

**QUALITY MEASURES FOR PUBLIC REPORTING:
FINAL RECOMMENDATIONS TO THE MINNESOTA DEPARTMENT OF HEALTH**

February 6, 2009

BACKGROUND

Through MN Community Measurement (MNCM), the Minnesota health care community has pioneered collaborative health care reporting: building a set of measures that have become both more sophisticated and less administratively burdensome; establishing a process that allows for the collection of quality measure data from medical groups as well as health plans; and providing for the reporting of Minnesota quality data to health care providers and to consumers. Now MN Community Measurement has contracted with the Minnesota Department of Health (MDH) to assist the state in establishing a unified statewide quality reporting system for health care providers. In turn, MN Community Measurement is working with community partners including Stratis Health, the Minnesota Medical Association, the Minnesota Hospital Association and the University of Minnesota School of Public Health to assist us in completing this work.

In December 2008, MN Community Measurement completed an inventory of measures in use across the country for public reporting of quality information. The inventory of measures was presented to MDH and at a series of public meetings. That measurement inventory serves as the basis from which recommendations regarding a subset of measures recommended for initial inclusion in the statewide quality reporting system were made.

To meet the implementation timeline set forth in Minnesota's 2008 health reform law and the statutory requirement that the statewide quality reporting system be initially based on existing quality indicators, MDH and MN Community Measurement agreed that the first set of recommendations for quality measures would draw on measures already in use on a voluntary basis in Minnesota. The existing measures for ambulatory care settings, described further below, resulted from the collaborative efforts of health care providers, health plans, MN Community Measurement, the Minnesota Hospital Association (MHA), and Stratis Health in previous years. The Commissioner of the Minnesota Department of Health will take MN Community Measurement's recommendations under advisement in

determining which measures will be chosen for initial inclusion in the statewide quality reporting system. Data for this first round of measures will be collected in 2009 and publicly reported in 2010.

The identification and establishment of measurement priorities as well as the development of the specific measures for inclusion in the statewide quality reporting system will be an iterative process. New science or updated measurement methodologies may necessitate changes to previously included measures or for the replacement of existing measures with others of the same type (e.g., a primary care measure publicly reported in 2010 could be replaced with a different primary care measure in 2011). Therefore, MN Community Measurement's contract with MDH calls for MNMCM to repeat the measurement identification and development process in each year of the contract (i.e., 2010, 2011, and 2012). In each of those three years, we will utilize a community-driven process, including extensive formal and informal participation from stakeholders to make preliminary recommendations on measures for public reporting to MDH, solicit public comments, and then refine our recommendations based on stakeholder input.

The community-wide collaborative measure development process established by MN Community Measurement is multi-staged and occurs over several years. Generally, two years are needed for measure development before public reporting can begin; one year is needed to develop a new measure and one year is needed for voluntary data collection and voluntary public reporting to ensure that providers have appropriate systems in place to collect the necessary information. Finally, the measurement is available for public reporting on all data providers during the third year.

The multi-stage development process for the measures that will be included in the statewide quality reporting system is outlined in the chart below. The measures shown in the chart are the minimum number of measures that will be added to the statewide quality reporting system in each year of the contract. The different colors are used to show how a measure works its way through the multi-stage development process over time.

Measurement Development Process Stages

| | Stage 1: Determine and select future measurement priorities; Develop new measures | Stage 2: Data collection on new measures begins; Voluntary data submission; Voluntary public reporting | Stage 3: Public Reporting Statewide |
|---|---|---|--|
| First Year: 2009 Calendar Year | 1 Primary care measure 1 Specialty care measure 5 New hospital measures supported by clinical-data enhanced database ¹ | Depression measure – primary care Depression measure – specialty care Health information technology (HIT) measures Patient experience measures | Existing MNMCM and Minnesota Hospital Quality Report ² measures 12 Additional AHRQ ³ inpatient hospital measures |
| Second Year: 2010 Calendar Year | 1 Additional primary care measure 2 Additional specialty care measures Continuation from first year of development of 5 new hospital measures supported by clinical-data enhanced database ¹ | 1 Primary care measure 1 Specialty care measure | Previous year’s measures, plus: Depression measure – primary care Depression measure – specialty care HIT measures Patient experience measures 2 Additional AHRQ ³ inpatient hospital measures |
| Third Year: 2011 Calendar Year | 2 Additional specialty care measures | 1 Additional primary care measure 2 Additional specialty care measures | Previous year’s measures, plus: 1 Primary care measure 1 Specialty care measure 5 New hospital measures supported by clinical-data enhanced database ¹ 2 Additional AHRQ ³ inpatient hospital measures |
| Fourth Year: January 1, 2012 – July 1, 2012 | | 2 Additional specialty care measures | Previous year’s measures, plus: 1 Additional primary care measure 2 Additional specialty care measures 2 Additional AHRQ ³ inpatient hospital measures |

¹ Clinical-data enhanced database will integrate clinical data with administrative data; ² The Minnesota Hospital Quality Report can be seen at www.mn.hospitalquality.org; ³ AHRQ is the Agency for Healthcare Research and Quality

COMMUNITY-DRIVEN PROCESS

Over the years, MNMCM has relied on its Reporting Advisory Committee (RAC) to review and make recommendations on new measures and reporting policies, and to test ideas and strategies related to data collection for ambulatory care settings. The RAC is comprised of physicians and other clinicians, health plan representatives, and technical specialists. For purposes of MNMCM's Public Reporting and Payment Incentive contract with MDH to lead a broad-based stakeholder-informed process to develop the statewide quality reporting system and quality incentive payment system, two consumer representatives will also be added to the RAC. When selecting new measures, the RAC utilizes criteria that have been adapted from those used by the National Quality Forum (NQF); these criteria are discussed below. Measure recommendations made by the RAC are informed by national measures where available, as well as through consultation with the Institute for Clinical Systems Improvement (ICSI) on the most recent guidelines approved by Minnesota stakeholders based on a review of national research and evidence. In addition, the RAC also relies on subcommittees of content experts when evaluating particular measurement areas.

The Hospital Quality Reporting Steering Committee will serve a parallel role to the RAC relative to the development and recommendation of inpatient hospital measures to be included in the statewide quality reporting system. The Hospital Quality Reporting Steering Committee is currently under development and will be convened in the coming months for this work. Like the RAC, the Steering Committee will be comprised of broad-based community stakeholders.

In addition to the establishment of the statewide quality reporting system, Minnesota's 2008 health reform legislation also requires the development of a quality incentive payment system. Utilizing a community-driven process, MN Community Measurement will work to develop recommendations for measures that will be included in the quality incentive payment system for both ambulatory care settings and hospitals as well as the proposed methodology for the incentive-based payment system. This process will involve the Incentive Payment Work Group and the Hospital Quality Reporting Steering Committee. The Work Group and Steering Committee will be charged with providing feedback on and advising changes where appropriate on recommendations for the quality incentive payment system made by the MNMCM-lead partnership. Like the RAC and Steering Committee, the membership of the Work Group will also include a broad base of relevant stakeholder groups.

MEASURES OF AMBULATORY CARE

CRITERIA FOR RECOMMENDATIONS

The MN Community Measurement Reporting Advisory Committee (RAC) considered the following criteria in making these recommendations regarding which measures should be part of the statewide quality reporting system:

- **Degree of impact** – the magnitude of the individual and societal burden imposed by a clinical condition, including disability, mortality and economic costs.
- **Degree of improvability** – the extent of the gap between current practices and evidenced-based practices (variation) and the likelihood that the gap can be closed and conditions improved through changes in the clinical processes, as well as the opportunity to achieve improvement in the six quality aims laid out by the Institute of Medicine in their March 2001 report titled *Crossing the Quality Chasm: A New Health System for the 21st Century* (a brief of the report can be found at <http://www.iom.edu/Object.File/Master/27/184/Chasm-8pager.pdf>).
- **Degree of inclusiveness** – the relevance of a measure to a broad range of individuals with regard to (a) age, gender, socioeconomic status, and race/ethnicity; (b) the generalizability of quality improvement strategies across the spectrum of health care conditions; and (c) the capacity for change across a range of health care settings and providers.
- **National consensus** – the measure has either been developed or accepted/approved through a national consensus effort (e.g., National Quality Forum or Physician Consortium for Performance Improvement).
- **Degree of performance variation** – the performance rates show a wide degree of variation (e.g., range from low performer to top performer) from one reported entity to another.

Although the RAC considered the above criteria when it deliberated on the measures currently in use, they may not have explicitly discussed each element of the criteria and the ways in which it was or was not addressed by a particular measure and we did not document the discussion in that way. Therefore, while MN Community Measurement can and will take care to explicitly discuss each element of the criteria when making recommendations for new measures, we cannot provide full documentation of those criteria for existing measures.

RECOMMENDATIONS FOR MEASURES

MN Community Measurement recommends that, in order to get a quick start, the state's quality reporting system include the measures currently in use on a voluntary basis by Minnesota's health care providers and health plans:

- **Optimal Diabetes Care** - the percentage of patients with diabetes (Types 1 and 2) ages 18-75 who reached all five treatment goals:
 - HbA1c <8*
 - Blood Pressure <130/80
 - Low Density Lipoprotein (LDL) <100
 - Daily Aspirin Use
 - Documented Tobacco Free

*Approved by MNCM RAC and Board in Feb. 2009

Rationale:

Degree of Impact: As noted by MDH in its Health Fact Sheet on Diabetes in Minnesota (<http://www.health.state.mn.us/diabetes/FactSheet2008.pdf>), diabetes is a high impact clinical condition. One in four Minnesotans either have diabetes or are at high risk of developing it. Diabetes is the sixth leading cause of death in Minnesota and is a leading cause of cardiovascular disease and stroke (risk is 2-4 times higher in people with diabetes), non-traumatic lower extremity amputations (13 times higher risk among Medicare beneficiaries with diabetes than Medicare beneficiaries without diabetes), blindness among people 20 – 74 years of age (diabetes is the leading cause) and end-stage renal disease (leading cause). Diabetes costs Minnesota \$2.7 billion annually, including medical care, lost productivity and premature mortality.

Degree of Improvability: The best evidence of improvability for optimal diabetes care is the degree of improvement from year to year. In 2007, the average level of optimal diabetes care was 14%, in 2008 it was 17%.

Degree of Inclusiveness: There is evidence, according to MDH, that diabetes is relevant to a broad range of individuals with regard to race/ethnicity: of new cases of End-Stage Renal Disease (of

which diabetes is the leading cause), 75 cases per million are among non-Hispanic whites, while 433 cases per million are among Native Americans, 314 cases per million are among Hispanics, 177 cases per million are among Asian-Americans, and 105 cases per million are among African-Americans.

National Consensus: *Our measure matches the guidelines developed by the Institute for Clinical Systems Improvement (ICSI) and we are seeking NQF endorsement for our measure in 2009.*

Degree of Performance Variation: *In 2008, four years after we began reporting on this measure, at some clinics only 3% of the patients reached the five treatment goals that make up this all-or-none composite measure, while at other clinics 33% did so.*

- **Optimal Vascular Care** - the percentage of patients with vascular disease ages 18-75 who reached all four treatment goals:
 - Blood Pressure < 130/80
 - LDL <100
 - Daily Aspirin Use
 - Documented Tobacco Free

Rationale:

Degree of Impact: *According to MDH, vascular disease is a high impact clinical condition (see MDH Fact Sheets on Heart Disease in Minnesota and Stroke in Minnesota at <http://www.health.state.mn.us/divs/hpcd/chp/cvh/documents/2007mnheartdiseasefactsheet.pdf> and <http://www.health.state.mn.us/divs/hpcd/chp/cvh/documents/2007mnstrokefactsheet.pdf>). Over 21% of all deaths in Minnesota are due to heart disease and over 7% are due to stroke, making them the second and third leading causes of death, respectively, in the state behind cancer. Heart disease patients incur over \$827M and stroke patients over \$61M in direct hospital costs alone in Minnesota every year, according to MDH.*

Degree of Improvability: *We cannot look at average improvement over last year in achieving optimal vascular care, because our measure specifications changed from 2007. We can assume that because there is significant variation (see below) that there is an opportunity for improvement.*

Degree of Inclusiveness: In Minnesota, according to MDH, Native American men experience a 66% higher heart disease death rate than white men, and Native American women have a 33% higher death rate than white women. In Minnesota, the stroke death rate is 34% higher in African-Americans, 28% higher in Native Americans, and 11% higher in Asian-Americans compared to whites. Also according to MDH, heart disease is more prevalent in men than in women and men are at greater risk before age 65.

National Consensus: Our vascular care measure matches ICSI guidelines and is endorsed by the NQF.

Degree of Performance Variation: In 2008, at some clinics only 7% of the patients reached the four treatment goals that make up this all-or-none composite measure, while at other clinics 62% did so.

- **Use of Appropriate Medicines for Asthma** - percentage of patients ages 5-56 with persistent asthma who were appropriately prescribed medication

Rationale:

Degree of Impact: According to MDH, asthma is a high-impact condition (see MDH Fact Sheet on Asthma in Minnesota at

<http://www.health.state.mn.us/asthma/documents/factasthmaspring07.pdf>),

with estimated costs of \$208.6M in hospitalizations, emergency department visits, office visits and medications, and \$155M in indirect costs of lost school and work days in 2003. One in fifteen Minnesota children has asthma, and one in twelve Minnesota adults report that they currently have asthma.

Degree of Improvability: Since we began reporting this measure in 2004, medical groups have improved performance on this measure from an average of 74% of patients prescribed appropriately in 2004 to an average of 92% prescribed appropriately in 2008.

Degree of Inclusiveness: According to the Asthma and Allergy Association of America “ethnic differences in asthma prevalence, morbidity and mortality are highly correlated with poverty, urban air quality, indoor allergens, and lack of patient education and inadequate medical care.” Whether for socioeconomic reasons or urban air quality, adults living in the Minneapolis-St. Paul metro area are more likely to have asthma than residents of Greater Minnesota.

National Consensus: *Our asthma care measure matches ICSI guidelines and is endorsed by the NQF.*

Degree of Performance Variation: *In 2008, in some medical groups 81% of the patients were prescribed asthma medications appropriately, while in others 100% did so.*

- **Appropriate Treatment for Children with Upper Respiratory Infection** - percentage of children ages three months to 18 years with diagnosis of URI who were not given antibiotic within three days of episode

Rationale:

Degree of Impact: *According to NCQA's State of Health Care Quality Report (available on-line at <http://www.ncqa.org/tabid/836/Default.aspx>), \$227M is spent annually on inappropriate treatment for the common cold. The common cold is most often viral, not treatable by antibiotics. Yet, nearly one-quarter of children under the age of 15 who visits the doctor's office for a cold receives a prescription for an antibiotic. Inappropriate use of antibiotics increases drug resistance and increases the individual's risk of becoming infected with a drug-resistance infection.*

Degree of Improvability: *This measure has not shown a high degree of improvability as measured by average improvement over time: in 2006, the average rate of appropriate treatment was 86%, in 2007 it was 84% and in 2008 it was again 86%.*

Degree of Inclusiveness: *No data.*

National Consensus: *Our measure of appropriate care for children with upper respiratory infections matches ICSI guidelines and is endorsed by the NQF.*

Degree of Performance Variation: *In 2008, in some medical groups only 16% of children were treated appropriately for upper respiratory infections (meaning they were not given an antibiotic prescription within three days) while in others 97% were.*

- **Appropriate Testing for Children with Pharyngitis** - percentage of children ages 2-18 years with sore throats who were given an antibiotic and a group A strep test for episode period.

Rationale:

Degree of Impact: According to NCQA's State of Health Care Quality Report (available on-line at <http://www.ncqa.org/tabid/836/Default.aspx>), pharyngitis, or sore throat, is most commonly caused by viruses. While antibiotics are needed to treat bacterial pharyngitis, they are not useful for treating viral pharyngitis. Only 25 to 50 percent of sore throat cases in children are caused by Group A streptococcus bacteria, more commonly referred to as strep throat. Before antibiotics are prescribed, a simple diagnostic test is necessary to validate bacterial origin of a sore throat. Unfortunately, a diagnostic test is not always performed before antibiotics are prescribed. Inappropriate use of antibiotics increases drug resistance and increases the individual's risk of becoming infected with a drug-resistance infection. NCQA reports that one study found that in 36 percent of cases where a patient received antibiotics and underwent a test for strep throat, the test came back negative.

Degree of Improvability: This measure has shown some degree of improvability as measured by average improvement over time: in 2006, the average rate of appropriate testing was 82%, in 2007 it was 81% and in 2008 it was up to 85%.

Degree of Inclusiveness: No data.

National Consensus: Our measure of appropriate testing for children with pharyngitis matches ICSI guidelines and is endorsed by the NQF.

Degree of Performance Variation: In 2008, in some medical groups no children with pharyngitis were tested appropriately while in others 99% were.

- **Breast Cancer Screening** -percentage of women ages 42-69* who had mammogram in past 2 years
- **Cervical Cancer Screening** - percentage of women ages 24-64 who received one or more Pap tests in past 3 years
- **Colorectal Cancer Screening** - percentage of adults ages 51-80 who had appropriate colorectal cancer screenings

- **Cancer Screening Combined** - percentage of adults ages 51-80 who received appropriate cancer screening services (breast, cervical, colorectal)

* This will be the age range reported in 2009, changed from the currently reported age range of 32-69.

Rationale:

Degree of Impact: According to MDH, cancer is the leading cause of death in Minnesota for persons between the ages of 35 and 74. Each year, an estimated 20,600 Minnesotans are diagnosed with cancer and 9,000 die from the disease. (see

<http://www.health.state.mn.us/divs/hpcd/ccs/info/disparit.pdf>)

NCQA reports that “mammography screening for women 50 to 69 years of age can reduce breast cancer mortality by up to 35 percent through early detection.” NCQA also reports that “Early detection (of cervical cancer) is critical. Cervical cancer rarely causes pain or noticeable symptoms until it is so advanced that it is unresponsive to treatment. Cervical cancer has a five-year survival rate of more than 90 percent when the cancer is localized, but only 13 percent once the cancer has spread throughout the body.” On colorectal cancer screening, NCQA reports that “although symptoms are uncommon in early-stage colorectal cancer, treatment at this stage is extremely effective, with a five-year survival rate of more than 90 percent. Symptoms rarely appear until later stages of the disease, at which point the patient’s chances of survival decrease substantially.”

Degree of Improvability: These measures have shown some degree of improvability as measured by average improvement over time. For example: in 2006, the average rate of appropriate colorectal cancer screening was 58%, while in 2008 it was up to 63%. The average rate at which adults ages 51 – 80 received all appropriate cancer screenings went up from 47% in 2006 to 54% in 2008.

Degree of Inclusiveness: According to MDH, the breast cancer mortality rate in Minnesota is 50% higher in black women than in white non-Hispanic women even though the incidence rates are similar. MDH notes that “a greater proportion of black women have their cancers diagnosed at a later, less treatable stage.” For cervical cancer, black women in Minnesota have an incidence rate that is four times as high as the rate for white women, and Native American and Asian American women have a rate three times as high as the rate for white women.

National Consensus: *Our measures of cancer screening match ICSI guidelines and are endorsed by the NQF.*

Degree of Performance Variation: *In 2008, in some medical groups 44% of patients received appropriate cervical cancer screenings while in others 100% did; in some medical groups 47% received appropriate breast cancer screenings while in others 100% did; in some medical groups 25% of patients received appropriate colorectal cancer screening while in others 91% did.*

- **Chlamydia Screening** - percentage of sexually active women ages 16-24* who had at least one test for chlamydia infection.

*This will be the age range reported in the 2009 report, changed from the currently reported age range of 16-25.

Rationale:

Degree of Impact: *According to MDH: “Chlamydia infection is the most commonly reported sexually transmitted disease (STD) in Minnesota. In 2007, 13,412 chlamydia cases (273 per 100,000 population) were reported, representing a 4% increase from 2006. NCQA reports that “left untreated, chlamydia can cause permanent damage to a women’s fallopian tubes, uterus and surrounding tissue. Other effects of chlamydia include urethritis, cervicitis, pelvic inflammatory disease (PID), infertility, ectopic pregnancy or chronic pelvic pain. Women that are pregnant and have a chlamydial infection are at higher risk for miscarriage, a premature rupture of membranes, preterm labor, low birth weight and infant mortality. 20 to 25 percent of newborns exposed to their mother’s chlamydia develop chlamydial conjunctivitis.*

Degree of Improvability: *These measures have shown a significant degree of improvability as measured by average improvement over time: in 2004, only 29% of female patients had at least one test for Chlamydia during the year, but by 2008 44% did.*

Degree of Inclusiveness: *According to the MDH Disease Control Newsletter, adolescents and young adults are at highest risk for acquiring chlamydial infection. The chlamydia rate is highest among 20 to 24-year-olds (1,592 per 100,000), with the next highest rate among 15 to 19-year-olds (1,071 per 100,000). The incidence of chlamydia among adults 25 to 29 years of age (716 per 100,000) is considerably lower but has increased in recent years. The chlamydia rate among females (390 per*

100,000) is more than twice the rate among males (153 per 100,000). This difference is likely due to more frequent screening among women.

The incidence of chlamydia infection is highest in communities of color. The rate among blacks (1,871 per 100,000) is over 14 times higher than the rate among whites (130 per 100,000). Although blacks comprise approximately 4% of Minnesota's population, they account for 28% of reported chlamydia cases. Rates among Asian/Pacific Islanders (311 per 100,000), American Indians (504 per 100,000), and Hispanics (646 per 100,000) are two to five times higher than the rate among whites. Chlamydia infections occur throughout the state, with the highest reported rates in Minneapolis (769 per 100,000) and St. Paul (659 per 100,000). In 2007, the greatest increases for chlamydia were seen in the suburbs and Greater Minnesota with increases of 4% and 8%, respectively."

National Consensus: Our measure of Chlamydia screening matches ICSI guidelines and is endorsed by the NQF.

Degree of Performance Variation: There is a high degree of performance variation between medical groups on this measure: in some medical groups, only 4% of women received appropriate screening, while in others 77% did.

- **Childhood Immunization** - percentage of children two years of age who had appropriate shots by second birthday

Rationale:

Degree of Impact: NCQA reports that "Childhood immunizations are responsible for the control of many infectious diseases once common in the U.S., including polio, measles, diphtheria, pertussis (whooping cough), rubella (German measles), mumps, tetanus, and Haemophilus influenzae type b (Hib). Prior to routine vaccination, hepatitis B infected 24,000 infants and children each year. Three out of every 1,000 people who contract measles die of the disease. Measles is one of the most infectious diseases in the world. More than 90 percent of people who are not immune will get the virus if they are exposed to it. Every dollar spent on Hib vaccine saves \$3.40. Every dollar spent on hepatitis B vaccine saves \$3.60. Every dollar spent on varicella vaccine saves \$6.30.6

NCQA further reports that "childhood immunization through DTaP, Td, Hib, IPV, MMR, hepatitis B and varicella vaccines save \$9.9 billion in direct medical costs and \$43.3 billion in indirect costs

(such as time away from work to care for sick children) in one year. A child with chicken pox misses an average five to six days of school; adult caretakers miss an average three to four days of work. One-third of lifelong hepatitis B virus infections, which can lead to liver failure and death, result from infections in infants and young children. If the measles vaccine was discontinued in the U.S., three to four million measles cases would occur annually and result in more than 1,800 deaths. Discontinuing Hib immunization would result in approximately 20,000 cases per year of invasive disease and 600 deaths.”

Degree of Improvability: *These measures have shown a significant degree of improvability as measured by average improvement over time: in 2006, 52% of children received all their appropriate immunizations, but by 2008 77% did.*

Degree of Inclusiveness: *According to the Centers for Disease Control (<http://www.cdc.gov/datastatistics/2007/childimmunization/>) “there continue to be small racial/ethnic differences in the percentage of 19- to-35-month-old children receiving the recommended vaccination series. Children who live below the poverty level are less likely to be vaccinated than children who live at or above the poverty level. Because a substantial percentage of black children lived below the poverty level, coverage for black children overall was low compared with white children. Therefore, even though the 2006 survey found that black, non-Hispanic children had lower vaccination rates than white, non-Hispanic children for the series of routine vaccines, the difference was likely related to socioeconomic status and household income rather than race.”*

National Consensus: *Our measure of childhood immunizations matches ICSI guidelines and is endorsed by the NQF.*

Degree of Performance Variation: *There is variation between medical groups on this measure: in some medical groups, 45% of children received all of their vaccines by their second birthday, while in others 93% did.*

The MN Community Measurement RAC also recommends the following as new measures:

- **Depression measure, primary care –**
 - Six Month Remission Rate (PHQ-9 score <5 at six months); outcome measure demonstrating improved mental health for patients with depression
 - Use of the PHQ-9 Tool (patient has a PHQ-9 done at least once during the time frame); process measure to track use of new tool used for diagnosis, treatment and monitoring depression care
 - Collected through Direct Data Submission
- **Depression measure, behavioral health specialists –** Includes patients with primary depression diagnosis
 - Six Month Remission Rate (PHQ-9 score <5 at six months); outcome measure demonstrating improved mental health for patients with depression
 - Use of the PHQ-9 Tool (patient has a PHQ-9 done at least once during the time frame); process measure to track use of new tool used for diagnosis, treatment and monitoring depression care
 - Collected through Direct Data Submission

Rationale:

Degree of Impact: NCQA reports that “direct treatment of depression accounts for only \$12.4 billion—about 28 percent—of its total treatment cost. Lost productivity and absenteeism account for the remainder: \$44 billion. Depression may lead to appetite and sleep disturbances, anxiety, irritability, decreased concentration, and greatly increases the risk of suicide. The overall health bills of those who suffer from depression are 70 percent higher than those who do not. A patient who discontinues antidepressant treatment within six months incurs an average of more than \$400 per year in higher medical costs than adherent patients.”

Degree of Improvability: According to ICSI, “Major depression is a treatable cause of pain, suffering, disability and death, yet primary care providers detect major depression in only 1/3 to 1/2 of their patients with major depression.” This leaves significant room for performance improvement.

Degree of Inclusiveness: NCQA reports that “about 13 million American adults suffer from depression each year; 1 in 7 Americans will suffer from a major depressive disorder in their lifetime. While depression affects people of all ages—the median age of onset is 32— depression is especially prevalent among the elderly. About 1 in 8 people over the age of 65 suffer from depression.”

National Consensus: Our depression measure matches ICSI guidelines and we are seeking NQF endorsement in 2009.

Degree of Performance Variation: No data. We are currently conducting voluntary collection of data from clinics, which will allow us, among other things, to determine the degree of variation among those clinics.

● **Health information technology –**

- Self-reported medical group survey assessing their use of HIT
- As stated in IOM report, the use of IS has potential to improve each of the 6 aims of the health care system by helping clinicians manage large amounts of clinical information
- Report available in mid 2009

Rationale:

Degree of Impact: According to the NQF, “adoption of HIT by clinicians has been shown to reduce medical errors by increasing access to information thereby improving response times to abnormal results, eliminating repetitive testing and providing clinical decision-support tools to facilitate evidence-based care. Evidence has shown a decrease in medication errors by up to 20 percent and a decrease in per admission costs by more than 12 percent when clinicians use HIT.”

Degree of Improvability: The Minnesota e-Health Information Technology Adoption Status (<http://www.health.state.mn.us/e-health/hitassessmentsummary2008.pdf>) compiled data available about the adoption of HIT in various health care settings, although it did not collect information about the purposes for which the HIT was being used. Among them, the finding in a survey conducted by the American Hospital Association (AHA) in 2006, which assessed availability of EHRs. In Minnesota, it found “96% of respondents are actively considering, testing or using IT for clinical purposes. Among the respondents, 9% have fully implemented EHR, 58% have partially

implemented EHR and 29% have no EHRs yet.” Another was a 2006 survey by the Consortium of Rural Health Research Centers Survey which assessed HIT adoption in Critical Access Hospitals: “the survey found that nationally, and in Minnesota, CAHs have relatively high use rates for administrative and financial HIT applications, but much lower use rates for a number of clinical applications. Only 23% of the responding CAHs are using EHRs, and only 21% were using prescriber order entry.”

Degree of Inclusiveness: No data.

National Consensus: Our survey tool incorporates the nine voluntary consensus standards adopted by the NQF in August 2008.

Degree of Performance Variation: No data.

● **Patient experience -**

- Using national CG-CAHPS survey; four domains:
 - Getting Appointments & Health Care When Needed
 - How Well Doctors Communicate
 - Courteous and Helpful Office Staff
 - Overall Rating
- Surveys administered by medical groups (vendors) using MNMCM specifications
- First pilot report in early 2009

Rationale:

Degree of Impact: No data.

Degree of Improvability: No data.

Degree of Inclusiveness: No data.

National Consensus: This measure addresses a sixth Aim of the Institute of Medicine – patient centeredness.

Degree of Performance Variation: No data.

In addition, the RAC recommends:

- **Lead Screening**

- The percentage of children 2 years of age who had one or more capillary or venous lead blood tests for lead poisoning by their second birthday
- Relevance to MN Health Care Programs
- Medical group performance variation exists
- HEDIS hybrid method measure collected by health plans

Rationale:

Degree of Impact: According to NCQA, “an estimated 310,000 children in the U.S. remain at risk for exposure to harmful levels of lead. Very high levels of lead exposure may result in serious, long-term neurological conditions or even death. Elevated blood lead levels are associated with an estimated \$1,300 in avoidable medical costs per child and an estimated \$3,300 in avoidable special education costs. Based on the reduction in lead exposure since the 1970s, the estimated increase in earnings for children two years of age in 2000 is between \$110 billion and \$319 billion over their lifetimes.”

Degree of Improvability: According to NCQA, only six in ten children are screened for lead poisoning.

Degree of Inclusiveness: No data.

National Consensus: Our lead screening measure matches ICSI guidelines and is a NQF endorsed measure.

Degree of Performance Variation: To determine whether there was performance variation, we reviewed initial health plan data, and found that there was significant performance variation, from a low of 45% of children screened to a high of 98%.

- **Appropriate Management of Adult Acute Bronchitis**

- The percentage of adults 18-64 years of age with a diagnosis of acute bronchitis who were not dispensed an antibiotic prescription

- An overuse measure – a higher rate indicates appropriate treatment of adults with bronchitis (i.e., the proportion for whom antibiotics were not dispensed)
- HEDIS administrative method measure collected by health plans

Rationale:

Degree of Impact: According to NCQA’s State of Health Care Quality Report (available on-line at <http://www.ncqa.org/tabid/836/Default.aspx>), “between 65 and 80 percent of patients with acute bronchitis receive an antibiotic despite evidence that, with few exceptions, they are ineffective.” Inappropriate use of antibiotics increases drug resistance and increases the individual’s risk of becoming infected with a drug-resistance infection.

Degree of Improvability: No data.

Degree of Inclusiveness: Elderly patients are particularly likely to receive unnecessary antibiotics.

National Consensus: Our measure of avoidance of antibiotic treatment in adults with acute bronchitis matches ICSI guidelines and is endorsed by the NQF.

Degree of Performance Variation: No data.

DATA SPECIFICATIONS

The data specifications for all recommended measures, including measures currently in use and new measures, are provided in the Appendix of this document.

MEASURES OF HOSPITAL CARE

CURRENTLY REPORTED HOSPITAL MEASURES

There are a number of hospital-specific performance measures that are currently publicly reported that could be considered as candidates for the measures that would serve as the basis for payment incentive systems. The measurement of hospital quality and performance has been largely driven by national requirements, especially by CMS (Centers for Medicare & Medicaid Services) and the Joint Commission, through a national system of data collection; and our work will build on the national efforts to be as aligned as possible, as described here.

For Minnesota's measurement and reporting efforts, it is important to note that there are two distinct types of acute care hospitals in the state, as defined by their Medicare payment and reimbursement system: 53 PPS hospitals (Prospective Payment System, which are generally the medium and large hospitals) and 79 CAH (Critical Access Hospitals, which are small, rural hospitals). Minnesota has one of the largest numbers of CAHs in the state, both in terms of the number of hospitals, and in the number of hospitals per capita. A Minnesota quality measurement system ideally should assess the quality of care at both types of hospitals.

PPS hospitals currently collect and publicly report a set of 40 measures, and do so under a national Medicare "Pay for Reporting" program that allows these hospitals to earn their full Annual Payment Update in exchange for reporting these measures:

- Heart Attack (AMI) Care: 8 measures (7 process measures, plus mortality rates)
- Heart Failure Care: 5 measures (4 process measures, plus mortality rates)
- Pneumonia Care: 8 measures (7 process measures, plus mortality rates)
- Surgical Care: 7 measures (all process measures)
- Children's Asthma: 2 measures (both process measures)
- Experience of Care: 10 measures derived from HCAHPS patient survey

Critical Access Hospitals are not subject to the same "Pay for Reporting" program, and only some of the above listed measures are relevant for the scope of services provided by CAHs. Specifically, the Heart Failure (6 measures) and Pneumonia (8 measures) are relevant and appropriate for small rural hospitals.

In Minnesota, 68 of the 79 CAHs currently collect and report on at least one of these measures, demonstrating their commitment to quality and transparency, even though they do not have financial incentives for reporting.

There is a national data repository for data reporting that both PPS and CAHs utilize for the above measures. The process measures are all collected quarterly from medical records (i.e., through chart abstraction) by the hospitals, and are subject to validation checks by CMS, supported by the Medicare QIO (in Minnesota, Stratis Health). The results are posted and updated quarterly on the Hospital Compare web site, at www.hospitalcompare.hhs.gov.

In 2005, Stratis Health and the Minnesota Hospital Association launched a Minnesota-specific companion web site to the national Hospital Compare web site, drawing on the data that hospitals already collect and submit, and using these data to calculate an all-or-none Appropriate Care Measure. The Appropriate Care Measure is an easy-to-understand, consumer-friendly measure that indicates whether, for each patient, they received all of the care that they should have given their condition. The Minnesota Hospital Quality Report can be accessed at <http://www.mnhospitalquality.org>.

In addition, in Minnesota, all hospitals, both PPS and CAH, are required to report to the state when an Adverse Event occurs. The Minnesota law was passed in 2003, requiring that hospitals (and outpatient surgical centers and community behavioral health hospitals) report whenever one of 28 such events occur. This information is released publicly, by hospital name, in January each year.

Finally, In addition to the public reporting programs described above, hospitals have a variety of other voluntary data collection and reporting programs, and data reporting that is done about them, including: Leapfrog patient safety measures (derived from survey response), AHRQ (Agency for Healthcare Research and Quality) Quality Indicators (derived from claims data), and more.

Here is the list of measures reported on the Minnesota Hospital Quality Report (MHQR):

- **Heart attack:**
 - Patients given aspirin at arrival
 - (†)Patients given eta locker at arrival
 - Patients given ACE inhibitor or ARB for left ventricular systolic dysfunction (LVSD)
 - Patients given thrombolytic medication within 30 minutes of arrival

- Patients given PCI within 120 minutes of arrival
 - Patients given smoking cessation advice/counseling
 - Patients given aspirin at discharge
 - Patients given beta blocker at discharge
 - (*)Appropriate care measure
- **Heart failure:**
 - Patients given assessment of left ventricular function (LVF)
 - Patients given ACE inhibitor or ARB for left ventricular systolic dysfunction (LVSD)
 - Patients given smoking cessation advice/counseling
 - Patients given discharge instructions (LVF)
 - (*)Appropriate care measure
- **Pneumonia:**
 - (†)Patients given oxygenation assessment
 - Patients having a blood culture performed prior to first antibiotic received in hospital
 - Patients given initial antibiotic(s) within 4 hours after arrival
 - Patients given the most appropriate initial antibiotic(s)
 - Patients assessed and given pneumococcal vaccination
 - Patients given smoking cessation advice/counseling
 - (*)Appropriate care measure
- **Surgical care:**
 - Surgery patients who received preventative antibiotic(s) one hour before incision
 - Surgery patients whose preventative antibiotic(s) are stopped within 24 hours after surgery
 - Prophylactic antibiotic selection for surgical patients
 - Surgery patients with recommended venous thromboembolism prophylaxis ordered

- Surgery patients who received appropriate venous thromboembolism prophylaxis within 24 hours prior to surgery to 24 hours after surgery
- **Survey of patient’s hospital experiences:**
 - Communication with doctors
 - Communication with nurses
 - Responsiveness of hospital staff
 - Pain control
 - Communication about medicines
 - Cleanliness of hospital environment
 - Quietness of hospital environment
 - Discharge instructions
 - Overall rating of the hospital
 - Willingness to recommend the hospital to others
- **Hospital acquired infection:**
 - Cardiac surgery patients with controlled 6 A.M. postoperative blood glucose
 - Surgery patients with appropriate hair removal
 - Ventilator bundle compliance
 - Central line bundle compliance
 - Surgical site infection rate for vaginal hysterectomy
 - Surgical site infection rate for total knee arthroplasty

(†)Measure will be discontinued

(*)Appropriate care measure is a composite, “all or none” measure combining all of the individual measures within the care category

Most of the data for the MHQR is based on all-payer chart-abstracted data submitted to CMS. Most Minnesota hospitals participate in the CMS project, including all of the acute care hospitals over 25 beds. Even hospitals under 25 beds mostly participate, but for them the CMS program has no financial

consequences like it does for the larger ones. The new infection measures are mandatory for all Minnesota hospitals, however.

RECOMMENDATIONS FOR NEW MEASURES

The team working on the hospital reporting aspects of this project -- Stratis Health and Minnesota Hospital Association, under the leadership of MN Community Measurement -- recommends a 3-part measurement and reporting strategy for 2009:

1. Include as part of Minnesota's measurement and reporting program the 25 current clinical process measures already being collected and reported by Minnesota hospitals in AMI, heart failure, pneumonia, surgical care, starting in 2009.
2. As required by the contract with the State, include as part of Minnesota's measurement and reporting program the new 12 AHRQ patient safety indicators starting in 2009.
3. Implement a process through which additional new hospital measures for public reporting can be identified, developed and recommended, by July 2009 (through a parallel process to the utilized for the development of new ambulatory measures). The recommendations will include measures relevant to rural hospital care and scope of services, for implementation in 2010, with the option of continuing the process to identify innovative measures, especially those that begin to reflect care coordination across ambulatory and acute care.

These recommendations would produce 38 measures of hospital quality available to the state and the public by the end of 2009, of which 15 are relevant to small rural hospitals; and would support a process through which additional new measures would be identified for data collection in 2010 and public reporting in 2011.

As mentioned earlier, in an effort to get a quick start on implementing the statewide quality reporting system for hospital care, MDH and MN Community Measurement agreed that twelve specific measures from the Agency for Healthcare Research and Quality (AHRQ) would be recommended for initial inclusion in the statewide quality reporting system. MN Community Measurement subcontracted with the Minnesota Hospital Association to fulfill this portion of its Public Reporting and Payment Incentive contract with MDH.

The AHRQ Quality Indicators are measures of health care quality that make use of readily available hospital inpatient administrative data. They are organized in four modules:

- Inpatient Quality Indicators (28 provider level measures)
- Patient Safety Indicators (20)
- Prevention Quality Indicators (0)
- Pediatric Quality Indicators (13 – newest – pediatric version of patient safety indicators, mostly)

Other states, including Colorado and Texas, use AHRQ measures for public reporting.

CRITERIA FOR RECOMMENDATIONS

In order to select 12 measures out of the roughly 50 available AHRQ measures in its Inpatient Quality Indicators (IQI) and Patient Safety Indicators (PSI), several factors were considered:

- Alignment with other public reporting or quality improvement activities. For example, does the measure relate to prevention of adverse health events or to process measures reported to the Centers for Medicare and Medicaid Services?
- Number of hospitals with significant volume. Does this apply to most hospitals?
- Likelihood of consumer interest. Does this relate to relatively common conditions or procedures?
- Coding/severity adjustment issues. Is performance on this measure affected significantly by the accuracy and completeness of coding? *The severity of illness calculation is dependent on accurate and complete coding of secondary diagnoses – this can be inconsistent between facilities and even between coders at the same facility.* Is there some controversy whether the

severity adjustment methodology is adequately robust for this measure? Some measures may not do a good job of adjusting for the age of a patient, for example.

- Outcome measures. Does the indicator capture the contract's stated preference for measuring performance on outcomes?

AHRQ MEASURES

To meet the condensed timelines specified by the 2008 health reform legislation, a group of experts reviewed the AHRQ measures against these criteria. In the future, this work will be done by the Hospital Quality Reporting Steering Committee. Based on the expert feedback received, we recommend the following measures for public reporting:

- Abdominal aortic aneurysm repair (AAA) – IQI 4
- AAA repair mortality rate – IQI 11
- Coronary artery bypass graft (CABG) – IQI 5
- CABG mortality rate – IQI 12
- Percutaneous transluminal coronary angioplasty (PTCA) – IQI 6
- PTCA mortality rate – IQI 30

Rationale:

These measures align with Leapfrog Initiative measures. Being that these are the most common types of cardiac surgery, they are likely to be of interest to consumers. The volume measures have no coding issues – the measures are defined by the presence of the corresponding procedure code and because these are significant types of surgeries, they will virtually always be coded. Higher volume is also considered a marker for higher quality. Mortality rates are outcome measures, although the severity adjustment is imperfect. Even if the coding for all hospitals were complete and accurate, the secondary diagnoses only explain part of the variance in performance – richer clinical data, like lab values, are needed to more accurately ascertain the patient's severity of illness.

- Hip fracture mortality rate – IQI 19

Rationale:

This measure is a CMS measure. It applies to all hospitals and is meaningful to consumers although of low occurrence. It is an outcome measure. The severity adjustment is imperfect, however.

- Decubitus Ulcer – PSI 3

Rationale:

This measure aligns with both a CMS measure and is a state Adverse Health Event measure. It applies to all hospitals. It is of consumer interest as an avoidable condition and is an outcome measure. However, it is subject to coding variations, particularly with regard to whether it is present on admission.

- Death among surgical patients with treatable serious complications – PSI 4

Rationale:

This measure aligns with a CMS measure and is related to reported Adverse Health Events. It applies to and is tracked by most hospitals. It is of consumer interest as an avoidable event and is an outcome measure. It does have some coding issues as coding of the pertinent complications is often not uniform across hospitals.

- Post-operative pulmonary embolism or deep vein thrombosis – PSI 12

Rationale:

This measure aligns with the Hospital Quality Alliance Venous Thromboembolism topic and applies to most hospitals. It may not be of extremely high interest to consumers but does apply to all surgeries. It is an outcome measure and has fewer coding issues.

- Obstetric trauma (3rd and 4th degree lacerations) – vaginal delivery with instrument – PSI 18
- Obstetric trauma (3rd and 4th degree lacerations) – vaginal delivery without instrument – PSI 19

Rationale:

These measures align with a JCAHO measure reported by some hospitals. It applies to most hospitals. It will be of interest to consumers as one of the few obstetrical measures available. It is an outcome measure. However, there are some coding issues and some uncertainty about how these events can be prevented.

While meeting all of the criteria for every measure would have been ideal, it should be noted that most do not meet every criteria listed. However, each measure chosen had significant positive attributes that outweighed the drawbacks relative to other candidate measures. Below follows a discussion of why other ARQH measures were not chosen:

- **Mortality for specific medical conditions (6 out of 7 indicators not chosen)**

Rationale:

The severity adjustment for these measures is less robust than for surgical conditions – while theoretically, statewide observed mortality rates should be close to equal to the expected mortality rates after severity adjustment is applied, in practice, the observed mortality rates for medical patients who are very old (85+) tend to be higher than expected. In practical terms, this means that hospitals that treat an older population of patients may show higher than expected mortality rates for conditions like pneumonia. These indicators may be useful for internal quality improvement activities, however using them to compare relative performance could lead to erroneous conclusions. Mortality for hip fracture was chosen instead.

- **Mortality for specific surgical conditions (5 out 8 indicators not chosen)**

Rationale:

The three measures chosen – AAA Repair, CABG, and PTCA – measure mortality for surgical conditions that occur at a higher volume and have corresponding volume indicators.

- **Utilization measures (none of 7 chosen)**

Rationale:

The utilization measures are confusing to readers because favorable performance is undefined. For instance, there is controversy in the clinical community about what is the best practice with regard to c-sections and VBACs so these measures could not be easily tied to quality improvement efforts.

- **Volume measures (3 of 6 not chosen)**

Rationale:

The higher volume procedures were chosen. Carotid Endarterectomy was a candidate, along with its mortality measure, but it is lower volume and not all hospitals perform this procedure.

- **Other Patient Safety Indicators**

Rationale:

Some of these have a very low occurrence (<1 per 1000), while others have coding issues. For example, for accidental puncture/laceration, there may be a great deal of individual coder judgment in determining whether a puncture or laceration led to additional treatment, which is the central question of whether it gets coded. Therefore, there may be both under and over reporting of the diagnoses that cause patients to be listed in the numerator. An over-reporter, for example, might list minor punctures that probably had no bearing on the overall treatment. Hospitals that over-report may erroneously appear to have performance issues, and the opposite is true for under-reporting.

- **Composite measures**

Rationale:

Though the idea of composite measures has some appeal in that it allows hospitals with lower volume to aggregate their individual measures, the methodology to do this compounds all of the coding and severity issues that are present at the individual measure level. Again, hospitals that tend to treat older populations tend to do worse in these types of mortality measures. CMS does propose to publicly report the following composite measures in the future: death in medical conditions, death in surgical conditions, and overall patient safety.

- **Pediatric measures**

Rationale:

These measures are of very low occurrence.

DATA SPECIFICATIONS

The data specifications for the recommended all AHRQ measures are provided in the Appendix.

RURAL-SENSITIVE MEASURES

Given the prevalence of small rural hospitals in Minnesota, there is a need to publicly report hospital measures that are relevant to most hospitals in Minnesota, and to include measures that are not exclusive to only those hospitals with high-volume or that provide inpatient services and surgeries not typically performed in smaller rural hospitals. While some of the currently collected and proposed AHRQ measures are relevant for rural hospitals, several measures relevant to smaller rural hospitals have been developed and are currently being used by hospitals in Minnesota. Measures such as those that focus on care in the emergency room or the experience of care are relevant to all hospitals regardless of volume or services provided and are aligned with other public reporting and quality improvement activities, and will be considered in the process for identifying and recommending new measures by July 2009. Potential measures for consideration include:

- Emergency Department measures: Selecting from a set of 5 timeliness measures (from the recently announced CMS Outpatient Prospective Payment System measures, which are NQF endorsed) for patients presenting with chest pain that is likely to be a heart attack/AMI, and/or from a set of 3 NQF-endorsed measures of time to transfer/admissions for patients with a variety of conditions.
- Medication Safety: Selecting from a set of 34 measures in 7 domains of safe medication practices (as studied by the Center for Rural Health Policy Analysis).
- Experience of Care: Developing from the HCAHPS patient experience of care survey a composite measure(s) of patient assessment of quality of care.

LOW-VOLUME HOSPITALS

It is our intent to publish all of the hospital data, even hospitals with low volumes. Currently, the data for low volume hospitals are displayed in both the Minnesota Hospital Quality Report and Medicare's HospitalCompare. However, both sites do not list the data for low volume hospitals alongside the high volume hospitals – additional clicks are necessary to access the low volume hospital data. This is a subject that should be addressed within the discussion of how data will be publicly displayed.

Following is a table showing how many hospitals each of the selected AHRQ measures affect, as well as how many Critical Access Hospitals are affected:

| <u>AHRQ Measures</u> | All Hospitals w/ cases | All Hospitals w/ >10 cases | CAHs w/ cases | CAHs w/ >10 cases |
|--|---------------------------|----------------------------------|------------------|-------------------------|
| AAA Repair (vol & mort) | 26 | 13 | 0 | 0 |
| CABG (vol & mort) | 14 | 14 | 0 | 0 |
| PTCA (vol & mort) | 17 | 16 | 0 | 0 |
| Hip Fracture mort | 90 | 58 | 41 | 13 |
| Decubitus Ulcer | 129 | 124 | 76 | 72 |
| Deaths, surgery pts w/ treatable compl | 89 | 45 | 38 | 5 |
| Postop PE/DVT | 121 | 108 | 67 | 55 |
| Birth Trauma w/ Instrument | 91 | 68 | 44 | 22 |
| Birth Trauma w/o Instrument | 105 | 96 | 57 | 49 |