Quality Assurance in Healthcare

State Institute of Health & Family Welfare,
Jaipur

Quality ?

- Subjective
- Different meaning to different people
- Context dictated by situation
  - » Need
  - » Resources
  - » Availability
  - » Purchasing Power
  - » Individual Perception
  - » Expectation

Quality

Perspective among different Stakeholders

- **Client:**
  - **Relief from the ailment**
  - **Service & Treatment with compassion**
- **Provider:**
  - **Offering state of the art-- technical care**
  - **Outcome comparable to known standards**
  - **Protection from legal systems**
- **Program Manager:**
  - **Will quality improvement impact utilization?**
  - **If yes, does the investment justify the return ?**

Quality in Health

More than 100 definitions

- ✓**The Professional Perspective**

  The proper performance (according to standards) of interventions that are-

  - ✓safe,
  - ✓Affordable, and
  - ✓Affect mortality, morbidity, disability, and malnutrition. (Roemer and Aguilar, WHO, 1988)

- ✓**The Managerial Perspective**
  - ✓Doing the right thing right, right away, right time (Deming)
- ✓**The Client's Perspective**
  - ✓The ability and capacity of healthcare to satisfy the client's needs

Quality ?

- "Degree to which a set of inherent characteristic fulfills requirements"
- “Quality is a set of attributes of a service”
- Quality is “conformance to the norms of Input, Process and Output”
- Quality is “conformance to the requirements and Customer Satisfaction”

Some Common Questions

- Is quality intangible and difficult to measure ?
- Are quality concepts applicable to Service industry ?
- Is quality improvement feasible in public sector?

Quality of Care

- What is Quality?
- Why Quality?
- Can it be measured?
- How can we do assessment?

Myths of Quality

- Luxury,
- Costly - not affordable
- Intangible - not measurable
- Problems - due to workers
- Originates from Q. Dept.

Challenges that Quality Poses to Health System

- Complex systems – clinical standards not enough
- Capacity to manage these complexities
- Cultural and organizational challenges
- Competing power structures

Why Quality?

- Uniformity in Process -Standards and Norms –Reduce Error, Reduce waste , Reduce Cost
- **Accreditation**
- Legal issues –consumer protection
- Increased motivation, this is what satisfies people
- Right thing to do (Hippocratic oath)

Why Quality?

- Performance measurement
- Satisfaction-utilization-economy of scales – cost effectiveness
- Increases the health status
- Poor quality can do harm
- Social and economic benefits

Types of Quality

- Expected
- Perceived
- Actual

Perspectives of Quality

- User's or Client's
- Provider's
- Manager's

The Client Perspective

- *"Quality service?*
  - Neither I ask nor do I expect too much
  - I simply do not want to wait indefinitely.
  - Yes, if there are some emergencies in between, I might wait
  - But then please keep me informed on that.
  - It should reflect that my Doctor is paying attention, I do not expect an hour from him

"Patients don't care how much you know until they know how much you care"

The Client Perspective

- "Services and activities that meet the needs of clients in achieving their expectations and outcomes."
  - **Relief from the ailment**
  - **Service & Treatment with compassion**

Determinants of Expectations

- Nature of medical illness.
- Past experience in the same set up.
- Experience at other set up.
- Financial and social standing.
- Level of education.

Patient Needs: Hospitalization v/s Hospitality

Medical

- Doctor
  - Competent
  - Rationality
  - Evidence based decision
- Diagnosis
  - Accuracy
  - Cost
  - Timeliness
- Drugs
  - Safety & Efficacy
  - Cost
  - Availability

Non medical

- Physical facilities
  - Water
  - Sitting
  - Toilets
  - Waiting area
  - Shelter for attendants
  - Food
- Empathy
- Communication
- Documentation

The Provider Perspective

"Services and activities which meet the needs of clients, need to be-

- Medically safe
- Professionally ethical, and
- Accessible, & acceptable to all."
- **Offering state of the art-- technical care**
- **Outcome comparable to known standards**
- **Protection from legal systems**

*If you are **interested** in something, you do it **when you have time.***

*If you are **committed** to something, **you make time** to do it.*

Managers Perspective

Doing the right thing right, right away, right time

"Services and activities that meet the needs of clients and program goals need to be-

- Safe
- Satisfying
- Affordable
- Accessible
- Delivered in a technically competent manner within the socio-cultural context of the country."

Concepts in Quality

What to Expect from Healthcare?

Fundamentally, delivery of healthcare should be:

- Safe
- Effective
- Patient- Centered
- Timely
- Efficient
- Accessible
- Equitable &
- Consistent with Good Outcomes

Dimensions of Quality

Safety

Examples:

- The use of protective gears
- Safe disposal of needles
- Barrier nursing
- Isolation?
- Display - fire and emergency exit routes
- Anti-skid floors
- Lighting

Safety

WHO Solution to Patient Safety

- Look-Alike, Sound-Alike Medication Names
- Patient Identification
- Communication During Patient Handovers
- Performance of Correct Procedure at Correct Body Site
- Control of Concentrated Electrolyte Solutions
- Assuring Medication Accuracy at Transitions in Care
- Avoiding Catheter and Tubing Misconnections
- Single Use of Injection Devices
- Improved Hand Hygiene to Prevent Health Care-Associated Infections

Safety

The degree to which the risks of injury, infection or other harmful sentinel/adverse outcomes, near miss effects are minimized.

Improving Patient safety means……

Reducing Medical Errors……

DO NO HARM……

Improve the Safety of Using Medications.

- **Goal:** Improve the safety of using medications.
- **Requirement:** Identify and, at a minimum, annually review a list of look-alike/sound-alike drugs used by the organization, and take action to prevent errors involving the interchange of these drugs.

Applies to: Ambulatory Care, Behavioral Health Care, Critical Access Hospital, Home Care, Hospital, Long Term Care, Office-Based Surgery

Medication Safety

- **Requirement:**

  Reduce the likelihood of patient harm associated with the use of anticoagulation therapy.

- **Label all medications**

  Medication containers (for example, syringes, medicine cups, basins), or other solutions on and off the sterile field.

  Applies to: Ambulatory Care, Critical Access Hospital, Hospital, Office-Based Surgery

New for 2008

Medication Safety

- Develop policies and /or procedures to address
  - The location
  - Labeling
  - Storage of concentrated electrolytes.

- Remove the Conc. Electrolytes to avoid inadvertent administration from patients care area, including, but not limited to, the followings:
  - Potassium Chloride
  - Potassium Phosphate
  - Sodium Chloride> 0.9%

Competence

- Technical
- Managerial
- Communication

Effectiveness

Ability to attain the greatest improvements in health achievable by the best care

Efficiency

Ability to lower the cost of care without decreasing attainable improvements in health.

Acceptability

Conformity to the wishes, desires and expectations of patients and responsible members of their families.

Patient Identification

- **Requirement**: Use at least two patient identifiers when providing care, treatment or services at:
  - Giving medications
  - Giving blood and blood products
  - Taking blood samples
  - Taking other samples for clinical testing
  - Providing treatment or procedure

Patient's room can not be used as an identifiers

Applies to: Ambulatory Care, Assisted Living, Behavioral Health Care, Critical Access Hospital, Disease-Specific Care, Home Care, Hospital, Lab, Long Term Care, Office-Based Surgery

Patient Identification

- **Requirement**: Prior to the start of any invasive procedure, conduct a final verification process, (such as a “time out,”) to confirm the correct patient, procedure and site, using active—not passive—communication techniques.

Applies to: Assisted Living, Home Care, Lab, Long Term Care

Patient Identification

- Information for two identifiers include Name ID No. Birth date, address
- Different identifiers can be used in different settings
- If patient can speak and wrist band is available, use the 2 identifiers on wristband
- For unidentifiable patients, use Patient X until identification made and follow hospital Policies & Procedures for these patients, if present
- Documents collaboration efforts in the development of policy

Access:

- **Access**- Services at the right place and right time irrespective of income, culture, geography

Examples:

- *Ramps*
- *Availability of staff*
- *Services to the entire population regardless of ….*
- *Outreach services*

Appropriateness

- Services designed around needs of client groups and skills and knowledge to provide services

Effectiveness

The degree to which desired results (outcomes) of care are achieved

Examples:

- HIV patient – ART
- prolonged second stage labor - c-section;
- a pregnant woman - in Malaria endemic area - presumptive treatment
- persistent fever - blood smear to confirm

Efficiency of Service Delivery

The ratio of the outputs of services to the associated costs of producing those services.

Examples:

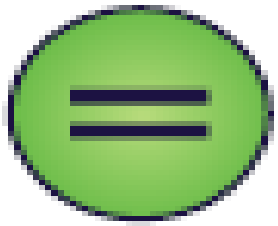
- Bulk processing in the lab
- Growth monitoring clubbed with routine immunization (MCHN Day)
- Sufficient instruments reducing frequency of sterilization
- Use of FEFO (first expiry, first out) – wastage and expiry

Basic Premise of Quality of Services

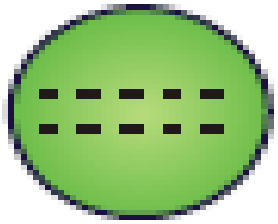
- Improved Service Quality
- Increased Client Satisfaction
- Increased Loyalty
- Increased Utilization of Services
- Increased Revenue
- Increased Cure Rate
- Improved Health (Reduced Morbidity & Mortality)

Goals of Quality Improvement

Doing the right thing
(evidence based care)



For every patient
(equal care)



Every time
(consistent care)

Principles of Improving Quality

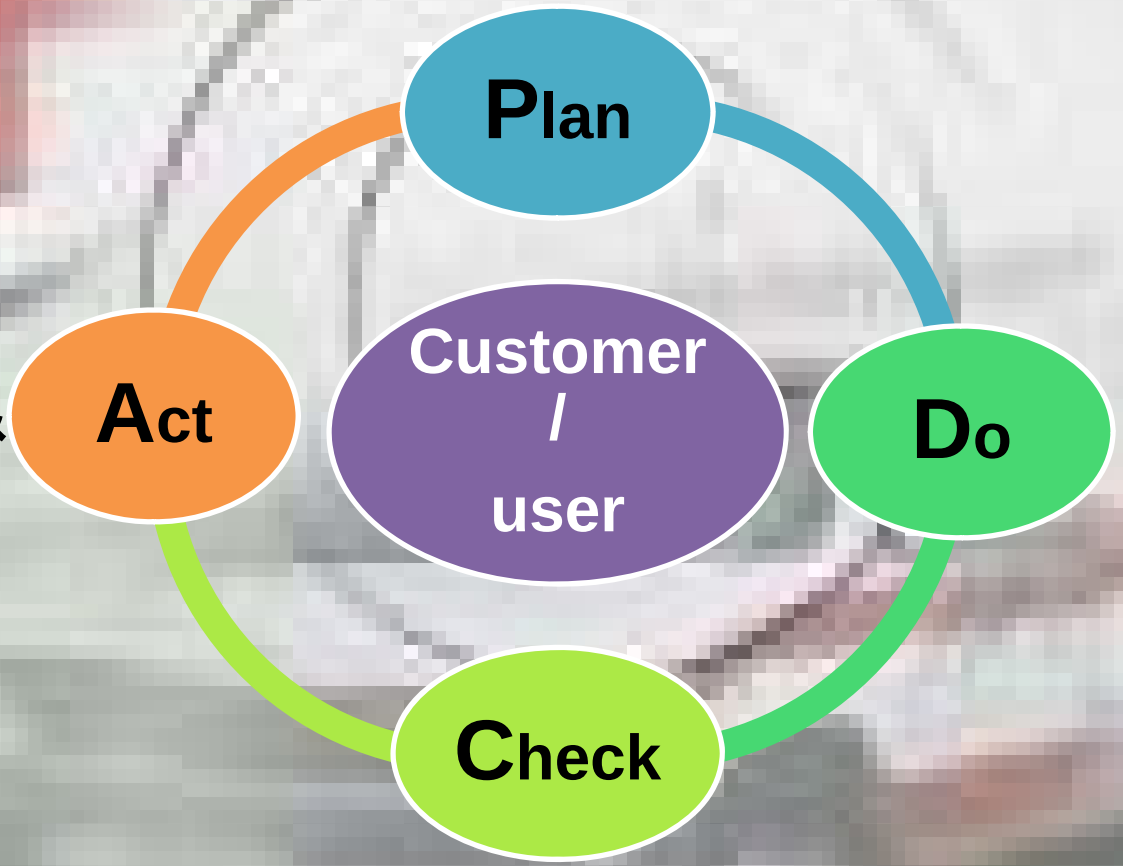
- Transparency – sharing information
- Ethical practice – professionalism
- Evidence-based practice – science
- Top-down and bottom-up – balance
- From blame to improvement – culture
- Accountability – everybody's business
- Information sharing and communication - brings sustainability

Strategies for Improvement

- Empowering consumers
- Professional development
- Institutional development
- Management development
- Clinical practice development

PDCA of Quality Cycle (Deming Cycle)

Develop/revise: standards/goals

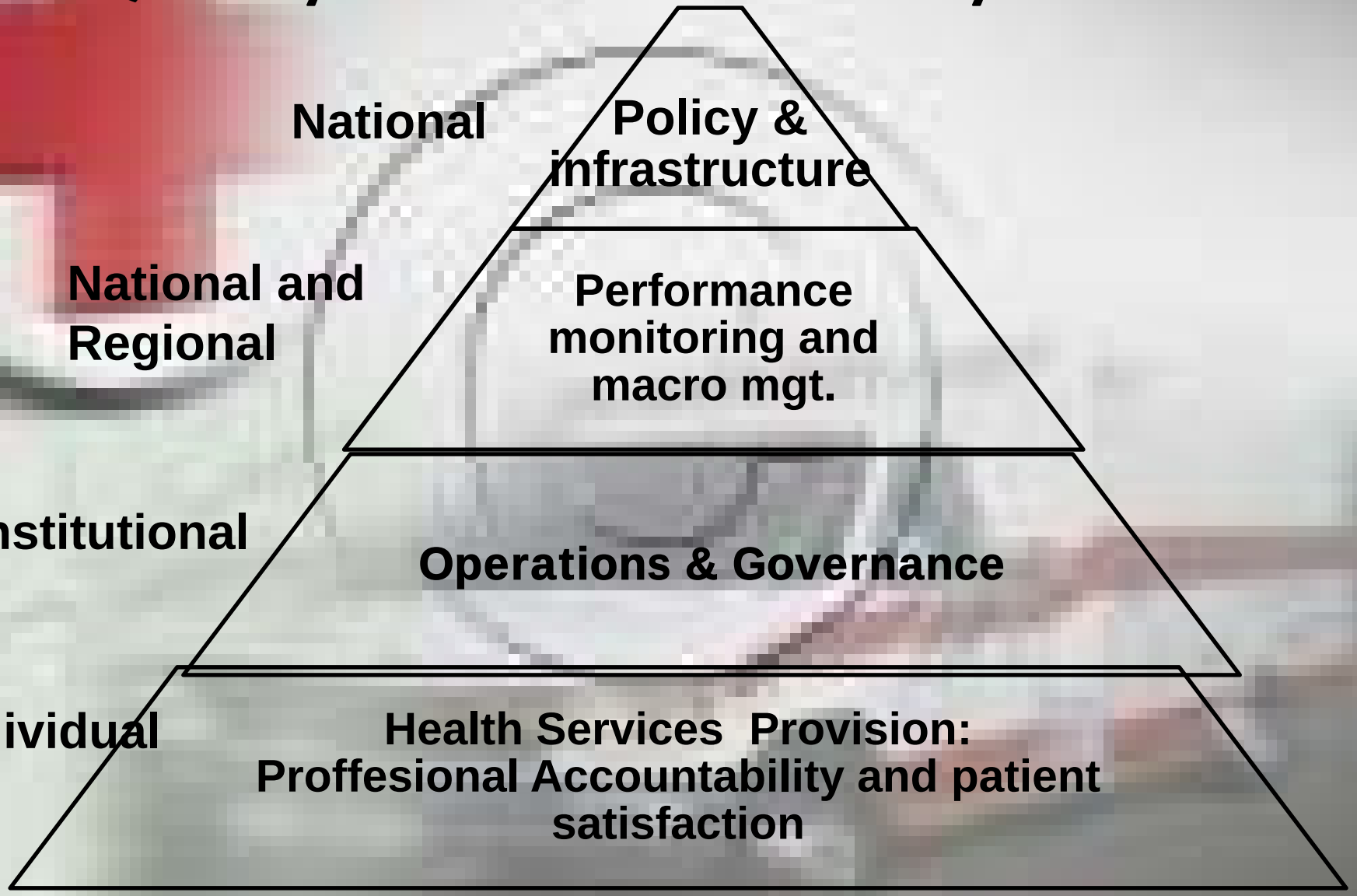


Review & improve

Implement

Evaluate

Quality – Services and Systems



Three Measures of Quality (Donobedian's Model)

Structures & Inputs	✓ Human and physical resources ✓ Equipments/supplies ✓ Organizational settings
Processes & Outputs	All processes and activities required to be undertaken to deliver medical/health care,--- timeliness, readiness standards, behavior, management.
Outputs & Outcomes	✓ Results of care processes ✓ Impact on morbidity , mortality & quality of life ✓ Patient's satisfaction levels

How Can Quality be Assured

- Define
  - Standards
  - Norms
  - Guidelines
- Measure
  - Variations
- Improve
  - Compliance with norms

Approach?

The Paradigm Shift in Quality

- From we know best what is good for you

  To customer orientation,

- From finished product evaluation

  To continuous improvement,

- From inspection and control

  To self assessment.

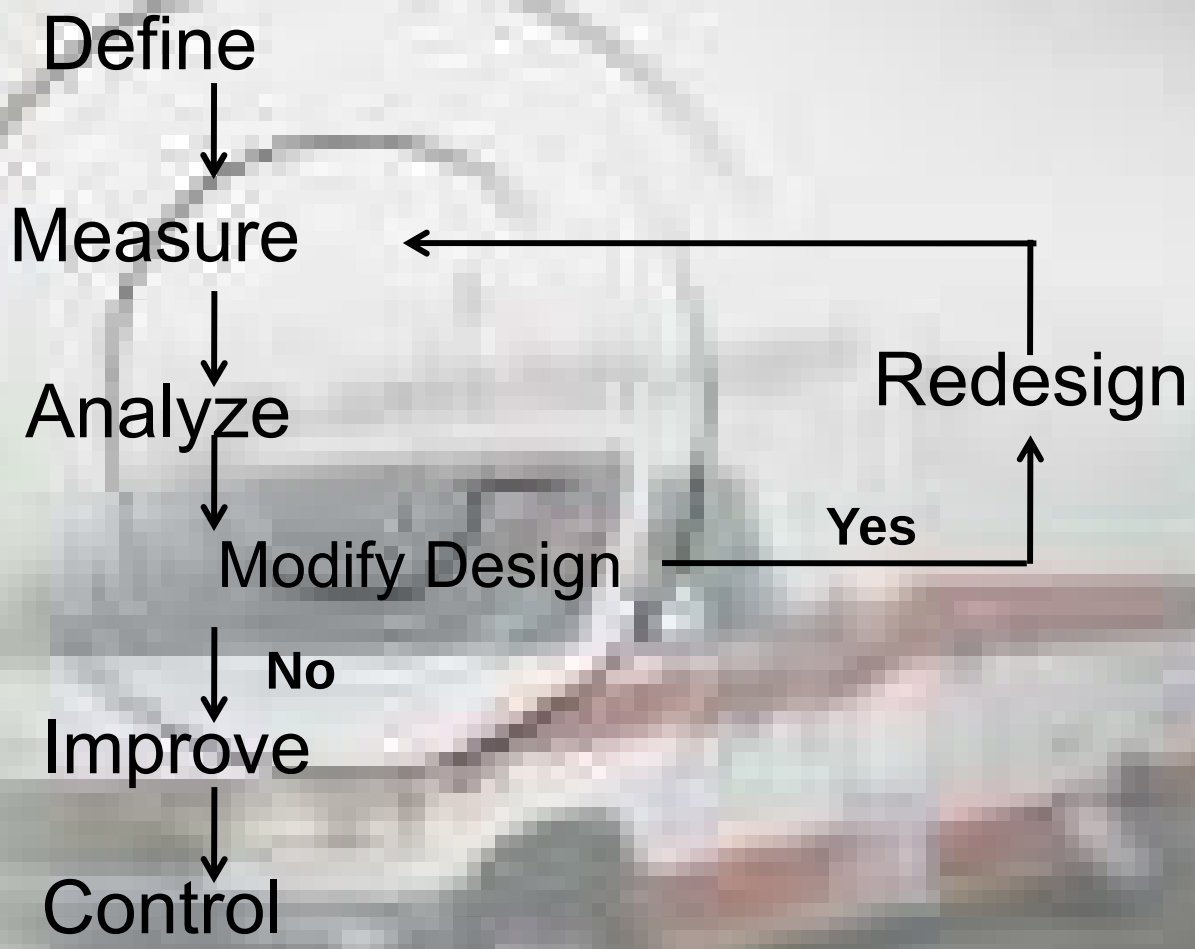
Improving Quality: Approaches

- Traditional
  - Norms
  - Trainings
  - Aids
- Quality Assurance
  - Team work
  - Process analysis
  - Data Monitoring
- Collaborative
  - Change process
  - Sharing experience
  - Competition
  - Best practices

Quality Improvement Aspects

- Rationalization of service norms – infrastructure, equipment, manpower
- Monitoring and Performance evaluation
- Housekeeping/ 'hotel' functions
- Behavior change of service providers
- Quality enhancement of processes
- Certification & Accreditation

Improving Quality: Six Sigma Approach



Indicator – Judges Correctness of the Process

- Diagnosis and treatment is a process
- It has its input and output judged by indicator
- Process has its owner
- It should have a certain procedure with the possibility of an individual decision making
- Minimal standard level of the diagnosis and treatment- not defined

Key Processes/Sub Processes (ISO 9001:2000) Focused on Quality of Care and Indicators

- **Measurement, monitoring and improvement**
  - Monitoring and measuring of provided health care outcomes
    - Customer satisfaction
    - Internal audit
    - Monitoring and measurement of process
    - Monitoring and measurement of product (provided health care outcome)
    - Control of nonconforming quality of health status

- Validation of data/quality indicators and indicators of conformity in relation to achieved results and progress of health all over the world
- Improvement
    - Continual improvement
    - Corrective action
    - Preventive action

Criteria for Good Quality Indicators

- The overall importance of the aspects of quality being measured
    - Burden of disease
    - Effectiveness of the intervention
- The scientific soundness of the measures
- The feasibility of collecting data on the indicators

Some Indicators of Quality

- Waiting Time (not > 30 mts.)
- No. of dehydration deaths in Diarrhea
- No. of IPD admissions(not > 10 % OPD)
- No. of cases with Hb. > 10 gm% given blood
- No. of repeat X-rays (not >10 %)
- No of enteric cases developing enteric ulcers

Some Indicators of Quality

- No. of LAMA cases
- Average Length Of Stay
- No. of cases developing abscess after injection
- Surgeries postponed
- No. of new born where birth wt. not recorded
- Dropouts between DPT_1 & DPT_3

Determinants of Customer Satisfaction

- Basic,
- Performance,
- Delight.

Determinants of Customer Satisfaction

- **Basic Factors. (Dissatisfiers, Must have.)**
  - Cause dissatisfaction if they are not fulfilled, (Doctor not there, Lab. not functional)
  - But do not cause customer satisfaction if they are fulfilled (or are exceeded).(Staff in uniform, signage)

Determinants of Customer Satisfaction

- **Excitement Factors. (Satisfiers, Attractive)**
  - Increase customer satisfaction if Delivered (clean facilities, reduced wait time)
  - Do not cause dissatisfaction if they are not delivered.

Determinants of Customer Satisfaction

- **Performance Factors.**
  - Cause satisfaction if the performance is high, (low infection rate, home visits for ANC)
  - Cause dissatisfaction if the performance is low.
  - Directly connected to customers' explicit needs and desires

Determinants of Customer Satisfaction

- **Indifferent attributes.**
  - The customer does not care about this feature. (RO water, horticulture)
- **Questionable attributes.**
  - It is unclear whether this attribute is expected by the customer.(escort presence)
- **Reverse attributes.**
  - The reverse of this product feature was expected by the customer. (surgery in time)

Improve Communication

- **Goal:** Improve the effectiveness of communication among caregivers.
- **Requirement:** For verbal or telephone orders or for telephonic reporting of critical test results, verify the complete order or test result by having the person receiving the information record and "read-back" the complete order or test result.

Applies to: Ambulatory Care, Assisted Living, Behavioral Health Care, Critical Access Hospital, Disease-Specific Care, Home Care, Hospital, Lab, Long Term Care, Office-Based Surgery

Improve Communication

- Ensure that there is collaborative process to determine what critical results are
  - Clinical Laboratories
  - Bedside Testing
  - Imaging Studies
  - Electrocardiogram
  - Pulmonary Function Testing
  - Other

Compliance Solutions

- Discourage verbal orders unless absolutely necessary e.g. Emergency
- Repeat name and drug dosage to the prescriber and request or provide spelling
- Spell out numbers e.g. “One-six” for 16.
- Avoid using abbreviations e.g. mg tid
- Sign, date and time the order
- Use a page marker so that physicians can sign
- No voice orders. What about SMS?
- Don’t allow the verbal orders for high-risk medications

Compliance Solutions

- Develop a process or checklist to verify
  - all documents in place
  - equipment for surgery – available, correct and functioning
- Mark the precise site for surgery. Use a clearly understood mark, involve the patients
- Final verification process (Time-out) at location of procedure, just before starting the procedure.
- Involve the entire operating team and use active communication.

Health Care-Associated Infections

- **Goal**: Reduce the risk of health care-associated infections.
- **Requirement:** Comply with current WHO Hand Hygiene Guidelines or Centers for Disease Control and Prevention (CDC) hand hygiene guidelines.

Applies to: Ambulatory Care, Assisted Living, Behavioral Health Care, Critical Access Hospital, Disease-Specific Care, Home Care, Hospital, Lab, Long Term Care, Office-Based Surgery

Expanded for 2008

Health Care-Associated Infections

- **Requirement:** Manage as sentinel events all identified cases of unanticipated death or major permanent loss of function associated with a health care-associated infection.

Applies to: Ambulatory Care, Assisted Living, Behavioral Health Care, Critical Access Hospital, Disease-Specific Care, Home Care, Hospital, Lab, Long Term Care, Office-Based Surgery

Reconcile Medications

- **Goal:** Accurately and completely reconcile medications across the continuum of care.

- **Requirement:** There is a process for comparing the patient's current medications with those ordered for the patient while under the care of the organization.

  Applies to: Ambulatory Care, Assisted Living, Behavioral Health Care, Critical Access Hospital, Disease-Specific Care, Home Care, Hospital, Long Term Care, Office-Based Surgery

Reconcile Medications

- **Requirement:** A complete list of the patient's medications is communicated to the next provider of service when a patient is referred or transferred to another setting, service, practitioner or level of care within or outside the organization. The complete list of medications is also provided to the patient on discharge from the facility.

Applies to: Ambulatory Care, Assisted Living, Behavioral Health Care, Critical Access Hospital, Disease-Specific Care, Home Care, Hospital, Long Term Care, Office-Based Surgery

Ensure Correct-Site, Correct Procedure, Correct Surgery

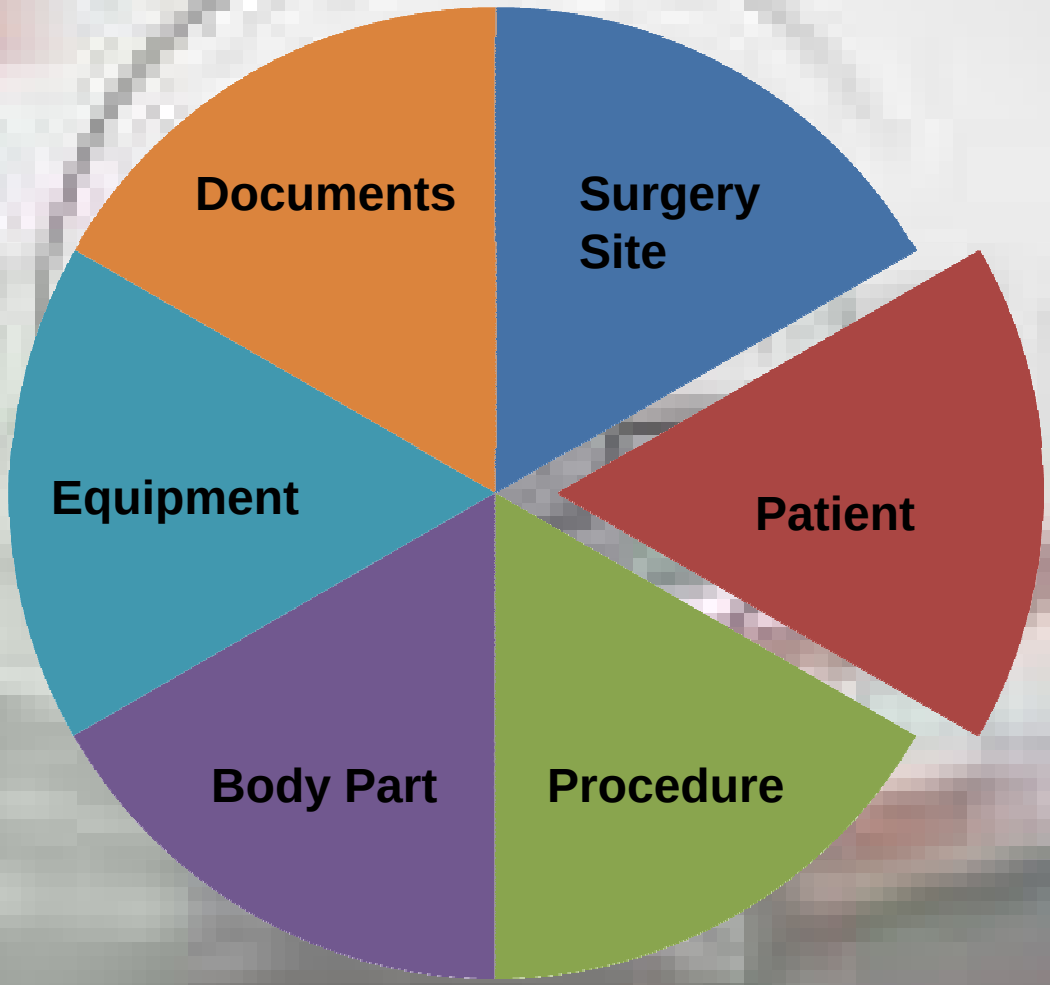
- Collaborative process used to develop policy and procedure
- **Mark the precise site** in clearly understood way and involve patient in doing this
- Develop process or **Checklist** to verify correct documents and functioning equipment
- Use a checklist including **"Time-out"** just before surgical procedure

Risk Factors for Wrong-site Surgery

- Emergency cases
- More than one surgeon involved in the case
- Multiple procedures conducted on the same patient during one trip to the operating room
- Unusual time pressures related to an unusual start time or pressure to speed up the preoperative procedures, often involving staff –perceived time pressures
- Unusual equipment or setup in the operating room
- Change from the scheduled operating room

Universal Protocol

Correct



Reduce the Risk of Patient Harm Resulting from Falls

- Develop PP using collaborative process
- **Assess** and periodically **Reassess** each patient's risk for falling, including the potential risk associated with the patient's medication regime
- **Take action** to decrease or eliminate any identified risks.

Applies to: Assisted Living, Critical Access Hospital, Disease-Specific Care, Home Care, Hospital, Long Term Care

Compliance Solutions

- Program should include an assessment process, risk reduction strategies, transfer protocols, in-services, involvement of patients /families in education, and evaluation of the hospital's environmental issues
- Use a reliable and valid instrument to predict and identify prone-to-fall patients.
- Identify some of the drugs/drug classes that are more frequently associated with and increased risk for falling

Compliance Solutions

- Use the transfer protocol from a wheelchair, chart, stretcher or bed.
- Consider the environment of care by
    - Making sure the patients' needed objects are accessible at all times,
    - Improving lighting
    - Controlling noise, and
    - Moving higher risk patients closer to the nurses' station

Compliance Solutions

- Provide visual reminders
  - Colored ID band,
  - Identifiers on the doors or beds
- Communicate a patient's fall risk to the patient and family and remind patients to call for assistance before
  - Getting out of bed or
  - Getting up from a chair

Surgical Fires

- **Goal:** Reduce the risk of surgical fires.
- **Requirement:** Educate staff, including operating licensed independent practitioners and anesthesia providers, on how to control heat sources and manage fuels with enough time for patient preparation, and establish guidelines to minimize oxygen concentration under drapes.

Applies to: Ambulatory Care, Office-Based Surgery

Patient Involvement

- **Goal:** Encourage patients' active involvement in their own care as a patient safety strategy.
- **Requirement:** Define and communicate the means for patients and their families to report concerns about safety and encourage them to do so.

Applies to: Ambulatory Care, Assisted Living, Behavioral Health Care, Critical Access Hospital, Disease-Specific Care, Home Care, Hospital, Lab, Long Term Care, Office-Based Surgery

Risk Assessment

- **Goal:** The organization identifies safety risks inherent in its patient population.
- **Requirement:** The organization identifies patients at risk for suicide.

Applies to: Behavioral Health Care, Hospital (applicable to psychiatric hospitals and patients being treated for emotional or behavioral disorders in general hospitals)

Risk Assessment

- **Requirement:** The organization identifies risks associated with long-term oxygen therapy such as home fires.

Applies to: Home Care

Changes in Patient Condition

- **Goal:** Improve recognition and response to changes in a patient's condition.
- **Requirement:** The organization selects a suitable method that enables health care staff members to directly request additional assistance from a specially trained individual(s) when the patient's condition appears to be worsening.

Applies to: Critical Access Hospital

Universal Protocol for Preventing Wrong-site, person, procedure

Requirement:

- Use a pre-op verification process, such as a checklist, to confirm appropriate documents are available.
- Implement a process to mark the surgical site and involve the patient in the process.
- Prior to the start of any surgical or invasive procedure, conduct a final “time out” verification to confirm the correct patient, procedure, and site.

QA Scorecard

Quality Indicators	Benchmark	Last Qtr	July '08	August' 08
Medication Errors /1000 pt days			ME-Project.ppt	Good
Falls/ 1000 pt days		Fall Rate.ppt	Alarming	
Bed Sores/ 1000 pt days			Pressure Sore.ppt	
UTI/1000 Catheter days (GICU)				
BSI/ 1000 Central line days (MICU)				
VAP/1000 ventilator days (MICU)			Watch out	
SSI/ 100 discharges				

Adverse Event Scorecard

S.No	Types	July '09	June '09	May'09
1)	**Sentinel Events**			
	1. Patient death due to fall 2. Patient death due medication errors			
2)	**Adverse Events**			
	Incorrect Device Insertion			
	Patient injury due to hot Fermentation			
3)	**Near Misses**			
	Wrong Patient Identification before Blood Transfusion			
	Broken Glass Piece in Patient Juice			
	Wrong Requisitions for Blood			
	Accidental Drain Removal			
	Medication error			

Quality Improvement in Healthcare – some examples

Helping Patients Find Their Way

- A receptionist observed –
  - A patient confused about where to go,
  - Asked if patient needed help and
  - Discovered that the patient could not locate the place to have blood drawn.
  - Woman not able to read displayed signs or the signs may have been unclear.
  - Patient might need some assistance in finding the clinic.

- **Solutions**
  - Giving the woman directions,
  - To call someone over to assist her - this could take too much time.
  - To walk with the patient to the clinic, as it was nearby and another receptionist was in the office.

- **Result**
  - Patient pleasantly surprised by the courtesy and friendliness of the receptionist and thanked her.
  - Verified that this was where the patient needed to be and then returned to her work.
- **Outcome**
  - Non-medical addressed
  - Client satisfied

- **Lesson learnt**
  - Form a team to address this issue and prevent it from occurring again.
  - Code each clinical area with a color.
  - Colored directional lines along the wall
  - Individual health workers were able to identify opportunities for improvement, take initial steps, and pull a team of people together
  - Observant staff members can identify & fix the problem
  - Improvement might seem small; its effects can be far reaching.
  - Satisfied client might be more inclined to revisit the facility and encourage others to do so (increased utilization)

How do We Track Quality Assurance in Healthcare?

Tracking…..

- Regulation
- Certification
- Accreditation & Credentialing
- Grading / Rating
- Quality Awards
- ……. and others???

Regulation

- A legal restriction
- Mandated by the government or state
- Attempts to produce outcomes
    - Control market entries
    - Prices, wages, pollutions,
    - Employment for certain people in certain industries
    - Standards of production
- Non-compliance / Non-conformance leads to cancellation of operational eligibility

…registration of hospital or functional services under different laws / acts

Certification

- Designation earned by a person / organization to perform a job or task
- Renewed periodically,
- Valid for a specific period of time
- Qualifies for certain level of proficiency
- Can be provided by
  - Body formed / mandated by regulatory mechanism
  - Professional society / body

Accreditation & Credentialing

- Accreditation a process in which
  - Certification of competency, authority, or credibility
  - Assessment by Independent agency
- Credentialing refers to
  - A type of designation, award, status, recognition, or "seal of approval"
  - Refers to individuals or organizations

…provides a visible commitment towards improving quality of patient care ensuring a safe environment and reducing risk to staff in healthcare setting

Why Accreditation

- Better Control of Operations (because operations are documented)
- Improves staff confidence and evaluate business
- Reliability of test
- Insurance companies can rely on test
- Ensure better support in legal cases
- Provide traceability

Grading / Rating

- Is evaluation or assessment of something, in terms of quality (as with a critic rating a novel), quantity (as with an athlete being rated by his or her statistics), or some combination of both
- Grading / Rating is also a voluntary process wherein an organization opts for comparative evaluation of its services

…assumes voluntary & comparative evaluation against laid down parameters & vis-à-vis peers

Quality Awards

- Recommendation on appraisal / evaluation for high degree of consistent & sustained performance over a period of time or range including quality improvement initiatives in a particular sector / domain
- Instituted by professional societies / bodies and / or independent entities

…certification of hospital or functional services under different provisions

Reliability Notation

- 10 to the power minus 1 = One defect in Ten Tries (90%)
- 10 to the power minus 2 = One defect in One Hundred Tries (99%)
- 10 to the power minus 3 = One Defect in One Thousand Tries(99.9%)

As a Patient What Quality Levels Would You Accept From Your Health Services?

90%

95%

96%

98%

99%

99.9%

Happy at 99.9% ?

- 22,000 cheques are deducted from the wrong bank account every day
- 16,000 mails are lost by the postal service every hour
- 2,000 unsafe airplane landings are made every day
- 2 major airplane accidents per week

If 99.9% is Acceptable to You, Then…

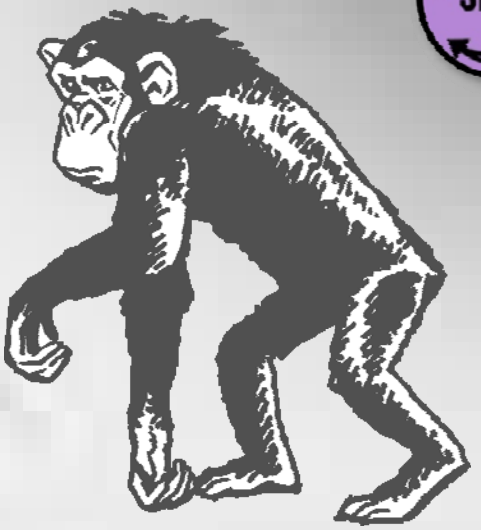
- Your heart fails To beat 32,000 Times each year

- 20,000 wrong Drug prescriptions Made every year

- 500 surgical Operations are performed wrongly Every week

- 19,000 babies are dropped by doctors At birth

Well .....



" There is only a 1 %

Difference in the DNA

Genetic code between a

chimpanzee and a

Human being"

- In our profession there is no scope for error,

  For any error committed ,Is all the difference between

  Life and death

  between

  relief and Disability

- There is no second chance

Then…

Thank You

For more details log on to
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