-Day All-Cause Stroke Readmission Measure* In simply looking at available administrative claims data, it is not possible to distinguish between patients who have been readmitted due to factors largely within the control of the hospital and those who have been readmitted for other reasons. For example, there are no data that allow for the evaluation of planned or unplanned readmissions, which Congress noted would be appropriate to exclude when it passed the Affordable Care Act. Though the measure developer included some exclusions for planned stroke readmissions, the developer failed to recognize planned **un**related readmissions. Before pursuing any further development of this readmission measure or any other readmission measures, **we strongly recommend that CMS introduce a new data element into the claims processing system that allows hospitals to indicate whether a readmission is planned or unplanned**. *30-Day All-Cause Stroke Mortality Measure* We are concerned that the mortality measure proposed here and the previously adopted mortality measures do not recognize the difference between patients undergoing aggressive treatment, those who have chosen to enter into palliative care programs or those who have signed Do Not Resuscitate orders. As currently constructed, the measures incent a hospital to sustain patient lives, despite their express wishes, so that the death is not counted negatively toward the hospitals' performance. If hospitals would act in accordance with the incentive, they would be	American Hospital Association	lgrabert@aha.org	Hospital Association

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		acting against the expressed wishes of the patient and in a manner that would increase health care costs. Without excluding these patient populations, this measure goes against CMS' stated goals of promoting care that is in accordance with patient wishes (i.e. patient-centered care). *Risk Adjustment Model* The measure developer states "we do not risk-adjust for CCs that are possible adverse events of care and are only recorded in the index admission." The measure developer fails to recognize a very important data element available in claims data, the Present on Admission (POA) indicator. Rather than arbitrarily assuming something may be a "possible adverse event," the measure developer should use the data that is available and rely on the POA indicator for a more quantitative assessment. If in fact a CC/MCC is coded as POA, it should be used in the risk adjustment methodology. **We strongly recommend that the measure developer build the POA indicator into the risk adjustment methodology for these stroke measures in addition to the draft hip/knee measures and the current AMI, heart failure and pneumonia measures.** In addition to the POA indicator, the measure developer should also add major diagnostic categories that represent trauma, ongoing medical issues for which hospitalization will be necessary and other such issues to the exclusion list for the 30-day all-cause stroke readmission measure. **We strongly recommend that the measure contain exclusions for patients whose original discharge was associated with a primary or secondary diagnosis or procedure code for transplants, End Stage Renal Disease, burn, trauma, psychosis and substance abuse**. If you have any questions regarding these comments, please contact Lisa Grabert, senior associate director for policy, at [redacted] or lgrabert@aha.org.			
8/16/10	Stroke Mortality and Readmission	Agree with several TEP member concerns: 1. Improved risk-adjustment that reflects a patients functional status at baseline and stroke severity is needed – both can affect outcomes negatively. 2. Comfort care or withdrawal of care elected after admission – these patients should be excluded from the measure. 3. Patient with history of poor medication compliance not included in risk-adjustment – consider adding this to risk-adjustment calculation.	Cynthia Miller, RN John Muir Neurosciences Institute Stroke Program Coordinator	Cynthia.Miller@johnmuirhealth.com	Individual

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8/16/10	Stroke Mortality and Readmission	MGH appreciates the opportunity to comment on the Yale New Haven Health Services Corporation/Center for Outcomes Research and Evaluation (YNHHSC/CORE) stroke measures of mortality and readmission. While measures that reflect these areas are extremely important, and applicable to many patients, we have concerns about the methodology of the measure constructs. In particular, the lack of a stroke severity measure as part of the risk adjustment model is very concerning since this single data variable accounts for much of the variability in stroke mortality. Many would consider this absence of a stroke severity variable a significant limitation, that should disqualify the measure from being accepted. The main concern is that any measure which is adopted by CMS will have broad impact on practice, and could produce the unintended consequences of risk aversion, which obviously would not improve quality for this population. Prior models of this type (from this group) have yielded models with a C statistic less than 0.7 and have been widely adopted for use despite this limitation. Any proposed measure must be validated against a dataset that contains a well validated, discriminating measure of stroke severity, such as the NIH stroke scale. Without such an adjustment, we worry that hospitals of last resort will be penalized. Those hospitals that accept patients with severe stroke in transfers from outside hospitals' scores will not be adequately adjusted for severity. Finally, there is insufficient description of the methodology to allow for proper review and comment. Any measure that is adopted must be completely transparent in its constructs, its discriminating capability in both derivation and validation cohorts should be made available, and these cohorts should be current and relevant to current practice. In addition, this model should be compared to other chart based models of mortality or readmission that exist to identify where the areas of disagreement are found. We would be very interested in hearing the research teams rebuttal and more about their plans for validating the measure against a data derived from a clinical data set. On behalf of the MGH Acute Quality Improvement Team, Thank you for considering our input.	Elizabeth Mort, MD Vice President Quality and Safety	EMORT@PARTNERS.ORG	Hospital

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8/17/10	Stroke Mortality and Readmission	The American Heart Association/American Stroke Association respectfully submits the attached comments on the proposed ischemic stroke hospitalization measures. Thank you for your consideration. **Attachment:** The American Heart Association (AHA) and its division, the American Stroke Association (ASA), appreciate the opportunity to submit comments on the following draft measures developed by the Yale New Haven Health Services Corporation/Center for Outcomes Research and Evaluation (YNHHSC/CORE): -30 day, all-cause mortality following an ischemic stroke hospitalization -30 day, all-cause readmission following an ischemic stroke Hospitalization AHA/ASA understands the Centers for Medicare and Medicaid Services' (CMS) interest in capturing data related to stroke mortality and readmission. Stroke is the third leading cause of death in the United States accounting for one of every 18 deaths in 2006, and it is a leading cause of serious, long-term disability. It is estimated that stroke will result in $73.7 billion in direct and indirect costs in 2010 in the U.S. alone.1 AHA/ASA is committed to improving the cardiovascular health of all Americans and reducing death and disability from heart disease and stroke. Thus we share the Agency's goal of reducing mortality and readmission following an ischemic stroke, and we generally support CMS' efforts to improve the quality of care for patients. We are, however, greatly concerned by the construction of both the 30-day mortality and 30-day readmission ischemic stroke measures. AHA/ASA is concerned that the proposed measures are not appropriately risk adjusted. Although YNHHSC/CORE and CMS have proposed to use administrative data set-derived risk-adjustments, we believe that it is imperative that any 30-day ischemic stroke mortality or readmission measure include stroke severity as a metric. We believe that any measure that fails to include initial stroke severity is fundamentally flawed and cannot be considered to have been adequately risk-adjusted. The severity of stroke-related neurologic deficit at the time of the patient's presentation ("presenting stroke deficit severity") is the most important prognostic factor following ischemic stroke. Unfortunately, most administrative data sets do not reliably collect stroke severity information with tools such as the NIH Stroke Scale, which has been shown to be a strong predictor of both mortality and short and long term outcomes. It appears that the developers have attempted to adapt a risk-	American Heart Association/ American Stroke Association	susan.k.bishop@heart.org	Health Care Association

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		adjustment strategy that was used for the Agency's heart disease outcomes measures, but this methodology is not sufficient for stroke outcomes assessment. The technique will produce a risk-adjustment score, but this technique in no way accounts for the wide variations in stroke severity at various hospitals in the U.S. Because of emerging patterns of care that often re-direct or concentrate the most severely disabled stroke patients at referral stroke centers, there will be a disproportionate concentration of these cases producing excess mortality at those sites. Without a stroke severity measure in the model, this unmeasured confounder will greatly distort the results, making this model unacceptable for use as quality measures, let alone for public reporting. We strongly urge the Agency to revise the measures and allow for risk-adjustment based on initial stroke severity. AHA/ASA is also concerned that the proposed measures are not validated. Neither of the measures have been tested and evaluated. There is no peer-reviewed, published data to support these two measures or to delineate what limitations, if any, were identified through data analysis. As a result, there is no way to substantiate that the measure models will provide adequate discrimination and prevent unintended consequences if implemented. For example, the measures may encourage hospitals to select or "cherry pick" stroke patients with mild or moderate strokes, and may discourage hospitals from accepting patients in transfer who have the most severe strokes, particularly as hospitals are aware that the resulting mortality and readmissions data will be publicly available on hospital comparison websites without the benefit of an adequate risk adjustment. Therefore, we strongly recommend that prior to rolling out any stroke mortality or readmission measures, the measures should undergo rigorous testing to assess potential inadvertent consequences that may result. In addition, any hand abstracted data sets used to validate the measure must be of sufficient size and include sufficient numbers of patients with a standardized stroke severity scale. We also recommend that prior to implementing any stroke measures that will be publicly reported, CMS ensure that the measures meet the American Heart Association's 2006 Standards for Statistical Models Used for Public Reporting of Health Outcomes. 2 CMS should require that any stroke measure meet the *Preferred Attributes of Models Used for Publicly Reported Outcomes* delineated in the AHA Standards, particularly Criteria #7, which states that there should be "Disclosure of the methods used to compare outcomes, including disclosure of performance of risk-adjustment methodology in derivation and validation samples." These are lacking for the current measures. Performance			

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		metrics such as explained variation, calibration, and discrimination should be transparent and disclosed. Disclosure of the methods used to compare outcomes is critical for risk-adjusted measures and for validation. As noted in the work of Adam Kelly in *Public reporting of quality data for stroke: is it measuring quality?,*3 lack of transparency can result in incongruent results. In this study, Kelly et al. examined two widely employed models for rating hospital stroke mortality performance, from 3M and from Health Grades, in New York hospitals. Based on their analysis, neither model had reported its performance characteristics in a transparent manner, as recommended by AHA. The models were found to be unreliable, with incongruent results in scoring 61 out of 157 hospitals (39%). We are not aware of any evidence that the very similar adjustment model now proposed by CMS and YNHHSC/CORE has any better reliability than these models which have already been found to be unreliable. Finally, AHA/ASA is committed to further exploring the development of measures for stroke readmission and mortality. In fact, through our Get With The Guidelines®-Stroke (GWTG Stroke) program, we have been benchmarking stroke mortality and readmission data for a number of years. Most recently, an abstract was published on mortality data from the GWTG Stroke Patient Management Tool and the results were presented at our International Stroke Conference. This past May, we also released a stroke risk-adjusted mortality measure. As we start to collect data for this new metric, we would be happy to share our findings with CMS. In conclusion, AHA/ASA cannot support either the 30-day ischemic stroke mortality or the 30- day ischemic stroke readmission measure. Without significant changes to the construction of both measures, we believe that these measures will lead to unintended consequences and greater disparities in care. The proposed models are not appropriately risk-adjusted; they fail to recognize stroke severity as the dominant predictor of outcome. And the measures have not been validated in a peer-reviewed publication, limiting our ability to identify any flaws in the measures or inadvertent consequences that may occur from implementation. We reiterate our request that CMS revise the measures to allow for risk-adjustment based on stroke severity and we encourage CMS to utilize the preferred attributes of models used for public reporting such as those found in the AHA Standards. These changes will help to ensure that the resulting measures are transparent and provide accurate data, which is of utmost importance. Thank you for consideration of our comments.			

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		AHA/ASA would be happy to work with CMS and YNHHSC/CORE as you work to revise the measures. 1 - American Heart Association. Heart Disease and Stroke Statistics – 2010 Update. 2 - Krumholz HM. for the American Heart Association Quality of Care and Outcomes Research Interdisciplinary Writing Group. Standards for statistical models used for public reporting of health outcomes: an American Heart Association Scientific Statement from the Quality of Care and Outcomes Research Interdisciplinary Writing Group. Circulation. 2006;113:456–62. 3 - Kelly A, Thompson JP, Tuttle D, Benesch C, Holloway RG. Public reporting of quality data for stroke: is it measuring quality? Stroke. 2008;39:3367–3371. 4 - Smith; Eric E; Reeves, Mathew J ; Hernandez, Adrian F ; Saver; Jeffrey L; Pan, Wenqin; Dai, David ; Olson, DaiWai M; Fonarow, Gregg C; Schwamm, Lee H. International Stroke Conference. Abstract 1580: Prediction of In-Hospital Mortality in Ischemic Stroke Using Data From Get With the Guidelines Stroke. If you have any questions or require any additional information, please contact Penelope Solis, JD, Healthcare Quality Manager, at [redacted] or penelope.solis@heart.org. Sincerely, Ralph L. Sacco, MD, FAHA President			
8/17/10	Stroke Mortality	I am adding a request to have withdrawal of care specifically addressed, perhaps with attention as to whether the associated hospital has 1) a palliative care service or 2) a religious association. My limited experience with my catholic charities hospital has both and a strong faith-based counseling towards "letting patients go." I have been quizzing some of my cohorts at hospitals meeting either of the above criteria and several of them have noted a higher mortality rate at their stroke centers as well. Is this something you think might be worth evaluating?	Madeleine Geraghty	Madeleine.Geraghty@providence.org	Individual
8/18/10	Stroke Readmission	Please see attached to this email comments from the American Physical Therapy Association (APTA) on the stroke measures. If you have any questions or trouble opening the attachment, please do not hesitate to contact me. Thank you in advance for your consideration.	American Physical Therapy Association	sarahnicholls@apta.org	Physical Therapy Association

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		Attachment: On behalf of our 74,000 member physical therapists, physical therapist assistants, and students of physical therapy, the American Physical Therapy Association (APTA) is pleased to submit comments on the quality measure for readmission to the hospital within 30-days post stroke. We support CMS' goal to improve the quality of health care under the Medicare program. Physical therapists are committed to providing high-quality timely care, and to the promotion of evidence-based practice and patient-centered practice. APTA's goal is to foster advancements in physical therapy practice, research, and education. The mission of APTA is to further the profession's role in the prevention, diagnosis, and treatment of movement dysfunctions and the enhancement of the physical health and functional abilities of members of the public. We commend CMS and Yale New Haven Health Services on their work toward development of outcome stroke measures. Specifically, this measure relates to complications and associated disability following a cerebral vascular accident (CVA) and 30-day all-cause readmission following a CVA. When considering the likelihood of readmission to the hospital and optimal outcomes post-hospital discharge, it is essential to consider the impact of the care that the patient receives both during the hospital stay and post-hospital discharge. Based on the severity of the CVA and associated impairments, nearly all patients who are discharged from a hospital after a CVA will require ongoing care and services. Most of these patients are discharged either to a skilled nursing facility, inpatient rehabilitation hospital, home health, or an outpatient therapy setting. It is imperative that patients be discharged from the hospital to the most appropriate setting based on their condition and other relevant factors. It is also essential that the patient receives timely rehabilitation. In all of these settings physical therapists provide key components of the patient's care and can play an essential role in minimizing hospital readmissions for certain causes. Patients who have suffered a CVA often have impairments in motor and sensory systems, motor planning, communication and respiratory systems. Physical therapists role in preventing hospital readmissions first occurs in the acute care setting by providing patients and caregivers with interventions and training that focus on decreasing impairments, activity limitations, and participation restrictions. This may include proper positioning, bed mobility, transfer training, functional			

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		mobility training, gait training, and evaluation and training in the use of assistive device(s) for ADL and mobility. Additionally, training of family members and caregivers is vital in ensuring safe transfers and mobility, especially before a discharged to home so the patient will be able to perform essential activities of daily living. Physical therapists, in conjunction with other members of the hospital health care team, assist in discharge planning, including the determination of the most appropriate setting for a patient taking into account their medical status, functional status, prognosis and other factors, such as their home environment and family support. The need for a coordinated effort for the continuum of care across settings for patient is imperative to good outcomes. In addition, the need for optimal access to healthcare, including physical therapist services in the post-hospital phase of care is critical, especially for individuals at high risk for re-admission. Information from the physical therapist's discharge summary should always be communicated to the post-acute care providers. Physical therapists, in each setting, are critical to ensuring patients attain an optimal level of mobility and safety in their environment. Physical therapists are uniquely qualified to provide functional training and educate the patient and caregivers post CVA on important factors such as prevention of further injury, illness and decline in functional status and the resulting effects of immobility. This may include minimizing the risk of pneumonia, metabolic disease, and fragility and other functional decline. In addition, physical therapists are able to recognize subtle changes in a person's status that may require further evaluation or referral to other healthcare providers before the problems are exacerbated and require readmission. Patients who have had a CVA are at risk for falls, which can result in hospital readmission due to fractures or head injury. According to the Centers for Disease Control and Prevention (CDC), over 90% of hip fractures are caused by falling, most often by falling sideways onto the hip. Falls are the leading cause of traumatic brain injury (TBI) (35.2%) in the United States. Falls cause 61% of all TBIs among adults aged 65 years and older. Physical therapists can intervene to prevent falls by providing interventions that focus on balance, weight shifting, gait training, safety, transfer training, recommendations for the most appropriate assistive device or			

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		orthotic device, and the amount and type of caregiver assistance needed for ambulation, transfers and ADLs. If the patient is going to be discharged to their home, physical therapists facilitate a home visit or interview prior to discharge to assess the ability of the family members to provide care and to recommend necessary adaptations to the home prior to discharge. Another potential risk for patients who have suffered a stroke is the development of deep vein thrombosis. Physical therapists screen and monitor the patient for any signs of deep vein thrombosis and instruct the patient and family members or caregivers in signs and symptoms to watch for that might indicate thrombosis. Instructions are provided on action to take should these symptoms appear. Early and regular intervention by a physical therapist can help ensure that the patient is using his or her lower extremity muscles sufficiently to reduce the risk of deep vein thrombosis. Physical therapists can play a significant role in the management of pressure ulcers; another potential co-morbidity for stroke patients. They can screen and monitor the patient for any signs of pressure ulcers as a result of decreased mobility and instruct the patient and family members or caregivers in signs and symptoms to watch for that might indicate a developing area of pressure and skin breakdown. Early and regular intervention by a physical therapist can help ensure that the patient is properly positioned to reduce the risk of skin breakdown. Even with appropriate care and precautions taken, there are times that medical complications will occur that will require readmission to the hospital. In addition to the outcome and the post-operative care that the patient receives, the probability of readmission depends upon many other factors related to the patient's condition including patient severity and certain co-morbidities as well as patient compliance with clinician instructions. Any outcome measures used in a system must be risk adjusted to account for factors such as patient severity of illness, co-morbidities, functional limitations, age, gender, cognitive status, availability of a caregiver, and prognosis that may influence the outcomes of care. Risk adjustment is essential to create a level playing field that takes into account patient differences. While considerable progress has been made, more work still needs to be done to identify a more effective risk adjustment model.			

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		In conclusion, physical therapists play a crucial role in the treatment of patients with CVA. They provide interventions and treatment to not only help the patient recover from a stroke but to also prevent readmission to the hospital as a result of falls or other co-morbidities. Prevention of hospital readmission post stroke is an important step in improving the quality of care and quality of life of stroke patients. With appropriate risk adjustment we believe this outcomes measure has the potential to meet the objective of improved patient care. We appreciate the opportunity to comment on this measure. If you have further questions, please contact Sarah Nicholls, Assistant Director for Payment Policy and Advocacy, at sarahnicholls@apta.org or [redacted]. Sincerely, R Scott Ward, PT, PhD President RSW:sn			
8/18/10	Stroke Mortality and Readmission	Please see the attached Comments on Stroke Outcome Measures: **Attachment:** We appreciate the opportunity to provide comments on stroke outcomes measures related to 30 day, all-cause mortality and 30-day, all-cause readmission following an ischemic stroke hospitalization. 30 day, all-cause mortality We believe a key issue in using a mortality based index is in the degree of risk-standardization. Most risk standardized calculations do not take into account the impact of seeing a large number of very ill patients from the local and regional area, do not risk adjust by age to the degree needed, do not adjust by prior debility (resident in a nursing home vs. other) to the level necessary. In other words, a very large stroke in an elderly nursing home resident will very frequently lead to comfort care when appropriately managed by an excellent stroke team. However, that group of patients does not risk adjust to a very high mortality level. The point is that to the extent that one has deaths in that subgroup of patients, an institution's mortality index will be	Bradley J. Berg Mayo Clinic	Berg.Bradley@mayo.edu	Hospital

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		higher, even over 1, which is problematic. Nationally, it is possible this can lead to some centers deferring these patients (and other catastrophically ill neuro/neurosurgery patients) to some other medical center at the time of referral phone call. We encourage CMS to be careful that they do not detract from the ability and desire of centers to care for these very ill, often elderly patients. This may lead to more transfers to the selected centers who will care for these patients. We are concerned that centers with both a large local and regional practice, and also a national referral practice, could be impacted negatively. Based on our review of neurology deaths several years ago, a large proportion were elderly patients with catastrophic cerebral infarcts and hemorrhages, who were then made comfort care within the hospital setting. This is an example of the type of patient outlined above--a patient subgroup with a very high observed mortality rate, but the risk standardized calculations do not adjust to an extremely high expected mortality. 30-day, all-cause readmission The definition of readmission will need to be clear. One assumes that a patient seen in an emergency department and then dismissed will not count as an admission, so that if they return in a few days that will not be considered a readmission. To a certain extent, the degree of risk standardization for readmission has some of the same challenges as the mortality data outlined above, and comes down to coding and ability of the risk standardization system to truly account for the factors that might increase the risk of readmission.			
8/18/10	Stroke Mortality and Readmission	I work at the sole tertiary care center in the state of New Hampshire. In our largely rural state there is an exaggerated imbalance between the levels of care offered at our hospital and that at most other hospitals in the state. I suspect that this is true of other states with relatively sparse population and hospital density. I have read the proposed rules as well as the discussion related to concerns raised by the TEP surrounding variability in severity of stroke and in co-morbidities. I believe that the administrative data are not sufficient to do an adequate job of accounting for these factors. Arguments regarding correlation with administrative data are far from convincing. Even if they work on average for the country, I am worried that inaccuracy is likely to be exaggerated in states like ours. In our state,	Clifford J. Eskey, MD, PhD Director, Division of Neuroradiology Director, Interventional Neuroradiology	Clifford.J.Eskey@hitchcock.org	Individual

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		any stroke more than a minor deficit winds up being transferred to our hospital or out of state since we are the only hospital in the state to offer emergency neurology, neurosurgery, and neurointerventional services. As you are no doubt aware, any large inequities in this outcomes measure may lead to (a) a decreased willingness of hospitals to do acute stroke care and (b) monetary and public relations penalties for institutions most committed to stroke care. I would urge you to reconsider incorporation of additional risk stratification data (primarily the initial neurological assessment and a few major co-morbidity measures). This initiative is only going to help patients if it is done correctly.	Department of Radiology Dartmouth-Hitchcock Medical Center		
8/18/10	Stroke Mortality and Readmission	Attached please find the comments of Cleveland Clinic. Should you have any questions, or need further information, please don't hesitate to contact us. **Attachment:** Cleveland Clinic is a not-for-profit, integrated healthcare system dedicated to patient care, teaching and research. Our health system is comprised of a main campus, ten community hospitals and 14 family health centers with over 2,100 salaried physicians and scientists. Last year, our system had more than four million patient visits and over 165,000 hospital admissions. We have a strong, ongoing stroke program and, as such, have a direct interest in your work to develop two outcome measures for stroke: 30-day, all-cause mortality following an ischemic stroke hospitalization; and 30-day all-cause readmission following an ischemic stroke hospitalization. Your project has done excellent work in forwarding the discussion of stroke outcome measures, but we believe that the measures are not yet ready for implementation. Below are our observations. **Risk-adjustment** There is significant variation in the severity of neurological impairment among stroke patients, which leads us to support the need for a valid risk-adjustor. However, we believe that at this point there is no reliable and valid risk-adjustment measure that is consistently available in the medical records of patients hospitalized with stroke. We support the continued analysis and dialogue to develop such a measure. Hospitals vary greatly in their case complexity and we believe an unreliable measure would do more harm than good as it could be very misleading in	Blair W. Barnhart-Hinkle Director Government Relations Cleveland Clinic	barnhab@ccf.org	Hospital

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		its attempt to assess quality and outcomes. Although tertiary hospitals, who are thought to take care of the sickest patients, have a similar spread of mortality and readmissions as their community hospital counterparts, it is not known if the results are due to outstanding care in a severely impaired populations, or "average" care in patients with average stroke severity. **30-day, all-cause mortality and 30-day, all cause readmissions** The majority of patients who die after stroke have orders for "Do Not Resuscitate." For many of these patients, and perhaps the majority, their preferences are to NOT aggressively prolong life. Reporting mortality without taking into account these preferences is misleading and could lead to more life-prolonging measures that are in conflict with patients and their families preferences, in addition to unnecessarily further escalating healthcare costs. The same serious issue of lack of information on patient preferences in care could lead to misleading and inaccurate conclusions regarding readmissions after stroke. Because of the lack of an adequate risk-adjustment and information on patient preferences, we do not support implementation of these two standards at this time. We do not believe it all washes out in the averages; it is well known through the Dartmouth work that there is major variation not only across major geographic areas, but also within small regions. We support continued research to sort out elective factors that need to be taken into account in any public accountability model. Thank you for conducting a thoughtful process that allows us to provide input on such an important issue, and for your consideration of our comments. Please do not hesitate to contact me if you need additional information. Sincerely, Michael T. Modic, M.D., FACR Chairman, Neurological Institute Professor of Radiology, CCLCM			

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8/18/10	Stroke Mortality and Readmission	On behalf of the more than 170 member hospitals, the Georgia Hospital Association (GHA) welcomes the opportunity to share our comments on the draft ischemic stroke hospitalization 30-day, all-cause mortality and readmission measures. Limited feedback from our members on the measures especially relating to *Cohort Definitions, Inclusion/exclusion criteria, Risk-adjustment strategy* is as follows: Often time hospitals have no control over adherence to treatment plans, medication regimes, etc. Also, patients may die from other causes within thirty days. As stated in the Patient Protection and Accountable Care Act, the recommendation to focus on the preventable or unplanned readmissions should be included. Several procedures were excluded but there is no indication to exclude other unplanned admissions that have no relationship to an ischemic stroke. The "all-cause" is also an issue with mortality. Again, death unrelated to the ischemic stroke should be excluded. Clarification in regards to patient age is requested in regards to no age limit. The cohort would not be restricted by age as documented within the summary from the Technical Expert Panel (TEP). Does this exclude patients who experience an ischemic stroke that are younger that the 65 years of age who are dual eligible, receiving Medicare? Positive aspects of the Cohort definitions are: 1) hemorrhagic strokes are not included in the measure and 2) Transfers from outside facilities are excluded for receiving hospital. Patients who decide on Comfort Measures, Palliative Care or Hospice are still included in the Outcome Measures. With patients using Advance Directives and having a better understanding of choices, they are more often making the decision for comfort measures as their option. There are well documented studies stating patients do not want to be disabled thus chose death with dignity. With stroke being the leading cause of disability, it would seem that this should definitely be considered in this measure and the hospitals should not be penalized for patient and family choices. A major concern is that the National Institute of Health Stroke Scale (NIHSS) is not being used to determine stroke severity. The NIHSS is a predictor of stroke outcomes. The Present on Admission (POA) Indicators are not included in the risk-adjustment. Use of the POA would enhance data for evaluative purposes. The Georgia Hospital Association and its member facilities are deeply committed to	Georgia Hospital Association	jreid@gha.org	Hospital Association

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		the provision of safe, effective, patient-centered, timely, efficient and equitable care to all patients. It is in this spirit that we appreciate this opportunity to offer our comments and look forward to commenting on future drafts and end products. If you have any questions, please contact me at [redacted] or vnaylor@gha.org. Sincerely, Vi Naylor Executive Vice President			
8/18/10	Stroke Mortality and Readmission	The American Academy of Neurology (AAN), an association of more than 22,000 neurologists and neuroscience professionals, is pleased to provide comment on the Centers for Medicare and Medicaid Services (CMS) two proposed hospital-level, risk-standardized outcomes measures. The letter is on behalf of the AAN as an organization. Please confirm receipt of this email with a reply to this message. Thank you. If you have any questions, please do not hesitate to contact me. My contact information is below. **Attachment:** The American Academy of Neurology (AAN), an association of more than 22,000 neurologists and neuroscience professionals, is pleased to provide comment on the Centers for Medicare and Medicaid Services (CMS) two proposed hospital-level, risk-standardized outcomes measures. The AAN strongly opposes the use of the proposed 30-day outcomes measures to publicly rank hospitals. Both measures may adversely impact stroke care delivery and substantially escalate the length of stay which impacts the cost of care. The AAN's strong opposition to the use of these measures with the proposed risk adjustment strategy is explained under each measure. The AAN concurs with the external advisory boards and the Technical Expert Panel (TEP) vascular neurologists repeated advisement to the CMS Group that the proposed elements in the hospital-level, risk-standardized outcomes measures are fatally flawed. **30 day, all-cause mortality following an ischemic stroke hospitalization** The strongest predictor of short-term outcomes among stroke patients is baseline stroke severity. The baseline National Institutes of Health Stroke Scale Score	Sarah T. Tonn, MPH Associate Director, Clinical Quality and Performance Evaluation American Academy of Neurology	stonn@aan.com	Neuroscience Professional Society

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		(NIHSSS) has more predictive power than all other baseline variables (demographics, co-morbidities, etc) combined. Therefore, evaluating short-term outcomes without adjusting for baseline stroke severity will always be subject to missing variable bias. Differences in outcomes between hospitals are more likely due to differences in baseline stroke severity than the actual quality of care delivered. In examining the list of risk-adjustment variables, the only one that is related to clinical severity is hemiplegia or hemiparesis. However, it too, is highly suspect and raises doubt that the element is well-captured, particularly if it is based on ICD codes; and, it is not clear whether it applies to baseline or discharge. Furthermore, this is a very, very crude measure of severity – there is a big difference between mild hemiparesis and true hemiplegia. There is a need to take NIHSSS into consideration when examining the mortality as documented in a recent abstract of models predicting mortality.1 Using all available variables without the NIHSSS produced a model with a c-statistic of 0.73 (c-statistic ranges from 0.5 (chance) to 1.0 (perfect discrimination)). The simplest way to define a c-statistic is the probability that a random patient with the outcome of interest has a higher score than a random patient without the outcome of interest. Using NIHSSS alone produced a c-statistic of 0.83. A marker of initial stroke severity of neurologic deficit is the biggest determinant of outcome, complications, and mortality after stroke. Risk factors for developing a stroke are minimally related to how severe your stroke is once you have one. Co-morbidities such as diabetes and heart failure can be adjusted; however, without a baseline deficit score, outcomes cannot be adjusted appropriately, and tertiary care hospitals which care for the most severe strokes, will be penalize in publicly posted rankings. Without the most important variable in stroke outcome (initial stroke severity), the end result is ranking hospitals based upon a model that adjusts for history of "other eye disorders" (included in the current model adjustment strategy) but does not adjust for stroke severity. The good performance of this modeling strategy for myocardial infarction (MI) does not perform for stroke as MI is a very different disease than stroke. Notably, adjusting for medical co-morbidities reduced the range of mortality among hospitals from 9.4-21.4% (25th-75th percentile) to 14.2-16.3% (25th-75th percentile). If			

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		adjusting for less important factors has this impact, imagine the missed opportunity by not adjusting for stroke severity. The modeling adjusts for pre-existing medical conditions, but does not adjust for conditions that might be part of the acute disease but might be due to hospital complications. Thus, if a patient is admitted to the NICU with endocarditis, sepsis, and stroke, there would be no adjustment for endocarditis and sepsis (unless these were the primary admission codes). Using the administrative database cannot determine if endocarditis was a presenting problem or an in-hospital complication. In the proposed measure, the denominator would exclude transfers from other acute care hospitals. Transfer issues are a well-known source of bias in either direction. However, it is unclear if these hospitals are the same acute care hospital or not as defined in the denominator. Undifferentiated transfers may not happen often at institutions where there are neurologists. However, some of the rural hospitals may not be acute care hospitals, they prefer to transfer everyone. For example, there are over 1300 Critical Access Hospitals in rural USA. It is unclear if these hospitals are the same acute care hospitals or not as defined in the denominator. Furthermore, the current methodology fails to address transfers from other acute care hospital emergency rooms (ERs). Routinely, sick patents are transferred from other ERs before they are admitted to the originating hospital. 1 Smith EE, Reeves MJ, Hernandez AF, Saver JL, Pan W, Dai D, Olson, DM, Fonarow G, Schwamm LH. Abstract 1580: Prediction of In-Hospital Mortality in Ischemic Stroke Using Data From Get With the Guidelines Stroke. Circulation. 2009;120:S522. Abstract available at: http://circ.ahajournals.org/cgi/content/meeting_abstract/120/18_MeetingAbstracts/S522 Accessed August 13, 2010. 2 Holloway RG, Quill TE. Mortality as a Measure of Quality. Implications for palliative and end-of-life care. JAMA, 2007:298:802-804. Available at: http://jama.ama-assn.org/cgi/content/full/298/7/802 Accessed August 13, 2010. 3 Williams LS, Yilmaz EY, Lopez-Yunez AM. Retrospective assessment of initial stroke severity with the NIH Stroke Scale. *Stroke.* 2000;31:858–862 Publicly reporting and ranking hospitals attracts the public's attention. Another key element that is missing in the model is adjustments for patient preference			

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		sensitivities. Quality patient-centered stroke care engages patients on preference sensitive issues. Some stroke patients are terminal and the family elected hospice care. These patients may be discharged to home or a nursing home with hospice care. It is unclear that this is taken into consideration in the all-cause mortality rate. If not, then an institution may encourage hospice care of patients with moderate to severe stroke. If it is, then an institution may discourage hospice care in order to avoid being penalized for the mortality. A recent editorial2 by Robert Holloway, MD, MPH states a strong case against using mortality as a measure of quality of care. Holloway's recent work elsewhere argues that most deaths in stroke are "desirable, expected" deaths, not "preventable, unexpected" deaths. It is worrisome to predict the impact of using death as a measure on the quality of end-of-life decision making among stroke patients. The TEP summary indicates the consulting physicians raised serious concerns about not accounting for withdrawal of care or comfort measures. In the preliminary reports of data, it states that teaching hospitals perform equally with other hospitals. While it is good that teaching hospitals do not look worse as a group than other hospitals, in fact they may be **better** as a group than other hospitals, and this fact is obscured by the poor modeling. The all-cause mortality may penalize the tertiary stroke centers. These centers often are left with no choice but to accept patients who have severe strokes. These patients are likely to die within a day or two as small and rural hospitals (at the request of the treating physicians and often family members of the patients) refer these patients to tertiary centers. These patients may adversely affect the data of the tertiary stroke center. If the measure is sanctioned, these centers would have to consider refusing to accept patients. Building a measure from administrative data and assessing against a chart-based measure without adjusting for the important factors discussed above is a major limitation. There will clearly be a distribution of outcomes among the various hospitals. The stroke severity is a major key factor in determining these differential outcomes. Since severity data is not readily available from the administrative data, the described planned comparison to chart data need include a measure of stroke			

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		severity. There are several, well-validated stroke severity measures which are intended to be used in a chart-review process (retrospective NIHSSS, Williams et al3, and the retrospective Canadian Stroke Scale to name two examples). Without the inclusion of severity in the chart data, the comparison will be meaningless and not account for the single most important predictor of mortality. **30 day, all-cause readmission following an ischemic stroke hospitalization** All-cause readmission following an ischemic stroke hospitalization has not been well studied. The model needs adjustment for major co-morbidities affecting readmission and for socioeconomic variables. Despite excellent care delivery and discharge planning, there are conditions that occur for stroke patients that may require readmission. The model does not account for the most complicated cases at the highest risk of recurrent stroke. In this model, the hospital from which the patient was last discharged is the index hospital. Thus, transfers of high-risk patients from community hospitals to tertiary hospitals "count against" the tertiary hospital. The accepting hospitals will clearly be penalized for accepting the very sick patients with more complications. There is again adjustment for medical co-morbidities but not for stroke mechanisms or the granular level detail that often determines what happens to a patient. In summary, the AAN is a major stakeholder in promoting the highest quality patient-centered care approach to stroke, a neurologic disease. A more scientifically sound and rigorous approach would be to collect the needed data and subsequently use it to adjust and validate the proposed outcomes measures. If the appropriate data is not collected and compared to the proposed quality measure, then it will be impossible to accurately assess quality of care, and likely will significantly penalize the tertiary care stroke centers. The AAN emphasizes the need to collect the necessary elements to adjust for differences in lieu of expending resources to manipulate available data, erroneously report, and alarm the public. The models need account for stroke severity, stroke subtype, transfer issues, patient- centered preference sensitivities, decision making on comfort care, socioeconomic status, and race. In stroke, there is a significant age-			

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		race interaction. Adjusting for age without race skews the data. Please address any follow up questions to Sarah Tonn, MPH, Associate Director, Clinical Quality and Performance Evaluation at stonn@aan.com or [redacted]. Sincerely yours, Robert C. Griggs, MD, FAAN President, American Academy of Neurology			
8/18/10	Stroke Mortality	To Whom It May Concern: We respectfully submit the attached comment letter regarding Stroke Outcome Measures on behalf of the University of Pittsburgh Medical Center Hospital System. Please address any follow up questions to Marty Corry, Director of Federal Health Policy at Buchanan Ingersoll & Rooney. His email is martin.corry@bipc.com or by telephone at [redacted]. **Attachment:** The University of Pittsburgh Medical Center (UPMC) appreciates the opportunity to comment on the Proposed CMS Mortality Measure: Hospital 30-day, all cause, risk standardized mortality rate (RSMR) following acute ischemic stroke hospitalization. UPMC is a global healthcare enterprise, headquartered in Pittsburgh, Pennsylvania. UPMC is a healthcare system that operates 20 hospitals, 400 outpatient and physician offices, and long-term health care facilities, and employs over 3,100 physicians and mid-level providers across a wide array of specialties. UPMC provides many specialty care programs, including the UPMC Division of Neurology's Stroke Institute. UPMC's Stroke Institute operates with a multidisciplinary team using advanced therapies to treat stroke and help patients recover physical and cognitive function. More than 700 patients are treated each year at the UPMC Stroke Institute and specialists provide consultation for hundreds of others through the UPMC Stroke Telemedicine Program. UPMC applauds the joint efforts of CMS and Yale New Haven Health Services Corporation/Center for Outcomes Research and Evaluation to develop standardized risk and outcome measures for hospitals providing care to stroke victims. The Stroke Institute of UPMC, as a facility that provides advanced specialty care, appreciates the risk-adjustment measures being incorporated into the calculation of the RSMR when calculating these quality measures for hospitals. UPMC agrees with the determination to exclude patients transferred from another acute-care facility from the denominator of the RSMR measure. By allowing for this exclusion, UPMC believes that the measure will better reflect the quality of care	Tate Hoeffel	tate.hoeffel@bipc.com	Hospital

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		provided at each facility and hold each facility accountable for the level of care provided to patients. UPMC, as a referral stroke center, frequently receives transfers from community hospitals of more severe and complicated stroke patients. In addition to the transfers, EMTs often bring more severe stroke patients directly to UPMC because of its reputation in the community as a leading stroke center. Extensive literature documents that the best predictor of stroke outcome is initial stroke severity. To account for this, UPMC suggests the addition of a risk-adjustment measure using the baseline National Institute of Health Stroke Scale or some other equally valid measure of stroke severity. We understand and appreciate that CMS recognizes the need to properly risk-adjust these measures to ensure that specialty stroke centers and teaching institutions will not be unfairly penalized despite providing high quality of care. Prior to finalizing these measures, we look forward to being able to view and comment on the CMS/expert panel severity validation results along with the comparison analysis of stroke and non-stroke centers. UPMC appreciates the opportunity to comment on the proposed measure and CMS' continued efforts to improve the quality of healthcare across the nation. As CMS continues to develop measures related to stroke and quality of care UPMC is willing to answer any questions or offer clarity to any of the above comments, specifically as they relate to academic medical centers and specialty centers. On behalf of UPMC, we appreciate your consideration of these comments. Sincerely, Lawrence R. Wechsler, MD Professor and Chair - Department of Neurology Vice President, Telemedicine Physician Services Division Director, UPMC Center for Telehealth Tami Minnier Chief Quality Officer - UPMC Center for Quality and Improvement Questions related to the above comments may be directed to: Jillian N. Rouse			

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		Business Analyst, Revenue Cycle & Financial Analysis UPMC Physician Services Division Phone: [redacted] Email: rousejn@upmc.edu			
8/18/10	Stroke Mortality and Readmission	The Illinois Hospital Association is very interested in stroke care and has supported legislation in Illinois requiring structural changes in the delivery system to better address the needs of stroke patients. We remain, as we do with all readmission measurements, concerned about the shortcomings of the measurements. In particular, with respect to stroke, we have found the following to be problematic: - Measurements are not limited to same cause or related cause and therefore include other conditions which the patient may be receiving treatment for. Currently, CMS does not utilize all diagnoses and procedure codes reported by hospitals and therefore, does not take into account the complexity of the patient and their existing conditions that patients are already receiving treatment for by the hospital or clinician. While starting with January 1, 2011 Medicare will accept and retain all 25 diagnoses codes – Medicare needs to incorporate into this analysis. For Medicare patients, we have found that over 40% of our Medicare patients have 10 or more secondary diagnoses. Additionally, every quarter we find that approximately 5, 000 patients have 25 or more secondary diagnoses. The complexity of care and usage of ICD diagnoses codes will only increase under ICD-10, but now is the time to begin utilizing the full set of reported diagnoses. I have been perplexed as to why providers must report all diagnoses under HIPAA (and have been since October 2003) but health plans can choose to utilize how many they want for payment (our Medicaid is still utilizing first 9 diagnoses and we have other health plans using only the first three). - While Medicare has plans to incorporate Medicare Advantage claims into the analysis, currently they do not possess copies of the Medicare Advantage claims and therefore the information is missing on these claims. While Medicare Advantage plans only cover about 10% of all eligible Medicare beneficiaries in Illinois, in reviewing other state information, Medicare Advantage plans can cover nearly 40% of all beneficiaries within some states and that information is not included in the readmission and mortality publicly released or planned measurements. - As hospitals are reporting in many states a Do Not Resuscitate (DNR within 24 hours of inpatient admission) code, by including the DNR code in the Medicare	Patricia Merryweather Senior Vice President Illinois Hospital Association	pmerryweather@ihastaff.org	Hospital Association

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		analysis, it would provide a perspective on mortality as well as readmissions. In many communities, there are few, if any, palliative or hospice care services available to patients resulting in increased hospital readmissions and admissions for end of life care services and support. As measurements advance to usage by consumers, we have found confusing consumer information in the measurements and describing of hospital performance within or outside of average performance (please see attached on heart failure readmissions --- 2 hospitals with same scores, but with different meanings attached). While we can argue about risk adjusted actual versus expected --- it is based upon statistical expectations, not based upon clinical performance. Thank you for the opportunity to submit our recommendations for improving measurements for public reporting and to develop interventions to reduce mortality and readmissions. We look forward to reviewing the modified measurements again. **Attachment:** Statistical Methods Used to Calculate Rates Mortality Measures Hierarchical Regression Model The statistical model for computing 30-day risk-adjusted mortality rate measures is a "hierarchical regression model." This type of model is based on the assumption that any heart attack or heart failure or pneumonia patients treated at a particular hospital will experience a level of quality of care that applies to all patients treated for the same condition in that hospital. In other words, the expected risk of death for two similar heart attack or heart failure or pneumonia patients treated in the same hospital would be more alike than the risk of death for the same two patients treated in two different hospitals. The likelihood that an individual patient will die is therefore a combination of: his or her individual risk characteristics (for example, gender, comorbidities, and past medical history) and the hospital's unique quality of care for all patients treated for that condition in that hospital. The model estimates the effects of both of these components on mortality. Calculating Mortality Rates Each hospital's "30-day risk-adjusted mortality rate" (also called the "Risk Standardized Mortality Rate" or RSMR) is computed in several steps. First, the			

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		predicted 30-day mortality for a particular hospital obtained from the hierarchical regression model is divided by the expected mortality for that hospital, which is also obtained from the regression model. Predicted mortality is the rate of deaths from heart attack or heart failure or pneumonia that would be anticipated in the particular hospital during the 12-month period, given the patient case mix and the hospital's unique quality of care effect on mortality. Expected mortality is the rate of deaths from heart attack or heart failure or pneumonia that would be expected if the same patients with the same characteristics had instead been treated at an "average" hospital, given the "average" hospital's quality of care effect on mortality for patients with that condition. This ratio is then multiplied by the national unadjusted mortality rate for the condition for all hospitals to compute a "risk-adjusted mortality rate" for the hospital. So, the higher a hospital's predicted 30-day mortality rate, relative to expected mortality for the hospital's particular case mix of patients, the higher its adjusted mortality rate will be. Hospitals with better quality will have lower rates. (Predicted 30-day mortality/Expected mortality) * U.S. National mortality rate = RSMR For example, suppose the model predicts that 10 percent of Hospital A's heart attack patients would die within 30 days of admission in a given year, based on their ages, gender mix, and pre-existing health conditions, and based on the estimate of the hospital's specific quality of care. Then, suppose that the expected rate of 30-day deaths for those same patients were higher – say, 15 percent – if they had instead been treated at an "average" U.S. hospital. If the actual mortality rate for the 12-month period for all heart attack patients in all hospitals in the U.S. is 12 percent, then the hospital's risk-adjusted 30-day mortality rate would be 8 percent. (10%/15%)* 12% = RSMR for Hospital A 8% If, instead, 9 percent of these patients would be expected to have died if treated at the average hospital, then the hospital's mortality rate would be 13.3 percent. (10%/9%)* 12% = RSMR for Hospital A 13.3% In the first case, the hospital performed better than the average hospital and had a relatively low risk adjusted mortality rate (8 percent); in the second case it performed worse and had a relatively high rate (13.3 percent). Hospitals with relatively low-risk patients whose predicted mortality rate is the same as the expected mortality rate for the average hospital for the same group of low-			

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		risk patients would have an adjusted mortality rate equal to the national rate (12 percent in this example). Similarly, hospitals with high-risk patients whose predicted mortality rate is the same as the expected mortality rate for the average hospital for the same group of high-risk patients would also have an adjusted mortality rate equal to the national rate of 12 percent. Thus, each hospital's case mix should not affect the adjusted mortality rates used to compare hospitals. Adjusting for Small Hospitals or a Small Number of Cases The hierarchical regression model also adjusts mortality rates results for small hospitals or hospitals with few heart attack or heart failure or pneumonia cases in a given year. This reduces the chance that such hospitals' performance will fluctuate wildly from year to year or that they will be wrongly classified as either a worse or better performer. For these hospitals, the model not only considers deaths among patients treated for the condition in the small sample size of cases, but pools together patients from all hospitals treated for the given condition, to make the result more reliable. In essence, the predicted mortality rate for a hospital with a small number of cases is moved toward the overall U.S. National mortality rate for all hospitals. The estimates of mortality for hospitals with few patients will rely considerably on the pooled data for all hospitals, making it less likely that small hospitals will fall into either of the outlier categories. This pooling affords a "borrowing of statistical strength" that provides more confidence in the results. Readmission Measures Hierarchical Regression Model The statistical model for computing the 30-day risk-standardized readmission rates is a "hierarchical regression model." This type of model is based on the assumption that any heart attack, heart failure, or pneumonia patient treated at a particular hospital will experience a level of quality of care that applies to all patients treated for the same condition in that hospital. In other words, the expected risk of readmission for two similar heart attack, heart failure, or pneumonia patients treated in the same hospital would be more alike than the risk of readmission for the same two patients treated in two different hospitals. The likelihood that an individual patient will be readmitted is therefore a combination of:			

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		his or her individual risk characteristics (for example, gender, comorbidities, and past medical history) and the hospital's unique quality of care for all patients treated for that condition in that hospital. The model estimates the effects of both of these components on on risk of readmission. Calculating Readmission Rates Each hospital's 30-day risk-standardized readmission rate (RSRR) is computed in several steps. First, the predicted 30-day readmission for a particular hospital obtained from the hierarchical regression model is divided by the expected readmission for that hospital, which is also obtained from the regression model. Predicted readmission is the number of readmissions (following discharge for heart attack, heart failure, or pneumonia) that would be anticipated in the particular hospital during the study period, given the patient case mix and the hospital's unique quality of care effect on readmission. Expected readmission is the number of readmissions (following discharge for heart attack, heart failure, or pneumonia) that would be expected if the same patients with the same characteristics had instead been treated at an "average" hospital, given the "average" hospital's quality of care effect on readmission for patients with that condition. This ratio is then multiplied by the national unadjusted readmission rate for the condition for all hospitals to compute an RSRR for the hospital. So, the higher a hospital's predicted 30-day readmission rate, relative to expected readmission for the hospital's particular case mix of patients, the higher its adjusted readmission rate will be. Hospitals with better quality will have lower rates. (Predicted 30-day readmission/Expected readmission) * U.S. National readmission rate = RSRR For example, suppose the model predicts that 10 of Hospital A's heart attack admissions would be readmitted within 30 days of discharge in a given year, based on their age, gender, and pre-existing health conditions, and based on the estimate of the hospital's specific quality of care. Then, suppose that the expected number of 30-day readmissions for those same patients were higher – say, 15 – if they had instead been treated at an "average" U.S. hospital. If the actual readmission rate for the study period for all heart attack admissions in all hospitals in the U.S. is 12 percent, then the hospital's 30-day risk standardized readmission rate would be 8			

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		percent. RSRR for Hospital A = (10/15)* 12% = 8% If, instead, 9 of these patients would be expected to have been readmitted if treated at the "average" hospital, then the hospital's readmission rate would be 13.3 percent. RSRR for Hospital A = (10/9)* 12% = 13.3% In the first case, the hospital performed better than the national average and had a relatively low risk standardized readmission rate (8 percent); in the second case, it performed worse and had a relatively high rate (13.3 percent). Hospitals with relatively low-risk patients whose predicted readmission is the same as the expected readmission for the average hospital for the same group of low-risk patients would have an adjusted readmission rate equal to the national rate (12 percent in this example). Similarly, hospitals with high-risk patients whose predicted readmission is the same as the expected readmission for the average hospital for the same group of high-risk patients would also have an adjusted readmission rate equal to the national rate of 12 percent. Thus, each hospital's case mix should not affect the adjusted readmission rates used to compare hospitals. Adjusting for Small Hospitals or a Small Number of Cases The hierarchical regression model also adjusts readmission rate results for small hospitals or hospitals with few heart attack, heart failure, or pneumonia cases in a given reference period. This reduces the chance that such hospitals' performance will fluctuate wildly from year to year or that they will be wrongly classified as either a worse or a better performer. For these hospitals, the model not only considers readmissions among patients treated for the condition in the small sample size of cases, but pools together patients from all hospitals treated for the given condition, to make the result more reliable. In essence, the predicted readmission rate for a hospital with a small number of cases is moved toward the overall U.S. National readmission rate for all hospitals. The estimates of readmission for hospitals with few patients will rely considerably on the pooled data for all hospitals, making it less likely that small hospitals will fall into either of the outlier categories. This pooling affords a "borrowing of statistical strength" that provides more confidence in the results. For classifying hospital performance, extremely small hospitals will be reported separately, as described below. Readmission Graphs How to Read the Graphs for Readmission and Death (Mortality)			

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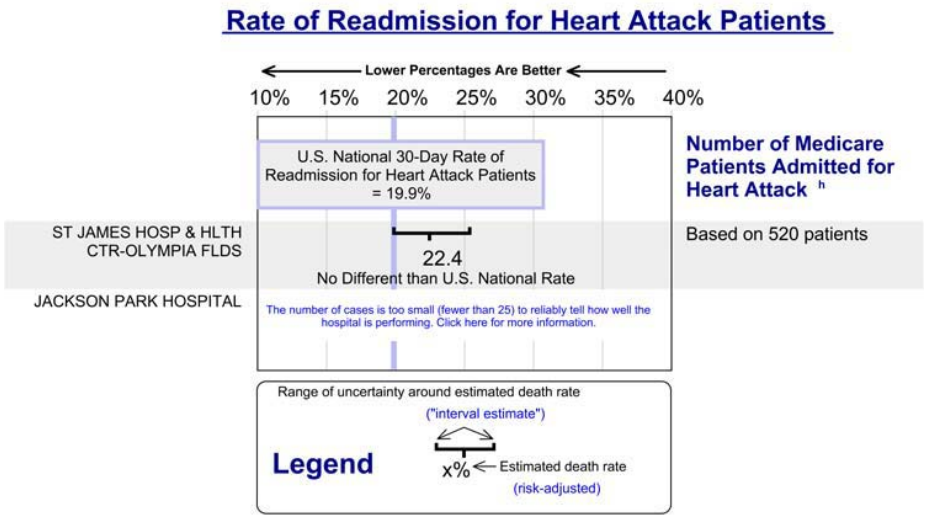
		Graph 1 of 3 Rate of Readmission for Heart Attack Patients These percentages were calculated from Medicare data on patients discharged between July 01, 2006 and June 30, 2009. They don't include people in Medicare Advantage Plans (like an HMO or PPO) or people who don't have Medicare.  This column shows the number of patients with Original Medicare who were admitted to the hospital for Rate of Readmission for Heart Attack Patients. The hospital may also have treated additional Medicare patients in Medicare health plans (like an HMO or PPO). What does this show you? "Readmission" is when patients who have had a recent hospital stay need to go back into a hospital again. Medicare looks at how many Rate of Readmission for Heart Attack Patients patients need to be readmitted to the hospital within 30 days of their discharge. The information above tells you how the hospitals you selected compare to the U.S. National Rate of Readmission for Heart Attack Patients. Each hospital's rate of readmission is risk-adjusted- Opens in a new window, meaning it takes into account how sick patients were before they were admitted to the hospital for heart attack. None of the hospitals you selected had Rate of Readmission for Heart Attack			

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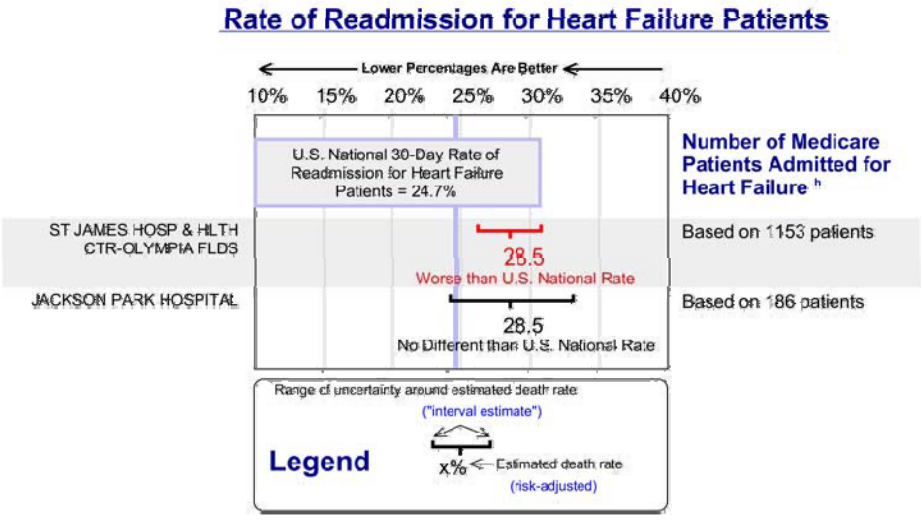
		Patients that are statistically different than the national rate. For more information, see How are the hospital readmission measures calculated? Why is this important? There are many reasons why patients are readmitted to a hospital within 30 days of a hospital stay. When a hospital has a lower (better) risk-adjusted- Opens in a new window rate of readmission, it may mean that the hospital, physicians, and other healthcare professionals are doing a better job treating patients during their first hospital stay and preparing them for discharge and follow-up care after they leave the hospital. Graph 2 of 3 Rate of Readmission for Heart Failure Patients These percentages were calculated from Medicare data on patients discharged between July 01, 2006 and June 30, 2009. They don't include people in Medicare Advantage Plans (like an HMO or PPO) or people who don't have Medicare  This column shows the number of patients with Original Medicare who were admitted to the hospital for Rate of Readmission for Heart Failure Patients. The hospital may also have treated additional Medicare patients in Medicare health			

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		plans (like an HMO or PPO). What does this show you? "Readmission" is when patients who have had a recent hospital stay need to go back into a hospital again. Medicare looks at how many Rate of Readmission for Heart Failure Patients patients need to be readmitted to the hospital within 30 days of their discharge. The information above tells you how the hospitals you selected compare to the U.S. National Rate of Readmission for Heart Failure Patients. Each hospital's rate of readmission is risk-adjusted- Opens in a new window, meaning it takes into account how sick patients were before they were admitted to the hospital for heart attack. 1 of the hospitals you selected had Rate of Readmission for Heart Failure Patients that are statistically different than the national rate. - ST JAMES HOSP & HLTH CTR-OLYMPIA FLDS has a Rate of Readmission for Heart Failure Patients death rate that is higher (worse) than the national rate. For more information, see How are the hospital readmission measures calculated? Why is this important? There are many reasons why patients are readmitted to a hospital within 30 days of a hospital stay. When a hospital has a lower (better) risk-adjusted- Opens in a new window rate of readmission, it may mean that the hospital, physicians, and other healthcare professionals are doing a better job treating patients during their first hospital stay and preparing them for discharge and follow-up care after they leave the hospital. Graph 3 of 3 Rate of Readmission for Pneumonia Patients These percentages were calculated from Medicare data on patients discharged b between July 01,2006 and June 30, 2009. They don't include people in Medicare Advantage Plans (like an HMO or PPO) or people who don't have Medicare.			

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		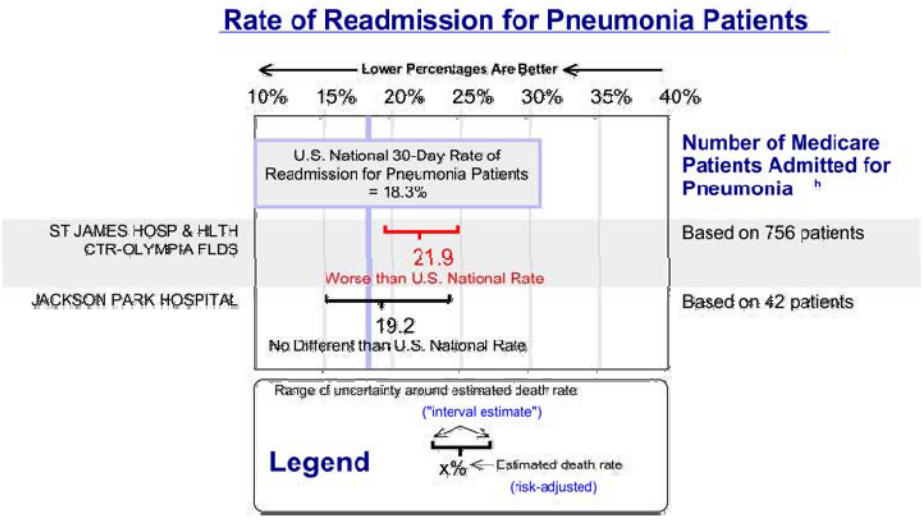 This column shows the number of patients with Original Medicare who were admitted to the hospital for Rate of Readmission for Pneumonia Patients. The hospital may also have treated additional Medicare patients in Medicare health plans (like an HMO or PPO). What does this show you? "Readmission" is when patients who have had a recent hospital stay need to go back into a hospital again. Medicare looks at how many Rate of Readmission for Pneumonia Patients patients need to be readmitted to the hospital within 30 days of their discharge. The information above tells you how the hospitals you selected compare to the U.S. National Rate of Readmission for Pneumonia Patients. Each hospital's rate of readmission is risk-adjusted- Opens in a new window, meaning it takes into account how sick patients were before they were admitted to the hospital for heart attack. 1 of the hospitals you selected had Rate of Readmission for Pneumonia Patients that are statistically different than the national rate. - ST JAMES HOSP & HLTH CTR-OLYMPIA FLDS has a Rate of Readmission for Pneumonia Patients death rate that is higher (worse) than the national rate.			

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		For more information, see How are the hospital readmission measures calculated? Why is this important? There are many reasons why patients are readmitted to a hospital within 30 days of a hospital stay. When a hospital has a lower (better) risk-adjusted- Opens in a new window rate of readmission, it may mean that the hospital, physicians, and other healthcare professionals are doing a better job treating patients during their first hospital stay and preparing them for discharge and follow-up care after they leave the hospital.			
8/18/10	Stroke Mortality and Readmission	Organization: RehabCare Group Comments: General As it relates to the findings of the Technical Advisory Panel (TEP), we find the overview of measures to be sound and thorough. One comment/ question that we have pertains to Appendix C, Inclusion Measures for Both Measures. If patients included are greater than or equal to 65 years of age, and have had to have been Medicare beneficiaries for 12 consecutive months, will 65 year olds be left out of the study unless they had been on Medicare for disability reasons prior to their 65th birthday?	RehabCare Group	jrhunt@rehabcare.com	Rehab Hospitals
8/18/10	Stroke Mortality and Readmission	Good evening, Please find attached The Joint Commission's comments for Stroke Outcomes Measures. Please feel free to contact us if you have any questions or need additional information. My contact information is below, and the Director of Federal Relations, Trisha Kurtz', information is included in the comment letter. **Attachment:** Established in 1951, The Joint Commission is an independent, not-for-profit organization that evaluates and accredits approximately 17,000 health care programs and organizations in the United States. These include hospitals, laboratories, ambulatory care and office-based surgery centers, behavioral health, home care, hospice, and long term care organizations. Although accreditation is voluntary, a variety of federal and state government regulatory bodies recognize and rely upon Joint Commission decisions and findings for both Medicare and licensure purposes across all of the Joint Commission's accreditation programs. The Joint Commission appreciates the opportunity to review and comment on the	The Joint Commission	criley@jointcommission.org	Health Care Accreditation Organization

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		proposed outcomes measures. We have reviewed the proposed measures and have provided the following comments for your consideration. It is our understanding that the development of the risk models for the stroke outcome measures conforms to the standards for statistical models used for public reporting of health outcomes and use methodology similar to the models developed for AMI, HF, and pneumonia. In particular each model: · Employs a hierarchical logistic regression model to create a hospital level risk-adjusted outcome rate; · Accounts for variation between and within hospitals; · Adjusts the log-odds of outcome for age, sex, and selected clinical covariates for each model at the patient level; · Obtains covariates for each patient from Medicare claims extending 12 months prior to and including the index admission; · Adjusts the model for case differences based on the clinical status of the patient at the time of admission; · Uses condition categories based on groupings of ICD-9 diagnosis codes; · Excludes complications from the risk model that arise during the course of hospitalization; and, · Is compared to a more comprehensive model developed from data found within the medical record. Despite the care and wealth of administrative data used to develop the risk models, these models suffer from the same weaknesses as other administrative data-developed risk models. Compared to data obtained from medical record review, administrative data models use data intended for billing purposes and lack the clinical specificity that can be obtained from a medical record review. Administrative data is susceptible to upcoding, data inaccuracies and contain little information on the severity of the stroke or the patient's functional status at baseline, two of the potentially most important risk predictors. The model is also potentially biased toward patients that seek care during the one year period prior to the episode; the differing propensity of patients to seek medical care is not adjusted for in the model. Using readmissions as a marker for quality is also problematic because of the			

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		difficulty in determining the "right" amount of readmissions, even after adjusting for risk. Recent research in the relationship between heart failure mortality and readmissions demonstrated that a decreasing risk-adjusted mortality is associated with an increasing readmission rate. The findings run counter to the traditional interpretation of a high outcome, and indicate that in some situations a relatively high readmission rate may be desirable. The relationship between risk-adjusted stroke readmission rates and mortality rates should be evaluated before deciding whether to use stroke readmission rates as a publicly reported measure. From a clinical perspective, we echo the concern that the TEP raised concerning impact on measure rates of patients who elect comfort measures only during their hospitalization. Further, we believe that the proposed ICD-9-CM codes for the index cohort are not consonant with those used in the Stroke National Quality Measures as reflected in the CMS/TJC aligned Specifications Manual for National Hospital Inpatient Quality Measures. This reflects a disconnect between the existing process and proposed outcome measures which may adversely impact attempts to analyze data and draw conclusions relative to the relationship between process and outcome measures. Specifically, codes 433.10 and 434.00 are not included in the proposed outcome measures set. TJC's technical expert panel has advised that these codes should be included in determining the measure population due to the fact that these codes can be used to identify stroke conditions such as lacunar stroke syndrome without evidence of infarction on CT. With regard to the exclusion codes for the planned readmission measure, TJC agrees that patients admitted for the performance of the noted operative procedures should be excluded. We are unclear how the concept of "admission for one of the procedures listed", i.e., elective admission, can be reliably captured using billing data alone, as the UB-04 data element "admission type" is notoriously unreliable. Furthermore, TJC's experience with the National Quality process measures has demonstrated that quite often, due to imperfect coding practices, patients who have been determined to have been admitted for elective provision of the surgeries listed often are coded as acute strokes using principal diagnoses codes that the proposed measure seeks to use to exclude patients, thereby making exclusion of these codes an unreliable method for identifying the patients of concern.			

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		We appreciate the opportunity to comment on the proposed outcomes measures. If you have any questions or would like to discuss our comments, don't hesitate to contact me at [redacted]. Sincerely, Trisha Kurtz Director for Federal Relations			
8/18/10	Stroke Mortality and Readmission	Good evening, Attached please find our comments on the Stroke Readmission and Mortality measures. Please do not hesitate to contact me with questions. **Attachment:** On behalf of the Stroke Program Committee for Allina Hospitals & Clinics (Allina), I appreciate the opportunity to comment on the proposed Stroke Mortality and Readmission Measures. Allina is a family of urban and rural hospitals (9 IPPS and 2 CAH's), clinics, and specialty care services dedicated to meeting the lifelong health care needs of communities throughout Minnesota and western Wisconsin. We provide a continuum of care, from disease prevention programs, to technically advanced inpatient and outpatient care, to medical transportation, pharmacy, durable medical equipment, home care, palliative care, and hospice services. Our significant interest in these measures stems from the fact that collectively our 11 hospitals admit approximately 3,000 Stroke inpatients each year. While Allina supports the implementation of these measures, we have a few brief comments with regard to inclusion/exclusion diagnosis and procedure codes. Please review and take into consideration the following comments as the final measures are developed. **Denominator Details Stroke Mortality and Readmission Measures:** We recommend removing ICD-9-CM code 436, Acute, But Ill-Defined, Cerebrovascular Disease, from the denominator cohort, on the basis that it is a non-specific code, and does not accurately capture true stroke patients. **Denominator Details Stroke Readmission Measure:** We suggest excluding the following conditions and procedures from the readmission measure, as they sometimes invoke planned readmission for treatment.	Allie Coronis Manager, Measurement and Analysis Quality and Safety Resources	Allie.Coronis@allina.com	Health Care System

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		435.2 Subclavian Steal Syndrome 37.8 Pacemaker Placement Thank you for the opportunity to share these recommendations. We hope that CMS considers our comments in the development of the final measure specifications. If you have any questions regarding these remarks, please feel free to contact me at [redacted], or allie.coronis@allina.com Sincerely, Allie Coronis, Neuroscience and Spine Clinical Service Line			
8/18/10	Stroke Mortality and Readmission	The American Association of Neurological Surgeons (AANS) and the Congress of Neurological Surgeons (CNS) appreciate the opportunity to submit the following comments on the two hospital-level ischemic stroke outcomes measures recently developed by the Yale New Haven Health Services Corporation/Center for Outcomes Research and Evaluation (YNHHSC/CORE) under contract with CMS: **General Comments** Overall, we thank the measure developers for limiting the measure cohort to ischemic stroke. As the authors point out, the vast majority of stroke patients are ischemic stroke patients, which have very different etiologies, prognoses and treatments than those patients with hemorrhagic stroke. We also appreciate that the authors, in the July 28, 2010 TEP Summary Report, point out that patient selection may affect mortality (e.g., those patients who select comfort care). This is an important point and on the mark. **Stroke Mortality Measure** We are concerned that hospitals, especially those designated as stroke centers or academic medical centers that deal with higher acuity patients/more severe strokes, would by nature of case-mix fare worse by this measure. We are also concerned that this measure may create disincentives for centers that are more aggressive in stroke treatment strategies, such as those that use tPA or endovascular techniques, since the up-front hemorrhage rates may contribute to mortality in the timeframe of this measure (even if benefits are being realized in the treated population as a whole by	American Association of Neurological Surgeons/ Congress of Neurological Surgeons	rgroman@neurosurgery.org	Neurological Surgeon Professional Society

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		a decrease in those surviving with major morbidity). Prior to implementation of such a measure, it would be prudent to review and mine existing data registries from large academic centers and primary stroke centers to examine the "real-world" numbers for interventions and establish which factors can be used for risk-adjustment related to case-mix and interventional therapy. The measure should not necessarily exclude all patients requiring an intervention, but should include appropriate risk adjustments to account for stroke severity. One suggestion for adjusting for stroke severity would be to stratify admissions based on the NIH Stroke Scale. Another option would be to separate the mortality data by intervention DRGs and non-intervention DRGs (i.e., those who did not receive acute treatment). This would likely be simple since there are separate DRGs to identify each of these groups. However, we remind the measure developers of the limitations of relying on only claims data, especially when publicly reporting outcomes. **Stroke Readmission Measure** Currently the measure appropriately excludes readmissions for planned further treatment, but the list should be expanded to include readmission for EC-IC bypass (e.g. for moyamoya disease or vessel occlusion) and aneurysm treatment (e.g. for large or partially thrombosed aneurysms felt to be the source of embolus for ischemic stroke). Furthermore, patients who have been evaluated following stroke and are then cleared to proceed with other unrelated procedures/admissions for other diseases should also be excluded from this measure. As noted earlier, we have overall concerns about publicly reporting measures that rely so heavily on claims data since it does not always capture the whole picture. Should the measure developers have questions about any of these comments, please contact Rachel Groman at the address below. Rachel Groman Senior Manager, Quality Improvement and Research American Association of Neurological Surgeons/Congress of Neurological Surgeons 725 15th St., NW Suite 500 Washington, DC 20005			
8/18/10	Stroke Mortality and	I reviewed the proposed measures and the supporting documents. I think they have an excellent group of people on the workgroup and the expert panel and most of	Timothy G. Lukovits, M.D.	Timothy.G.Lukovits@hitchcock.org	Individual

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	Readmission	the questions I had were adequately addressed in the discussion in the summary document. My main concern is about public reporting of these 30 day measures as it may be improperly attribute outcomes to the inpatient acute care facility. I still think there is an issue with patients who have care withdrawn. With severe stroke, it may be very appropriate to withdraw care and they are not excluded unless they are enrolled in hospice care post discharge. Hospitals that provide this palliative care resulting in death during their inpatient stay might look worse than those who "withhold" this care and those that discharge them faster to hospice. Patients transferred from another hospital are excluded from the receiving hospital's data but are they excluded from the sending hospital? This might be a problem for hospitals that transfer the majority of their patients and those that get many of their patients in transfer, for example many academic medical centers.	Medical Director Cerebrovascular Disease and Stroke Program Dartmouth – Hitchcock Medical Center		
8/19/10	Stroke Readmission	These measures would be difficult to track if patients had readmission to facilities outside of our system. Phone follow-up would be labor intensive. Thank you for allowing me to provide this brief feedback. I would be happy to expound on these comments if requested.	Sue Fuhrman, MS, MSN, CCNS, RN-BC Prohealth Care Stroke Program Coordinator	Susan.Fuhrman@phci.org	Individual