PERFORMANCE MANAGEMENT AND PROCESS IMPROVEMENT
## Chapter 3-3
Benchmark & CPGs

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Concept of Performance Measurement:

➤ **Measuring performance (data collection)** is the basis **of all quality improvement activities**

➤ _**Measurement**_ **:** **is** **the** **systematic** **collection** **(planed** **process)** **of** **quantifiable data** **about both processes and outcomes (structure) over time (dynamic) or at a single point (static) in time**

➤ **The measurement of performance was always the intent in using "indicators" of care in past monitoring and evaluation activities.**
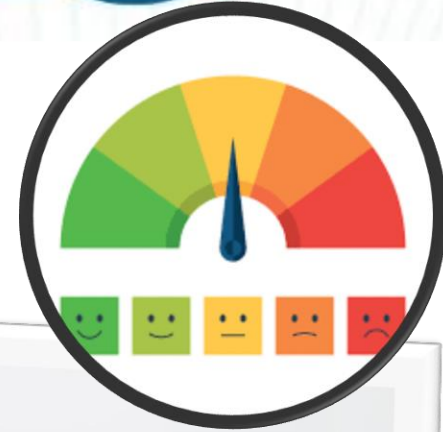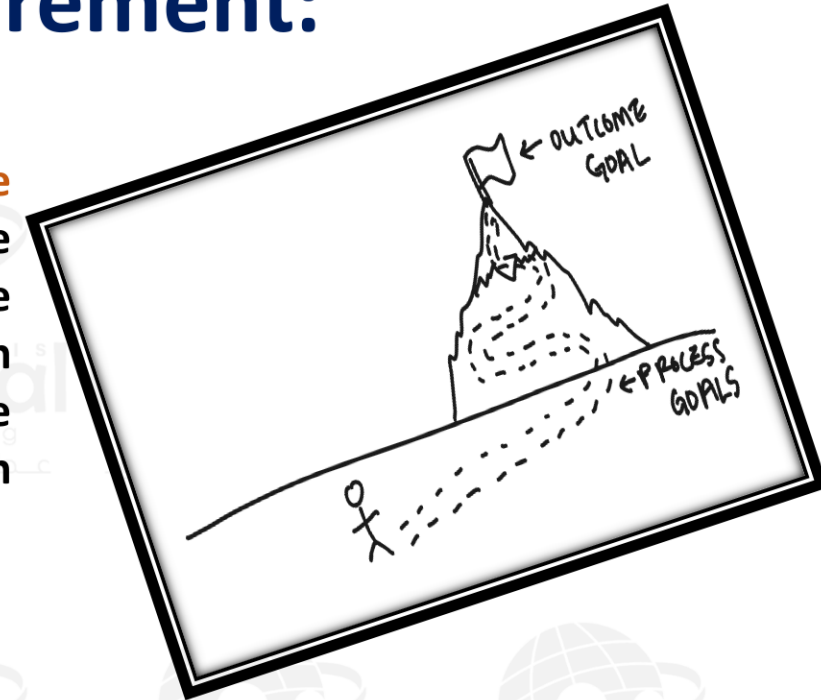
Concept of Performance Measurement:

In the *past*

❖ the focus in analysis of those indicators was on **negative variance** from an acceptable clinical standard or **threshold** (**point of translation ,, when u starting something new**)

❖ **clinical variance** was assigned to the appropriate **responsible direct care provider**: physician, nurse, physical therapist, etc.

now

❖ Healthcare in now **having both the information technology** and the understanding to use performance measures to provide information about **how well processes** are working to deliver patient care in the organization.

- **The tools of the performance-based quality management system consists of standards and guidelines as well as performance measures, indicators, and metrics**
- **Regulations establish requirements for healthcare organizations to follow. There must be absolute compliance with the laws and regulations. Standards and Guidelines, on the other hand, describe appropriate and expected courses of action.**

A Standard:

❖ **Statement of expectation**: defining **the capability** of a governance, managerial, clinical, or support system to **deliver value.**

❖ It is **what is expected** from performance

❖ Indicate **what must be done.**

• Standards can be **obtained from** **national, accreditation/regulatory** organizations, as well as the **community standards** and standard **developed by the organization itself.**

• *Measurement* occurs to **indicate** if the organization is **compliant with these standards**. If the **outcome meeting the standards) or not met**, then there must be a **re-evaluation of the process and improvements** made.
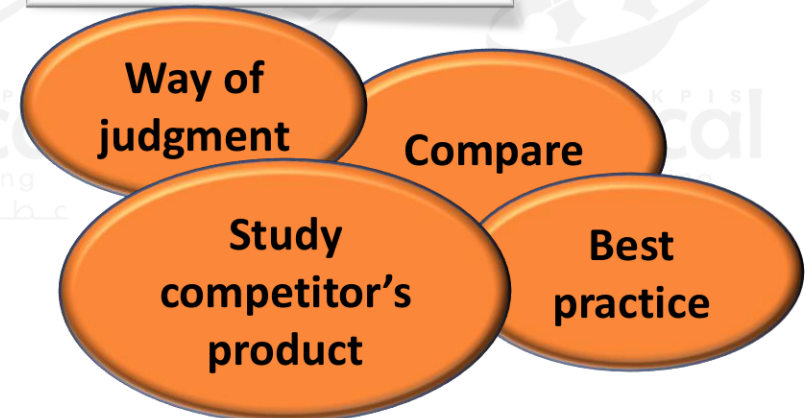
- Expectation
- Capability
- What must be done
- National/international
- Measured/outcome

Standards

Standard

Benchmarking:

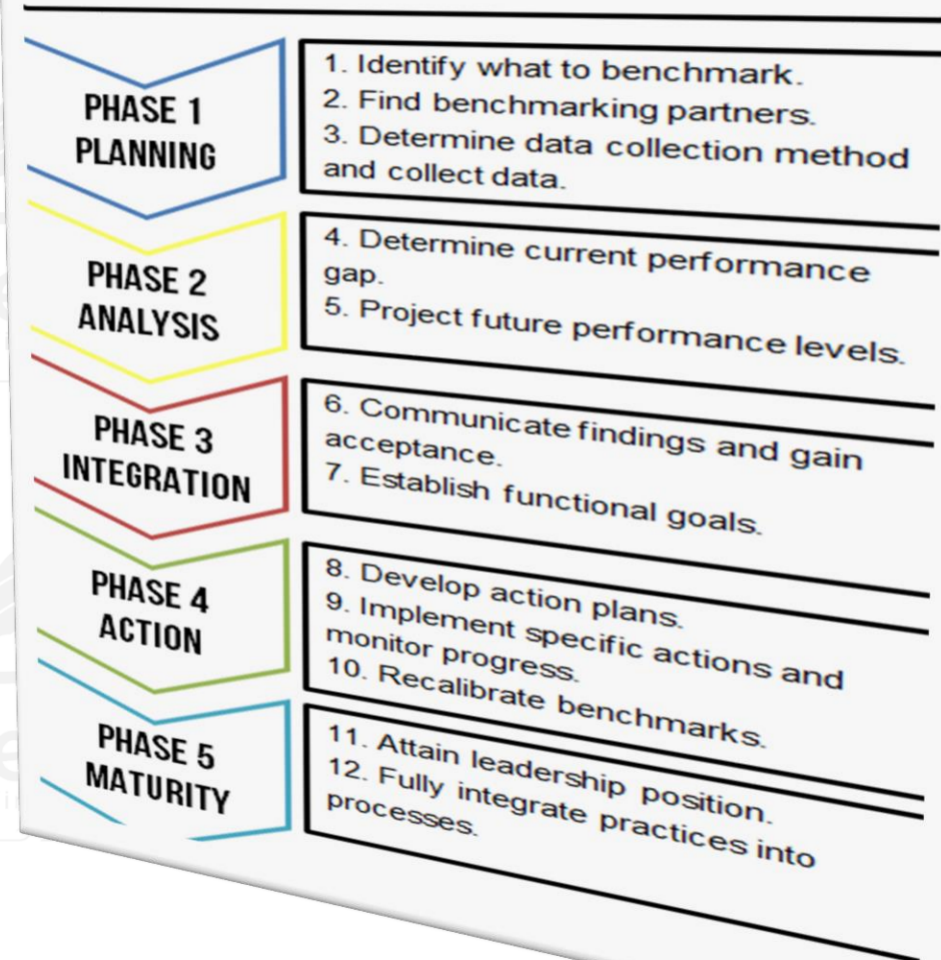☐ **Management tool that uses a formal measurement process to compare your own organizational performance against that of other organizations considered to have "best practices".**

☐ **as a noun it is "something that can be used as a way to judge the quality or level of other, similar things" . ((The term is usually used as a point of reference or as a standard by which others may be measured or judge))**

☐ **as a verb, it is defined as "to study as (a competitor's product or business practices) in order to improve the performance of one's own company".**

Way of judgment

Compare

Study competitor's product

Best practice

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➤ **Potential data source for benchmark**

☐ **There must be similar data collection methods utilized and same population**

☐ **The collected data should be analyzed utilizing similar risk adjustment factor for fair comparisons**

☐ **Key of effective benchmark is to make sure that you are comparing same process in both organization**

XEROX 12-STEP BENCHMARKING PROCESS

PHASE 1 PLANNING	1. Identify what to benchmark. 2. Find benchmarking partners. 3. Determine data collection method and collect data.
PHASE 2 ANALYSIS	4. Determine current performance gap. 5. Project future performance levels.
PHASE 3 INTEGRATION	6. Communicate findings and gain acceptance. 7. Establish functional goals.
PHASE 4 ACTION	8. Develop action plans. 9. Implement specific actions and monitor progress. 10. Recalibrate benchmarks.
PHASE 5 MATURITY	11. Attain leadership position. 12. Fully integrate practices into processes.

Type of Benchmarking:

Internal benchmarking :	External benchmarking :
identifies **best practices within an organization**. It can be used to compare best practices within the organization and to compare organizational practices over time.	involves utilizing **comparative data from other organizations** to determine performance and identify improvements that have been successful in other organizations.

4 consideration must be taken when analyzing variation in outcome benchmark:

Variance may be due to:

- **Different data collection methods.**
- **Different case-mix data is utilized, it could cause a variance in the outcome benchmarks.**
- **Simply due to chance.**
- **Real differences in the quality of care**

Clinical Practice Guidelines / Evidence Based Practice

❖ **Refers to a set of specifications for care and process that pertain to the functions of healthcare practitioners**.

❖ is the <u>integration</u> of **best research** evidence with **clinical expertise and patient values**.

❖ **Advantages**:

1. **Method of standardization** of care
2. **Decrease the variation** in the care provided.
3. Facilitate **cost-effective** health care.
4. Utilize to improve processes and outcome.
5. Desired outcome
6. Facilitate the implementation of **capitated manage** **contracts**

Table 16: Standards Categories for Developing Clinical Practice Guidelines

1. Establish transparency
2. Management of conflict of interest
3. Guideline development group composition
4. Clinical Practice guideline-systematic review intersection
5. Establishing evidence foundations for and rating strength of recommendations
6. Articulation of recommendations
7. External review
8. Updating

❖ **Measurement occurs to indicate if the guidelines were followed, and if they were not, documentation is required of why the variation occurred and what was subsequently done.**

❖ **There will always be variation due to:**

1. the variation of different patients/clients
2. the human factors that they bring with

❖ **A guideline does not necessarily mean best practice, although that is what should be strived for.**

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Determine Evidence based practices:

➢ **Clinical expertise** encompasses "the **proficiency** and **judgment** that individual **clinicians acquire** through clinical experience and clinical practice.**

➢ **EBP** incorporates not only the **perspective of the clinician** but also the perspectives of the **patient.**

➢ **Benchmarking** is a major factor in the **establishment of** evidence-based practices.

COMPONENTS:
1. Clinical practice
2. Current best practice
3. Clinical perspective
4. Research evidence

The initial step is to clearly identify the practice problem:

❑ **Identify the practice problem, issue, or clinical area of concern for which the evidence is sought**.

The development of a PICO or PICOT question guides the search for the research evidence.
- The "**P**" stands for population, **problem**, situation.
- The "**I**" stands for **Intervention** or issue.
- The "**C**" stands for **comparison**.
- The "**O**" stands for **outcome**.
- The "**T**" stands for **time**.

An example of a PICO question could be: P = pneumonia patients in the ER; I = early initiation of antibiotics; C = Using the process as it is now; O = quicker recovery for the patient.

Next step:

❖ **The strength of the evidence is determined by:**

ranking the evidence based on the type of research, the highest being systematic reviews or meta-analysis of randomized studies and the lowest being expert opinion.

➢ **This includes asking questions such as:**

1. how rigorous and reliable is the evidence?
2. What is the magnitude of the effect of this evidence?
3. How precise is the evidence of effects?
4. What evidence is there of side benefits or side effects?
5. What is the financial cost of applying or not applying the evidence?
6. is the evidence relevant to the particular situation that it is to be applied or not ?

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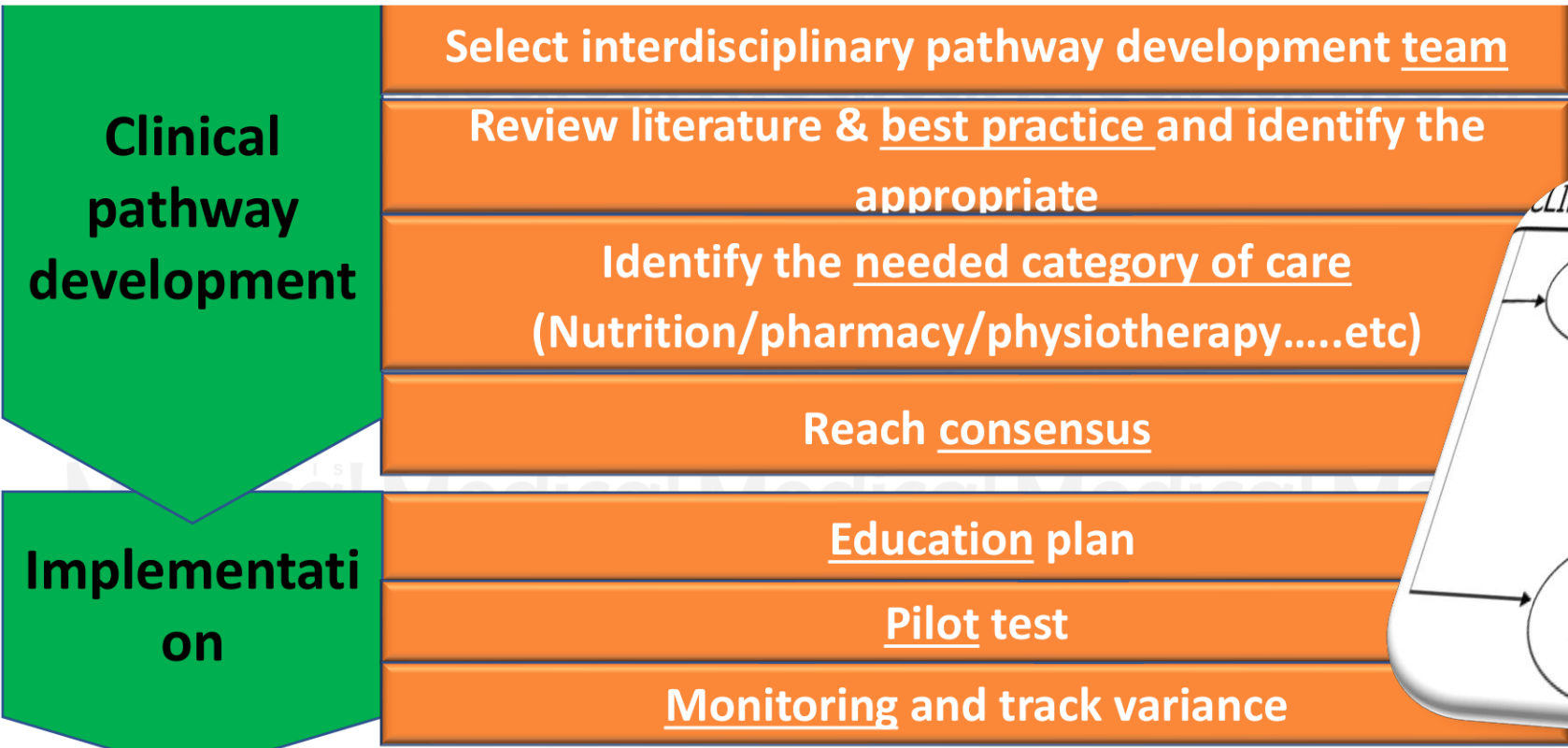K P I S
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Clinical Pathway

➢ A clinical pathway is **a PROSPECTIVE** **patient management strategy** and tool describing **the timing of key events** in the process of care for a given diagnosis or condition that the healthcare team determines are most likely to **result in positive outcomes**.

➢ Clinical pathway serve as **a patient management plan** **NOT** **a standard of care**

PATIENT PATHWAY
Enter your sub headline here

1. Evaluation | 2. Care | 3. Outcome

Ambulance — Hand Over — Resuscitation — Severe Injury — Stay in Hospital

Walk-In — Triage Nurse — You will be cared for in order of priority — Short Treatment — Minor Injury — Discharged

NOTES

The nurse will assess your condition

HOSPITAL
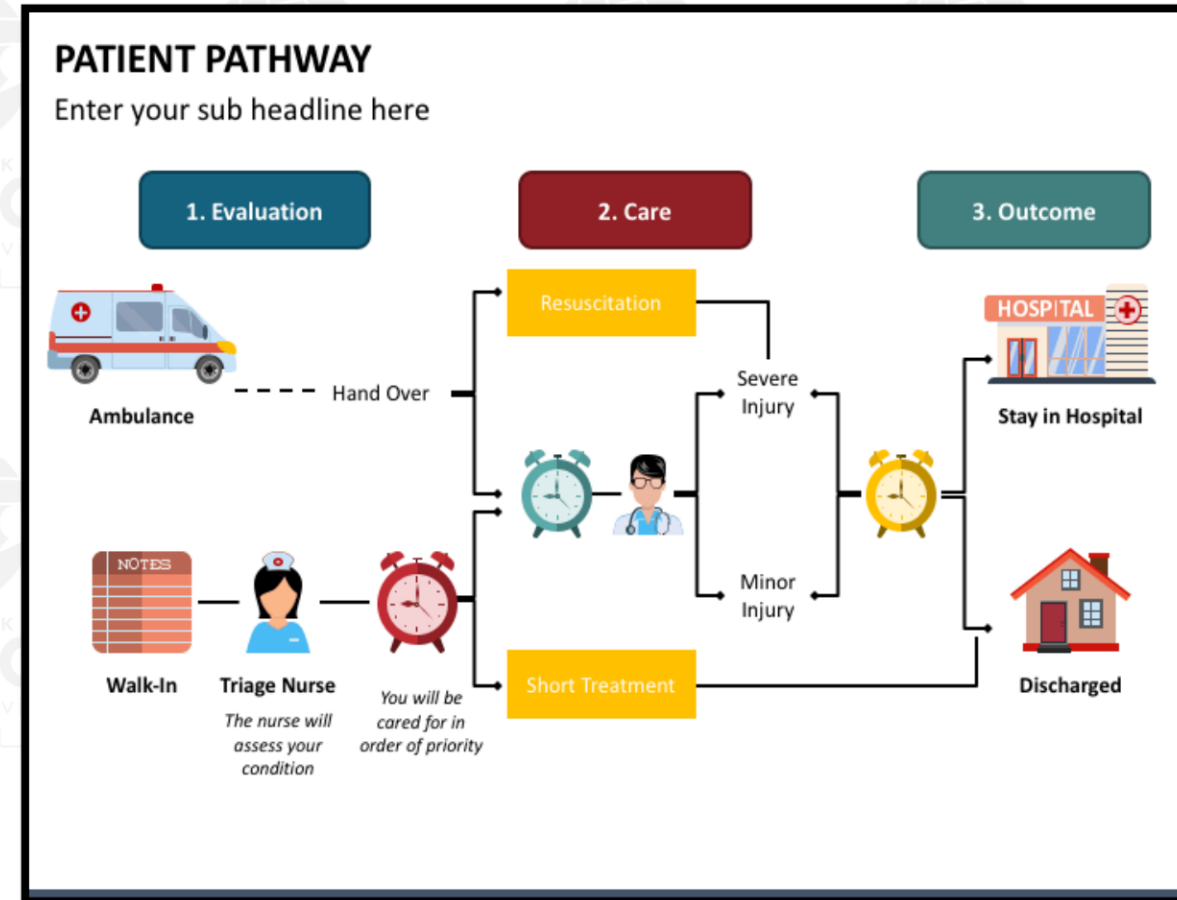
To develop an effective clinical path system, the focus, diagnoses, procedures, and/or conditions must be identified, ideally by organization leaders, based on accurate, in-depth analysis of available data. The percentage of the patient population to be included must be defined with patient groups selected based on high volume, high cost, high risk, or problem-prone data. In addition, leaders should seek to identify those diagnoses, procedures, and conditions that have wide variability in processes (management by opinion, not standard) and clearly need a new process designed to bring the clinical system under control. Not all diagnoses require a clinical

Clinical pathway development

- Select interdisciplinary pathway development team
- Review literature & best practice and identify the appropriate
- Identify the needed category of care (Nutrition/pharmacy/physiotherapy…..etc)
- Reach consensus

Implementation

- Education plan
- Pilot test
- Monitoring and track variance

CLINICAL PATHWAY

SERVICE → QUALITY → QUALITY IMPROVEMENT

COST → COST CONTAINMENT

SOFTWARE/APPLICATION

ALGORITHM

Clinical practice guidelines and pathway

Healthcare Complexity

Specifications
of care/ processes to decrease the variations

Clinical / Critical Pathways

based on the **best scientific evidence of effectiveness** combined with expert opinion They describe **"typical" treatment for "typical" patients** and provide a framework for discussing patterns of care for cohorts of patients

Clinical guideline	Clinical pathway
Make **specific recommendation** on healthcare and link these to research evidence.	**Structure multidisciplinary** plan of care designed to support implementation of guideline and protocols , based on Q/cost (total cost of care).
Consensus statement developed to help practitioner to take decision related to specific clinical circumstances	**Prospective** management plan provide **sequence timing** of action
Come from **many sources** (Evidence based practices)	**Decrease variation**

A Performance Database:

❖ **Standardized** data elements and definitions and **validated** data accuracy and completeness, **provides the capability for statistical** analysis, aggregation, display, and trending of measures/indicators **over time.**

❖ The data required to **success in specific business area**

❖ The data required to **get the job done**

❖ This data base should be **where individual go first to** determine if there is **predetermined indicators and other information that can** be utilized rather than creating new indicators
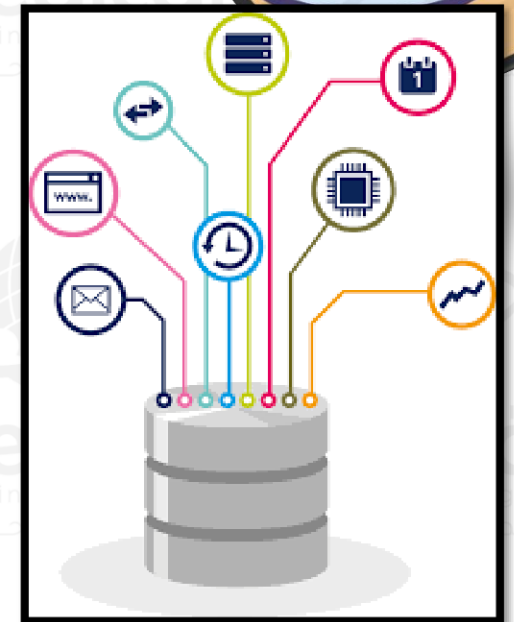
Performance Measures/Indicators/Metrics :

❑ **Points** of **reference** for **evaluating** the organization's **actual performance** and **comparing** that performance **with** a **targeted** objective or a standard.

❑ **Well-defined** and **constructed** performance measures are predictors of the organization's ability to achieve strategic goals.

❑ **They are measurement tools** to assess the degree to which the appropriate and expected *course of action* (process) is *being followed*, and the degree to which the *expected outcome is being met*, for clinical, resource and service functions.

DONABEDIAN PARADIGM

➢ **It is causal relationship between structure, process and outcome.**

Structure
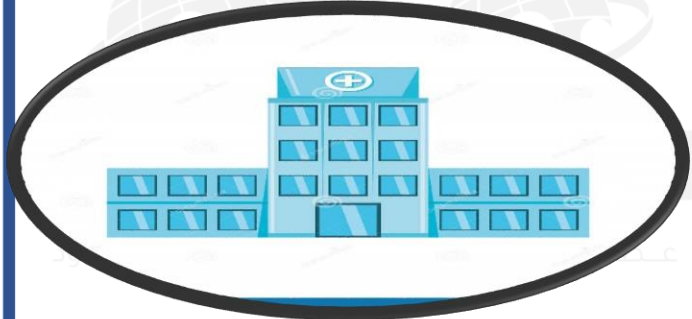
Is the arrangement of **parts** or **elements** of the Care **system** that facilitate care. It is the evidence **of organization's capacity** to provide care to patients. **e.g.** resources, staff number, staff qualifications,
medical record, settings of care, organizational
chart, and accreditation status

Process
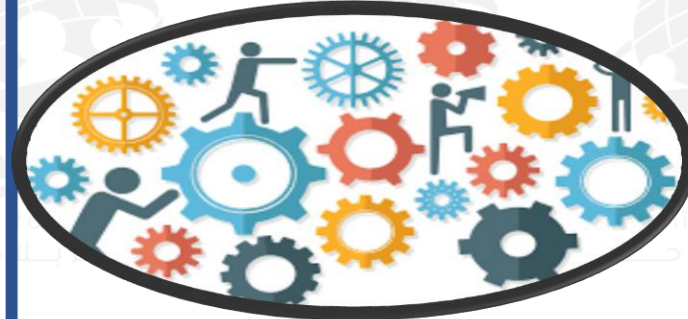
Refer to the **procedure**, **methods**, means, or sequences of **steps** of providing or delivering care and producing outcomes.

refer to **activities** that act on an "input" from "suppliers" to produce an output for a customer

Outcome

The **results** of care whether adverse or beneficial, or it is the **product** of the process.
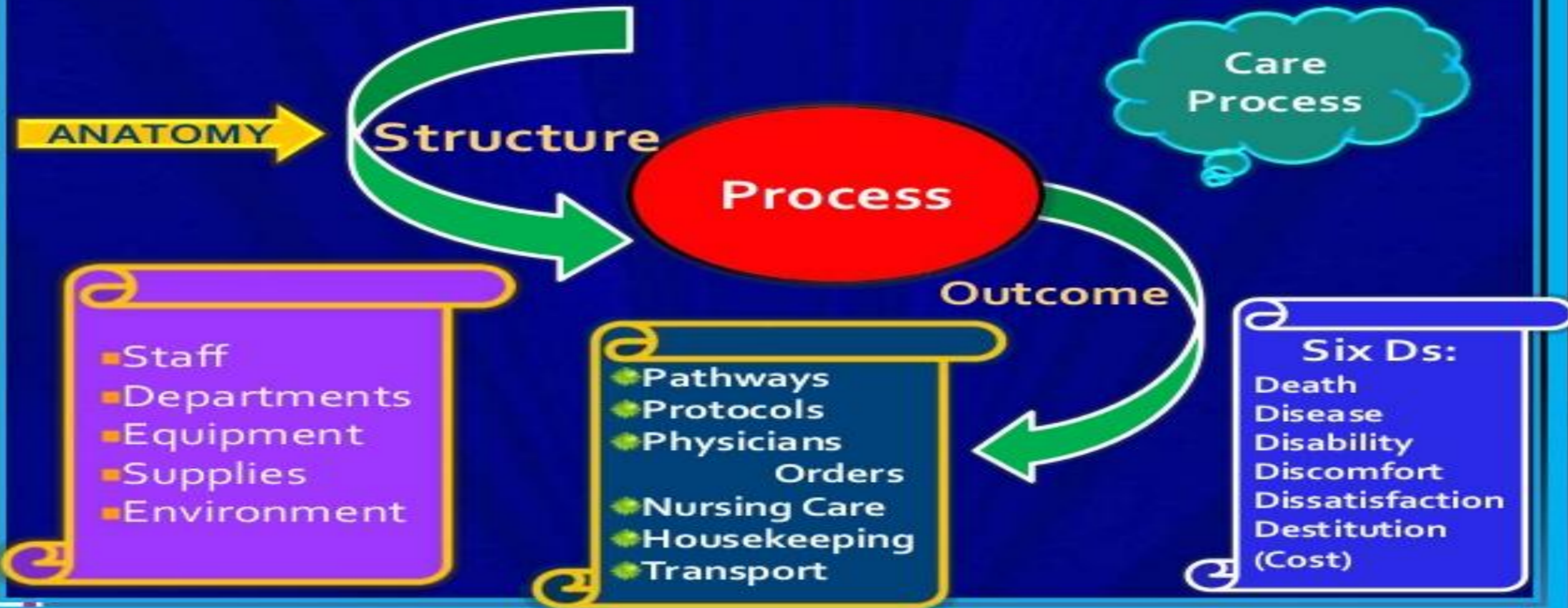
1-Process

Clinical processes

what **practitioners do** for patients and what **patients do in response** (sequence of diagnostic and therapeutic interventions) .
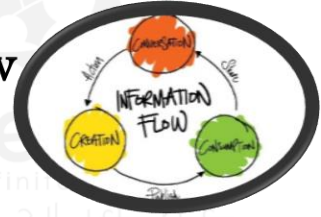
Care delivery processes

The **support activities** utilized by practitioners and all suppliers of care and care products to get the product to the patient.

Administrative processes

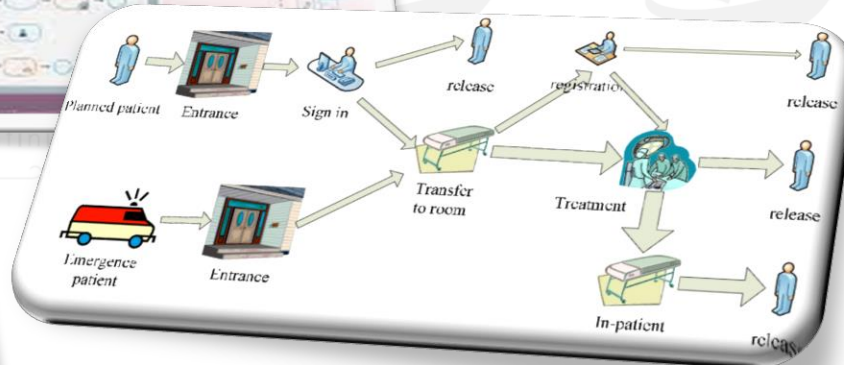The **activities performed** in the **governance** and **management systems** of the organization

▪ Types of process:

1. Patient flow
2. Information flow
3. Material flow

▪**Factors affect the degree to which healthcare services achieve desired outcome:**

1. **Disease process & severity.**
2. **Care process.**
3. **Patient compliance.**
4. **Random & unidentified variables.**

"Process variation"

Any change or deviation in form, condition, appearance, extent, etc., from the usual state or assumed standard either in the whole process or in a step of the process.

Special (assignable & extrinsic) cause variation	Common (random & intrinsic) cause variation
Extrinsic of the usual process. Related to Identifiable factors can be tracked to root cause. Refer to sentinel event, unique, one-time occurrences, out of the ordinary circumstances, outliers & tails. More easy to identified & resolved. May be positive or negative. **Response**: root cause analysis (RCA).	Intrinsic (predictable) to the process itself. Related to situations within process, chronic, noise & inliers. More time consuming, more difficult. **Response**: no focus, monitoring, process redesign & improvement (aim to reduce variation).

Process Reliability

▪DEF.:

probability that each step of the process will occur when, where, and how it needs to occur

▪failure-free operation over time.

▪Reliability Rate (PR): the probability of success in HC (delivering desired outcome) by measuring compliance with performance measures (KPIs).

Example

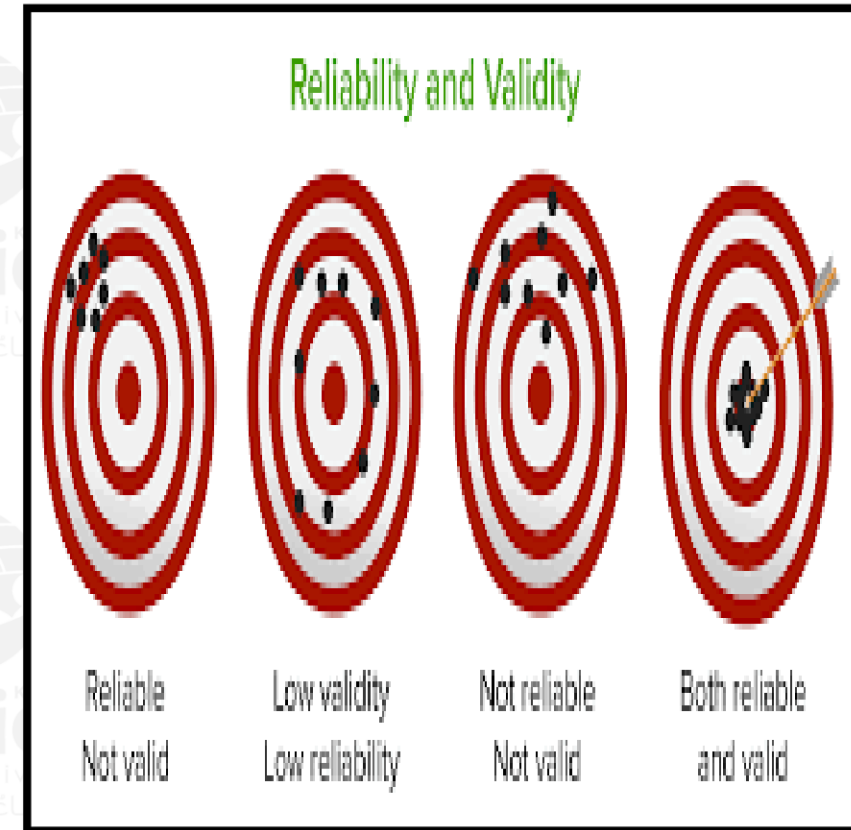medication administration process consisted from 4 steps (((Step1 (99%) step 2 (95%) step 3 (90%) & step 4 (95%)))))

PR= 0.99*0.95*0.90*0.95= 80% (20% probability of failure)
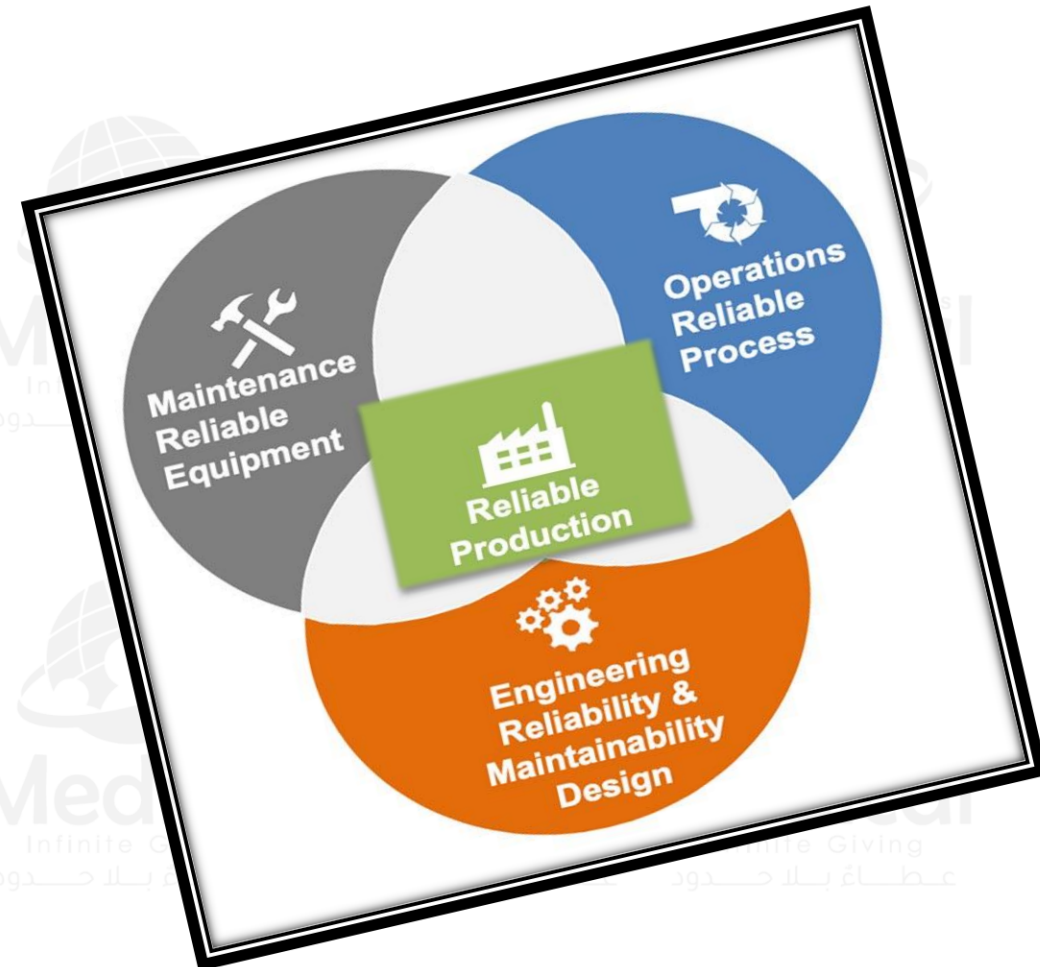
❑ **The indicator must be feasible and have reliability, validity and relevant.**

❑ **The same definition must be utilized by everyone who is measuring the process or outcome.**

❑ **Reliability: is the degree to which the measure accurately and repeatedly identifies the event or fact from among all cases in the group or cohort.**

❑ **Validity: is the degree to which the measure identifies all appropriate events or facts.**

❑ **Sentinel event: unacceptable event in healthcare setting resulting in death or serious physical and psychological injury to patient.**

(not related to the natural course of illness)

Reliability and Validity

| Reliable Not valid | Low validity Low reliability | Not reliable Not valid | Both reliable and valid |

How to improve process reliability?

1) <u>Reduce the number of steps (lean):</u>

Medication administration process in 3 steps
PR= 0.99*0.95*0.95= 90% (10% probability of failure)

2) <u>Improve the reliability of individual steps (redesign process):</u>

Compliance of staff in Medication administration process increase
PR= 0.99*0.95*0.95*0.95= 85% (15% probability of failure)

3) <u>Process Breakthrough improvement:</u>

is any sudden or significant solution to problems that leads to further advances significant improvement or removal of barriers to progress.

RELIABILITY

WHAT IS RELIABILITY?
Reliability is an important aspect of high-quality instruments used to measure academic progress. It is the consistency of a set of scores that are designed to measure the same skills.

Reliability is like using the produce scale at the supermarket

A child and his mother decide to weigh a watermelon on five different produce scales to figure out how much it costs. They want to know the reliability, or consistency, of the scales in providing the same weight for the watermelon.

When reading screeners are administered, there is typically an assumption that the scores are reliable, that they accurately reflect a student's ability and there is little to no error in the scores.

There are many kinds of reliability in reading screeners:

Internal consistency, or how well a set of item scores relate to each other.

Alternate form, or how well two different sets of items in a screener relate to each other.

Test-retest, or how stable two sets of scores are over a fixed period.

Inter-rater, or how two different people observe a behavior and rate it in the same way.

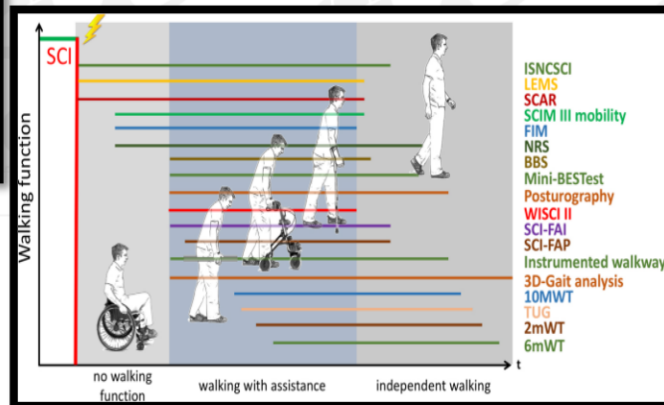الجمعية السعودية للعلاج الطبيعي
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2-outcome

Clinical outcome

Short term results of process (control blood sugar level)

Function outcome

Long term health status
Activities of daily living status (ADL)
Pt progress to meet objectives
(pt. back to normal activities , diet , sport

perceived outcome

Pt & family **satisfaction** and knowledge
Peer accountability
(pt. satisfied with new life style)

Key Points in Indicator Selection/Development:

☐ The **detemination** of specific indicators to utilize is often *driven by* many different needs of the organization.

- What needs to be measured?
- What indicators to utilize?

Can *derive from* regulations, accreditation standards, governing boards and other leader determinations, the organizational strategic plan, current data or by identification of weak areas within the organization .

The process or outcomes to be measured has been **defined** as to specifically what is to be examined.

1. **Choose the indicator**
2. **Define the indicator clearly**
3. **Identify who is responsible and to whom the result will be reported**
4. **Put it into template**

KPI Card

KPI Name	Falls: total # of patient fall				
Department / Unit / Program	Nursing				
Rationale and Description	1) Determine the rates at which hospitalized patients fall 2) Determine the frequency with which patient falls result in injury 3) Explore associations between nurse staffing, nursing assessments performed, interventions used, and falls				
Type (Specify if OTHER)	Outcome	Other, Specify	KPI Level	Clinical	
Priority	☒ High Risk	☐ High Volume	☒ High Cost	☐ Problem Prone	
	☒ Hospital Strategic Priority		☐ Hospital Values		
Measurement Frequency	Quarterly				
Monitoring Requirement(s)	☐ ARAMCO	☒ CBAHI	☒ JCI	☐ Mayo Clinic	☐ McKinsey
Quality Dimension(s)	☐ Appropriateness	☐ Availability	☒ Continuity	☐ Effectiveness	☒ Efficacy
	☐ Efficiency	☐ Respect & Caring	☒ Safety		☐ Timeliness

	Inclusion	Exclusion	Source of Data
Numerator	Total number of falls	Visitors, Students, Staff members Patients on units that are not eligible to report falls, Patients from an eligible reporting unit who were not on the unit at time of the fall (e.g., an inpatient patient who falls in the radiology department is counted as a fall for radiology, not the inpatient unit that sent the patient to radiology)	OVR
Denominator	Total number of patient days	non	Log book
Formula	(Total number of falls / Patient days) X 1,000		
Value Type	Decimal	Data Collection	Retrospective
Sampling Rule	Full Volume	Sample Size (If Applicable)	with every occurrence
Threshold	1	From - To	From - To

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➢ **Patient/client care** outcomes should be selected to monitor **three aspects of care:**

- ✓ Patient/client **health**
- ✓ Patient/client **functioning**
- ✓ Patient/client **satisfaction** and Perception of care.

❖ **Increasingly ,quality management is dependent on the development of outcomes, in order to screen for opportunities to improve care processes and services** .

❖ **when the organization cannot determine an indicator from a measure set that meets the needs of the organization. In these cases, they can be developed by the organization themselves.**

❖ **The indicators are often used to improve quality, for accountability, or for research.**

Accountability: **these indicators require** higher validity and reliability **since they are often used by purchasers, consumers, accreditation entities, and other external quality oversight groups, as well as the organization itself.**

Research: **indicators are used to develop or produce new knowledge about the healthcare system**

Developing indicators:

❑ **The developer must be able to identify and understand the organization functions and key processes that are involved in meeting the stated objectives and strategic goals.**

❑ **In the first step of developing an indicator, the developer must consider the intent of each quality initiative, objective, or process of care or service.**

❑ **The indicator should focus on the expectations for that care or service.**

➢ **POSSIBLE AREA FOR INDICATORS:**

1. **Accessibility, appropriateness, timeliness, efficiency, and continuity of delivery**
2. **Safety and acceptability of care and service**
3. **Patient outcomes (clinical)**
4. **Service outcomes (Non-Clinical)**
5. **Expected clinical judgments and competencies**
6. **Technical skills and performance**
7. **Organizational skills and performance**

The indicator should focus on the expectations for that care or service (scope, objective).

determine if the indicator is to be rate-based or a sentinel event indicator (type).

Indicator Type	Example
Rate-based Indicator: Proportion	$\dfrac{\text{\# of falls with injury this month}}{\text{Total \# Falls this month}}$ $\dfrac{\text{\# pts who brought their medications to clinic}}{\text{Total \# patient seen in the clinic}}$
Rate-based Indicator: Different definition	$\dfrac{\text{\# of patients with falls this month}}{\text{Total \# of patients seen this month}}$
Sentinal Event	# of falls resulting in a head injury

❖ **The rate-based indicator:**
consists of a **numerator and a denominator.**
A rate-based indicator assesses either for
➢ An **event for which a certain proportion** (subset of the population) of the events that occur in a **specified time** period represent expected care, or service.
➢ Assesses for the degree to which an event/outcome occurs with a **different denominator.**

❖ **Sentinel event indicators:**
(100% analysis or 0% acceptability   ) assess
serious or significant events that require further **investigation for each occurrence.**
This type of indicator **does not have** both a numerator and a denominator, but when it happens, an investigation must begin immediately.

Trigger:

❑ Defined as a **stimulus** that **sparks** .notica na setavtica ro

❑ **Performance analysis** should include **comparison** of **actual performance** data **with** a **benchmark**, previous validated data, an aggregated rate over time, or another equally significant "signal ".

    trigger is **not an expected level of compliance** or a "minimum standard."

❑ A trigger should **be set at a level that requires a "must" response**, whether the decision is to **validate** the accuracy of the data, resolve an identified problem, gather more specific information, or simply respond to an opportunity to improve.

❑ Triggers should <u>serve as "red flags"</u>.

Characteristics of Triggers:

1. Stated **as incidence rates** (numerator over denominator)

2. **>0 for sentinel event** indicators.

3. Upper and/or lower **control limits.**

Investment of **organization resources** for **in-depth analysis** must be **weighed against potential for quality improvement** and improved patient satisfaction.

➢ Three **questions should be answered before intensive**, in-depth analysis is begun:

1) Is there or is there not **a problem?**
2) Should **action be taken now** to prevent a problem later?
3) Is there **still an opportunity to improve care** or service, though no special problem has been identified?

❑ **In performance improvement,** dipping above or below outcome control limits can serve as triggers that alert the observer that something intentional needs to be done quickly **to** get the process back into control or stable

❑ **Triggers can also be** derived from authoritative sources supported by expert clinical and quality management **literature or the** organization's own policies, procedures, performance data, or clinical experience and expertise

A trigger should be set at a level that requires a "must" response**, whether the** decision is to validate the accuracy of the data**,** resolve an identified problem**,** gather more specific information**, or** simply respond to an opportunity to improve

Creativity	Innovation
Act of **creating new idea** - imagination	Process **of transform the creative idea** into a new product or service in the market
Can not measure(not quantified)	Can measure(quantified)
Not money consumption	Money consumption
Imaginative	Productive (implementation

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CPHQ,CPHRM,LSSBB,TQM,SCRUM Master ,TOT , Team STEPPS master training