

## Appendix D

### Glossary of Terms

**accuracy (of data)** The extent to which data are free of identifiable errors.

**acute myocardial infarction (AMI)** Death of heart muscle resulting from insufficient blood supply to the heart. For purposes of this measure, acute myocardial infarction is identified by the ICD-9-CM codes in Appendix A, Table 1.1.

**administrative/billing data (data source)** Data that generally reflect the content of discharge abstracts (for example, demographic information on patients such as age, sex, zip code; information about the episode of care such as admission source, length of stay, charges, discharge status; and diagnostic and procedural codes). Namely, the Uniform Hospital Discharge Data Set and the Uniform Bill of the Health Care Financing Administration (UB-92) provide specifications for the abstraction of administrative/billing data.

**aggregate (measurement data)** Measurement data collected and reported by organizations as a sum or total over a given time period (e.g., monthly, quarterly), or for certain groupings (e.g., health care organization level).

**aggregate risk-adjusted data elements** Aggregate data elements derived from episode of care (EOC) records that result from application of risk adjustment models by measurement systems for transmission to the Joint Commission.

**algorithm** See calculation algorithm.

**allowable value** The predefined range of alphanumeric values that are valid for a data element in a database. In most cases, only records that contain the defined allowable values can be saved to the database.

**ANSI X12** The American National Standards Institute's standard for transmitting data electronically, or electronic data interchange (EDI).

**binary outcome** Events or conditions that occur in one or two possible states often labeled 0 or 1. Such data are frequently encountered in medical research. Common examples include dead or alive, and improved or not improved.

**bulletin board system (BBS)** An electronic information and message center available to computer users. A modem and communication software are necessary to dial in and connect a computer user to a BBS.

**calculation algorithm** An ordered sequence of data element retrieval and aggregation through which numerator and denominator events or continuous variable values are identified by a measure.

**caregiver** The patient's family or any other person who will be responsible for care of the patient after discharge.

**central tendency** A property of the distribution of a variable, usually measured by statistics such as the mean, median, and mode.

**cesarean section** Surgical delivery of a fetus through incision in the abdominal wall and the uterine wall. Does not include removal of the fetus from the abdominal cavity in case of rupture of the uterus or abdominal pregnancy.

**clinical measures** Measures designed to evaluate the processes or outcomes of care associated with the delivery of clinical services; allow for intra- and interorganizational comparisons to be used to continuously improve patient health outcomes; may focus on the appropriateness of clinical decision making and implementation of these decisions; must be condition specific, procedure specific, or address important functions of patient care (e.g., medication use, infection control, patient assessment, etc.).

**clinical survey (data source)** Survey data obtained from clinicians who provide care.

**comparison group** The group of health care organizations to which an individual health care organization is compared. (Performance measurement systems transmit aggregated comparison group data for non-core measures. The Joint Commission will aggregate health care organization-level data to create the comparison group for each core measure.)

**comparison level data** Aggregation of health care organization level data to provide a standardized “norm” by which participating organizations can compare their individual performance to the “norm”.

**confounding factors** Intervening variables that distort the true relationship between/among the variables of interest. They are related to the outcome of interest, but extraneous to the study question and are nonrandomly distributed among the groups being compared. They can hide a true correlation or give the appearance of a correlation when none actually exists.

**continuous variable** An aggregate data measure in which the value of each measurement can fall anywhere along a continuous scale (e.g., the time [in minutes] from emergency department arrival to administration of thrombolysis).

**continuous variable data elements** Those data elements required to construct the measure as stated in the section labeled “Continuous Variable Statement.”

**continuous variable statement** A statement that describes an aggregate data measure in which the value of each measurement can fall anywhere along a continuous scale.

**contraindication** A factor or condition that renders the administration of a drug or agent or the performance of a procedure or other practice inadvisable, improper, and/or undesirable.

**critical access hospital** Hospitals that offer limited services and are, by definition, located more than 35 miles from a hospital or another critical access hospital, or are certified by the state as being a necessary provider of health care services to residents in the area. They maintain no

more than 15 inpatient beds, but may have up to 25 beds if they have swing beds. Critical access hospitals provide acute inpatient care for a period that does not exceed, on an annual average basis, 96 hours per patient. Hospitals certified by the Secretary of the Department of Health and Human Services (DHHS) as critical access hospitals are eligible for cost-based reimbursement from Medicare if they meet a specific set of federal Conditions of Participation (COPs).

**data collection** The act or process of capturing raw or primary data from a single or number of sources. Also called “data gathering.”

**data collection effort** The availability and accessibility of the required data elements, the relative effort required, and associated cost of abstracting or collecting the data.

**data editing** The process of correcting erroneous or incomplete *existing* data, exclusive of data entry input edits.

**data element** A discrete piece of data, such as patient birth date or principal diagnosis. See also *denominator data elements*, *numerator data elements*, *continuous variable data elements*, and *risk adjustment data elements*.

**data entry** The process by which data are transcribed or transferred into an electronic format.

**data point** The representation of a value for a set of observations or measurements at a specific time interval (e.g., perioperative mortality rate for the month of June 2004).

**data quality** The accuracy and completeness of measure data on performance in the context of the analytic purposes for which they will be used.

**data sources** The primary source document(s) used for data collection (for example, billing or administrative data, encounter form, enrollment forms, medical record). See also *administrative data*, *clinical survey*, *medical record*, *patient survey*, *provider data*, and *registry/log data*.

**data transmission** The process by which data are electronically sent from one organization to another. For example a hospital sending patient-level data to their selected performance measurement system, and the system sending measure-level data to the Joint Commission or patient-level data to the QIO Clinical Warehouse.

**denominator** The lower part of a fraction used to calculate a rate, proportion, or ratio. Also the population for a rate-based measure.

**denominator data elements** Those data elements required to construct the denominator.

**denominator statement** A statement that depicts the population evaluated by the performance measure (e.g., “Inpatients with principal and/or other diagnoses of insulin-dependent diabetes mellitus”).

**discrete variable** See *rate-based measure*.

**electronic data interchange (EDI)** An instance of data being sent electronically between parties, normally according to predefined industry standards.

**electrocardiogram (ECG)** A graphic tracing of the heart's electrical impulses.

**empiric antibiotic therapy** Antibiotic treatment based on the clinician's judgment and the patient's symptoms and signs and offered before a diagnosis has been confirmed.

**episode of care (EOC)** A patient or case-level record submitted to the database.

**excluded populations** Detailed information describing the populations that should not be included in the indicator. For example, specific age groups, ICD-9-CM procedure or diagnostic codes, or certain time periods could be excluded from the general population drawn upon by the indicator.

**extranet** A private network using the Internet protocol to securely share business information or operations with vendors, customers, and/or other businesses. "JAYCO" is the name given to the Joint Commission's extranet site.

**flowchart** *See calculation algorithm.*

**format** Specifies the character length of a specific data element; the type of information the data element contains: numeric, decimal number, date, time, or alphanumeric; and the frequency with which the data element occurs.

**fourth degree perineal laceration** A rupture or tear involving anal sphincter, rectovaginal septum, and anal mucosa.

**general data elements** Those data elements that have wide application and are collected for every patient that is included in any measure population.

**health care organization (HCO)** The business entity which is participating in a performance measurement system (e.g., health care organization level data describes information about the business entity).

**health care organization (HCO) level data** Aggregation of patient level data to summarize the performance of an individual health care organization on a performance measure.

**heart failure (HF)** A clinical syndrome characterized by signs and symptoms resulting from disturbances in cardiac output or from increased venous pressure, including fatigue, shortness of breath, or leg swelling. For purposes of this measure, heart failure is identified by ICD-9-CM codes in Appendix A, Table 2.1.

**hospital** A health care organization that has a governing body, an organized medical staff and professional staff, and inpatient facilities and provides medical, nursing, and related services for

ill and injured patients 24 hours per day, seven days per week. For licensing purposes, each state has its own definition of a hospital.

**ICD-9-CM codes** A two-part classification system in current use for coding patient medical information used in abstracting systems and for classifying patients into diagnosis-related groups (DRGs). The first part is a comprehensive list of diseases with corresponding codes compatible with the World Health Organization's list of disease codes. The second part contains procedure codes independent of the disease codes.

**included populations** Detailed information describing the population(s) that the indicator intends to measure. Details could include such information as specific age groups, diagnoses, procedures, ICD-9-CM diagnostic and procedure codes, CPT codes, revenue codes, enrollment periods, insurance and health plan groups, etc.

**indicator** See *performance measure*.

**inpatient mortality** Any patient death occurring while admitted as an in-patient in the hospital.

**invalid data** Values for data elements that are required for calculating and/or risk adjusting a core measure that fall outside of the acceptable range of values defined for that data element.

**“JAYCO”** The name given to the Joint Commission's extranet site, a secured online connection to the Joint Commission.

**logistic regression** A form of regression analysis used when the response variable is a binary variable.

**mean** A measure of central tendency for a continuous variable measure. The mean is the sum of the values divided by the number of observations.

**measure information form** Tool to provide specific clinical and technical information on a measure. The information contained includes: performance measure name; description; rationale; numerator/denominator/continuous variable statements; included populations; excluded populations; data elements, risk adjustment; sampling; data accuracy; and selected references.

**measure of performance** See *performance measure*.

**measure-related feedback** Measure-related information on performance that is available, on a timely basis, to organizations actively participating in the performance measurement system for use in the organization's ongoing efforts to improve patient care and organization performance. Feedback can be reflective of information within individual organizations (intraorganizational) and/or across organizations (interorganizational).

**measurement system** See *performance measurement system*.

**median** The value in a group of ranked observations that divides the data into two equal parts.

**medical record (data source)** Data obtained from the records or documentation maintained on a patient in any health care setting (for example, hospital, home care, long term care, practitioner office). Includes automated and paper medical record systems.

**missing data** No values present for one or more data elements that are required for calculating and/or risk adjusting a core measure. For further information refer to the Missing and Invalid Data (Joint Commission only) section of this manual.

**mode** The most frequently occurring response for that data element.

**model based approach for risk adjustment** A statistical technique that uses a mathematical model to describe the relationship between an outcome and a set of explanatory variables (i.e., patient factors such as age, sex, comorbidities) that are used to study and characterize the data.

**monthly data point** The representation of a value for a set of observations or measurements for a calendar month.

**multivariate analysis** The analysis of the simultaneous relationships among variables.

**National quality measure** A standardized performance measure that meets the Centers for Medicare & Medicaid Services and Joint Commission evaluation criteria, has precisely defined specifications, can be uniformly embedded in extant systems, has standardized data collection protocols to permit uniform implementation by health care organizations and permit comparisons of health care organization performance over time through the establishment of a national comparative data base.

**National quality measure set** A unique grouping of performance measures carefully selected to provide, when viewed together, a robust picture of the care provided in a given area (e.g., cardiovascular care, pregnancy).

**neonatal mortality** Death of a live-born neonate before the neonate becomes age 28 days (up to and including 27 days, 23 hours and 59 minutes from the moment of birth).

**non-core measure** A performance measure defined by the performance measurement system that has undergone review against Joint Commission established measure criteria and has been accepted for use in the ORYX® initiative.

**nosocomial infection** An infection acquired by a patient in a health care organization, especially a hospital. This infection is not present or incubating before admission to a hospital.

**numerator** The upper portion of a fraction used to calculate a rate, proportion, or ratio.

**numerator data elements** Those data elements necessary or required to construct the numerator.

**numerator statement** A statement that depicts the portion of the denominator population that satisfies the conditions of the performance measure to be an indicator event. For example,

“Inpatients with principal and/or other diagnoses of insulin dependent diabetes mellitus who demonstrate self blood glucose monitoring and self-administration of insulin before discharge, or are referred for post discharge follow-up for diabetes management.”

**oral antibiotics** For purposes of SIP measure set, refers to either of two combinations of antibiotics given by mouth, nasogastric (NG), or percutaneous endoscopic gastrostomy (PEG). Those combinations are either Neomycin and Erythromycin or Neomycin and Flagyl (also called Metronidazole). These combinations are for use in prophylaxis specifically for colon surgery patients. For further information see Appendix H, Table 1.7.

**outcome measure** A measure that indicates the result of the performance (or non-performance) of a function(s) or process(es).

**parenteral** Not through the alimentary canal but rather by injection through some other route, as subcutaneous, intramuscular, intraorbital, intracapsular, intraspinal, intrasternal, intravenous, etc.

**participating pilot organizations** Accredited health care organizations (hospitals) and listed performance measurement systems that have been selected, and have agreed, to participate in the Joint Commission’s core measure pilot project.

**patient factor** A variable describing some characteristic of individual patients that may influence health care related outcomes. Patient factors can include:

- **complications** Conditions arising after the beginning of health care observation and treatment that modifies the course of the patient’s health or illness and the intervention/care required.
- **comorbidities** Pre-existing diseases or conditions.
- **severity of illness classifications** Seriousness or stage of illness at the time of the beginning of health care observation or treatment (for example, *AJCC staging* for oncology patients, *NYHA class* for cardiovascular patients, *ASA-PS classification* for surgical patients).
- **functional status** Factors related to health status including physical functioning, role disability due to physical-health problems, bodily pain, general health perceptions, vitality, social functioning, role disability due to emotional problems, and general mental health.
- **patient demographics** Age, ethnicity, gender, location, etc.

**patient level data** Collection of data elements that depict the health care services provided to an individual (patient). Patient level data are aggregated to generate hospital level data and comparison group data.

**patient survey (data source)** Survey data are exclusively obtained from patients and/or their family members/significant others.

**percentile** A value on a scale of 100 that indicates the percentage of a distribution that is equal to or below it.

**performance measure** A quantitative tool (for example, rate, ratio, index, percentage) that provides an indication of an organization’s performance in relation to a specified process or outcome. See *process measure* and *outcome measure*.

**performance measurement system** An entity consisting of an automated database(s), that facilitates performance improvement in health care organizations through the collection and dissemination of process and/or outcome measures of performance. Measurement systems must be able to generate internal comparisons of organization performance over time, and external comparisons of performance among participating organizations at comparable times.

**performance measurement system's extranet track (PET)** An electronic information and message center available to computer users. Access to the Internet and a browser are necessary to connect to PET. Access to PET is available by clicking on the "JAYCO" button on the Joint Commission's home page ([www.jcaho.org](http://www.jcaho.org)).

**performance measure-related feedback** See *measure-related feedback*.

**pneumonia** Pneumonia is defined as an acute infection of the pulmonary parenchyma that is associated with at least some symptoms of acute infection, accompanied by presence of acute infiltrate on chest radiograph or auscultatory findings consistent with pneumonia (such as altered breath sounds and/or localized rales) occurring in a patient not hospitalized.

**population** In statistics this term is used to describe the finite or infinite collection of "units", which often refer to people, institutions, events, etc..

**predicted value** The statistically expected response or outcome for a patient after the risk adjustment model has been applied and the patient's unique set of risk factors have been taken into account.

**prophylactic antibiotic** An antibiotic used for the prevention of disease, as in a prophylactic antibiotic administered prior to a surgical procedure. For purposes of SIP Measure Set, prophylactic antibiotics refers to antibiotics that are administered preop (any time prior to surgery-note that patients who receive antibiotics more than 24 hours prior to surgery, except colon surgery patients, are excluded from the measure population), intraop (anytime between incision time and close time), or postop (24 hours after surgery end time) to prevent the incidence of operative wound infections.

**process** An interrelated series of events, activities, actions, mechanisms, or steps that transform inputs into outputs.

**process measure** A measure which focuses on a process which leads to a certain outcome, meaning that a scientific basis exists for believing that the process, when executed well, will increase the probability of achieving a desired outcome.

**proportion measure** A measure which shows the number of occurrences over the entire group within which the occurrence should take place (e.g., patients delivered by cesarean section over all deliveries).

**provider data (data source)** Data obtained from other provider-generated records that are not necessarily contained in the medical record (e.g., pharmacy patient medication profiles, nursing care plans).

**randomization** A technique for selecting or assigning cases such that each case has an equal probability of being selected or assigned. It is done to stimulate chance distribution, reduce the effects of confounding factors, and produce unbiased statistical data.

**range** A measure of the spread of a data set. The difference between the smallest and largest observation.

**rate** Derived by dividing the numerator (e.g., cases that meet the criterion for good or poor care) by the denominator (e.g., all cases to which the criterion applies) within a given time frame. In other words, the numerator is a subset of the denominator.

**rate-based (measure)** An aggregate data measure in which the value of each measurement is expressed as a proportion or as a ratio. In a proportion, the numerator is expressed as a subset of the denominator (for example, patients with cesarean section, divided by all patient who deliver). In a ratio, the numerator and denominator measure different phenomena (for example, the number of patients with central lines who develop infections divided by the number of central line days).

**ratio** A relationship between two counted sets of data, which may have a value of zero or greater. In a ratio, the numerator is not necessarily a subset of the denominator (e.g., pints of blood transfused to number of patients discharged).

**rationale** An explanation of why an indicator is useful in specifying and assessing the process or outcome of care measured by the indicator. The rationale may include supportive evidence such as published literature, unpublished studies, focus group results, etc.

**registry/log data (data source)** Data obtained from local, regional or national disease or procedure- related registries. Data obtained from the health care organizations' daily recordings (logs). Examples of such data include tumor, trauma, and cardiology registries. Examples of log data include infusion therapy, central line infection, and labor and delivery logs.

**regression coefficients** Synonym for regression weight which is derived from statistical modeling and expresses the change in a patient's response or outcome corresponding to a unit of change in the appropriate explanatory variable (i.e., patient risk factor).

**relevance** The applicability and/or pertinence of the indicator to its users and customers. For Joint Commission purposes, face validity is subsumed in this category.

**reliability** The ability of the indicator to accurately and consistently identify the events it was designed to identify across multiple health care settings.

**reporting period** The defined time period which describes the patient's end-of-service.

**reperfusion** Reestablishing blood flow in an obstructed coronary artery. It may be accomplished with thrombolytic therapy or percutaneous coronary intervention.

**risk adjusted rate** A rate that takes into account differences in case mix to allow for more valid comparisons between groups.

**risk adjusted measures** Measures that are risk adjusted using statistical modeling or stratification methods.

**risk adjustment** A statistical process for reducing, removing, or clarifying the influences of confounding factors that differ among comparison groups (for example, logistic regression, stratification).

**risk adjustment data elements** Those data elements used to risk adjust a performance measure (e.g., reduce, remove, or clarify the influences of confounding patient factors that differ among comparison groups). Such data elements may be used exclusively for risk adjustment (e.g., not required to construct the numerator or denominator) or may be required for numerator or denominator construction as well as risk adjustment.

**risk adjustment model** The statistical algorithm that specifies the numerical values and the sequence of calculations used to risk adjust (e.g., reduce or remove the influence of confounding factors) performance measures.

**risk factor** A factor that produces or influences a result. In statistics, an independent variable used to identify membership of qualitatively different groups. Refer to Appendix B for risk factor definitions.

**risk factor value** A specific value assigned to a risk factor for a given episode of care (EOC) record.

**risk model** The statistical algorithm that specifies the numerical values and the sequence of calculations used to risk adjust (e.g., reduce or remove the influence of confounding factors) performance measures.

**sampling design** The procedure for selecting a subset of a population to observe or estimate a characteristic of the entire population.

**sampling** A basic statistical technique or process consisting of drawing a limited number of measurements from a larger source (population) and then analyzing those measurements to estimate characteristics of the population from which the measurements have been drawn.

**sampling method** Describes the process used to select a sample. Possible approaches to sampling include simple random sampling, cluster sampling, systematic sampling and judgment sampling.

**sample size** The number of individuals or particular patients included in a study. Usually chosen so that the study has a particular statistical power of detecting an effect of a particular size.

**score** A rating, usually expressed as a number, and based on the degree to which certain qualities or attributes are present (e.g., Glasgow coma, ASA scores).

**severity** The degree of biomedical risk, or mortality of medical treatment.

**simple random sample** A process in which a predetermined number of cases from a population as a whole is selected for review. It is predicated on the idea that each case has an equal probability of being included in the sample.

**standard deviation** A measure of variability that indicates the dispersion, spread, or variation in a distribution.

**stratification** A form of risk adjustment which involves classifying data into subgroups based on one or more characteristics, variables, or other categories.

**stratification based approach for risk adjustment** The process of dividing or classifying subgroups known as strata in order to facilitate more valid comparisons. For example, a measure's outcome may be divided into type of surgery-specific categories or strata.

**stratified measure** A performance measure that is classified into a number of subgroups to assist in analysis and interpretation. The overall or un-stratified measure evaluates all subgroups together. The stratified measure consists of a subset of the overall measure. For example, surgical patients who received a prophylactic antibiotic within one hour prior to surgical incision can be reported as all surgical patients who received the prophylactic antibiotic within one hour prior to surgical incision, however, the stratified measure(s) for SIP-1 could be reported by specific allowable values for the data element *Type of Surgery*, such as 1 – CABG (SIP-1b) or 2 – Cardiac (SIP-1c).

**structure measure** A measure that assesses whether organizational resources and arrangements are in place to deliver health care, such as the number, type, and distribution of medical personnel, equipment, and facilities.

**systematic random sampling** A process in which one case is selected randomly, and the next cases are selected according to a fixed period or interval; for example, every fifth patient who arrives in a hospital unit becomes part of the random sample.

**test cases** Fictitious patient level data composed of clinical data elements that yield an expected result for a specific core measure algorithm.

**therapeutic antibiotic** Antibiotic treatment tailored to a specific confirmed diagnosis or a known pathogen.

**third degree perineal laceration** A rupture or tear in the perineum involving the anal sphincter and rectovaginal septum.

**thrombolytic therapy** Administration of a pharmacological agent intended to cause lysis of a thrombus (destruction or dissolution of a blood clot). Refer to Appendix C, Table 1.5 for a listing of thrombolytic agents.

**transmission schedule** The schedule of dates on which performance measurement systems are expected to be transmitting data.

**vaccine** A vaccine is a suspension of an attenuated (weakened) or killed microorganism, such as bacteria or virus, administered for the prevention, amelioration, or treatment of infectious diseases.

**vaginal birth after cesarean section (VBAC)** A successful trial of labor resulting in a vaginal birth on a patient with a history of cesarean section.

**validation** The process by which the integrity and correctness of data are established. Validation processes can occur immediately after a data item is collected or after a complete set of data are collected. The Centers for Medicare & Medicaid Services (CMS) chart level validation will validate the data at several levels. There are consistency and internal edit checks to assure the integrity of the submitted data; there are external edit checks to verify expectations about the volume of the data received, and, there will be chart level audits to assure the reliability of the submitted data. Information on these procedures is available on [www.qnetexchange.org](http://www.qnetexchange.org).

**validity** Ability to identify opportunities for improvement in the quality of care; demonstration that the indicator use results in improvements in outcomes and/or quality of care.

**variance** Equal to the square of the standard deviation.

**verification** The process used to ensure consistent implementation of core measure algorithms specified in this manual across disparate measurement systems.

### **Selected Sources:**

Babbie, ER, *The Practice of Social Research, 2nd edition*, Belmont, CA: Wadsworth Publishing Company, 1979.

Everitt, BS, *The Cambridge Dictionary of Statistics*, Cambridge University Press, 1998.

Iezonni, LI, Foley, SM, Heeran, T, Daley, J, Duncan, CC, Fisher, ES, Hughes, J, "A Method for Screening the Quality of Hospital Care Using Administrative Data: Preliminary Validation Results," *Quality Review Bulletin*, November, 1992, 361- 370.

*Lexikon* Second Edition, Oakbrook Terrace, IL: Joint Commission on Accreditation of Healthcare Organizations, 1998.

McHorney, CA, Kosinski, M, and Ware, Jr., JE, "Comparisons of the Cost and Quality of Norms for the SF-36 Health Survey Collected by Mail Versus Telephone Interview: Results From a National Survey," *Medical Care*, 32, (1994), 551-567.

Nichols, T and Earl, L, *Basic ICD-9-CM Coding Handbook*, Chicago, IL: American Health Information Management Association, 1992.

*ORYX® Technical Implementation Guide*, Oakbrook Terrace, IL: Joint Commission on Accreditation of Healthcare Organizations, 2004.

*2004 Accreditation Manual(s)*, Oakbrook Terrace, IL: Joint Commission on Accreditation of Healthcare Organizations, 2004.