

## **WHAT ARE THE INPATIENT QUALITY INDICATORS?**

The Inpatient Quality Indicators (IQIs) are a set of measures produced by the Agency for Healthcare Research and Quality (AHRQ) that can be used with hospital inpatient discharge data to provide a perspective on quality. Using national data, AHRQ produces a set of coefficients that can be used to risk-adjust the likelihood of an event such as death or a cesarean section delivery. Users should be aware that the use of national coefficients, which are based on a different caseload, could cause large differences in observed and expected rates at both the state and hospital level. The results of this data can be used to detect potential quality problems as well as identify hospitals that perform significantly better than the state average.

## **MORTALITY FOR INPATIENT PROCEDURES INDICATORS**

### **Abdominal Aortic Aneurysm (AAA) Repair - IQI #11**

An abdominal aortic aneurysm is a bulging, weakened area in the wall of the aorta below the kidneys resulting in an abnormal widening or ballooning greater than 50 percent of the normal diameter (width). Surgery is usually performed to prevent rupture of an aneurysm. Patients requiring this procedure often have other major vessels diseased as well, which may lead to stroke, heart attack or other complications during or after the major surgery required to repair the abdominal aorta. This surgery usually is performed by surgeons who specialize in repair of blood vessels, and at hospitals where other specialists are available to deal with the expected complications.

### **Carotid Endarterectomy - IQI #31**

The carotid arteries are the major arteries in the neck, which carry blood from the heart to the brain. If blockages develop in these arteries, stroke or other brain problems can result. Carotid endarterectomy is an operation during which a vascular surgeon removes the inner lining of your carotid artery if it has become thickened or damaged. This procedure eliminates a substance called plaque from your artery and can restore blood flow reducing the chance of stroke.

### **Coronary Artery Bypass Graft - IQI #12**

Coronary artery bypass graft (CABG) surgery is advised for selected groups of patients with significant narrowings and blockages of the heart arteries (coronary artery disease). CABG surgery creates new routes around narrowed and blocked arteries, allowing sufficient blood flow to deliver oxygen and nutrients to the heart muscle. Thousands of bypass surgeries are performed each year, however, this relatively common procedure requires skill in the use of complex equipment.

### **Craniotomy (Surgical opening of the skull) - IQI #13**

A craniotomy is the surgical removal of a section of bone (bone flap) from the skull for the purpose of operating on the underlying tissues, usually the brain. The bone flap is replaced at the end of the procedure. A craniotomy is used for many different procedures within the head, for trauma, tumor, infection, aneurysm, etc.

**Esophageal Resection (Surgical removal of the food tube in the chest) - IQI #8**

An esophageal resection is the surgical removal of the esophagus, nearby lymph nodes, and sometimes a portion of the stomach. The esophagus is a hollow muscular tube that passes through the chest from the mouth to the stomach—a "foodpipe" that carries food and liquids to the stomach for digestion and nutrition. Removal of the esophagus requires reconnecting the remaining part of the esophagus to the stomach to allow swallowing and the continuing passage of food. This procedure is rarely done.

**Hip Replacement - IQI #14**

In a total hip replacement surgery, the painful parts of the damaged hip are replaced with artificial hip parts called a prosthesis, a device that substitutes or supplements a joint. Planned replacement of a diseased hip joint with an artificial joint is a common procedure to treat disabling pain or improve hip function. The patients are often elderly, and many have multiple medical conditions.

**Pancreatic Resection (Surgical removal of the pancreas) - IQI #9**

The pancreas is an organ that lies deep in the abdomen and produces important hormones such as insulin. If cancer develops in the pancreas, removing the organ by surgery may be life saving. This procedure is rarely done, and few hospitals do even one such operation in a year.

**Percutaneous Transluminal Coronary Angioplasty - IQI #30**

This procedure is a non-surgical treatment done to open blockages in the arteries that carry blood to the heart muscle. A thin tube is threaded through a major blood vessel in the leg up to the heart, and a small balloon or other device on the tip of the tube is used to reduce or eliminate the blockage. The procedure may be done to reduce chest pain, prevent or treat heart attacks, or to treat other heart problems caused by blockages in the coronary arteries. This procedure is usually done on an outpatient basis. This indicator only reflects procedures performed on hospitalized patients.

**MORTALITY FOR INPATIENT CONDITION INDICATORS**

**Acute Myocardial Infarction (Heart Attack) - IQI #15**

A heart attack is called a myocardial infarction. Myocardial means heart muscle, and infarction means an area of tissue death due to lack of blood supply. Heart attacks occur when an artery to the heart (a coronary artery) becomes blocked. According to the American Heart Association, if a heart attack victim gets to an emergency room fast enough, prompt care dramatically reduces heart damage. Research findings have resulted in detailed practice guidelines covering all phases of heart attack management.

**Acute Myocardial Infarction w/transfers excluded (Heart Attack) - IQI #32**

This quality measure excludes Acute Myocardial Infarction cases which were transferred in from another short term hospital.

### **Acute Stroke - IQI #17**

A stroke is a disruption in the blood supply to the brain. A stroke occurs when a blood vessel bringing oxygen and nutrients to the brain bursts, or is clogged by a blood clot or some other particle. Because of this rupture or blockage, part of the brain doesn't get the flow of blood it needs, and the nerve cells in the affected area of the brain cannot function. When nerve cells cannot function, neither can the part of the body they control. The effects of stroke often are permanent because dead brain cells are not replaced. Mortality rates will vary based on the cause of the stroke, the severity of the stroke, other patient illnesses and speed of arrival at the hospital. Some advanced treatments may be helpful only in the first few minutes or hours following the onset of the stroke.

### **Congestive Heart Failure (CHF) Mortality - IQI #16**

Congestive Heart Failure is one of the most common reasons for hospitalization. Congestion is the presence of an abnormal amount of fluid in the tissues, usually because of limitations in the body's ability to return the flow of blood from the arms or legs to the heart and lungs. Though CHF has many possible underlying causes, the end result is an inability of the heart muscle to function well enough to meet the demands of the rest of the body. CHF mortality is influenced greatly by other medical problems, including lung disease, high blood pressure, cancer and liver disease.

### **Gastrointestinal (GI) Hemorrhage - IQI #18**

GI hemorrhage is the bleeding that arises in the lining of the esophagus, stomach or upper part of the small intestine. While many cases are relatively minor, some are more serious. The risk of death mostly is related to the reason why the bleeding began, along with patient factors, such as age and other illnesses.

### **Hip Fracture - IQI #19**

Hip fracture is a common cause for hospitalization in the elderly. Many people die in the first six months after hip fracture, and most of these deaths do not occur in the hospital.

### **Pneumonia - IQI #20**

Pneumonia is a medical condition involving an infection in the lungs. An irritation to the lining of the lungs causes fluid to collect, often making breathing difficult. Pneumonia typically is treated with antibiotics, sometimes in an outpatient setting. However, death may occur even when the patient is in the hospital, especially in patients with weakened respiratory systems or other chronic health problems. There is a significant impact from patient factors and admitting practices.

## **PROCEDURE UTILIZATION INDICATORS**

### **Bilateral Cardiac Catheterization Utilization - IQI #25**

Cardiac catheterization is a diagnostic test that can show if blood vessels to the heart are narrowed or blocked. Most people only need it done on the left side of their heart. A liquid dye is injected into the arteries of the heart through a catheter, a long narrow tube that is fed through an artery, usually

in the thigh, to arteries in the heart. As the dye fills the arteries, they become visible on X-ray and reveal any areas of blockage. To identify coronary artery disease, the test is performed on the main arteries feeding muscles on the left side of the heart, which is the major pumping chamber. It is not routinely performed on the right side without specific clinical indications. This indicator reports the proportion of patients who received heart catheterization on both sides of the heart. In general, lower percentages are better.

#### **Cesarean Section Delivery Utilization - IQI #21**

Cesarean section (C-section) is the surgical removal of the baby through the mother's abdomen. Whether or not this procedure is necessary and appropriate depends largely on each individual's clinical characteristics. The decision is usually a joint one between the patient and her doctor. Babies in the breech (buttocks first) position, prior C-section(s), the number of previous births, placental or umbilical cord complications, infections and high or low birth weight are factors that may cause a woman to have a C-section, according to the American College of Obstetrics and Gynecology. Hospitals that serve as referral centers for high risk pregnancies, those with intensive care units for very sick babies, and those serving mothers who have not had the benefit of prenatal care can be expected to have higher C-section rates. In general, lower percentages are better.

#### **Primary Cesarean Delivery Rate - IQI #33**

This is the same as Cesarean Section Delivery Utilization only it excludes cases where the woman had a previous cesarean delivery.

#### **Incidental Appendectomy in the Elderly Utilization - IQI #24**

Removal of the appendix (appendectomy) at the same time other necessary abdominal surgery is being done (incidental) is intended to eliminate the risk of future appendicitis. Appendicitis is a severe inflammation of a small bulging pouching at the beginning of the large intestine. Because it is thought to be an unnecessary organ past age two, it often is removed when an adult patient is having other needed abdominal surgery simply to remove the possibility of developing appendicitis, which can be difficult to diagnose, later in life. However, incidental appendectomy is not recommended in the elderly because they have both a lower risk for developing appendicitis and a higher risk of complications after surgery. This indicator reports the number of incidental appendectomies performed on patients age 65 or older. In general, lower percentages are better.

#### **Laparoscopic Cholecystectomy Utilization (Gall bladder removal) - IQI #23**

Cholecystectomy (surgical removal of the gall bladder) is now performed with a laparoscope in about 75 percent of uncomplicated cases. The majority of these procedures are done on an outpatient basis. In less severe cases, the laparoscopic technique is associated with fewer complications than the traditional open method. However, the laparoscopic technique might not be possible due to patient condition or anatomy. Since this report includes only those cases that are performed on hospital inpatients, it does not present a complete picture of the occurrence of this procedure. In general, higher percentages are better.

**Vaginal Birth After Cesarean (VBAC) Utilization - IQI #34**

Just because a woman has had one Cesarean section (C-section) delivery does not necessarily mean she must deliver future babies by C-section. Many women have normal deliveries even though they had a C-section in the past. This report provides information on the proportion of vaginal births that occurred to mothers who had delivered previously by C-section. This indicator must be viewed with caution, as there is some evidence that standards of care are changing in this complex area. In general, higher percentages are better.

**Vaginal Birth After Cesarean (VBAC), Uncomplicated - IQI #22**

This is the same as the VBAC Utilization only it excludes cases of abnormal presentation, preterm, fetal death, multiple gestation diagnosis codes and breech procedure codes