MEASURING & MANAGING QUALITY OF HEALTH CARE

Training Module
PROMOTING QUALITY

Editors

Maimunah A. Hamid   **A. F. Al-Assaf**
Haniza Mohd. Anuar   **Low Lee Lan**

Measuring & Managing Quality of Health Care

Training Module Promoting Quality

Editors

Maimunah A. Hamid
A.F. Al-Assaf
Haniza Mohd. Anuar
Low Lee Lan

Institute for Health Systems Research
Ministry of Health Malaysia

2004

Measuring and Managing Quality of Health Care has the following modules:

Training Module: Promoting Quality

Training Module: Implementing Quality and Improving Performance

Training Module: Managing Performance

Training Module: Training of Trainers for Quality Assurance

Dedication

To all
who have unselfishly dedicated,
sacrificed and committed,
time, resources and themselves,
to improving the quality of life of others.

Contributors

A.F. Al- Assaf, MD, MPH, CQA
University of Oklahoma, USA

Azian Abdul Aziz, MBChB, MPH
Institute for Health Systems Research
Ministry of Health, Malaysia

Geeta Supramaniam, MBBS
Institute for Health Systems Research
Ministry of Health, Malaysia

Haniza Mohd. Anuar, BSc (Hons) Life Sc, Dip.
Transl., Post. Grad. Dip. Mgmt. Sc, M.Sc. Mgmt
Institute for Health Systems Research
Ministry of Health, Malaysia

Kalsom Maskon, MBBS, MPH
Planning Development Division
Ministry of Health, Malaysia

Low Lee Lan, BSc. Soc (Hons), MA (Med.
Anthropology)
Institute for Health Systems Research
Ministry of Health, Malaysia

Maimunah A. Hamid, MBChB, MPH, CHQ
Institute for Health Systems Research
Ministry of Health, Malaysia

Mohammad Omar, MD, MPH
State Health Department of Terengganu
Ministry of Health, Malaysia

Norbayati Nordin, SRN, Dip. Edu
Institute for Health Systems Research
Ministry of Health, Malaysia

Nordin Saleh, MD, MPH
Institute for Health Systems Research
Ministry of Health, Malaysia

PAA Mohamad Nazir Abdul Rahman, MBBS,
MHA
Section on Quality in Healthcare
Medical Development Division,
Ministry of Health, Malaysia

Rozaini Mohd. Zain, MD, MPH
Institute for Health Systems Research
Ministry of Health, Malaysia

SS Rameshwaran a/l Sittampalam, RSH
Institute for Health Systems Research
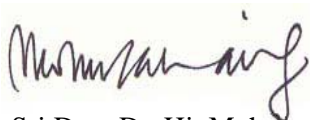Ministry of Health, Malaysia

Foreword

The challenge for today's health workers is to meet the public expectation of quality care and services. The demand for quality and the attention paid to its value are becoming a more and more dominant sign of the times.

In line with the Government's *Vision 2020*, the Ministry of Health is placing the importance of quality in health care as a national agenda. Through its *Vision for Health*, the Ministry is committed towards attaining a health system that is affordable, efficient, technologically appropriate, environmentally adaptable and consumer friendly with emphasis on quality, innovation, health promotion and respect for human dignity.

In order to achieve the above, there is a need to institutionalize and internalize quality within health care organizations. I sincerely believe that only when such a quality culture has been inculcated within the health workforce, will we be able to measure our degree of success.

This set of training modules has been developed to facilitate the process of institutionalizing and internalizing quality. The strength of these modules lies in their generic nature that provides an excellent platform for all health related sectors; thus benefiting not only those within the Ministry of Health but all those involved in the health industry in general.

I would like to congratulate the National Quality Assurance Secretariat for taking the lead in making the effort to produce the modules. Special thanks also to the World Health Organization for making some funds available. Last but not least, I sincerely thank all those who have sacrificed their time and effort as authors and editors, for their invaluable contributions towards making these modules a reality.

Tan Sri Datu Dr. Hj. Mohamad Taha bin Arif
Director-General of Health Malaysia
Ministry of Health Malaysia

2004

Foreword

The publication of this set of four training modules by the National Quality Assurance Secretariat is another milestone for the Ministry of Health in its ongoing efforts to institutionalize and internalize quality for its workforce.

Based on the accumulated experiences and expertise of individuals involved in quality assurance both at operational and national program levels over the past two decades, these modules have been developed with the concerns of the various users' perspective in mind – *manager, service provider* and *trainer*. As such, depending on the module objectives, they vary in their approach, depth and technical content. The module on *Promoting Quality* for example is aimed at introducing or marketing Quality Assurance (QA), and thus does not dwell beyond introducing the concepts and benefits of QA.

Despite its variation in approach and technical contents, and to ensure that quality has not been compromised, all modules have undergone detailed scrutiny by Dr. A. F. Al-Assaf, an internationally well-renowned figure and authority in QA from the College of Public Health, University of Oklahoma.

I would like to take this opportunity to thank all chapter contributors in making these modules a success. My thanks are also extended to the World Health Organization for making some funds available to support this effort and the National QA Secretariat for their tireless efforts in compiling the various works.

For all the resources and efforts that have been put into producing these modules, it is my sincere hope that they will be maximally used to improve the capacity and capability of persons involved in QA activities at all levels, not only within the Ministry of Health but also beyond.

Datuk Dr Hj Mohd Ismail Merican
Deputy Director-General of Health
(Research and Technical Support)
Ministry of Health Malaysia

2004

Preface

Measuring and managing quality in health care is becoming the core business of all involved in health care, be it at the stewardship, provider or consumer levels. Only through measuring quality of care can improvement be managed, as eloquently stated by Peter Drucker "If you can't measure it, you can't manage it".

If quality assurance (QA) is to have an impact on improving health and health care, it is necessary that materials to be used as references be drawn from personal experiences in training and managing quality assurance as well as those of published authorities. The advantages of formal quality assurance and the benefits of practice have become evident over the years since the initiation of the QA Program within the Ministry of Health, Malaysia in 1985. This documented wealth of experience gained over the years is invaluable and should be shared with all who have interest in improving the quality of their own services.

Cognizant of this, a working group comprising of individuals who have been involved in quality assurance either as national trainers or practitioners at operational level was assembled by the National QA Secretariat of the Ministry of Health, Malaysia, to address the issue. The deliberations and selfless efforts of this dedicated group of individuals have resulted in the development of the following four modules on important aspects pertaining to measuring and managing quality in health care, ranging from its promotion to undertaking and managing QA activities and also in the conduct of QA training:

Training Module: Promoting Quality

This module focuses on the need to promote QA amongst those involved in the health industry. It presents an overview of the general concepts, activities and benefits of undertaking QA activities within the health organization.

Training Module: Implementing Quality and Improving Performance

This module attempts to provide a step-by-step guide to implementing QA activities. Discussions are based on the necessary fundamentals such as planning, implementing and evaluating QA activities. The module will be of interest to those with the desire to operationalize QA in their own organizations.

Training Module: Managing Performance

This module covers a range of issues relating to managing quality. It is written under the assumption that the majority of readers are practicing managers at some level. It also assumes that readers want to supplement their work experience with the understanding of the principles of quality management and how these ideas are currently evolving, so that they will have a breadth of vision to be an effective manager in QA.

Training Module: Training of Trainers for Quality Assurance

Experienced managers and implementers of QA activities are not necessarily experienced teachers. For training in QA to be effective, there is a need for acquiring competence not only in technical contents but also in training approaches. Trainers and facilitators include not only those whose primary responsibility is organizing and conducting training courses but also those who assist the trainers in conducting echo-workshops following their own successful completion of a training program.

These modules are put together with the understanding and realization of the importance and difficulties faced in introducing a quality culture within a health organization. The modules are aimed for a variety of audiences including postgraduate students undertaking the Masters of Public Health Program as well as workers in supervisory positions at mid- and senior management level. The contents are offered in a slide presentation format highlighting important points with notes provided as reference below each slide. Users are encouraged to become familiar with the entire set and to then selectively identify and utilize those modules that are more relevant to their own needs.

As much as we would have liked, the modules could not be judged to be comprehensive. It is intended only as an introduction and as a convenient reference to the subject, not the sole reference. Cross references are made between modules and list of bibliography is provided at the end of each chapter.

We do hope these modules will prove beneficial in helping you measuring and managing quality of health care.

Table of Contents

Chapter 1

Quality in Health Care

A. F. Al-Assaf, MD, MPH, CQA
University of Oklahoma, USA

Learning Objectives

At the end of the chapter, you will be able to:

- explain Quality according to different perspectives

- define what is Quality

- describe why we need Quality

- describe the steps of the Quality Cycle

- describe the different Quality terms

- explain the myths of Quality

- describe the Quality Dimensions

- describe the basic Quality Principles

Contents

What is Quality? (1/5)

Quality is different from different
perspectives...

The answer to this question is really quite simple: "It depends!"
Quality is understood differently by different individuals depending on who do they
represent in the health care system.

Quality from a patient or customer perspective would be related to the type and the
effectiveness of care and probably with more emphasis on amenities (esthetics) such as
friendliness, treated with respect, comfort, cleanliness, and range of services available with
value for money.

The health care professionals or providers on the other hand, would be more concerned
with the scientific process of care, the ability to diagnose and treat a case with little
emphasis on the amenities and less emphasis on the "caring" aspect.

The administrator also has a different perspective on quality where he may think quality is
access, efficiency, relevance, acceptability and effectiveness in delivering the health care
services. Cost is very important to the administrator. Therefore when one has to define
quality, one has to take into account the different perspectives of the audience.

What is Quality? (2/5)

Based on processes, tasks and performance expectation:

"Quality is not an accident, it is the result of high intentions, sincere efforts, intelligent direction and skillful execution"

This is an interesting definition on quality as it relates quality to processes, tasks and performance expectations. This definition was first noted on a Hallmark Card the author received from a friend on the occasion of his promotion. It appropriately describes quality as activities, phenomenon that has to be planned for, aimed at and worked for in order to achieve. It does not happen by accident.

Planning is important to achieve quality. Defining the right objectives, the proper goals and appropriate values are all necessary to get quality. Of course this planning effort should be coupled with sincerity, and dedication to implement this plan and to meet those objectives. But all of that is not complete without looking at the different options and strategies to choose and follow.

Setting priorities and identifying the most important strategy is a task that must be completed to fulfill the promise for quality. This action should be performed with precision and with the skills necessary to implement correctly and effectively.

What is Quality? (3/5)

Based on industrial model:

"Quality is customer-focused, therefore meeting the needs and expectations of the customer is the main objective"

This is the definition of quality that was widely propagated by the industrial model outside health care. It is clearly focused on the users and the persons that receive a service from a supplier.

In health care, the main user is the patient and the receiver is the patient, while the main supplier is the provider (both individual and institutional).

Also, implied in this definition of quality are the steps in achieving quality. Here, one has to identify and prioritize all customers (the vital, the important and the other customers), then a process should take place to measure their expectations and needs. It is therefore the objective of the supplier of health care services to find ways and methods to meet the expectations of their customers and if possible also their needs.

What is Quality? (4/5)

Based on fundamentals of the leadership and management:

"Quality is doing the right thing right the first time and doing it better the next"

This definition is based on the fundamentals of leadership and management. Leaders are expected to do the right thing the first time while managers are expected to do it right. An example in health care would be a physician who is expected to do the right thing, providing care services to the patient by asking the right questions, doing the right investigation and performing the right procedure. But this is not enough if it is not coupled with doing all of that the right way and on the first attempt. If this process is repeated again then the provider should become more experienced thus would be more efficient and more effective progressively, i.e. continuous improvement.

"Quality is doing the right thing right the first time and doing it better the next"

What is Quality? (5/5)

Quality is incremental improvement

Based on the National Roundtable on Health Care Quality, Institute of Medicine Massachusetts:

"Quality of care is the degree to which health services for individuals and population increase the likelihood of desired health outcomes and are consistent with current professional knowledge"

A very simple definition of quality, yet so involved. Incremental means that the system is able to answer the following two questions affirmatively:

Are you better today than yesterday? And.....
Will you be better tomorrow than today?

But answering these questions is not that simple because if you want to be precise then one has to be able to accurately measure one's current, previous and future performance. Therefore, measuring performance is important in quality and as important is the ability to identify what measures and how to measure performance appropriately and adequately.

Therefore, one must have a system for data collection, data analysis and data reporting all of which related to performance of that system. This process should be associated with an ongoing system of continuous monitoring of performance and continuously upgrading its performance.

With the rapid progress in medical technology, the health care services need to keep abreast with current information on medicine, therefore ensuring that health services rendered are continuously upgrading its performance.

Why Quality? (1/3)

- Effectiveness
- Appropriateness and Necessity
- Standardization

- Effectiveness is the ability to meet and achieve the objectives for which you set for yourself. So, if a doctor has an objective to diagnose every case that he/she attends to appropriately, and is able to do so, then he/she is considered to be an *effective* doctor.

- In utilization management (a mechanism for quality), the questions to answer are whether the care and services are provided appropriately (to the right patient and for the right medical condition) and whether these services are necessary (i.e. not over utilized or not underutilized). If a patient needed referral to a specialist then he/she is referred. If the patient is complaining of a medical condition that is easily investigated and diagnosed with simple methods, then heroic and over extended measures are not necessary (i.e. if an x-ray will do, there is no need for a MRI report).

- The benefits of standards are to enhance control over outcome expectations and performance, thus useful in cost containment and budgeting techniques. Standards also establish an environment of similar "language" throughout an organization or a system. Similarly, by having standards, organizations will be able to reduce variations in the delivery and evaluation of services.

Why Quality? (2/3)

- Cost Saving
- Benchmarking
- Accreditation, Certification, etc.
- Reports cards
- Competition
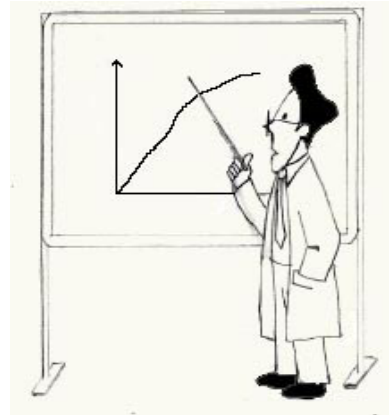
- Quality has an impact on cost. It is widely believed that quality may increase cost but this is true only at the beginning of implementation.

  Therefore, as quality is implemented and improved in an organization, so will the immediate costs of building quality structure. This trend soon levels off at some point in time early in the quality building process and will eventually start to decrease gradually as quality continues to improve. This is due to the fact that quality calls for the elimination of rework, waste and duplication. All of which are causes of additional costs.

- Quality provides a forum and a mechanism for organizations to identify centers of excellence and successful processes and procedures in other organizations and institutions. Once these centers or processes are identified then quality also calls for individuals in organizations to study these centers of excellence or these successful processes and learn how to import them in their own organization. This benchmarking or accreditation, are systems and mechanisms to validate, authenticate and recognize quality activities. These systems promote excellence in organizations and enhance their quality efforts.

- Report Cards are mechanisms or testimonials initiated by organizations to boast their accomplishments and improvement efforts. Consumers are demanding that organizations start issuing report cards of their performance.

- Competition drives the need for quality and at the same time encourages organizations to enhance their improvement activities.

Why Quality? (3/3)

- Professional Satisfaction
- Pressures from the consumers
- Continuous Improvement
- Ethical Considerations

- Every professional, especially health care professionals, strive for doing the best job possible hence the need for quality. They compete for quality and are obsessed to achieve the best outcomes possible.

- Consumers are becoming more and more vigilant about their health and the care they receive. Therefore they are starting to demand the best of care and the best of service. This has put pressure on organizations to enhance their services and achieve quality systems.

- As described earlier, incremental and continuous improvement are characteristics of activities in quality systems and organizations. Thus continuous improvement will forever require organizations and individuals to invest in quality efforts and aim for better outcomes.

- If all of the above did not give enough reasons for why quality should be implemented and continuously aimed for, professionals have an ethical and moral obligation to provide the best possible care and service to their customers. It leads them to do good and to do everything better every time they do it again. It is unethical not to provide quality care and services.

Steps of the Quality Cycle

According to the Quality Cycle above, each of these activities has certain steps to be followed in order to achieve the desired objectives. QA is the process of assuring compliance to specifications, requirements, or standards, and implementing methods for conformance. It includes planning for quality, setting and communicating standards and identifying indicators for performance monitoring and compliance to standards. These standards can come in different forms, for example protocols, guidelines, specifications, etc. QA however is loosing its earlier popularity as it resolves to disciplinary means for standards compliance and therefore blames human error for noncompliance.

Quality Control (QC) on the other hand is defined by NAHQ (1994) as "a management process where actual performance is measured against expected performance, and actions are taken on the difference". QC was originally used in the laboratory where accuracy of test results dictates certain norms and specific (and often) rigid procedures that would not allow for error and discrepancy. Thus, it makes an effort to reduce variations as much as possible. QA and QC are complemented and sometimes overwhelmed by Quality Improvement (QI) efforts and processes.

QI is defined as an organized, structured process that selectively identifies improvement teams to achieve improvements in products or services. Therefore, Total Quality Management (TQM) or quality management in general involves all above three processes QA, QC and QI. It involves processes related to the coordination of activities related to all or any one of the above three as well as the administration and resource allocation of these processes. Quality management (QM) becomes the umbrella under which all processes and activities related to quality falls. QM may also encompass such terms as continuous quality management, total quality management/leadership/improvement.

QUALITY
DESIGN

Step 1: *Plan*

Step 10: *Implement Solution*

Step 2: *Set Standards*

Step 9: *Choose & Design Solution*

Step 3: *Communicate Standards*

Step 8: *Analyze & Study OI*

Step 4: *Monitor*

Step 7: *Identify Who Will Work on OI*

Step 5: *Identify & Prioritize Opportunities for Improvement*

Step 6: *Define OI*

QUALITY
IMPROVEMENT
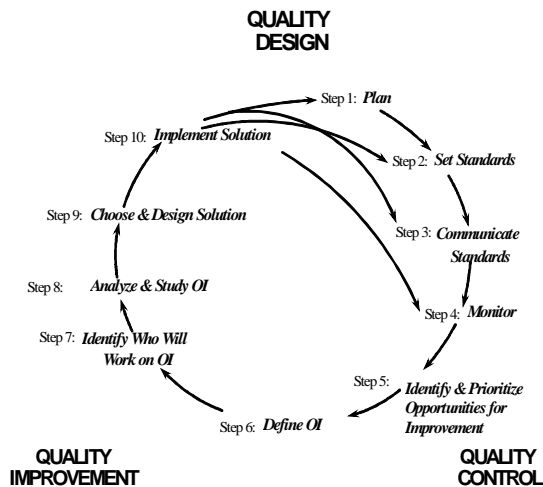
QUALITY
CONTROL

Quality Terminology

- Quality Assurance
- Quality Control/Monitoring
- Quality Improvement
- Continuous Quality Improvement
- Quality Management
- Total Quality Management
- Health Care Quality

- **Quality Assurance (QA)**

  QA refers to all of the processes and activities related to the planning for quality, the setting and communicating of standards, measuring and monitoring compliance to these standards.

- **Quality Control (QC)**

  QC refers to the processes of measuring the difference, if any, between the current performance of an organization and the desired levels of standards.

- **Quality Improvement (QI)**

  QI refers to the processes and activities to reduce variance in performance from the desired standards, thus reducing the gap between current performance thresholds and the desired thresholds.

- **Continuous Quality Improvement (CQI)**

  CQI is an incremental and continuous improvement for the whole organization.

- **Quality Management (QM)**

  QM is the umbrella term that encompasses QA, QI and QC. It is the term applied to all of the processes related to the coordinating and facilitating of quality related activities and tasks in an organization.

- **Total Quality Management (TQM)**

  TQM is a theory and a management method that was first introduced in Japan and involves 5 main principles: system wide, leadership commitment, data driven decision-making, customer focused and teamwork.

- **Health Care Quality (HCQ)**

  HCQ is another term that refers to an organization-wide quality management program and processes.

Myths of Quality

- Quality is luxury
- Quality is intangible
- Unaffordable
- Quality problems originates by the workers
- Quality originates in the quality department

(Peter Drucker)

- If one is asked what is a quality car, the answer almost always does not include a Rolls Royce or a Benz. Usually people will answer a car that is reliable, trouble-free and economical. Therefore, in an organization, an object or a product does not have to be shiny or luxurious to be a quality object.

- Another myth is that quality is not tangible and cannot be measured. Of course it is the opposite. Quality can be measured as long as standards and indicators related to it are identified and monitored. Organizations, products with high compliance standards are described as quality objects.

- Quality is costly is another stereotype that people believe in. Of course quality is not that. Quality may cost extra as one builds the infrastructure to support it but once it is implemented, costs start to level off and eventually start to decline while the level of quality starts to climb. Quality work at reducing or eliminating waste, duplication and rework.

- Problems have been proved to be caused by system error more than human errors. Actually there are studies that suggest 80-85% of problems are system errors not human errors. The rest are errors caused by humans, due to environments that are not supportive of their development and achievements.

- Quality departments must be integrated into the organization. These departments should only be responsible for coordinating, facilitating and promoting quality efforts, but should not be the sole provider of such efforts. If not, people will become dependant on them thus making them the only "Czar" of quality.

Quality Dimensions (1/3)

- Effectiveness
- Efficiency
- Technical Competence

As seen from the above list, both effectiveness and efficiency come at the top of the list stressing the fact that quality can only be achieved if processes are performed appropriately and in a cost conscious environment. Only appropriate and necessary care should be provided. Waste, duplication and re-work should be eliminated. Only most economical ways and most effective ways to provide care should be stressed. In a system of higher demands for quality care coupled with the reality of limited resources, prudent decisions regarding best possible combinations of effective and efficient care are required and expected.

Obviously, providing effective care in an efficient manner requires highly technical skills of health care professionals that would follow the practice of doing the right thing right the first time and doing it better the next. In health care quality, providers and other health care professionals must be well educated and well trained to face the everyday challenges of meeting the needs and expectations of their customers, in particular their patients. Health care is a complex field and without good technical background the chance of a professional survival is weak. Quality must be associated with highly technical capabilities and competencies.

Quality Dimensions (2/3)

● Safety
● Accessibility

With regards to safety, it is again obvious that no one should accept providing nor receiving care in an environment that is unsafe or may be perceived as unsafe. From a risk management standpoint, it is the duty of the health professional to secure a safe environment for his/her patient. Accidents have several consequences, all of which are negative. Unsafe conditions may lead to liability, physical and emotional injury, as well as lose of goodwill and is a detriment on the facility's reputation in the community. Apart from that, an unsafe environment is counter productive as people will spend their time answering to complaints and fending lawsuits. Safety is expected and is a required dimension of quality, especially in health care.

Another important dimension of quality is accessibility. Accessible care is care that is available, acceptable, and affordable. Accessibility includes physical, financial, and intellectual accessibility. The later is extremely important in an environment where there are multiplicity of cultures, beliefs, and educational background as it is the case with the international health care community. Quality care needs to be communicated to the "users" in their own setting and under their own conditions to be truly accessible. Therefore, good communication skills are essential to providing accessible care.

Quality Dimensions (3/3)

- Interpersonal Relationships
- Continuity
- Amenities

Personnel interaction is important to providing quality care. Health care is provided by highly educated and sophistically skilled individuals but these individuals cannot provide a holistic care to the patient without relying on teamwork. Interpersonal relationships therefore play a tremendous role in shaping the processes of care and ensuring a positive outcome to the patient.

Health care quality is a process not a program. A program has a beginning and an end but a process has no end. It is continuous. Another issue with regards to quality is that care should be provided in a continuum. That is to say care should be initiated, rendered, evaluated, improved, and continuously monitored even after the patient is cured of his present illness. Care is extended to include wellness, health promotion and disease prevention. Additionally, care that is started by one provider should be continued and followed by the other provider in cases of transfer to ensure continuity of care. Fragmented care and a disjointed system are not a quality system. Health care quality may never be achieved in such a system.

Finally, it is always more pleasant to have the care provided in an esthetically acceptable environment. A facility that pays attention to the minute details of its customers' comfort and well being is certainly a quality facility. Whether it is cleanliness, decor, or service, health care quality can only be enhanced with such a valuable dimension.

Quality Principles

- Customer Focused
- Teamwork
- System-ness
- Data Driven
- Leadership

Deming (1984) was very sensitive to the issue of leadership commitment. He suggests that without this commitment quality will not succeed. In health care this is partly true. Leadership commitment is still important but not a must for health care quality to succeed. Leaders can facilitate the process thus making it work faster and produce faster results. However, in health care and especially on the international scene, leaders change more frequently and therefore total dependence on their commitment may not be prudent. Starting health care quality even at the staff level may produce positive results that will attract the attention of top leaders thus earning their support actively.

This approach is what we call it the "bottom-up" approach as opposed to the "top-down" approach described by Deming. In other experiences, both approaches might be seen implemented in the same system and this may be is the most applicable. Here we must emphasis the relationship between quality and teamwork, as well as the importance of defining the customer, both internal and external. Health care quality is system oriented. Since systems are comprised of structure, processes and outcomes, health care quality focuses on studying the elements of each of these components and find ways to improve their status collectively. One basic principle of health care quality is that the health care system is interdependent on its parts and elements, and no one part is more important that the other in order to achieve a better outcome to the patient. Therefore all of the system elements need to be taken into consideration when improvements are sought.

The last tenant is that health care quality is driven by data. As described earlier, the processes of QA, QI and QM are based on documented and calculated incremental progress. Therefore without data, quality cannot be measured, and without data, improvements cannot be documented. Health care quality requires training on the effective use of meaningful data, through proper data collection techniques, appropriate data analysis, prudent use of tools and data management protocols. Based on data, improvement opportunities are identified and further tackled. Quality requires certain skills in data management techniques.
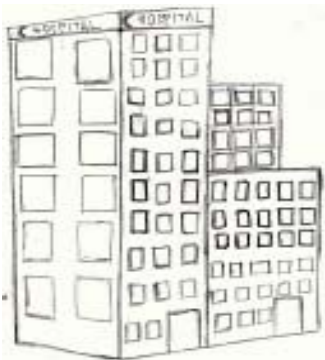
Summary

- Quality Definitions
- Purpose for Quality
- Defined the Main Quality Terms
- Described the Quality Myths

In this chapter we have described the different perspectives of quality to different people namely, the patient or the customer, health care professional and administrator.

We have also defined quality based on various discipline and explained the purpose of implementing quality in an organization. Beside giving the quality terminologies, steps involved in the quality management cycle was also introduced. Lastly, this chapter outlined the quality dimensions followed by describing the elements of quality principles.

Exercise

Identify a "Quality" organization of your choice and describe why it is a Quality Organization

Bibliography

Al-Assaf, A. F., "International Health Care and the Management of Quality" in Quality Management in Nursing and Health Care, Delmar Pub., 1996.

Al-Assaf, A. F., "Quality Improvement in Health Care: An Overview", Journal of the Royal Medical Services, 1994;1(2):44-50.

Al-Assaf, A. F & Schmale J.A. (1993). The Textbook of Total Quality in Health Care. DelRay Beach, FL : St. Lucie Press.

Al-Assaf, A. F. (1998). Managed Care Quality: A Practical Guide. Boca Raton, FL: CRC Press

Benneyan, J C; Kaminsky, F C "Another View on How to Measure Health Care Quality", Quality Progress, 1995;28:120-124.

Berwick, D M "Sounding Board: Continuous Improvement as an Ideal in Health Care", New England Journal of Medicine, 1989;320(1):53-56.

Binns, G S "The relationship among quality, cost, and market share in hospitals", Topics in Health Care Finance, 1991;18(2):21-32.

Blumenfeld, S N "Quality Assurance in Transition", PNG Medical Journal, 1993;36:81-89.

Blumenfeld, S N "Quality Assurance in Transition", PNG Medical Journal, 1993;36:81-89.

Boerstler, H; Foster, R W; O'Connor, E; O'Brien J L; Shortell, S M; Carmen, J M; Hughes, E F X "Implementation of Total Quality Management: Conventional Wisdom versus Reality", Hospital & Health Service Administration 1999;41(2):143-159.

Notes:

Step 1: **Plan**

Step 10: **Implement solution**

Step 2: **Set Standards**

Step 9: **Choose & design solution**

Step 3: **Communicate Standards**

Step 8: **Analyse & Study QI**

Step 4: **Monitor**

Step 7: **Identify Who will work on QI**

Step 5: **Identify & prioritise opportunities for Improvement (QI)**

Step 6: **Define QI**

Chapter 2

The Quality Cycle

A. F. Al-Assaf, MD, MPH, CQA
University Of Oklahoma, USA
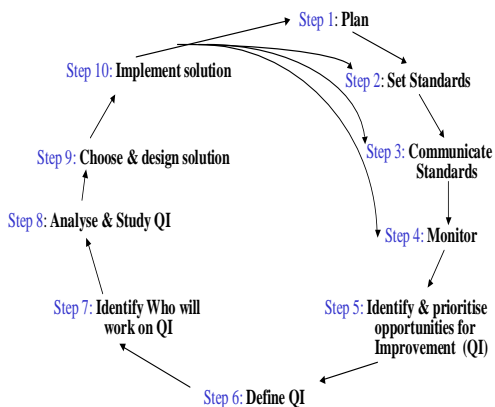
Learning Objectives

At the end of the chapter, you will be able to:

- identify and describe the steps of the Quality Cycle

- apply the steps of the Quality Cycle in a health care setting

- initiate a Quality Program based on the steps of quality cycle

- initiate a Quality Improvement Project in a health care organization

Contents

Steps of the Quality Cycle
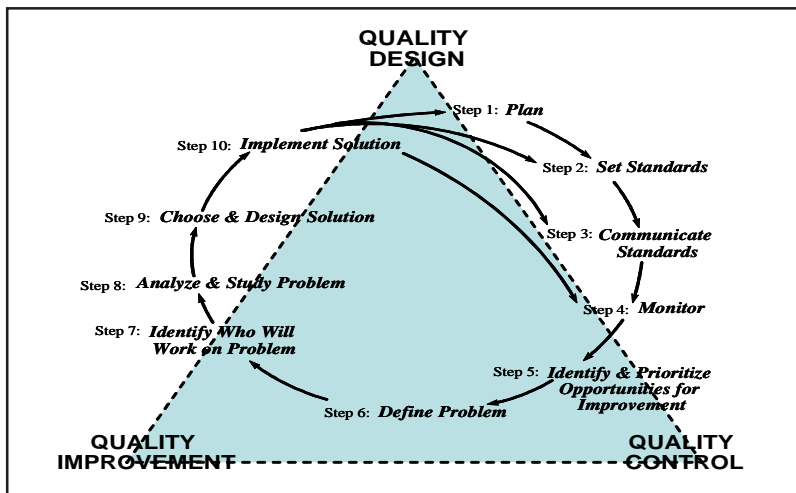
The Quality Cycle shows the steps of implementing quality in a health care organization. This cycle is based on an adapted Juran trilogy. Dr. Juran describes quality activities to be made up of three main components and activities; quality planning or design, quality control and quality improvement. Therefore, this cycle has three main sections; quality assurance involves steps 1-3, quality control involves steps 4 and 5, while quality improvement involves the rest of the steps. Additionally, quality management is considered the umbrella term for all of the steps in the cycle which includes the coordination and facilitation processes to achieve a high level of quality in an organization.

STEP 1

Planning for Quality in Health Care

- Perform needs assessment and measure the current performance status of the system in question.
- Perform an assessment of the performance gaps in the system.
- Establish a planning steering committee.
- Develop the objectives to be achieved.
- Identify areas needing standards and plan the processes for the setting, communication and measuring compliance to the standards.
- Allocate necessary resources (human and physical) to perform these processes.
- Identify the activities needed to perform the processes related to the management of standards.
- Assign responsibilities for each activity.
- Develop the time table for completing the activities.
- Identify the deliverable outcomes in terms of indicators.
- Develop an evaluation plan.

Step 1: **Plan**

Step 10: **Implement solution**

Step 2: **Set Standards**

Step 9: **Choose & design solution**

Step 3: **Communicate Standards**

Step 8: **Analyse & Study QI**

Step 4: **Monitor**

Step 7: **Identify Who will work on QI**

Step 5: **Identify & prioritise opportunities for Improvement (QI)**

Step 6: **Define QI**
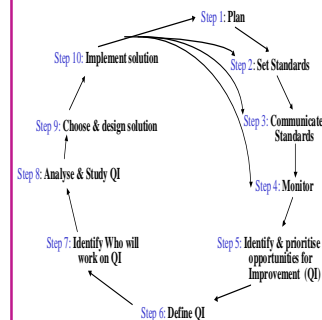
STEP 2

Setting of Health Care Standards

Chapter 2

Method for developing standards:

1. Identify a function or system
   - High volume, high risk, problem-prone, high cost

2. Identify the elements
   - Structure (human and physical resources)
   - Process (activities, procedures, tasks)
   - Outcome (results, impact)

3. Define Quality Characteristics

4. State the Standard

5. Develop the Indicator

6. Set the Threshold

7. Assess appropriateness:
   - Validity (sensitivity and specificity)
   - Reliability
   - Clarity
   - Applicability

Step 1: Plan
Step 10: Implement solution
Step 2: Set Standards
Step 9: Choose & design solution
Step 3: Communicate Standards
Step 8: Analyse & Study QI
Step 4: Monitor
Step 7: Identify Who will work on QI
Step 5: Identify & prioritise opportunities for Improvement (QI)
Step 6: Define QI
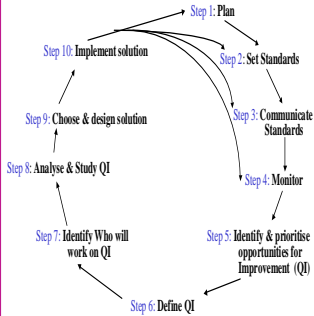
STEP 3

**Communicating Health
Care Standards**

Standards should be actively communicated to the desired audience for its appropriate implementation and compliance. Therefore the following should be followed:

- Develop the communication plan by asking:
  - Who is the audience?
  - What needs to be communicated?
  - What channels and communication methods will be used?
  - What will be the source of communication?
  - How will the communication be sequenced and coordinated?
  - How will feedback be obtained?
  - How will the communication plan be evaluated?

- Deliver the communication process(es).

- Evaluate effectiveness of the communication process:
  - Immediate results
  - Intermediate results (knowledge, attitudes and practice)
  - Remote impact
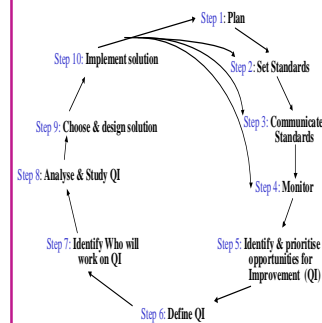
STEP 4

Quality Control and Monitoring of Compliance to Standards

- Collect Data (keep it simple, use sampling, if applicable, summarize for trending and tracking):
  - What will be measured?
  - Who is responsible for collecting the data?
  - When will the data be collected?
  - Where from will the data be collected?
  - How will the data be collected?
  - How much data should be collected?
  - How will the data be recorded?
  - What sampling scheme will be used?
  - Where in the process will the data be collected?

- Analyze Collected Data:
  - Data versus information
  - Are client's requirements being met?
  - Is there a problem?
  - How is variation distributed?
  - How much a problem do we really have?

Step 1: Plan
Step 10: Implement solution
Step 2: Set Standards
Step 9: Choose & design solution
Step 3: Communicate Standards
Step 8: Analyse & Study QI
Step 4: Monitor
Step 7: Identify Who will work on QI
Step 5: Identify & prioritise opportunities for Improvement (QI)
Step 6: Define QI
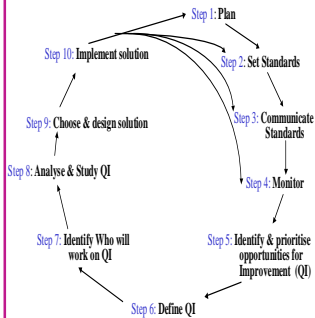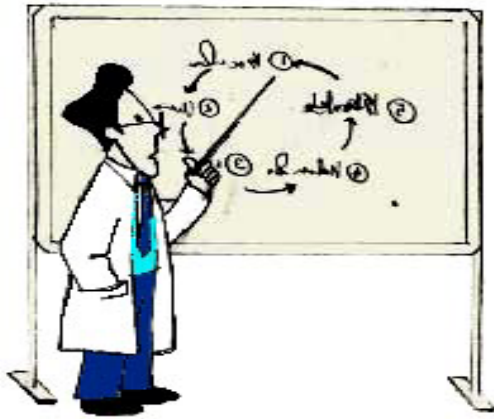
Monitoring

Monitoring is the periodic collection and analysis of data for selected indicators which enable managers to determine whether key activities are being carried out as planned and are having the expected effect on the target population

- How often is the output defective?

- How should we focus our improvement efforts?

- What types of defects are we experiencing?

- What part of the process would give us the most leverage if we improve it?

- Common Problems in Monitoring:
    - Too much data collected
    - Incomplete data
    - Inaccurate data
    - Misinterpretation
    - Relevant data not used for decision making

- Purpose of Monitoring:
    - To meet established quality goals
    - To measure compliance to standards
    - To measure improvements
    - To identify new opportunities for improvement
    - To ensure improvements are maintained

- Characteristics of Effective Monitoring:
    - Monitor only key indicators
    - Collect only needed data
    - Gather data that is easy to interpret
    - Provide timely feedback

Step 1: Plan
Step 2: Set Standards
Step 3: Communicate Standards
Step 4: Monitor
Step 5: Identify & prioritise opportunities for Improvement (QI)
Step 6: Define QI
Step 7: Identify Who will work on QI
Step 8: Analyse & Study QI
Step 9: Choose & design solution
Step 10: Implement solution
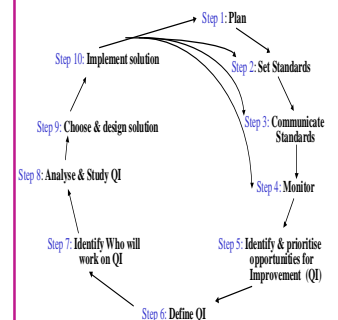
STEP 5

**Reducing the Gaps:
Identifying Opportunities
for Improvement**
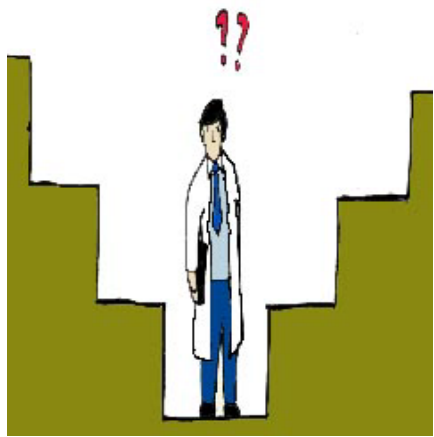
- Identify a process to improve:
  - A process is "a series of tasks that provide a product or a service".

- Identify the process owner:
  - A "Process Owner" is the lowest ranking person that can authorize a change to a process.

- Select a process for improvement:
  - Criteria for selection:
    - Process is felt to be important by staff, clients, or administration
    - Process is within your control and authority to change
    - Benefits of the improvement will be greater or equal to the cost and effort to improve it
    - Choose small, well focused processes where there is an interest from staff to improve process, therefore there will be higher likelihood for success
    - Potential for others to see value/impact
    - Data is relatively easy to obtain

  - Other criteria:
    - High volume, high risk, high cost, politics, etc.

- Methods for selecting a process for improvement:
  - Brainstorming
  - Surveys: administration, clients, staff, etc.
  - Studies
  - Prioritization
  - Voting
  - Multiple Voting/Nominal Group
  - Decision Matrix

Step 1: Plan
Step 2: Set Standards
Step 3: Communicate Standards
Step 4: Monitor
Step 5: Identify & prioritise opportunities for Improvement (QI)
Step 6: Define QI
Step 7: Identify Who will work on QI
Step 8: Analyse & Study QI
Step 9: Choose & design solution
Step 10: Implement solution
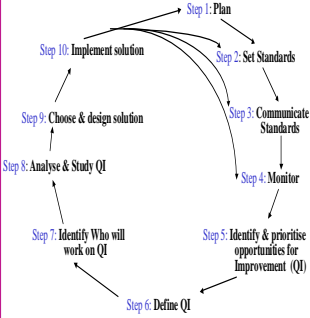
STEP 6

**Reducing the Gaps:
Defining the Opportunity for
Improvement**

- Create Opportunity Statements:
  - What is an opportunity statement?:
    - A descriptive name of the process
    - An identification of the clear boundaries within which the improvement efforts will be focused
    - An indication of who will benefit from its result
    - An indication of what the current system causes and what improvement might look like
    - An indication of why it is important to work on now

- A draft should be constructed but may be revised based on increasing knowledge of the process involved and the clients' needs.

- It should be displayed during team meetings and should be used to promote awareness of the improvement activity.

- Common mistakes to avoid:
  - Unclear or open to more than one interpretation
  - Prematurely assumes a cause
  - Includes a solution, lays blame
  - A complete system not a process is chosen
  - No one is interested in it, or
  - The process is changing

- Opportunity Statements should answer...
  - What the opportunity for improvement is?
  - How you know it is an opportunity?
  - How frequent and how long the opportunity existed?
  - How you know when the opportunity is successfully tackled?
  - Where does it begin and end?
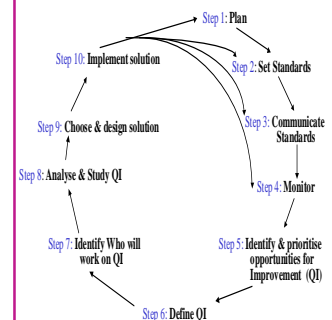
An Outline of an Opportunity Statement

"An improvement opportunity exists with ……(name of process) beginning with …..and ending with….. The current process causes……..and improvement should result in……for the…….(client). The process is important to work on now because……"

Example:

An opportunity for improvement exists in the surgical unit, beginning with the scheduling of surgery and ending with the completion of surgery. In 24% of the cases, someone must be sent to obtain additional items, thus causing delays. An improvement should result in a reduction of delays.

Step 1: Plan

Step 10: Implement solution

Step 2: Set Standards

Step 9: Choose & design solution

Step 3: Communicate Standards

Step 8: Analyse & Study QI

Step 4: Monitor

Step 7: Identify Who will work on QI

Step 5: Identify & prioritise opportunities for Improvement (QI)

Step 6: Define QI
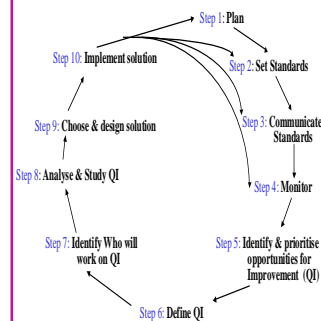
STEP 7

**Reducing the Gaps:
Forming and Building the Team**

Choose a Team (5-8 members):

- Who makes the selection?
- What is the team's role?
- Who are the members? Remember interdisciplinary members!
- What are the team's resources?
- Plan the team's meetings
- Identify team members roles
- Pay attention to documentation of team's activities
- Organize the first team's meeting
- Interdisciplinary process improvement team
- A team is not a committee nor a task force
- Acquire process owner support
- Team members should represent the steps of the process
- The team should have a clear mission
- Define roles and responsibilities of each member of the team, plus
    - Roles of the leader
    - Roles of the facilitator

Step 1: Plan
Step 2: Set Standards
Step 3: Communicate Standards
Step 4: Monitor
Step 5: Identify & prioritise opportunities for Improvement (QI)
Step 6: Define QI
Step 7: Identify Who will work on QI
Step 8: Analyse & Study QI
Step 9: Choose & design solution
Step 10: Implement solution
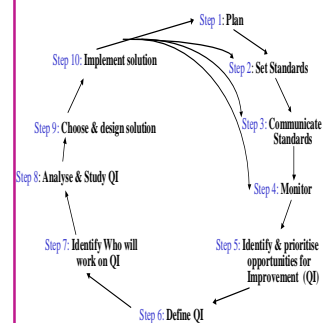
STEP 8

**Reducing the Gaps:
Studying the Improvement
Opportunity**

- Similar to monitoring, collect and analyze data related to the process under study.
- Use tools to display and analyze data such as:
  - Frequency of occurrence
  - Bar chart, Pie chart, Pareto charts
  - Trends over time
  - Run charts, Control charts
  - Distribution
  - Histogram
  - Association/correlation
  - Scatter diagrams
  - Flow charts
  - Cause-effect diagrams
  - Data matrix, etc.

Step 1: Plan

Step 10: Implement solution

Step 2: Set Standards

Step 3: Communicate
Standards

Step 9: Choose & design solution

Step 8: Analyse & Study QI

Step 4: Monitor

Step 7: Identify Who will
work on QI

Step 5: Identify & prioritise
opportunities for
Improvement (QI)

Step 6: Define QI
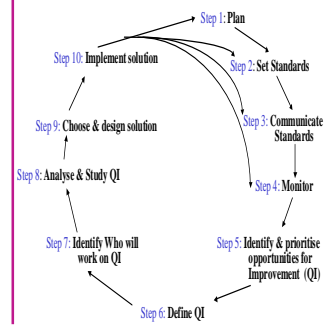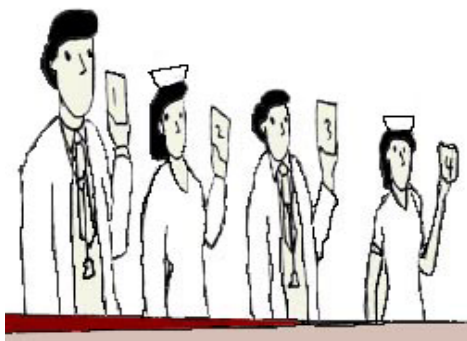
STEP 9

**Reducing the Gaps:
Identifying and Selecting
Successful Solutions**

Chapter 2

- Use supportive tools to identify solutions such as:
  - Brainstorming/Brain-writing
  - Force field
  - Affinity diagram, etc.

- Use tools to prioritize and select the most appropriate solution:
  - Voting and multiple voting
  - Nominal group technique
  - Decision matrix

- Criteria to consider in selecting the most potentially successful solution:
  - Cost (human and physical)
  - Feasibility for implementation
  - Applicability and appropriateness
  - Politics, etc.

Step 1: Plan

Step 10: Implement solution

Step 2: Set Standards

Step 9: Choose & design solution

Step 3: Communicate Standards

Step 8: Analyse & Study QI

Step 4: Monitor

Step 7: Identify Who will work on QI

Step 5: Identify & prioritise opportunities for Improvement (QI)

Step 6: Define QI

Chapter 2
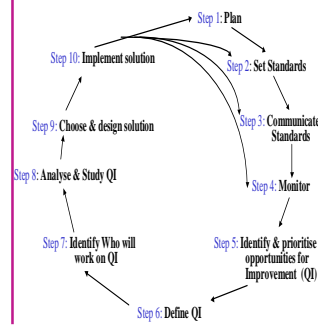
STEP 10

**Reducing the Gaps:
Implementing the Solution and
Re-measuring the Variance**
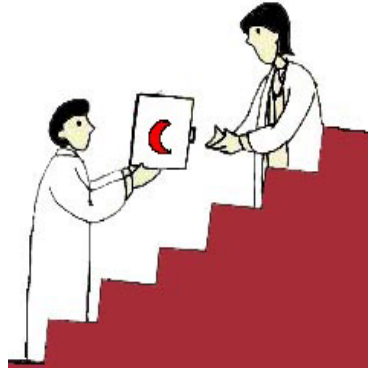
- Plan the implementation (what, how, who, when)
- Assess available resources
- Develop the action plan document
- Monitor progress
- Re-measurement
- Re-assessment
- Start again

Step 1: Plan

Step 10: Implement solution

Step 2: Set Standards

Step 9: Choose & design solution

Step 3: Communicate Standards

Step 8: Analyse & Study QI

Step 4: Monitor

Step 7: Identify Who will work on QI

Step 5: Identify & prioritise opportunities for Improvement (QI)

Step 6: Define QI
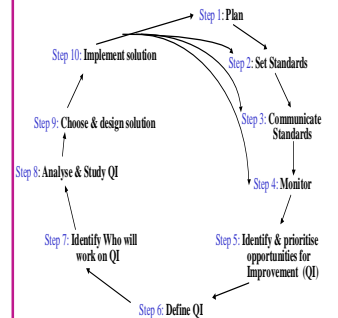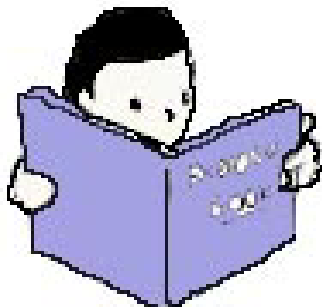
Summary

1. Planning
2. Setting Standards
3. Communicating Standards
4. Monitoring Standards
5. Identifying Opportunities for Improvement
6. Defining Opportunities for Improvement
7. Forming and Building the Team
8. Studying the Improvement Opportunity
9. Identifying and Selecting Successful Solutions
10. Implementing Solution and Re-Measuring Variance

This chapter had introduced the 10 steps and its activities in implementing quality in a health care organization. Details of each activity will be described in the following chapters. The success of implementing quality in a health care organization depends largely on getting everything set up correctly, establishing the goals and selecting appropriate members.

Exercise

- Identify a potential medical error that may occur in a hospital or a primary health care setting.

- Follow the steps of the cycle to design a study to provide solutions to control and prevent this error from happening again.

Bibliography

Al-Assaf, A. F., "International Health Care and the Management of Quality" in *Quality Management in Nursing and Health Care,* Delmar Pub., 1996.

Al-Assaf, A. F., "Quality Improvement in Health Care: An Overview", *Journal of the Royal Medical Services,* 1994;1(2):44-50.

Al-Assaf, A. F. & Schmale J.A. (1993). *The Textbook of Total Quality in Health Care.* DelRay Beach, FL : St. Lucie Press.

Al-Assaf, A. F. (1998). *Managed Care Quality: A Practical Guide.* Boca Raton, FL: CRC Press

Benneyan, J C; Kaminsky, F C "Another View on How to Measure Health Care Quality", *Quality Progress,* 1995;28:120-124.

Berwick, D M "Sounding Board: Continuous Improvement as an Ideal in Health Care", *New England Journal of Medicine,* 1989;320(1):53-56.

Binns, G S "The relationship among quality, cost, and market share in hospitals", *Topics in Health Care Finance,* 1991;18(2):21-32.

Blumenfeld, S N "Quality Assurance in Transition", *PNG Medical Journal,* 1993;36:81-89.

Blumenfeld, S N "Quality Assurance in Transition", *PNG Medical Journal,* 1993;36:81-89.

Boerstler, H; Foster, R W; O'Connor, E; O'Brien J L; Shortell, S M; Carmen, J M; Hughes, E F X "Implementation of Total Quality Management: Conventional Wisdom versus Reality", *Hospital and Health Administration,* 1996;41(2):143-159.

Notes:

Chapter 2

Chapter 3

Quality Principles

A. F. Al-Assaf, MD, MPH, CQA
University Of Oklahoma, USA

Learning Objectives

At the end of the chapter, you will be able to:

- identify the steps of the quality cycle
- identify the major experts of quality
- discuss the management principles of
    - Dr. W. Edward Deming
    - Dr. Joseph Juran
    - Dr. Philip Crosby and
    - Dr. Donald Berwick
- identify the most common quality principles

Contents

Steps of the Quality Cycle

The Quality Cycle shows the steps of implementing quality in an health care organization. This cycle is based on an adapted Juran trilogy. Dr. Juran describes quality activities to be made up of three main components and activities; quality planning or design, quality control and quality improvement. Therefore, this cycle has three main sections; assuring quality involves steps 1-3, quality control involves steps 4 and 5, while quality improvement involves the rest of the steps. Additionally, quality management is considered the umbrella term for all of the steps in the cycle which includes the coordination and facilitation processes to achieve a high level of quality in an organization.

(http://www.fr_deming.org/)

W. Edward Deming, Ph.D. (1/3)

- Create Constancy of Purpose

- Adopt the New Philosophy

- Cease Dependence on Mass Inspection

- End the Practice of Awarding Business on Price Tag Alone

Create Constancy of Purpose

Organizations and specifically leaders should aim at defining the organization's mission and vision. These statements should be developed early in the process of improvement and should involve participation from all levels of the organization. Ownership of the parts of this process is paramount for effective adoption and follow up of these statements.

Adopt the new philosophy

Each employee in the organization should be able to recall the main components of these statements and able to translate them into action in his/her work area towards achieving them. This is also coupled with strong management commitment. Active involvement in improvement activities, participation in performance improvement projects and providing resources and incentives for the successful implementation of improvement.

Cease dependence on mass inspection

Quality assessment should be both individualized and just on time. Continuous and frequent unwarranted appraisal and inspection create fear, mistrust and may hinder innovation among employees in an organization. Inspection should be performed only for specific reason not routine.

End the practice of awarding business on price tag alone

Although cost is an important factor of prioritizing of projects and in the selection of companies for contracts, etc., it should not be the only reason for that selection. Quality of the organization, its products and its process should be included in deciding on contracts and projects to award.

<div style="border: box">

W. Edward Deming, Ph.D. (2/3)

- Constantly and Forever Improve the System of Production and Service
- Institute Modern Methods of Training on the Job
- Institute Modern Methods of Leadership
- Drive Out Fear
- Break Down Barriers Between Staff Areas/Departments

</div>

(http://www.logistikk_ledelse.no/
2000/kv/kv8_04.htm)

Constantly and forever

"Continuous" is the most important word here. Improvement should be continuous and consistent. It may not be ad hoc or a one time activity. It should also include improvement of the whole system; structure, processes and outcome. You need to answer affirmatively the two questions of improvement: am I better today than I was yesterday? Will I be better tomorrow than today?

Institute modern methods of training on the job

Organizations should invest in training as it is an investment in their infrastructure. But this training should be contemporary, modern and up to date. The methodology should take into consideration the adult learner and should be performed in relation to needs and job related areas.

Institute modern methods of leadership

Quality programs require the support of leaders. In particular, quality is interested in developing and grooming leaders and to distinguish the tasks assigned to leaders versus managers. Leadership is essential in improvement efforts as it fosters innovation, empowers followers, and is visionary. Certain leadership skills is paramount for the success of quality activities in organizations and its behoove these organizations to invest in preparing and sustaining leaders in their departments and units.

Drive out fear

One of the "deadly diseases" of management, according to Deming is that traditional organizations create an environment of fear for their employees, intentionally or not. The fear of speaking up, the fear of being heard, the fear of participating and the fear of innovation and change. Quality organizations should avoid such environments and should create a more conducive environment to drive this fear away by making it an environment for learning not judgment.

Break down the barriers

Make the information flow freely between departments.

W. Edward Deming, Ph.D. (3/3)

- Eliminate Numerical Goals for the Work Force
- Eliminate Work Standards and Numerical Quotas
- Remove Barriers That Hinder the Hourly Worker
- Institute a Vigorous Program of Education and Self Improvement
- Create a Structure in Top Management That Will Push Every Day on the Above 13 Points

Chapter 3

Eliminate numerical goals for the work force

Deming does not think that numerical goals are conducive to continuous improvement and change. He believes that by putting a ceiling on the goals to be achieved then the system (including the employees and managers) will program itself to achieve just that. Once this goal is achieved, the system is at a standstill and production may fall down again.

Eliminate work standards and numerical quotas

Again Deming believes that setting a strict guideline for employees in the form of specific standards and defining work quotas are methods to hinder workers' creativity and may stifle continuous improvement efforts. He also believes that these quotas and standards may even become disincentives for further work. His example that if 2 groups were given 2 goals, one numerical and one just to improve, then the group with the numerical standard even if it did improve its outcome, but were not able to achieve that outcome will become unmotivated and disappointed. While the second group, even if it didn't achieve a better outcome than the first group, is better prepared to take on a new challenge and is motivated to do more.

Remove barriers that hinder the hourly worker

Deming believes that even the hourly worker is as important as any other worker in being a part of quality. They should be empowered and invited to participate in quality efforts and should be given the opportunity to contribute to innovation and improving performance.

And to keep the leadership motivated to do it all over again and consistently!

Joseph Juran, Ph.D.

- Quality Control and Control Sequence
- Quality Improvement and the Breakthrough Sequence
- Quality Planning and the Annual Quality Program

(http://www.ferris.edu/news/
fyi/apr2000/speakers.htm)
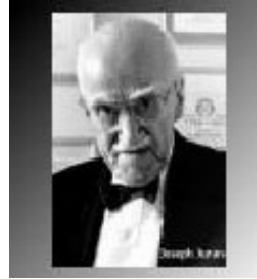
Briefly stated, the control sequence is designed primarily to attack sporadic problems, the breakthrough sequence attacks chronic problems (common causes), and the annual quality program institutionalizes managerial control and review over the quality management process.

Sporadic problems should be attacked through the quality control process. Quality control is defined as "the process through which we measure actual quality performance, compare it with standard, and act on the difference".

Tools for attacking sporadic problems include reviews, surveys, and standard statistical process aids such as frequency distributions, histograms, and control charts. To achieve breakthroughs in quality and solve chronic problems, Juran advocates the use of a three step "Universal Process for Quality Improvement." The steps are:

- Study the symptoms,
- Diagnose the causes, and
- Apply remedies.

To institutionalize continual quality improvement, organizations should adopt this process for a vast array of quality improvement projects.

(http://www.qimpro.com/
jurantemple.htm)

Joseph Juran, Ph.D. (cont.)

- Quality Control and Control Sequence
- Quality Improvement and the Breakthrough Sequence
- Quality Planning and the Annual Quality Program

Project-by-project improvement is a cornerstone idea in the Juran's quality improvement philosophy. At any point in time, hundreds or thousands of quality improvement projects, each tackled by a quality project team, should be underway throughout the organization. Projects can address issues in admissions, medical records, care processes, marketing, employee relations, customer relations, quality training, or any other area where improvement is desirable.

Juran strongly advises that top managers get involved in some projects in order to display leadership and support for quality improvement and as a way to improve their understanding of quality. Projects should be nominated based on an analysis of the costs of poor quality. Project selection should be based primarily on a return-on-investment (ROI) calculation. Of course the organization should not initiate any more projects than it can support. Adequate training and sufficient resources are prerequisites for project team success.

The breakthrough sequence aids in attacking chronic quality problems. Reduction of chronic problems (i.e. long-standing adverse situations) requires a managerial breakthrough comprising of two parts: a breakthrough in attitudes, followed by a breakthrough in knowledge. Juran calls this his "breakthrough sequence".

Joseph Juran, Ph.D. (cont.)

- Quality Control and Control Sequence
- Quality Improvement and the Breakthrough Sequence
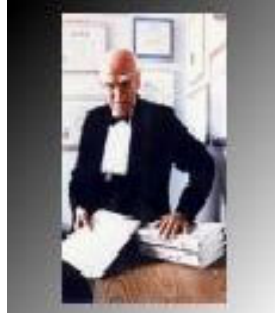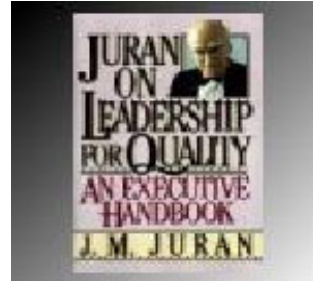- Quality Planning and the Annual Quality Program

(http://www.qualitycoach.net/
shop/shopexd.asp?id=70)

The annual quality program is an important vehicle for quality planning and for top management involvement in the quality management process. In Juran's view, the strategic planning system for quality should be similar to an organization's strategic financial planning system. Each year the quality management system, including policies, goals, accomplishments, training programs, and weaknesses, is reviewed and modified as needed. The planning process determines short-term and long-term goals, sets priorities, compares results with previous plans, and meshes its plans with other corporate strategic objectives.

Training in the quality disciplines is another cornerstone in the Juran philosophy. Accurately quantifying the benefits of training for the purposes of a return-on-investment calculation is nearly impossible. However, Juran asserts that the Japanese experience leaves little doubt as to the significance of the returns to quality training in terms of competitiveness in the market place, reduced failure costs, higher productivity, smaller inventories, and better care delivery performance. He observes that many Japanese companies have trained 100 percent of their employees in the quality disciplines. Few US companies provide quality training to more than 5 percent of their employees.

Philip B. Crosby, Ph.D. (1/2)

Absolutes of Quality:

- The definition of quality is conformance to requirements
- The system for causing quality is prevention
- The performance standard is zero defect
- The measurement of quality is the price of nonconformance

(http://www.philipcrosby.com.br/pca/artigos/PhilISO.htm)

The first Absolute of Quality Management - the definition of quality is conformance to requirements. Requirement setting is the responsibility of management. Requirements are communication devices; they tell employees, vendors, and customers what to expect and what to do in a wide variety of circumstances. Requirements are ironclad. All employees should perform exactly like the requirement or cause the requirement to be officially changed to what we and our customer really need.

The second Absolute of Quality Management - the system for causing quality is prevention. The first step toward defect and error prevention is to understand the process by which the firm's product or service is produced. Once this is done, the objective is to discover and eliminate all opportunities for error. One way to do this is by monitoring the process and learning to anticipate errors before they occur. Control charts are one example of this approach. When a defect or error does occur, the discovery and elimination of the cause becomes a top-priority item. This prevents the second and all subsequent occurrences of the problem.

The third Absolute of Quality Management - the performance standard is zero defect. Crosby feels that this absolute is widely misunderstood; certainly it is widely resisted. He claims that most people accept zero defect as a performance standard in many aspects of their personal lives and only need to be taught and convinced that it is a reasonable and, in fact, an essential standard in their work lives. Most people cannot, and will not, live with a 2 percent acceptable quality level (AQL) with respect to the accuracy of their paychecks or the number of typographical errors in correspondence that goes out under their names.

Chapter 3

Philip B. Crosby, Ph.D. (1/2) (cont.)

Absolutes of Quality:

- The definition of quality is conformance to requirements
- The system for causing quality is prevention
- The performance standard is zero defect
- The measurement of quality is the price of nonconformance

The recipients do not shrug off errors in paychecks. Rather, the source of the defect is sought out and solved. Further, whenever possible, the system is adjusted to prevent a recurrence of the error. This is the essence of the zero defect idea. Error is not inevitable and nonconformance is not inevitable. AQLs send the wrong signal to workers, suppliers, and customers; therefore, zero defects should become the personal performance standard for everyone in the firm.

The fourth Absolute of Quality Management - the measurement of quality is the price of nonconformance.

Data on the cost of poor quality is useful for three reasons:
- To call management's attention to the financial magnitude of the firm's quality problems.
- To discover and select lucrative corrective action opportunities.
- To track quality improvement and its financial impact over time.
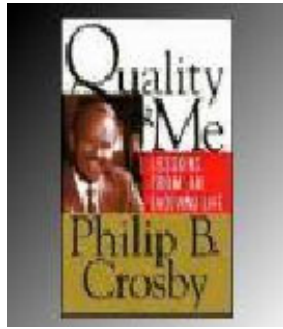
(http://www.amsup.com/
publications_software/description/30.htm)

Philip B. Crosby (2/2)

- Management Commitment
- Quality Improvement Team
- Quality Measurement
- Cost of Quality Evaluation
- Quality Awareness
- Corrective Action
- Zero Defect Planning
- Quality Education
- Zero Defect Day
- Goal Setting
- Error Cause Removal
- Recognition
- Quality Council
- Do It Over Again

Crosby places little emphasis on statistical quality control techniques in contrast to Deming and Juran. Crosby is more management and organization oriented than tool oriented.

With respect to the role of quality professionals in the organization, Crosby recommends that the quality organization exists to the degree necessary to ensure that the acceptance and performance standards for the firm's products are met and to ensure that the costs of quality goals for each operation are achieved. Quality departments should measure and report conformance, demand corrective improvement, encourage defect prevention, teach quality improvement, and act as the conscience of the operation. However, the quality organization should not do the job for others. Crosby cautions against the quality organization becoming involved in the creation, production, marketing, or management of a firm's product. Finally, he emphasizes that the quality organization is not responsible for quality programs; the departments that made the mistakes are.

Active top management participation is crucial to Crosby's process. Believing that worker performance reflects the attitudes of management, he demands that all managers adopt zero defect as the personal standard of conformance.

Crosby believes that since worker performance reflects the attitudes of management, a quality improvement program should be directed first at management. However, hourly workers do play an important role in zero defect planning, corrective action, and goal setting.

Donald Berwick's 11 Aims

1. Reduce unnecessary surgery, admissions, and tests
2. Reduce underlying root causes of illness (e.g. smoking)
3. Reduce c-sections to pre-1980 levels
4. Reduce unwanted care at the end of life
5. Simplify pharmaceutical use
6. Increase patient participation in decision making
7. Decrease waiting times
8. Reducing supply inventories
9. Recording useful information only once
10. Consolidating and rationalizing high-tech services
11. Reducing disparities

(http://www.hippocrates.com/archive/January2000/01features/01practice.html)

The above "goals" are considered by Berwick as frequently occurring and discussed issues. These goals if achieved by health care organizations are prone to reduce cost and enhance quality. For example, number 1 has a direct impact on reducing cost by decreasing unnecessary health care services. Number 2 encourages preventive medicine and primary prevention where it is proven to be the best approach to combat diseases most effectively and most efficiently and so on for the rest of the goals.

A note regarding number 11 above where it was found in several studies that besides inequities in the delivery of health care services there is also a marked disparity in health status indicators between different groups. There is a huge difference between the rich and poor, the educated and the uneducated, the whites and others, the urban and rural, etc. If these disparities are reduced then the nation's health status will be improved and the efficiency of the health care system will be strengthened.

Berwick is a Pediatrician at Harvard University and Brigham and Women Hospital in Boston, Massachusetts, USA. He is currently the President and Chief Executive of the International Healthcare Institute in Orlando Florida, an international think tank center on quality improvement in health care. He published a famous article in January 1989 issue of the New England Journal of Medicine where he introduced the term, continuous quality improvement (CQI) in health care. Also in this article he described, perhaps for the first time, the difference between quality assurance and quality improvement in health care.

The Quality Philosophy

Questions to ask yourself:

- Where am I?
- Where should I be to meet my customer's requirements?
- How will I get there?

This is adapted from Peter Drucker, one of America's famous gurus on management. A person who is committed to improvement and professional excellence should ask his/herself these questions often. These questions are essential to learn where one is in professional development and in meeting their career and job objectives. Learning who is the customer and their requirements would help identify the areas each professional should be concentrating on in achieving this objective. It will also give the professional a guideline on how to prioritize job requirements and how to accomplish the tasks that matter the most. The answers to the above questions would also help the professional identify where he/she is at and whether improvement is occurring and continuous.

The Quality Challenge

- If you want one year of prosperity grow grain
- If you want 10 years of prosperity grow trees
- If you want 100 years of prosperity grow people

(Chinese Proverb)
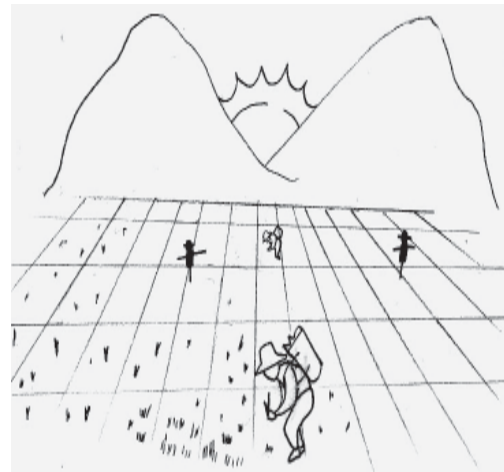
The is a famous Chinese proverb where it clearly emphasizes the fact that working on human development is a great investment that would reap its benefits for a long period.

Summary: Quality Principles (1/4)

- Leadership
- Commitment
- Customer Focus
- Process Oriented Improvement
- System-ness

Leadership: It is the development and training on skills for leadership, not management. It is doing the right things, combining it with doing the things right. It is the training and development of such skills as listening, people centered, visionary, team building, consensus developing, goal setting, etc. A leader is one who appreciates innovation, improvement and high performance.

Commitment: Commitment of leaders is paramount to sustaining and institutionalizing quality and performance improvement in health care organizations. Commitment means active participation, active and generous support through the allocation of physical and human resources towards improvement efforts and the active involvement of leaders in performance improvement activities and on quality related teams.

Customer Focus: First knowing who are the customers, both the internal and the external. Then categorizing them into vital and important customers. Once customers are identified then processes should be put in place to learn their needs and expectation and find ways to meet them.

Process-oriented Improvement: As opposed to outcome oriented or structure oriented improvements. According to Deming, "every organization is made up of thousands of processes" therefore, improving these processes will gradually and eventually lead to improvement of the organization. Therefore, it behooves an organization to identify its most vital processes and find ways to study them, analyze them and institute methods to improve them.

System-ness: Every organization is a system with three main components; structure (resources), processes and outcomes (results). Therefore, one should look at organization in such context where each component is related to the other and all should be analyzed and their elements are identified for further improvement and strengthening.

Summary: Quality Principles (2/4)

- Participative Management
- Individual Responsibility
- Employee Empowerment
- Variance Control

Participative Management: Compared to democratic management, participative is when consensus is the way to achieve all decisions of a group. Consensus involves "unanimous" support of all of the members of a group and is a method to reach agreement on all decisions made by a group even with varying degree of support and enthusiasm. It involves the art of negotiation, persuasion, and positive attitude.

Individual Responsibility: In a quality organization, employees are responsible for their daily chores and work outcomes in such a way that their work is a direct reflection on their performance, personality and job satisfaction. In such organization, every worker is aware of his environment, his needs, his customers and his responsibilities. His main goal is to make his performance and results reach perfection without the need for someone else to tell him/her what should be done or not done. It is when an employee behaves in such a way that he/she would proactively spot potential areas for problems and correct them, and identifies lag in performance and correct it.

Employee Empowerment: When you are visiting an organization in person or on-line, if your contact employee is empowered, then he will do what is necessary to meet your needs as the customer, regardless whether it is HIS responsibility or not. If it is not, he will find the answer or the way to deliver what you need, within the rags, any which way!!

Variance Control: Standardization is one method to control variance as everyone would use and apply the same standards to structure and processes. Controlling variance is important since variance has a negative impact on predicting outcomes and forecasting appropriate resource needs. Variance (which is fluctuation of a process around a mean - above or below it), can cause a process to be unpredictable therefore its outcome will be unpredictable and that may lead to inadequately preparing for it's impact. Therefore, one of the goals of a quality program is to reduce variance, thus reducing the fluctuation of processes around a mean which in turn will improve forecasting, saves resources, and improves efficiency.

Summary: Quality Principles (3/4)

- Proactive Intervention
- A Process not a Program
- Appraisal and Recognition
- Data Driven
- Teamwork

Proactive Intervention: As opposed to retroactive intervention is the way to improve performance most effectively. Instead of letting the situation worsen without doing anything about it, the quality organization should look for ways to identify potential problem areas and intervene proactively BEFORE a problem occurs. This is actually similar to the principle of primary prevention where the cause is removed before it afflicts damage on a system. Here, a problem area is identified before it becomes a problem and is either removed or improved.

A Process not a Program: This is to say that improvements are to be continuous just like a process, not a program, with a beginning and an end.

Appraisal and Recognition: One issue related to appraisal is that it should be done on an ongoing basis, not once a year or sporadically. Why wait until a designated time period arrives before telling a worker he is good or bad. Why not do so on a regular basis and institute rewards for good work and effective outcomes. Recognition should also be practiced freely and proactively. This can be accomplished in various ways, including but not limited to monitory as well as non-monitory rewards.

Data Driven: In this era of evidence based practice, organizations should become effective users of data and make them available for analyses and action. Decision should not be made haphazardly but based on accurate data. Here, skills for appropriate ways to manage data should be introduced in organizations including the efficient collection, analyses and reporting on data in an effort to transform data into useful information.

Teamwork: There are many reasons why working in teams can have a positive effect on the final outcome. Teams have synergistic effect for the combination of all of the members' ideas, knowledge, and experiences. Building effective teams that have well defined missions, highly responsive members and active leaders is the goal of any quality program and in particular that of a highly effective organization.

Summary: Quality Principles (4/4)

- Interdisciplinary
- Education and Training
- Preventive Management
- Benchmarking

Interdisciplinary: A uni-disciplinary team is one with only one discipline e.g. a group of doctors, or of nurses, etc. Multi-disciplinary teams are those with several disciplines such as a committee, or a task force with more than one discipline represented. But in an interdisciplinary team, the relationship between the members is solidified and focused around one function and one process. They have something in common between all the members, e.g. a team to reduce waiting time in the outpatient department (OPD) with membership of the OPD doctor, the nurse and the X-ray technician as well as the registration clerk and the clinic administrator, each representing a step or part of the process of OPD patient visit.

Education and Training: Almost all of the quality experts agree that training is very important to strengthen and add new skills for use by workers. Most effective is training on the job where the worker is trained specifically on their line of work and can apply what they learn directly to their work environment and immediately. Of course the ultimate professional development is the attainment of higher educational level and this could be coupled with continuing education and training as mechanisms to enhance workers' performance.

Preventive Management: Based on the principle that prevention is the best way to combat disease, so is preventive management the best way to combat management problems. It is the same principle that subscribes to the theory that identifying areas where potential problems might occur, or identifying problems early (when they are insignificant) is the best way to control the potential damage these problems might cause if let to occur or get bigger and more chronic.

Benchmarking: There are two types: process and outcome benchmarking. Either way it is the process of identifying excellence in performance in organizations and learning how to do and achieve the same. In outcome benchmarking the organization is always looking to those other organizations that have a higher performance in one activity or area e.g. morbidity rate of endoscopy and make this as a goal to achieve in their own system. In process benchmarking the organization would take this issue further and send a group of its own workers (physicians in this example) to the "excellent" organization to learn how they achieve this high level of performance and to bring it back to their own for implementation.

Exercise

- Compare and contrast the differences and similarities of the different experts' quality principles.
- Identify those quality principles being actively practiced in your organization.
- What other quality principles can feasibly be introduced into your organization?

Bibliography

Al-Assaf, A F "International Health Care and the Management of Quality" in *Quality Management in Nursing and Health Care,* Delmar Pub., 1996.

Al-Assaf, A F "Quality Improvement in Health Care: An Overview", *Journal of the Royal Medical Services,* 1994;1(2):44-50.

Al-Assaf, A. F & Schmale J.A. (1993). *The Textbook of Total Quality in Health Care.* DelRay Beach, FL : St. Lucie Press.

Al-Assaf, A. F. (1998). *Managed Care Quality: A Practical Guide.* Boca Raton, FL: CRC Press

Benneyan, J C; Kaminsky, F C "Another View on How to Measure Health Care Quality", *Quality Progress,* 1995;28:120-124.

Berwick, D M "Sounding Board: Continuous Improvement as an Ideal in Health Care", *New England Journal of Medicine,* 1989;320(1):53-56.

Binns, G S "The relationship among quality, cost, and market share in hospitals", *Topics in Health Care Finance,* 1991;18(2):21-32.

Blumenfeld, S N "Quality Assurance in Transition", *PNG Medical Journal,* 1993;36:81-89.

Blumenfeld, S N "Quality Assurance in Transition", *PNG Medical Journal,* 1993;36:81-89.

Boerstler, H; Foster, R W; O'Connor, E; O'Brien J L; Shortell, S M; Carmen, J M; Hughes, E F X "Implementation of Total Quality Management: Conventional Wisdom versus Reality", Hospital and Health Administration. 1996;41(2):143-159.

Notes:

Chapter 3

Chapter 4

Quality in Health Care: State-of-the-Art

A.F. Al-Assaf, MD, MPH, CQA
University Of Oklahoma, USA

Learning Objectives

At the end of the chapter, you will be able to:

- review the evolution of quality trends

- discuss the changing focus of quality in health care

- identify the major topics and activities in health care quality

- provide an insight into the current terms in health care quality and their applications

Contents

Quality is evolving!

- Outcomes Orientation
- Structure Focused
- Process Focused
- Outcome Driven
- Outcomes Management
- Performance Improvement
- Evidence Based - Patient Focused…

The history of quality in health care can be demarcated into the above seven evolutionary periods. The first era started with Florence Nightingale in the mid 1800's and ended with the Flexner Report at around 1910. During this period an emphasis was put on system outcomes, knowingly or unknowingly where such results as mortality, wounds healing and recovery from severe injuries, mattered. The report compiled and published by Abraham Flexner reviewed the medical education system and all of the medical schools that were in operation at that time. This report was very critical of the quality of medical education and because of that report, several schools had to close their doors for their inability to survive the required reforms mandated by the US government based on that report. This era stayed until and through the sixties where human and physical resources mattered in the reform and measurement of quality health care. With the establishment of the PSRO's (Professional Standards Review Organizations) in the US and the start of the peer review process, a shift is noticed in quality emphasis to process. It was not until the late 80's that again the US government, with the publishing of the hospital mortality list, the shift is back to outcomes. From then on, a new movement is created where outcomes of care became the most important aspect to measure and improve.

Outcomes management, first defined by Paul Elwood of the US was then introduced in the early 90's and then took center stage in the mid 90's. Here the issue is to specify an outcome to achieve and then identify those processes that may lead to that outcome. Thus, it is an activity that is outcome driven but process focused. Performance improvement was introduced by the JCAHO later in the decade to move attention towards performance, a broader term, than quality. The late 90's also saw the increasing emphasis on data to make clinical decisions, especially with the wider use of the Internet and information technology.
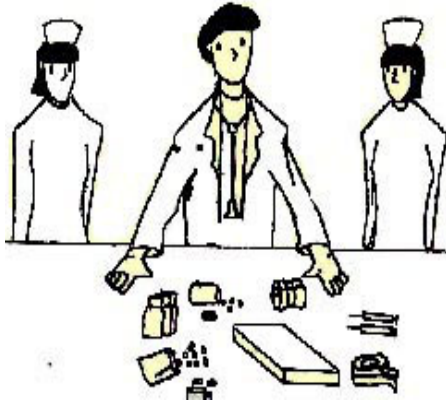
Health Care Quality

The degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge

(IOM, 1990)

This is a definition widely used and quoted by the scientific community and published by the Institute of Medicine in its 1990 report on the US health care system. The key words in this definition are the emphasis on "desired" health outcomes and also on the "currency" of the knowledge sought in clinical applications and quality measurements.

The Quality Cycle

QUALITY
DESIGN

Step 1: *Plan*

Step 10: *Implement Solution*

Step 2: *Set Standards*

Step 9: *Choose & Design Solution*

Step 3: *Communicate Standards*

Step 8: *Analyze & Study Problem*

Step 4: *Monitor*

Step 7: *Identify Who Will Work on Problem*

Step 5: *Identify & Prioritize Opportunities for Improvement*

Step 6: *Define Problem*

QUALITY
IMPROVEMENT
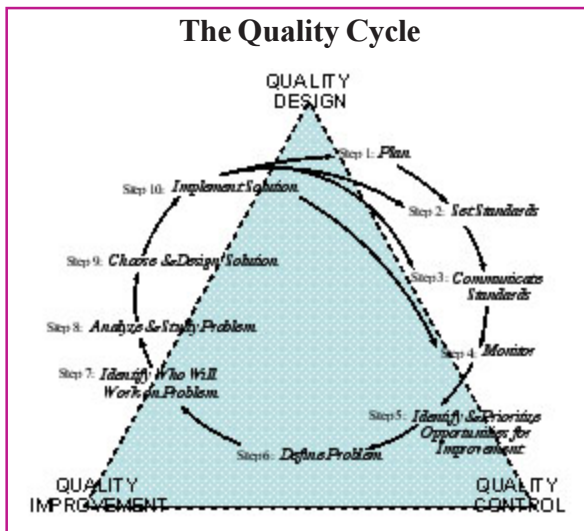
QUALITY
CONTROL

This is the quality cycle first introduced by the USAID Quality Assurance Project and later modified and used by a number of countries world-wide. It identifies four areas or major steps in quality; quality design (steps 1-3); quality control (steps 4-5); quality improvement (steps 6-10); and quality management (the whole cycle).

Top 10 High Performing Countries

1. FRANCE
2. ITALY
3. SAN MARINO
4. ANDORA
5. MALTA
6. SINGAPORE
7. SPAIN
8. OMAN
9. AUSTRIA
10. JAPAN

(WHO Report, 2000)

Chapter 4

The WHO World Health Report 2000 ranked the performance of the health systems of members countries in order of best to least performance, based on 8 indicators, including their responsiveness index, PHC services, health status indicators, access and health care expenditures. Those were the top 10 health systems in terms of overall performance. One observation is that all these countries have "socialized medicine" with health care totally accessible to all citizens. As a side note, the US health care system with all of its advances in technology and tertiary care was only ranked 37th among the world's health systems.

**Public Health and Quality of
Health Care…**

Chapter 4

Even public health (broadly defined) is involved in health care quality. The core functions
of public health are all related to quality and so is the main outcome of public health,
status of citizens.
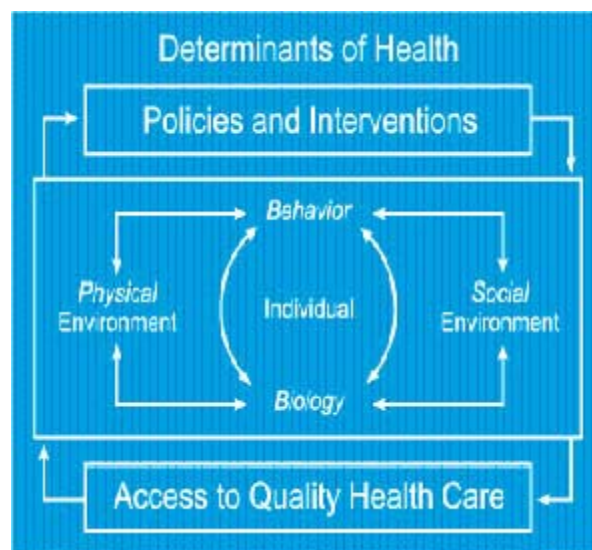
Biology refers to the individual's genetic makeup (those factors with which he or she is born), family history (which may suggest risk for disease), and the physical and mental health problems acquired during life. Aging, diet, physical activity, smoking, stress, alcohol or illicit drug abuse, injury or violence, or an infectious or toxic agent may result in illness or disability and can produce a "new" biology for the individual.

Behaviors are individual responses or reactions to internal stimuli and external conditions. Behaviors can have a reciprocal relationship to biology, each can react to the other. For example, smoking (behavior) can alter the cells in the lung and result in shortness of breath, emphysema, or cancer (biology) that then may lead an individual to stop smoking (behavior). Similarly, a family history that includes heart disease (biology) may motivate an individual to develop good eating habits, avoid tobacco, and maintain an active lifestyle (behaviors), which may prevent his/her own development of heart disease (biology).

Personal choices and the social and physical environment surrounding individuals can shape behaviors. The social and physical environment include all factors that affect the life of individuals, positively or negatively, many of which may not be under their immediate or direct control.

Social environment includes interactions with family, friends, co-workers, and others in the community. It also encompasses social institutions, such as law enforcement, workplace, places of worship, and schools. Housing, public transportation, and the presence or absence of violence in the community are among other components of the social environment. The social environment has a profound effect on individual health, as well as on the health of the larger community, and is unique because of cultural customs, language, and personal, religious, or spiritual beliefs. At the same time, individuals and their behaviors contribute to the quality of the social environment.
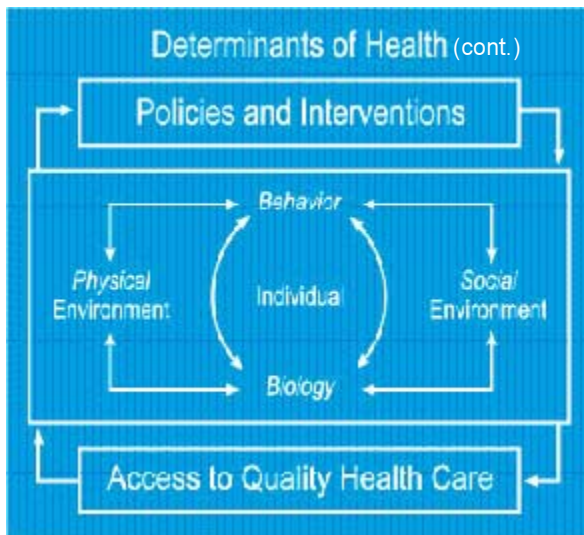
**Physical environment** can be thought of as that which can be seen, touched, heard, smelled and tasted. However, the physical environment also contains less tangible elements, such as radiation and ozone. The physical environment can harm individual and community health, especially when individuals and communities are exposed to toxic substances, irritants, infectious agents, and physical hazards in homes, schools, and worksites. The physical environment can also promote good health, for example, by providing clean and safe places for people to work, exercise, and play.

Policies and interventions can have a powerful and positive effect on the health of individuals and the community. Examples include health promotion campaigns to prevent smoking; policies mandating child restraints and safety belt use in automobiles; disease prevention services, such as immunization of children, adolescents, and adults; and clinical services, such as enhanced mental health care. Policies and interventions that promote individual and community health may be implemented by a variety of agencies, such as transportation, education, energy, housing, labor, and justice agent through places of worship, community-based organizations, civic groups, and businesses.

The health of individuals and communities also depends greatly on **access to quality health care**. Expanding access to quality health care is important to eliminate health disparities and to increase the quality and years of healthy life for all people. Health care in the broadest sense not only includes services received through health care providers but also health information and services received through other venues in the community.

The determinants of health—individual biology and behavior, physical and social environments, policies and interventions, and access to quality health care—have a profound effect on the health of individuals, communities, and the Nation. An evaluation of these determinants is an important part of developing any strategy to improve health.

Our understanding of these determinants and how they relate to one another, coupled with our understanding of how individual and community health affects the health of the Nation, is perhaps the most important key to achieving goals of increasing the quality and years of life and of eliminating the Nation's health disparities.
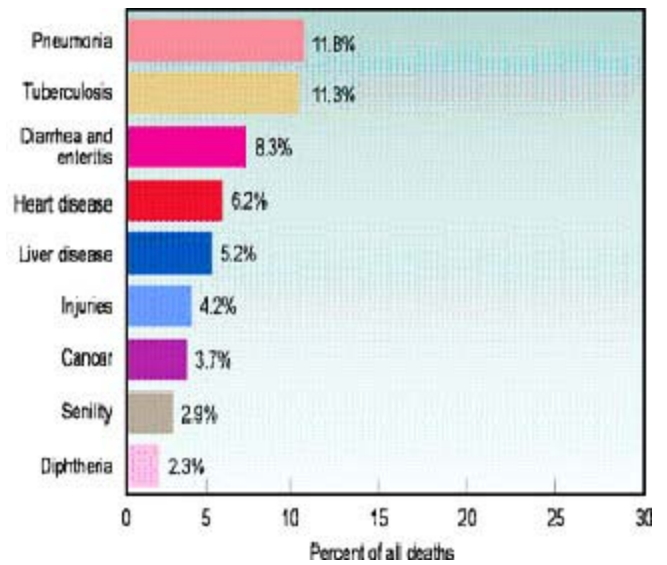
Back at the beginning of the last century, the leading cause of death were all infectious diseases. That means, the care episode is short and may not require major "tenderness" and real care. The encounter with the medical team is also relatively short thus, no rapport is necessary in such situations.
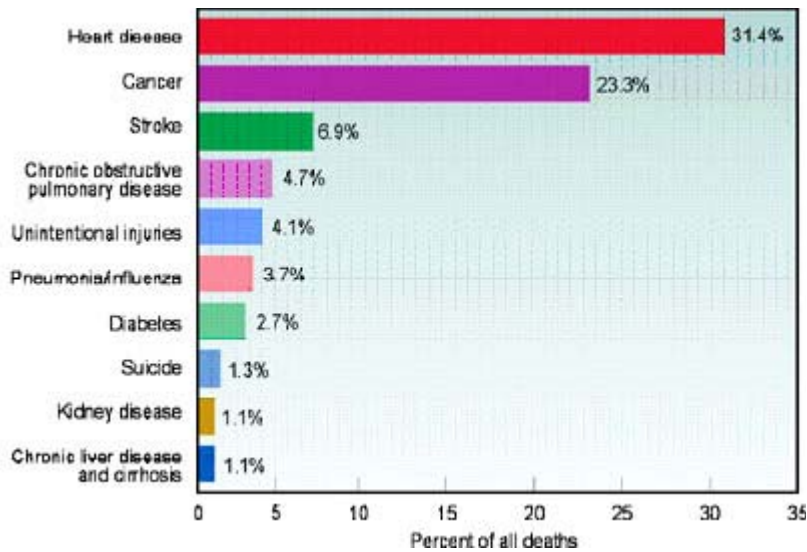
Later in the century, the diseases have changed to chronic. This means the patient is now a frequent comer to the health system. It may also mean the patient here is less "sick" and more knowledgeable of his condition, the causes, the symptoms, the signs and most probably the best treatment. Therefore the health care provider must now become more vigilant of his/her knowledge and his/her interaction with the patient. Thus besides good medical knowledge and skills, a care giver is now required to have better interpersonal skills as well.

Chapter 4

Patient Safety…

The issue of patient safety is becoming even more interesting and important especially after the Institute of Medicine Report "To Err is Human", that exposed the medical community and the prevalence of medical errors in health care. Patient safety includes not only the discussion of medical errors but also environmental issues related to the health care setting, public health issues such as hazardous waste and the like, as well as infection control and the protection of the patients relating to violence and personal security.

To Err Is Human…

- In New York, adverse events occurred in 2.9% of hospitalizations
- In Colorado and Utah the number was 3.7%
- Of the above 13.6% resulted in deaths in New York and 6.6% in the other states
- At least 44,000 and up to 98,000 deaths occur per year in the US due to medical errors
- What is the number in the rest of the world?

(IOM, 2000)
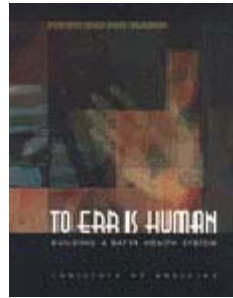
Thus is the conclusion of the study and the report published by the US Institute of Medicine, a scientific and medical think tank for the US Congress (http://www.nap.edu/books/0309068371/html/). This report was in response to a need of assessing the quality of medical care provided in the US hospitals and it was based on two studies conducted by the same institute, one in New York and the other in Colorado and Utah where inpatient admissions were studied during a particular year to identify and measure the prevalence of adverse events. These events are considered as such when they occur "un-naturally" and outside of the normal process and outcome of care. As the numbers show that almost 100 thousand patients DIE each year in US hospitals alone from causes related to medical errors. This number is considered extremely high and the report makes several recommendations toward the improvement of this situation.

Estimated Deaths Associated with Medical Mistakes Compared to the Leading Causes of Death in the U.S.

Cause	Deaths
Heart diseases	726,974
Cancers	539,577
Cerebrovascular diseases	159,791
Chronic obstructive pulmonary disease	109,029
Medical mistakes (IOM high estimate)	98,000
Unintentional injuries	95,644
Pneumonia and influenza	86,449
Diabetes	62,636
Medical mistakes (IOM low estimate)	44,000
Suicide	30,525
Nephritis and related	25,331

Estimated deaths associated with medical mistakes in hospitals rank among the leading causes of death in the U.S.

Deaths in 1997

Chapter 4

The highest and lowest estimates of medical errors occurring in US hospitals are projected on the same graph of the 10 leading causes of death in the US in 1997. This is to show the gravity of the problem relative to mortality caused by those conditions. Medical errors, as a cause of death, came as either fifth or eighth among all leading causes of death in the US. This constitutes a considerable impact on the delivery and future reform of health care in the US, and probably world-wide.

"The transforming insight for medicine from human factors research is that errors are rarely due to personal failing, inadequacies, and carelessness. Rather, they result from defects in the design and conditions of medical work that lead careful, competent, caring physicians and nurses to make mistakes that are often no different from the simple mistakes people make every day, but which have devastating consequences for patients. Errors result from faulty systems not from faulty people, so it is the systems that must be fixed. Errors are excusable; ignoring them is not"

(Source: L. L. Leape, "IOM Medical Error Figures Are Not Exaggerated" , JAMA July 5, 2000, 84(1):97)

Lucian Leape, a notable researcher on medical errors in the US has this to say regarding the same subject. The last sentence is the most profound in making the point that medical errors should not be ignored. They should be identified and studied to prevent them from happening again and to control their damage if they do happen. Workers should be motivated to report on their errors without fear of repercussions to consider them in those processes related to error reduction and prevention.

"The Problem is with the System and the
System belongs to Management"

(D. Edward Deming)

Chapter 4

Deming makes this statement to emphasis the focus of improvements should be on the "system" not only on people. The system, as he described it, is one that is designed and coordinated by the management. Therefore, they are the ones that need to be the objective of the reform or the improvement and their commitment to such is paramount if changes are to happen.

Serious Medical Mistakes

The main kinds of serious medical mistakes, as reported by 114 interns and residents who responded anonymously to a questionnaire about their own most significant errors in the last year.

(Source: JAMA article and reported in New York Times)

This is a study published in the Journal of the American Medical Association (JAMA) that describes a survey of a group of medical interns asking to report (anonymously) on any errors they encountered during their internship year. The results are stunning and some of these errors are almost devastating but real. Therefore, one should believe that errors happen and workers should be encouraged to report them so that they can be studied and prevented in the future.

Errors in Diagnosis 38 cases (33%)	
Example	*Outcome**
Failed to diagnose bowel obstruction in patient with fluid buildup in abdomen	Death
Failed to examine and diagnose fracture in crack cocaine user	Delayed treatment
Evaluation and Treatment 24 Cases (21%)	
Treatment malignant hypertension on the ward instead of in intensive care unit	Stroke
Incompletely cleaned a diabetic foot ulcer	Amputation
Prescribing and Dosing 33 Cases (29%)	
Did not read syringe and gave 50 times the correct dose of a thyroid drug	None apparent
Inadvertently stopped asthma medication at time of hospitalization	Respiratory failure
Procedural Complications 13 Cases (11%)	
Removed pulmonary artery catheter with the balloon inflated	Small amount of bleeding
Placed intravenous line in main vein without a follow-up X-ray	Fatal lung collapse
Faulty Communications 6 Cases (5%)	
Failed to put "do not resuscitate" order in chart and failed to inform spouse	Resuscitation performed against patient's wishes
Failed to obtain consent before placing intravenous line in main vein	Fatal complication after procedure

*Cause and effect cannot be determined   Source: *JAMA*

Chapter 4

This slide is self-explanatory of the types of errors medical residents and interns do commit on a regular basis. They are all real and do happen in everyday life and in different institutions. The issue is however how to make people feel comfortable to discuss their errors and for management not to punish those who report on theirs.

The question is how to make workers not to commit errors but perhaps more importantly how to make them report of any error they commit without fear of judgment.

Enhancing Patient Safety

- New Risk Management Initiatives
- Learning vs. Judgment
- Reporting Incentives
- Peer Review Reforms
- SIX SIGMA…and the like

Chapter 4
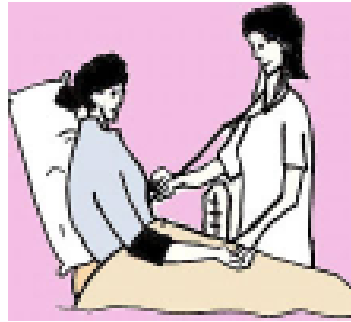
Several strategies have been introduced to enhance patient safety, among which are listed above. Risk management is aimed at preventing risk to the patient and if risk has to occur, minimize damage outcome of that risk, i.e. risk control. It relies on the principle of preventive management where process should be in place to proactively identify where problems may occur and try to prevent them from happening. That may include training employees on the new equipment before putting it on the floor or put cautionary signs where floors are wet, or put gloves on when dealing with patients' fluids and when changing patient dressing, etc. If however, risk is inevitable then the process have to be in place to minimize damage and control its outcome(s) e.g. provide counseling, minimize financial loss to patients, etc.

In all cases of error reduction, one has to practice and accept the concept of learning instead of judging. If every error is followed by an investigation and disciplinary action, people will not report on errors, hence losing an opportunity to study that error and preventing it from happening in the future. Additionally, one has to understand that judgment has to be based on a flawless system of data collection, analysis and reporting which is impossible to achieve due to issues related to severity and risk adjustments. Therefore, it is always a better way to practice an environment for learning and improvement instead of that for judgment. Such an environment will provide an incentive for people to report their errors and there will be no fear of any repercussion because in such situations data are collected for the purpose of learning and improvement.

Enhancing Patient Safety (cont.)

- New Risk Management Initiatives
- Learning vs. Judgment
- Reporting Incentives
- Peer Review Reforms
- SIX SIGMA…and the like

Chapter 4

Another area that is undergoing major reform is peer review, where the process of reviewing other practitioners' care process and judging the appropriateness of the care delivered. For example, there are movements by some groups to make the information generated from such deliberations partially available and accessible to patients and their families especially in cases of gross negligence. Other ideas involve double blind review of cases to remove bias in such situations among many other ideas.

Six Sigma is gaining more acceptance in the industry and somewhat affecting the health care industry as well, at least in the US. This is a process of reducing errors and aiming at a goal of no more than 3.4 errors per million (that is six standard deviations or six sigma). The method of how to do this is proprietary and the reader is encouraged to read more about this movement through the Internet.

Health System Performance…

Again, several mechanisms are underway in different markets to improve their health care systems. Some of these mechanisms include tying reimbursement with performance and others making performance as one of the deciding factors for awarding or renewing contracts or licenses, etc. While still other reform initiatives include the design or a point system for practitioners and providers based on performance and are compared with one another for positive competition.

New Terminology!

QUALITY ⟶ PERFORMANCE

The new term is Performance Improvement (PI). It is believed that "performance" is less threatening as quality is related to auditing and reviews and that PI is more tangible and easier to quantify and understand.

Crossing the Quality Chasm

- Safety

- Timeliness

- Effectiveness

- Efficiency

- Equity

- Personalized Care

(Source: Institute of Medicine Report: "Crossing the Quality Chasm: A New Health System for the 21st Century", Washington, D.C., 2001)

The new quality dimensions as mentioned in the IOM report which are similar to the old list except that this one has more emphasis on patient centered care, timeliness of services rendered and added the "equity" dimension.

Equity involves the delivery of health care services to all regardless of race, gender, educational background or income.

As for patient centered care the new health care system is dependant on identifying different patient's needs and make every effort to meet those needs and that involves the process of including the patient in the clinical decision making process.

The other dimensions are similar to those used in the past which are considered important characteristics of all quality providers and programs.

Four Principles

- Patient–focus
- System–ness
- Evidence-based
- Leader-driven

Chapter 4

The newest principle is evidence-based practice which is based on data access and use. It's becoming almost universal that decisions are being made based on evidence and data. Whether it is clinical practice guidelines or critical pathways, all are based on evidence and more and more data are becoming available to enhance clinical (and administrative) decisions.

Current Dominant Logic

Autonomous professionals providing largely self-defined expert care within organizational payment, and regulatory environments involving conflicting incentives, goals, and objectives

As one can see from the above, the current situation in healthcare is just that where professionals dominate independently (patients are not involved in clinical decisions), and where regulatory environments contradict themselves, e.g. performance and monitory incentives.

New Dominant Logic

Patient-centered teams providing
evidence-based medicine in
supportive organizational,
payment, and regulatory
environments.

This is the "new" or future health care environment where care is centered
around the patient and where all of the other dimensions of quality are in place
including performance based incentives, and the use of data in making the
appropriate and necessary decisions.

Some Simple Rules for a Health System

OLD RULES	NEW RULES
8-5	24-7-365
First, as individual, do no harm	First, as a health system, do no harm
Experience-based practice	System acquired knowledge - standardize on excellence
Professional autonomy drives variability	Patient differences and preferences drive variability
Provide care based on visits	Provide care based on healing relationships
Information is a record	Information is key to human relationship
Professionals control care	The patient is the source of control
Secrecy is necessary	Transparency is necessary
React to needs	Anticipate needs
Health care value is driven by costs	Health care value is driven by achieving patient-centered outcomes and cost
Source: Evolving Institute of Medicine Report: "Crossing the Chasm: Designing the 21st Century Health Care System."	

OLD RULES	NEW RULES
Professional roles trump collaborative work	Collaborative work trumps professional rules
Design for both the usual and unusual	Design for the usual, plan for the unusual
Source: IOM Subcommittee on Designing the 21st Century Chassis, Washington, D.C.	

This slide is self explanatory where care is becoming continuous and so is access to it, where it is a "system" thinking and not based on individual thinking, etc.

A patient is the locus of control and where success in care outcome is based on the "relationship" with the care team, and where care value is based on outcomes and cost together than on cost alone.

Teamwork is dominant in such a system and resources are used most optimally.

Chapter 4
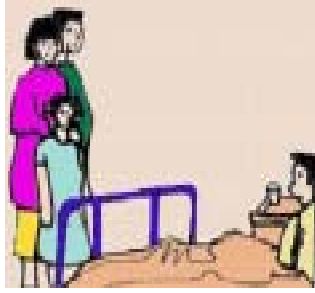
Evidence Based Medicine
Plus
Evidence Based Management

Chapter 4

A new term "EB Management" has been created where the decision making process in managing programs and projects is based on empirical results and hard core data. Therefore, it is not only medicine that requires evidence to make the appropriate decision but even management is becoming dependant on data to make the right decisions. The following slides illustrate this fact.

Study of 3,000 CABG patients in 16 hospitals

A group-oriented, collaborative, participative culture was significantly associated with higher patient physical and mental functional health status scores six months post-discharge and shorter post-operative intubation times
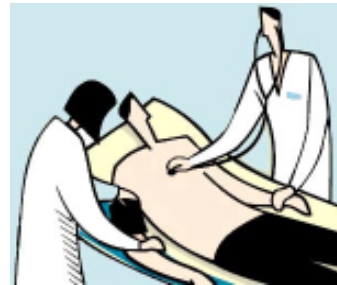
(Shortell, Jones, Rademaker, and Gillies *et al.* 2000)

In this study it was found that when comparing the performance of these 16 hospitals on the management of coronary artery bypass graft patients, those hospitals that achieved the best results were those that had management savvy practices such as group oriented, participative, and collaborative practices. Therefore, having such characteristics had a positive impact on patient outcomes. Hence, one can conclude to achieve such positive outcomes, management should practice teamwork, collaboration and participative leadership styles.

Hospital top management leadership is positively associated with greater clinical involvement in TQM:

- Linkage to organization's mission and strategic priorities

- Allocation of human and financial resources

- Aligning compensation and performance appraisal systems

- Personal involvement in teaching TQM and participating on project teams

- Targeting selected physicians

- Developing a supportive culture

(Source: Weiner, Alexander and Shortell, 1996; Weiner, Shortell and Alexander, 1997)

In this study a similar association is documented between TQM and positive clinical outcomes in hospitals. Therefore, hospitals that practiced TQM based practices had a higher level of satisfaction of their patients and better clinical outcome.

In a nine hospital study of patients with total hip and total knee replacements, relational coordination was significantly associated with less post-operative pain, greater post-operative functioning, and shorter length of stay

(Source: J. Gittel, K. Fairfield and B. Bierbaum *et al.* "Impact of Relational Coordination on Quality of Care, Post-Operative Pain and Functioning and Length of Stay", *Medical Care*, 2000, 38(3):807-819)

Chapter 4

Again in this study it was found that those hospitals that achieved a better clinical outcome for orthopedic patients are commonly related to the way they manage their care teams and this relationship is directly related on how strong the relational coordination between the members of the team in the delivery of their care.

**Increased Beta Blocker use
after myocardial infarction**

Hospitals with greater improvement were distinguished by four characteristics:

- Shared goals for improvement
- Substantial administrative support
- Strong physician leadership
- Credible data feedback

(Source: Bradley, Holmboe, Mahern *et al. JAMA*, May 23/30, 2001, 285(20):2604-2610)

Chapter 4

Similarly in this study of several US hospitals, it was evident that those successful hospitals in the management of acute MI were those that have the characteristic of management depending on data and in applying sound leadership practices and methodologies.

Care systems more important than individual specialty differences (1/2)

Cochrane collaborative review of specialty differences in diabetic treatment outcomes found that physicians in any specialty practicing in *well organized care settings* had better outcomes than physicians of any specialty practicing in less organized care settings

(Source: S. Griffin and A.L. Kinmouth, 1998. "Diabetes Care: The Effectiveness of Systems for Routine Surveillance for people with Diabetes (Cochrane Review)", The Cochrane Library 13, Oxford: Update Software)

Another study on EB Management where the system and the work environment has a major impact on how practitioners practice and on their performance. Therefore, in this study it was found that physicians had better outcome when they were practicing in good environment regardless of where and how good were their training and specialization centers. This finding bolsters the case that good (management) environment has a direct impact on outcomes. It is basically true that putting individual practitioners in different settings will result in better outcomes at those highly managed institutions than those practicing in less managed institutions regardless of their training origin.

Care systems more important than individual specialty differences (2/2)

Similarly trained primary care physicians practicing in different organizational environment provided significantly different quality of care for diabetic patients after adjusting for patient characteristics

(Source: J. Desai, P.J. O'Connor, and D.B. Bishop et al 1997. "Variation in Process and Outcomes of Diabetes Care in HMO Owned and Controlled Clinics," Proceedings, CDC Diabetes Trans. Conference, Atlanta, GA)

Chapter 4

This study proves what the previous study concluded that when you control for training origin and as you allocate those similarly trained individuals in different settings, then those in better (managed) settings will have better performance outcomes than those with similar training backgrounds and origins but practicing in lesser managed settings. Therefore, the practicing environment has the most impact on individual practitioner performance. It is not where you trained that makes a difference but where you practice.

Institutional plus Practitioner Report Cards
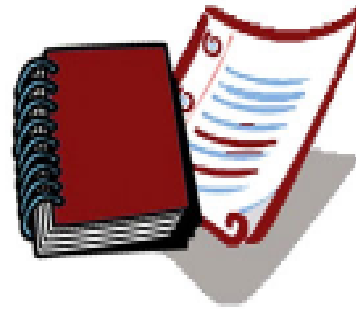
Comparing performance of different providers is becoming a common trend from regulators, consumers and purchasers. Report cards are one way to report on performance to the public. Each report card will have the results of performance on that providers for certain indicators e.g. for hospitals infection rates, patient satisfaction rates and the like are examples of such indicators. For practitioners, performance indicators may include average length of stay of their patients, morbidity rate, resource utilization indicators, etc.

Report cards could be initiated by the institution itself as a marketing tool but in most cases report cards are designed and enforced by either the regulators or purchasers to put pressure on providers to improve their performance and to use it to compare between different performances.

Performance Measurement Systems...

- HEDIS
- ORYX
- NHQI
- Disease Management
- Ambulatory Care Sensitive Conditions

Chapter 4

These are examples of certain US based performance systems for health organizations.

HEDIS; Health Employers Data and Information Set is a system of mainly outcome indicators for preventive health services that was first imposed on HMO's by their accrediting agency, NCQA (www.ncqa.org) back in the early 90's. Since then, HEDIS has received more popularity and its newest version HEDIS2000 is being used by purchasers, regulators and consumer groups alike to judge performance of HMOs.

ORYX is a system of inpatient performance indicators first developed by the Joint Commission (www.jcaho.org) in the US in the late 90s. In its current form, each hospital should report on their performance to the JCAHO at each accreditation cycle and continuously thereafter.

NHQI, the nursing homes quality indicator system is being used by the US health care financing agency (www.cms.gov) to measure and compare performance of the nation's nursing homes.

Disease Management is a list of indicators for judging the proper management of chronic diseases by providers and practitioners. There is usually a list of such indicators for each major medical condition e.g. Diabetes, Hypertension, Congestive Heart Failure, etc.

Ambulatory Care Sensitive Conditions are those medical conditions that should have been treated at the outpatient and primary care settings rather than in inpatient settings. These conditions if properly treated in the PHC settings, they will not be required to be treated in hospitals. Therefore the prevalence of such conditions among hospital admissions in higher numbers is an indication that the PHC system is failing. The following slide lists these 16 conditions.

Prevention Performance Indicators

The 16 Conditions

- Bacterial Pneumonia
- Dehydration
- Pediatric GI
- UTI
- Perforated Appendix
- LBW
- Angina w/o procedure
- COPD

- CHF
- Hypertension
- Adult Asthma
- Ped. Asthma
- Uncontrolled DM
- DM short-term comp
- DM long-term comp
- Lower Ext Amb/DM

These are conditions where good outpatient care can potentially prevent the need for hospitalization or for which early intervention can prevent complications or more severe conditions. They are measured as rates of admission to hospitals per 100,000 population. Their presence in hospitals in relatively large numbers is an indication of the inadequate support of the PHC in that area where the hospital is located.

But…

Perhaps we should worry less about what is being measured and more about how we are measuring it…

This principle should be remembered when one attempts at using data as a tool for comparison or judgment. Several factors intervene in such situation including issues related to severity adjustments, data integrity, confounders, etc. Unless these factors are accounted for and considered appropriately when making the comparison, the accuracy of the conclusion becomes questionable.

Institutional Accreditation

What is Accreditation?

"It is the process of assessing the quality of an organization in order to provide comparative information to the customer"

Accreditation is a rigorous process of planning for performance improvement, pursuing the compliance to (national or international) standards and going through extensive set of processes of self and external assessments. The institution is then subjecting itself, voluntarily, to such assessment process in hopes of its performance getting "recognized" by an impartial external agency acting as an institutional reviewer or judge. All of these activities are bound to force the institution under review to re-address its performance outcomes and put in process mechanisms for further improvements.

And this definition stresses on the previous slide the importance of accreditation for comparing between different institutions using a uniform set of standards and performance indicators.
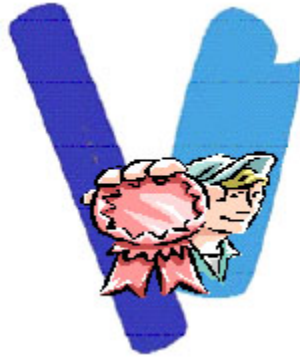
New Rewards and Incentives Systems

The system of recognizing high performance and providing incentives to achieve even higher performance is being reformed and further refined. The new thinking is that rewards should be instant and comparative to the type and extent of accomplishment or achievement. They should also be customized to the individual performer and should be on-going. Therefore, rewards and recognition should be based and dependant on the extent of performance of the individual or the provider. This new system will have the capacity to tie performance to reimbursements and salary. Therefore, it will be quality that counts, not quantity.

Patient Rights and Responsibilities…

CONTRIBUTORY NEGLIGENCE!

Every health professional knows about patient rights and that these should be adhered to meet the patient's needs. But what about patient's responsibilities? If the provider sees the patient, examine him then prescribe him the right medication but the patient fails to fill in the prescription and then get a complication, who is responsible in this situation? The patient is therefore expected to "participate" in his/her management of their medical condition and should cooperate with the medical team to optimize the benefit from the care delivered to him/her. Not following instructions and not providing the right answers or cooperating with the provider are all counterproductive and can render the care process deficient and unsuccessful.

Some extreme advocates of the notion that patient should be responsible for their care are calling for "appropriate" disciplining of patient in reaction to their complacency for not participating actively in their care process. They even go to the extreme of suggesting the sharing of blame and damage(s) with the negligent provider.

e-Health

Quality is evolving!

● Outcomes orientation
● Process focus
● Outcome driven
● Outcomes Management
● Performance Improvement
● Evidence Based - Patient Focused… but with IT in mind!

Therefore one can safely say that the future of healthcare is dependent on advances in information technology and its use in improving health care and its outcomes.

Hadith

"God loves of you, those, that when performing a job they perform it PERFECTLY"

(Mohammad S.A.W, 620 AD)

Perfection has been the status to achieve and called for by the Prophet Mohammad S.A.W as early as the 7th century and certainly before W. Edward Deming or Philip Crosby knew what zero-defect is all about.

Exercise

1. Based on the trends in the evolution of health care quality, what will be the future emphasis of quality?

2. How does PI differ from Health Care quality?

3. Design an equitable and objective system for recognizing performance achievements in your organization.

Bibliography

Al-Assaf, A. F., "International Health Care and the Management of Quality" in Quality Management in Nursing and Health Care, Delmar Pub., 1996.

Al-Assaf, A. F., "Quality Improvement in Health Care: An Overview", Journal of the Royal Medical Services, 1994;1(2):44-50.

Al-Assaf, A. F & Schmale J.A. (1993). The Textbook of Total Quality in Health Care. DelRay Beach, FL : St. Lucie Press.

Al-Assaf, A. F. (1998). Managed Care Quality: A Practical Guide. Boca Raton, FL: CRC Press

"Crossing the Quality Chasm: A New Health System for the 21st Century". IOM Report, 2001; http://search.nap.edu/nap-cgi/naptitle.cgi?Search=to+err+is+human

"NAHQ Guide to Quality Management", NAHQ, 2003

"To Err is Human: Building a Safer Health System", IOM Report, 2000; http://search.nap.edu/nap-cginaptitle.cgi? Search=to+err+is+human

IOM Report (2002): Priority Areas for National Action, http://books.nap.edu/books/0309085438/html/R1.html#pagetop

Quality Chart Book, Commonwealth Fund, http://www.cmwf.org/programs/pub_highlight.asp?ID=_1&CategoryID=3

Talking Quality , http://www.talkingquality.gov/

Chapter 5

Assuring Quality

Maimunah A. Hamid, MBChB, MPH, CHQ
Institute for Health Systems Research, Ministry of Health, Malaysia

A. F. Al-Assaf, MD, MPH, CQA
University of Oklahoma, USA

Azian Abdul Aziz, MBChB, MPH
Institute for Health Systems Research, Ministry of Health, Malaysia

Chapter 5

Learning Objectives

At the end of the chapter, you will be able to:

- plan for quality initiative in an organization

- set standards for Quality

- communicate standards

Contents

Steps of the Quality Cycle

QUALITY
DESIGN

Step 1: *Plan*

Step 10: *Implement Solution*

Step 2: *Set Standards*

Step 9: *Choose & Design Solution*

Step 3: *Communicate Standards*

Step 8: *Analyze & Study Problem*

Step 4: *Monitor*

Step 7: *Identify Who Will Work on Problem*

Step 5: *Identify & Prioritize Opportunities for Improvement*

Step 6: *Define Problem*

QUALITY
IMPROVEMENT

QUALITY
CONTROL

The Quality Cycle shows the steps of implementing quality in an health care organization. This cycle is based on an adapted Juran's trilogy. Dr. Juran describes quality activities to be made up of three main components and activities; *quality planning or design*, *quality control* and *quality improvement*. Therefore, this cycle has three main sections; assuring quality involves steps 1-3, controlling quality involves steps 4 and 5, while improving quality involves the rest of the steps. Additionally, quality management is considered the umbrella term for all of the steps in the cycle which includes the coordination and facilitation processes to achieve a high level of quality in an organization.

Assuring Quality concentrates on steps 1 to 3 of the quality cycle. This includes the following:

- Planning for quality

- Setting standards for quality

- Communicating standards to users

- Developing indicators to measure quality

- Setting thresholds for quality

This chapter attempts to only introduce the concepts and elements of the various components. More detail explanations can be found in the subsequent Training Modules.

Step 1: Planning for Quality in Health Care

Objectives

- To prepare a Quality Plan for an organization

- To provide a framework within which decisions can be made regarding priorities and needs in addressing quality-related issues

- To provide a direction to the various quality improvement strategies and activities

Planning for quality is guided by specific objectives. The output of this planning is a document of Quality Plan for the organization.

The quality plan defines the conceptual understanding of quality in the organization, and provides a description of the organizational structure, the resources and the material allocated to the organization's QA program. The plan may also outline the methods for applying quality standards.

Hence, a quality plan is used as the framework and guiding principles for its actions on quality matters.

Chapter 5

Step 1: Planning for Quality in Health Care

Two Components of Planning for Quality in Health Care

- Strategic Planning
- Operational Planning

Planning is basic in management.

Strategic Planning

- Is carried out by those higher up in the organizational hierarchy where initial decisions and broad policies are made.

- Is for long term and uses information from within and outside the organization.

Operational Planning

- It is more specific and elaborate.

- Involves design, process and activities.

- Involves detailed planning of any and every activity before partial and full implementation.

- Involves people doing the day-to-day activities at mid-level management level.

- The appointed individuals are actively involved in setting:

  - Resource allocations

  - Training requirements

  - Employee participation

  - Types and number of projects to be performed etc. which is all at the intervention level

Step 1: Planning for Quality in Health Care

Strategic Planning Process: 10 Step Model

1. Initiate and agree on a strategic planning process
2. Identify organizational mandates/objectives
3. Clarify organizational mission and value
4. Assess organization external and internal environment
5. Identify strategic issues facing the organization
6. Formulate strategies to manage these issues
7. Review and adopt the strategic planning
8. Establish an effective organization vision
9. Develop an effective implementation process
10. Reassess strategies and the strategic planning process

Organization Mission

- A clear mission acts as an invisible hand that guides people so that they can see where their own roles fit into the wider organization and can work both individually and collectively towards agreed organizational goals.

- A mission statement should be specific and realistic rather than being too narrow or too broad, and should be reviewed as the organization grows and changes.

- The mission statement should concisely set out the provider's objectives over a number of dimensions:

    - Patients and clients

    - Access to services

    - Training and professional development of staff

    - Research and development

    - Equal opportunities

Organizational Values

- The things to be emphasized in the way people behave or "the way they do business around here".

More detail descriptions on the steps can be found in *Training Module: Implementing Quality & Improving Performance* and *Training Module: Managing Performance Training Module*.

Step 1: Planning for Quality in Health Care

Elements for Planning

- Planning Committee(s)
- Needs Assessment
- Mapping Interventions
- Resource Allocation
- Assigning Responsibilities
- Time Plan
- Evaluation Plan

Chapter 5

The Planning Committee:
- is responsible to be actively involved and participate in supporting the implementation of quality improvement plan
- has the final say and makes final decisions
- supports and pushes quality implementation
- facilitates interventions
- coordinates resource allocation

Needs Assessment involves the following:
- formulation of objectives
- identify areas to be assessed
- identify activities to be carried out
- identify methods of assessment
- construct instruments for assessment
- collect data
- analyze information
- summarize report

Mapping Intervention involves:
- identifying gaps
- designing activities on opportunity for improvement
- planning pilot projects to test a limited scope of the activities
- selecting sites/services
- implementing design

Resource Allocation for the following:
- physical and human resources
- resources for training and acquiring of consultants
- resources for dissemination and increasing health professionals' awareness in the concept of quality improvement
- funds for structural changes and redesigns in processes or units
- funds to buy reading materials and establish a central library resource on quality improvement
- funds to hire full or part time individuals as internal quality coordinators
- additional funds to publish a newsletter on quality

Elements for Planning (cont.)

- Planning Committee(s)
- Need Assessment
- Mapping Interventions
- Resource Allocation
- Assigning Responsibilities
- Time Plan
- Evaluation Plan

- funds to hold internal and periodic seminars on quality improvement
- to offer monitory and capital support to successful units or individuals who have demonstrated substantial improvements
- to establish a new unit within the organization

Assigning Responsibilities involves delegating specific work to individuals or group such as responsibilities of the Quality Coordinator includes*:*
- advocate and speaker for quality improvement
- facilitator of the Quality Council
- designate counterpart of the consultant
- coordinator of strategic and operational planning for quality improvement activities and the allocation of resources
- initiator of process improvement teams
- coordinator of the selection of key personnel in quality
- coordinator of quality improvement training plan
- facilitator of future expansion strategies

A committee can also be assigned to help draft policies and strategies for discussion and approval at higher level.

Time Plan identifies:
- strategies and activities to be carried out
- person/teams responsible to carry out the activities
- duration required for implementation with time start and end
- resources required

Evaluation Plan should be included in the planning stage. It is useful to assess the following elements:
- levels of implementation
- responsibility at each level
- explicit plan in quality improvement
- competency of personnel
- review and support of quality efforts
- who have been and what training was carried out in quality improvement

Chapter 5

Step 1: Planning for Quality in Health Care

**Increasing Awareness on
Quality Improvement**

- Seminar on quality improvement
- Intellectual discussions with the consultant as to the application of this concept
- Present quality improvement to other key personnel
- Preparation of newsletter articles
- For potential internal application
- Sponsoring a 'Scientific Day on Quality'
- Consultants services

Chapter 5

Members of the organization must be encouraged to participate in a seminar on quality improvement. The seminar is to be followed by intellectual discussions with the consultant as to the application of this concept in the organization, taking into consideration available resources, the culture and the current health status and structure.

Clinical and non-clinical staff at all levels need to be informed on:

- The strategy for quality
- Where they fit into it
- The rationale for quality improvement program
- Their priorities and targets
- The structure, model and process for quality improvement
- Their roles and responsibilities
- The training and support they will receive

Preparation of newsletter articles with examples for potential internal application in clear and operational language can further help increasing awareness on quality improvement. Sponsoring a 'Scientific Day on Quality' where the concept and application of quality improvement can also be introduced.

Consultant services may be used to present a number of short discussion sessions with other key personnel and middle managers. These sessions should be attended by at least the Quality Coordinator and some quality committee members. They can facilitate focus group sessions to get feedback on quality improvement. His/her assistance may also be sought during implementation of activities and to assist in increasing awareness on the concept of quality improvement.

> **Step 1: Planning for Quality in Health Care**
>
> **Operationalizing the Plan** (1/2)
>
> - Forming the team
> - Role of organizational/departments
> - Create awareness for performance improvement
> - Identify organizational objectives
> - Defining organizational culture
> - Identify Resources

A plan with its strategies are only useful if they can be operationalised according to the context and environment of the organization. A team, consisting of individuals from the organization who are familiar and have experiences with the political and social environment of the organization can assist in this process.

The plan should be translated within the context of the organizational objectives and culture. Proper resources must be allocated to ensure success of implementation of the plan and cooperation must be sought from various levels of staff, including the heads of department.

Chapter 5

Step 1: Planning for Quality in Health Care

Operationalizing the Plan (2/2)

- Identify specific objectives
- Plan training/awareness
- Conduct pre-implementation assessment
- Mechanism for reporting and monitoring
- Provide rewards and recognition
- Conduct evaluation and reassessment

Chapter 5
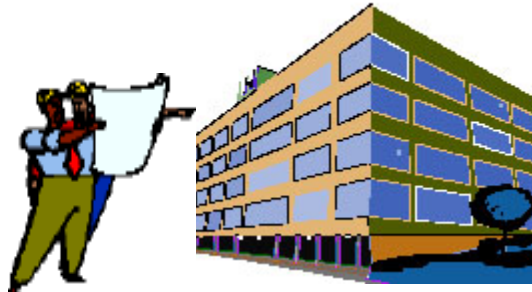
Specific objectives for operationalizing the plan should be established so that pre and post implementation assessments can be carried out meaningfully. Investment should be made in training and creating organizational wide awareness on the implementation of the plan.

Specific mechanism for reporting and monitoring must also be established so that feedback can be given. Good work should be recognized and rewarded to continuously motivate quality improvement.

Step 2: Setting Health Care Standards

What is A Standard?

A standard is a statement of expectation for the inputs, processes, behavior and outcomes

- Standards are statements of expectations for the inputs, processes, behavior and outcomes of health care system.
- Standards tell us what we expect to happen in our quest for high quality health services.
- Standards encourage consistency and uniformity in health care practices.
- Standards provide a basis for accountability, to determine if medical care is appropriate, effective and necessary.
- Standards, indicators and threshold are the elements that allow organization to objectively measure their levels of quality and compare their performances over time and between similar organizations.

Step 2: Setting Health Care Standards

Types of Standards

- Accreditation Standards
- Practice Guidelines
- Protocols
- Standards Operating Procedures (SOP's)
- Specifications
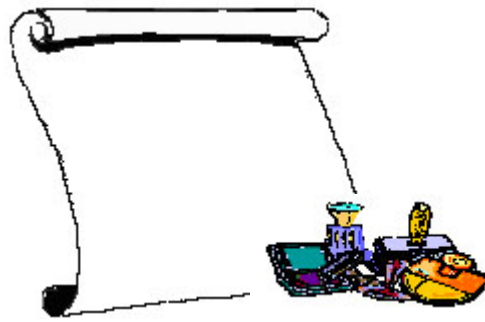
There are many types and uses of standards. They can be applied for clinical management and administrative purposes.

Accreditation Standard

The level of performance necessary to achieve a specified degree of excellence on a given performance dimension.

Practice Guidelines

- Guidelines are statements by experts that describe recommended or suggested procedure.
- They serve as a flexible technical reference that describes what the health care provider should or should not do for a given clinical condition.
- An example: Clinical Practice Guidelines (CPG) for a specific disease.

Protocols

- It is a more precise and detailed plan for a process.
- It implies a more stringent requirement than a guideline.
- An example: the WHO Protocol for diarrhoea case management.

Standards Operating Procedures (SOP's)

- SOP is a statement of the expected ways in which an organization's staff carries out certain activities
- It is usually more stringent than a guideline.
- An example: SOP for billing patients.

Specifications

- It is a detailed description of the characteristics or measurements for a product, service or outcome.
- An example: Specifications of the product or services to be delivered by contractors as specified in the contract.
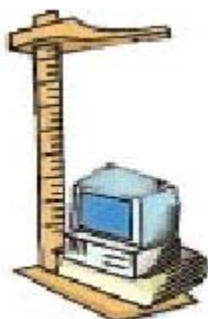
> *Step 2: Setting Health Care Standards*
>
> **Measuring Standards**
>
> - Indicators
>
> An indicator is an objectively defined measure of quality. It can be applied to a structure, process or outcome to the standard of interest

A standard is measured through one or more indicators.

An example: If one of the standards expected for quality diabetic care is to provide quality eye care, the standards being for example, all diabetic patients must have dilated fundus examination at least once a year, then a possible indicator to measure this standard is the "percentage of the diabetic population receiving a dilated eye examination in the past year".

An indicator should have the following (an example of the eye examination is used to demonstrate):

- **Title**:
  'Percentage of the diabetic population receiving a dilated eye examination in the past year'.
- **Rationale**:
  Diabetes is the leading cause of blindness, and studies have shown that a periodic dilated eye examination is cost-effective in reducing the burden of diabetic retinopathy and blindness.
- **Goal**:
  To reduce the burden of diabetic retinopathy by increasing the percentage of regular eye examination among diabetic population by, for example, 30%.
- **Definition**:
  $$\frac{\text{Number of diabetic patients with a dilated eye examination in the past one year}}{\text{Total number of diabetic patients from the same centre over the same period of time}} \times 100$$
- **Definition of important terms**:
  The diabetic patients did not have any evidence of retinopathy on the previous year's examination and the examination must be performed by an ophthalmologist or optometrist.
- **Common data sources**:
  Medical records of patients in the center.
- **Recommended data collection methods**:
  Retrospective medical record reviews.
- **Use**:
  Clinical Management Review Committee and Patient Education Program.
- **Recommended format of presentation**:
  Trend of performance over time.

Step 2: Setting Health Care Standards

Measuring Standards

- Threshold

A threshold is the value on a yardstick that marks the line of acceptable performance or results. It can either be the minimum level, an excellent level, or a range of acceptable performance of results

---

Chapter 5

An indicator is assessed by a threshold.

In the example given for indicator on 'percentage of the diabetic population receiving a dilated eye exam in the past year', let us say a threshold of 90% is used, meaning that quality of eye care at a centre is said to be acceptable if 90% or more of the diabetic population who attended to that centre had at least one dilated eye examination in the past one year.

The followings are examples of the ways of setting threshold:
- Use of established national or international 'norms'.
- Use of local 'norms' based on consensus by experts in the subject matter.
- Measure averages.
- Use of two or more standard deviations.

> *Step 2: Setting Health Care Standards*
>
> ### How To Develop Standards
>
> Step 1: Identify A Function or System
>
> Step 2: Identify Structure, Process and Outcome Elements
>
> Step 3: Define Quality Characteristics
>
> Step 4: State The Standards
>
> Step 5: Develop The Indicator
>
> Step 6: Set The Threshold
>
> Step 7: Assess The Appropriateness

Step 1:

Identify a function or system to monitor quality. Priority should be given to high volume, high risk, problem-prone and high cost.

Step 2:

Identify the elements to monitor which may be on a structure (human and physical resources), a process (activities, procedures, tasks) and/or outcome (results, impact).

Step 3:

Define the quality characteristics of interest in the elements selected. Quality characteristics are the distinguishing attributes of inputs, processes or outcomes that the organization or team consider essential in defining its quality of health care. For examples, timeliness, friendliness, etc.

Step 4:

State the standard(s) relevant and appropriate for the characteristics identified.

Step 5:

Develop the indicator(s) to measure the standard(s). Hence, indicators are standards that are stated in measurable terms.

Step 6:

Set the threshold to assess each indicator.

Step 7:

Assess appropriateness of the indicators, in terms of:
- Validity (accuracy)
- Reliability (repeatability, consistency)
- Clarity
- Applicability

This process should as much as possible be supported by scientific evidences and involvement of experts knowledgable in the areas of interest.

More in-depth descriptions of the various steps can be found in the *Training Module: Implementing Quality & Improving Performance.*

Chapter 5

Step 3: Communicating Standards

Standards should be actively
communicated to the desired
audience for its appropriate
implementation and
compliance

● Develop the communication plan by asking:
- Who is the audience?
- What needs to be communicated?
- What channels and communication methods will be used?
- What will be the source of communication?
- How will the communication be sequenced and coordinated?
- How will feedback be obtained?
- How will the communication plan be evaluated?

● Deliver the communication process(es)

● Evaluate effectiveness of the communication process:
- Immediate results
- Intermediate results (knowledge, attitudes and practice)
- Remote impact

> *Step 3: Communicating Standards*
>
> - Methods of Communication
>
> - Barriers to Communication
>   - Sender Barriers
>   - Receiver Barriers

The followings are methods that can be used to communicate standards:

- Employee handbook/manuals
- Training/workshops
- Formal conferences, meetings and seminars
- Supervision programs
- Monitoring program
- Newsletters
- Informal talks
- Job aids

When communicating standards, be aware of the barriers that can affect the sender or receiver.

- **Sender barriers:**
  - Standard contains words, phrases or terms that are not clear
  - Standard has been distorted by deletions, additions and changes
  - Standard was communicated at a different time
  - Standard contains information that does not match audience in terms of complexity
  - Method of communicating the standard was not appropriate for the target audience
  - Method of communicating the standard was not appropriate for the standard

- **Receiver barriers:**
  - Audience may not understand the purpose of the standard
  - Belief that the application of the standard will result in a change in their status
  - Belief that the standard was developed because of their poor job performance
  - The standard requires different groups to cooperate

Step 3: Communicating Standards

Evaluation of Communication Plan
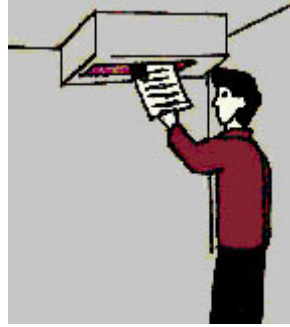
The following questions may be asked:
- Did the standard reach the intended audience as well as the individuals within those groups?
- Was the standard communicated without distortion?
- Was the standard communicated within the time frame that was originally planned?
- Did the audience understand how to apply the standard?
- Did the audience apply the standard?

Summary

This chapter introduced the three important steps in assuring quality in health care.

- Planning for quality which included the strategic and operational plan, elements of planning, quality plan and operationalizing a plan.

- Setting health care standards which described the types, how to measure and how to develop standards.

- Communicating standards which introduced the method, barriers to communication and evaluation of a communication plan.

Chapter 5

<div style="border:1px solid black">

Exercise

Provide a piece of paper for each participant and ask them to make a paper airplane. After 5 minutes, ask participants to "fly" their airplane. What do you observe?

Pick the airplane that flew furthest and ask the owner to demonstrate to everyone how he/she made the airplane. Provide another piece of paper and ask the participants to make the airplane as per the demonstration. Ask them to "fly" their airplanes again. What do you observe?

How does the above exercise teach us about standards and communicating standards?

(Adopted from Dennis Zaenger and A.F Al-Assaf. Quality Assurance Activities, in A. F. Al-Assaf. Health Care Quality: n International Perspective. WHO Regional Publication, SEARO, No. 35, New Delhi 2001)

</div>

Chapter 5

Bibliography

A Practical Guide. Implementing Quality in Managed Health Care. 1998;5:55-68.

A Practical Guide. The Concept of Health Care Quality. 1998; 36-37.

Al-Assaf, A. F & Schmale J.A. (1993). The Textbook of Total Quality in Health Care. DelRay Beach, FL: St. Lucie Press.

Al-Assaf, A. F. (1998). Managed Care Quality: A Practical Guide. Boca Raton, FL: CRC Press.

Al-Assaf, A. F., "International Health Care and the Management of Quality" in Quality Management in Nursing and Health Care, Delmar Pub., 1996.

Al-Assaf, A. F., "Quality Improvement in Health Care: An Overview", Journal of the Royal Medical Services, 1994;1(2): 44-50.

Dennis Zaenger and A.F Al-Assaf. Quality Assurance Activities, in A. F. Al-Assaf. Health Care Quality: n International Perspective. WHO Regional Publication, SEARO, No. 35, New Delhi 2001

Ministry of Health Malaysia. May 1998. The Strategic Plan for Quality In Health.

Penny Irwin and Jan Fordham. Evaluating the Quality of Care. Churshill, Livingstone.

Stephane Legros, et al. Quality Assurance Project. Evaluation of the Chile National QA Program. 10.2:47-55.

Total Quality Management. Quality : Organizing, Planning and Policy Making. 2000;2:57:63.

Chapter 6

Quality Improvement Activities

Geeta Supramaniam, MBBS
Maimunah A. Hamid, MBChB, MPH, CHQ

Institute for Health Systems Research,
Ministry of Health, Malaysia

Chapter 6

Learning Objectives

At the end of the chapter, you will be able to:

- briefly describe the need for quality improvement

- briefly describe the various steps of quality improvement

Contents

Steps of the Quality Cycle

QUALITY
DESIGN

Step 1: *Plan*

Step 10: *Implement Solution*

Step 2: *Set Standards*

Step 9: *Choose & Design Solution*

Step 3: *Communicate Standards*

Step 8: *Analyze & Study Problem*

Step 4: *Monitor*

Step 7: *Identify Who Will Work in Problem*

Step 5: *Identify & Prioritize Opportunities for Improvement*

Step 6: *Define Problem*

QUALITY
IMPROVEMENT - QUALITY
CONTROL

The Quality Cycle shows the steps of implementing quality in a health care organization. This cycle is based on an adapted Juran's trilogy. Dr. Juran describes quality activities to be made up of three main components; quality planning or design, quality control and quality improvement. Therefore, this cycle has three main sections; assuring quality involves steps 1-3, quality control involves steps 4 and 5, while quality improvement involves the rest of the steps. Additionally, quality management is considered the umbrella term for all of the steps in the cycle which includes the coordination and facilitation processes to achieve a high level of quality in an organization.

Assuring and Improving Quality

Assurance

The activities and programs intended to provide adequate confidence that the quality of patient care will satisfy stated or implied requirements or needs

Improvement

The attainment, or process of attaining, a new level of performance or quality that is superior to any previous level of quality

Assuring quality ascertains that quality exits in a procedure, a service or an organization. Improving quality moves one step further to continuously improve quality to a higher level.

Chapter 6

Improvement in Health Care

Expert knowledge
Content Knowledge

System Thinking
Statistical Variation
Scientific Methods
Psychology of Change
etc.

Traditional
Improvement

Continuous Quality
Improvement
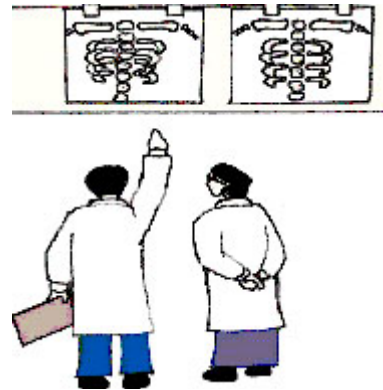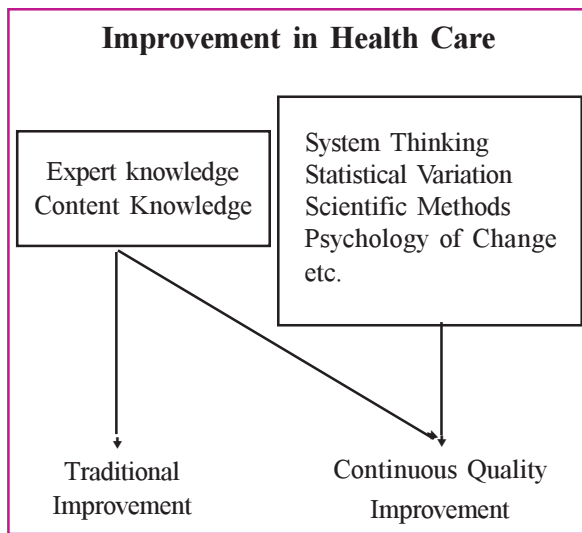
Traditionally, the emphasis for improvement in quality of health care evolves around the knowledge and knowhow of technical aspects of care, dealing mainly in the technical contents of disease, prevention and cure.

In the new model of quality improvement, the knowledge and skills are extended beyond technical contents. Health care providers involved in quality improvement need to have additional knowledge and skills, among others in the understanding of system perspectives; the appreciation of the concept of variations and ability to measure them using scientific methods; consciously exercising change management to institute and sustain changes for improvement.

**Why the Need for
Quality Improvement?**

There are many reasons why we need to continuously improve quality, either on an individual, team or organizational basis. They may include the following:

- Increased demand for effective and appropriate care
- Need for standard and variance control
- Necessity for cost-saving measures
- Benchmarking
- Accreditation, certification and regulation
- Report cards on provider performance
- Requirement to define and meet patients' needs and expectations
- Pressure of competition and to enhance marketing
- Need for improvements in care and services
- Desire for recognition and to strive for excellence
- Competition
- Ethical considerations

Chapter 6

**Quality Improvement:
What's in it for me?**

Continuous effort on quality improvement can be sustained if individuals within the organization are able to connect themselves with improving quality and their professional and ethical values, besides other incentives such as recognition and financial benefits. The following lists some of the benefits:

- Demand for higher quality and lower costs
- Ethics of the profession
- Public confidence
- Customer satisfaction and expectation
- Internal customer satisfaction
- Certification, licensure, accreditation, etc.
- Non-price competition
- New leadership skills

Chapter 6

A Model of Quality Improvement

```
                        ┌─────────────────────┐
                        │ Quality Improvement │
                        └─────────────────────┘
```

Managing for Quality	Customer Mindedness	Continuous Improvement and Innovation

Managing for Quality

Concepts
- Commitment to organizational goals
- Process & system orientation
- Participating in improvement

Tools
- Process management
- Self-directed work teams
- Managerial leadership
- Human resource management
- Employee involvement
- Cross-functional analysis & design
- Quality review
- Quality planning

Customer Mindedness

Concepts
- Assessing customer knowledge
- Acting on customer knowledge

Tools
- Customer focused measurement & analysis
- Action tools

Continuous Improvement and Innovation

Concepts
- Study of variation
- Study of improvement
- Waste, error, & cycle time reduction
- Quality results

Tools
- Quality improvement process
- Quality improvement tools
- Design tools
- Standards & guidelines

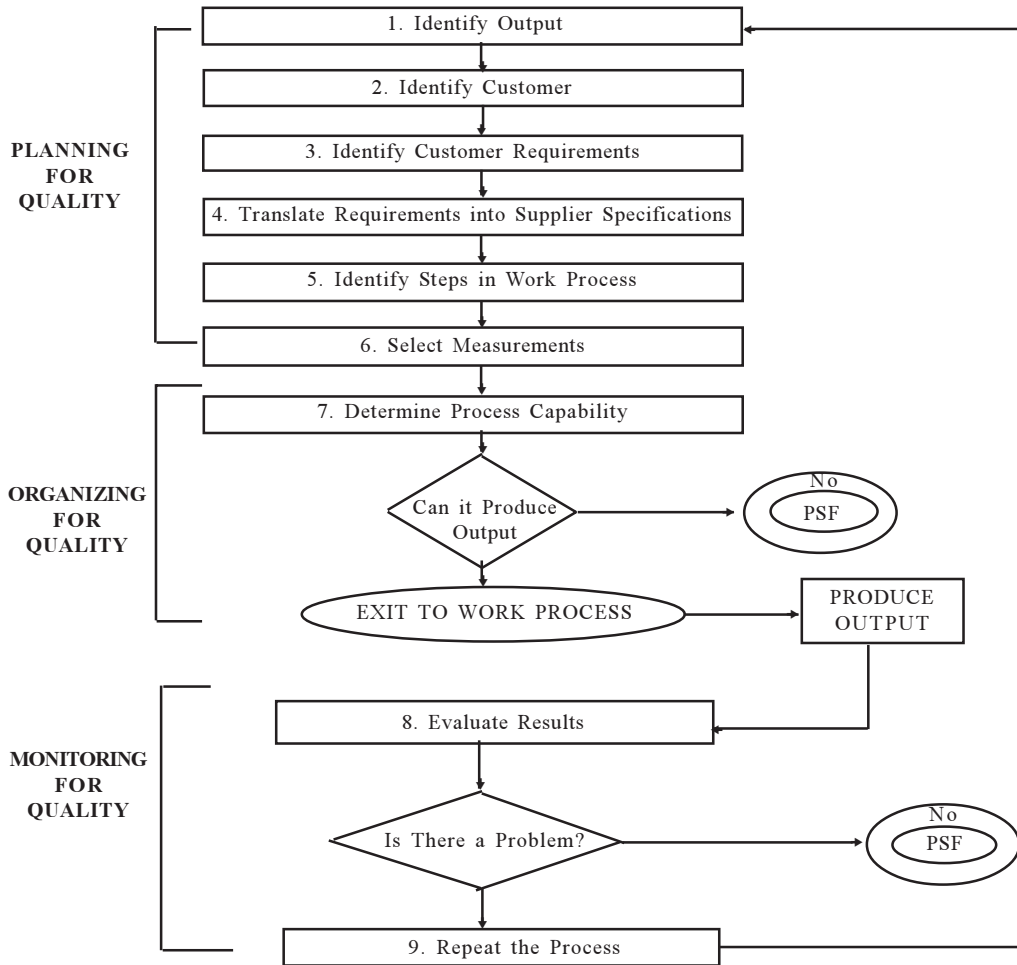There are three key components for quality improvement:

- **Managing for quality**
  Quality does not just happen. It has to be managed with the concepts that commitment to quality is in line with the overall organizational goals; the system is established to support improvement in quality; and participation comes from all levels. There are many tools that organizations can acquire and use to assist them manage quality.

- **Customer mindedness**
  Sensitivity to customer needs is the key to organizational success. Getting customers to be involved in defining quality and working with them to create the necessary environment for quality help health care providers understand and meet their customers' needs. There are many management tools that can be used to get customers to participate and provide the necessary feedback.

- **Continuous improvement and innovation**
  The concept of variations will enhance the understanding on how continuous improvement is possible. Innovation must be encouraged to challenge the status-quo and promote "thinking outside the box" for improving quality.

Chapter 6

The Quality Improvement Process

```
                    ┌─────────────────────────────┐
                    │     1. Identify Output       │◄─────────┐
                    └─────────────────────────────┘          │
                    ┌─────────────────────────────┐          │
                    │     2. Identify Customer     │          │
PLANNING            └─────────────────────────────┘          │
  FOR               ┌─────────────────────────────┐          │
QUALITY             │ 3. Identify Customer Requirements │     │
                    └─────────────────────────────┘          │
                    ┌──────────────────────────────────────┐ │
                    │ 4. Translate Requirements into       │ │
                    │    Supplier Specifications            │ │
                    └──────────────────────────────────────┘ │
                    ┌─────────────────────────────┐          │
                    │ 5. Identify Steps in Work Process │     │
                    └─────────────────────────────┘          │
                    ┌─────────────────────────────┐          │
                    │     6. Select Measurements   │          │
                    └─────────────────────────────┘          │
                                                             │
                    ┌─────────────────────────────┐          │
                    │ 7. Determine Process Capability │       │
ORGANIZING          └─────────────────────────────┘          │
   FOR                                                        │
 QUALITY                  Can it Produce      No   (PSF)      │
                             Output                           │
                                                             │
                    EXIT TO WORK PROCESS  ──►  PRODUCE OUTPUT │
                                                             │
                    ┌─────────────────────────────┐          │
                    │     8. Evaluate Results      │◄─────────┘
MONITORING          └─────────────────────────────┘
   FOR
 QUALITY               Is There a Problem?   No  (PSF)

                    ┌─────────────────────────────┐
                    │     9. Repeat the Process    │──────────►
                    └─────────────────────────────┘
```

There are at least nine steps in the quality improvement process that is commonly used in industry, at the end of which the process is repeated. This process can be modified and adopted in health care settings.
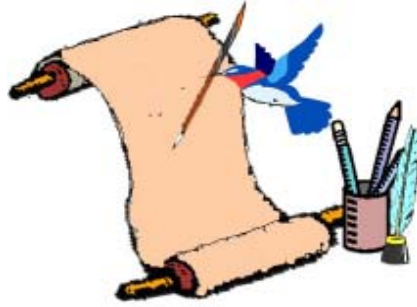
Process Improvement Model (1/2)

1. Identify Output
2. Choose Team
3. Describe Current Process
4. Identify Customers needs
5. Create Opportunity Statement
6. Create Data Collection Plan
7. Collect Data

Chapter 6

1. In order to improve, we must first identify what output we are interested in to improve, where the processes can be delineated and worked upon.

2. Choose a team(s) consisting of members that are able to analyze the problem, develop, implement and evaluate the quality improvement plan. The team should be interdisciplinary so that their work becomes more relevant to situation and there is ownership of the product.

3. Map the current proses to appreciate what works and what does not work.

4. Identify what the customers` needs are, such as short waiting time, choice of provider, confidentiality of treatment, etc.

5. Draft an opportunity statement that describes what needs to be change, the needs for the change and what is the expected result. This can be used to promote awareness in the organization and a guide to the team. A structure of the opportunity statement is given below:

    "An opportunity statement exists with ....(name of process) beginning with...and ending with..... The current process causes......and improvement should result in......for the...... (client). The process is important to work on now because....."

6. Draft data collection plan. This would include:
    •   What will be measured?
    •   Who will measure? When? Where? How?
    •   Where are the data sources? How reliable and valid the data are?

7. Collect data as per data collection plan.

Process Improvement Model (2/2)

8. Examine & Analyze Data
9. Identify Root Causes
10. Generate & Choose Solutions
11. Outline & Implement Improvement
12. Collect Data
13. Standardize & Document Change
14. Re-measure Periodically

Chapter 6

8. Examine and analyze data, using the various analysis tools to provide pattern and meaning for possible opportunities for improvement. Refer to *Chapter 7: Quantitative Aspect of Quality* for more details on the common tools.

9. Identify root causes that would add value to improvement.

10. Generate and choose solutions. Various tools to facilitate generation of ideas and choosing solution can be used such as brainstorming, brain writing, voting, norminal group techniques, force field analysis, etc. Refer to *Chapter 7: Quantitative Aspect of Quality* for more details on the common tools.

11. Outline and implement improvement. Develop an implementation plan detailing what to be improved. Who will do it? When? Where? and How?

12. Collect data based on the implementation plan and to include data collected as described under the opportunity for improvement so that improvement can be assessed.

13. Standardize and document change so that it can be consistently used by the team and replicated to other sites.

14. Remeasure periodically to ensure that the plan works and the process can be further refined.

Focus of Quality Improvement

- Structure (Input)
- Process
- Outcome (Output)

Improvement can be instituted in structure (inputs), processes and/or outcomes (outputs).

Structure is the characteristics of the care providers, tools and resources available, physical and organizational settings in which health care is provided. It includes all the resources of the system such as:
- Human resources
- Physical resources
- Medical records, etc.

These resources interact with each other in specified activities, procedures or processes to produce a result, an output or outcome(s).

Process is any activity that occurs within and between the patients and providers. It includes:
- Procedures
- Tasks
- Activities
- Operations, etc.

Outcome is the characteristics of the patient, care provider or their interaction resulting from the given care. It includes:
- Results of procedures
- Mortality rates
- Morbidity rates
- Infection rates
- Patient satisfaction, etc.

Chapter 6

Implementing the Solution

1. Plan the implementation
2. Assess resources
3. Action plan document
4. Monitoring progress
5. Re-measurement
6. Re-assessment
7. Start again!
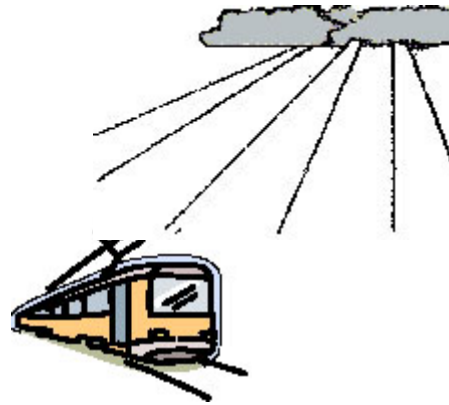
Implementing solution requires a planned action. It should begin with a written implementation plan that can be referred to by the team, detailing the objectives, the measurements, the process(es) to be carried out by whom, where, when and how. The implementation should be monitored to make sure that it is carried out as planned or modification/refinement needed to be instituted. Re-measurement and reassessment are norms that should not be forgotten in quality improvement so that further improvement can be worked upon. The process of re-measurement and re-assessment usually does not end with one or two cycles of monitoring.

Components of a Monitoring Program

1. Identify sources of data
2. Determine methods of data collection
3. Determine the sample and its size
4. Develop a data collection instrument
5. Determine frequency of data collection
6. Determine type of data analysis

To continuously improve, a monitoring program is required to provide the evidence and motivation.

Monitoring is the periodic collection and analysis of data for selected indicators which enable managers to determine whether key activities are being carried out as planned and are having the expected effect on the target population.

Common Problems in Monitoring
- Too much data collected
- Incomplete data
- Inaccurate data
- Misinterpretation
- Relevant data is not used for decision making

Characteristics of Effective Monitoring
- Monitor only key indicators
- Collect only needed data
- Gather data that is easy to interpret
- Provide timely feedback

Chapter 6

Summary

This chapter has provided an introduction to the need of improving quality in health care. It has also briefly described the quality improvement process that can be applied to an improvement effort in a health care organization

Bibliography

Al-Assaf, A. F & Schmale J.A. (1993). The Textbook of Total Quality in Health Care. DelRay Beach, FL : St. Lucie Press.

Al-Assaf, A. F. (1998). Managed Care Quality: A Practical Guide. Boca Raton, FL: CRC Press

Al-Assaf, A. F., "International Health Care and the Management of Quality" in Quality Management in Nursing and Health Care, Delmar Pub., 1996.

Al-Assaf, A. F., "Quality Improvement in Health Care: An Overview", Journal of the Royal Medical Services, 1994;1(2):44-50.

Al-Assaf, A.F. (2001), (ed.) Health Care Quality: An International Perspective, WHO *Regional Publication SEARO*, No. 35, New Delhi, India.

Intermediate Coaching and QI Skills, FHS/QAP Jordan (1995).

Jegathesan M. (1995), What is Quality?, Paper presented at the Quality Management and Quality Methodologies Workshop, November 1995, Kuala Lumpur, Malaysia.

Ministry of Health, Malaysia (1990), *Quality Assurance: A Problem Solving Approach*, Malaysia.

Quality Assurance Awareness Manual, The Quality Assurance Awareness Center for Human Services, Bethesda, USA.

Quality Oklahoma: Quality Improvement Process-Training Exercises, Xerox Corporation, Oklahoma, USA.

Exercises

Identify an opportunity for improvement or a quality problem in your department. Use the Quality Improvement Model to tackle this problem.

Chapter 7

Quantitative Aspect of Quality
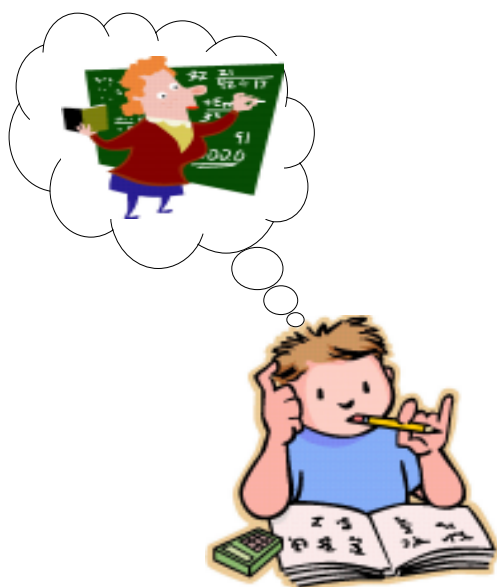
Maimunah A. Hamid, MBChB, MPH, CHQ
Geeta Supramaniam, MBBS
Low Lee Lan, BSc. Soc (Hons), MA (Med. Anthropology)

Institute for Health Systems Research,
Ministry of Health, Malaysia

Learning Objectives

At the end of the chapter, you will be able to:

- introduce and describe common tools and techniques used in the quality improvement process for the collection, analysis and display of data

- identify the usage of each of these tools in the various steps of quality improvement

Contents

Chapter 7

Concept of Measurement

● The process of quantification (attributes of a person, an activity or a thing)

● The number resulting from the process of quantification

● A process of comparison
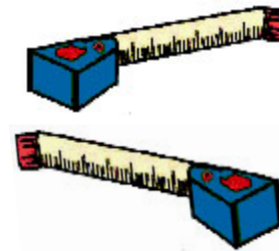
Measurement is central to quality improvement activities, to know how well we have done today compared to yesterday and how much more we can improve.

Measurement permits the conversion of the attributes of people, activities or things into forms capable of being quantified. This can be accomplished in three steps:

● A unit of measure must be defined (the amount of an attribute of a person, an activity or a thing).

● A measurement instrument, calibrated in terms of the unit of measure is devised or validated.

● Applying the measurement instrument to the object being measured to quantify the attribute expressed by the unit of measure.

Benefits of measurements

● Create a common language that provides degree of precision and clarity needed to identify, analyze and resolve important health care issues.

● Establish benchmarks, or points of reference for performance, to be used as potential opportunities for improvement and to determine whether performance has in fact improved and by how much.

● Provide data that can be used to set performance improvement priorities.

● Foster participation, acceptance of and involvement in the goals and processes of performance improvement activities.

● Provide milestones toward which people can strive.
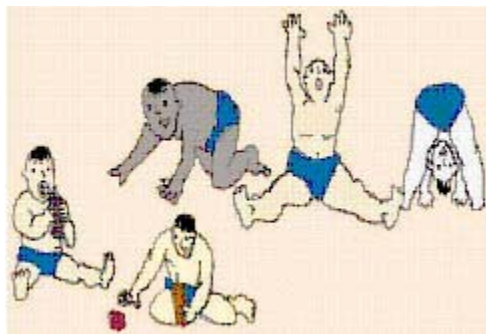
Concept of Variations

- Common in health care process and outcome of care

- Variation is caused

- Variation can be measured

Variation is common in health care, both in the process and outcome of care. Quality improvement is essentially about the reduction of variability. Measurement is a process that will display variations.

Two types of variations have been classified, the common cause and special cause variations. The **common cause variation** (endogenous cause variation or systemic cause variation) is always present and is part of the variation inherent in all processes. They are endogenous to a system and not disturbances (they are the system) and can be removed or eliminated only by making basic changes in the system. The origins can usually be traced to an element of the system that the organization can correct or improve. Some sources include design of a system, choice of equipment and preventive maintenance of equipment.

Special cause variations (assignable cause variation, attributable cause variation, exogenous cause variation or extra-systemic cause variation) are not inherently present in the system itself. They arise from causes that are not part of the system as designed. They are intermittent and indicate that a process is unstable. When they are operating within a system, the output of that system or process is impossible to predict or control. Ideally once detected, they should be eliminated by an organization, leaving the process with only common cause variations. They tend to cluster by person, place or time. Occasionally they can result in better outcomes, where they should be incorporated into the conventional system so that better outcome will recur.

Chapter 7

Quality Improvement Tools

Tools for identifying, collecting & displaying data	Tools for quality improvement & monitoring
▪ Surveys	▪ Nominal group technique
▪ Brainstorming	▪ Multiple voting technique
▪ Brain-writing	▪ Rank order technique
▪ Logs	▪ Balance sheets
▪ Check sheets	▪ Trend and run charts
▪ Pie chart	▪ Flowcharts
▪ Scatter diagram	▪ Pareto diagram
▪ Histogram	▪ Control charts
▪ etc.	▪ Cause & effect diagram
	▪ etc.
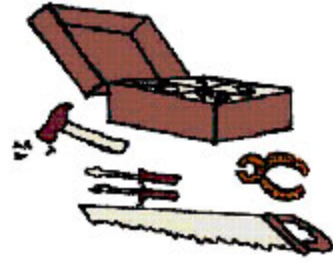
There are many tools that can be used to quantify quality in health care. Broadly, they can be classified into tools that are commonly used for collecting and displaying data; and those that are used to improve and monitor quality. This classification is however, not strictly exclusive since some of the tools in a category can also be used for the other.

It is also to note that the lists are not exhaustive for there are many more tools that are being adopted from the industry to health care and new ones are being introduced form time to time.

This chapter attempts only to introduce the concepts of the various tools. The details on most of these tools are further discussed in the *"Training Module: Implementing Quality & Improving Performance"*.

Chapter 7

Survey

- Objectives
- Questions
- Sample & sample size
- Survey instruments

A survey is usually conducted to measure quality in a group of population, who can either be a group of health care providers, patients, care takers, health facilities, records or even community at large. The objectives vary from looking at perspectives, opinions, practices to attitude or knowledge of a quality matter. For examples, a survey can be done to find out the knowledge and practice of health care providers in aseptic procedures; level of satisfaction among inpatients; utilization pattern of health facilities, etc.

A survey can also provide counts and rates of a situation, for examples, hospital mortality rates, incidence or prevalence rates of tuberculosis in a community, etc.

The questions in a survey are designed based on the variables identified from operationalising the objectives.

Since it is not cost-effective to study the population as a whole, a sample is usually selected to represent the population. Random sampling technique is commonly used to select the study units in the population so that the results can be extrapolated to the population of interest.

Depending on the knowledge and complexity of the issue being studied, survey instruments may be in the form of questionnaires, observation check list, discussion guidelines, etc.

Chapter 7
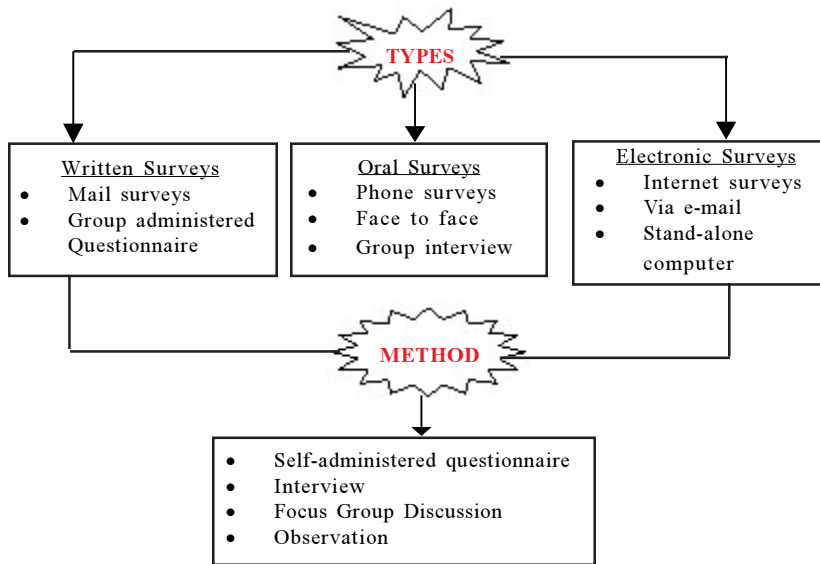
Survey.....

Tips:

- Survey instrument must be short.
- Personal interviews should not exceed 45 mins.
- Telephone interviews should not exceed 30 mins.
- Mailed questionnaire should not be more than 5 pages (depend on font size).
- Written permissions is required.
- Indicate how the information will be used and how confidentiality is maintained (e.g. by deleting respondent's name/address).

Chapter 7

Questionnaires

- Open-ended questions

- Close-ended questions

Survey.....

- **Open-ended Questions:**
  - Free responses
  - Recorded in the respondent own words
  - Possible answers not provided
  - More than one answers is allowed
  - In-depth understanding

- **Close-ended Questions:**
  - Offer a list of possible options or answers
  - Multiple choice in nature
  - Respondents must choose the answer

Open-ended questions are often used when the investigators need to explore on the issues being investigated, while close-ended questions are used when the investigators already have good understanding of the matter. A questionnaire can include both open and close-ended questions.

Chapter 7

Survey.....

Observation

- A technique which involves systematically selecting, watching and recording behavior and characteristics of people, objects or phenomena.

- Participant observation and non-participant observation

- Checklist as a tool

Observation is used to collect data in a systematic way by using checklist as an observation tool. It is commonly employed in an exploratory study to obtain the following information:

- In-depth information
- Explore new information
- Collect additional data
- Assess knowledge and understanding
- Assess group interactions
- Test reliability of responses to questionnaire
- Further develop a questionnaire

Observation can either be carried out by the investigator who participate as members of the group to be observed (termed as participant observation) or he/she observes the situation as an external observer (termed as non-participant observation).

Checklist is prepared as a guiding tool to document observations made.

Chapter 7
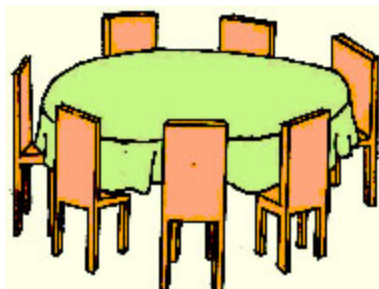
Survey.....

Focus Group Discussion (FGD)

A group discussion with a small group of people (usually about 6 to 10 participants) of similar status, guided by a facilitator and an additional observer (recorder), to discuss topics relevant to the study

Focus Group Discussion (FGD) is systematic group discussion guided by a facilitator. Focus group guidelines are prepared prior to the discussion to outline the issues to be discussed. It is more than a question-answer interaction. The facilitator is expected to encourage discussion and participation by all members. All discussions are recorded by a recorder and may be taped recorded if granted by the group. The investigator will study the recorded discussions and analyze them to provide the results based on the conceptual model postulated by him/her.

FGD can be used to garner the following information:
- To explore controversial or sensitive topics
- To get information on community knowledge, beliefs, attitudes and behavior
- To develop appropriate messages for health education programs
- To develop survey questionnaire

Chapter 7

Brainstorming

A group discussion technique,
generating new and useful list of
ideas, in a short amount of time

Brainstorming is an example of a group discussion technique. It can be used at any stage of the continuous improvement process to generate lists of topics to asses process components, data to collect, problems or potential solutions.

Brainstorming uses a few simple rules:
- No idea may be criticized
- No judgment
- Imaginative thinking
- Aim for large number of ideas within the shortest time

Chapter 7

Brain-writing

A group discussion technique where members of a group gather to generate new and useful list of ideas. The ideas generated are evaluated and utilized aggressively by other members in the group to expand their list of ideas

As brainstorming, brain-writing can also be used at any stage of the continuous improvement process to generate lists of topics to assess process components, data to collect, problems or potential solutions. It provide equal opportunity to participate to all members and help to eliminate less thought-out ideas. Brain-writing builds on the product of brainstorming by "hitch-hiking" on ideas generated by others via expanding, modifying or associating them.

Norminal Group Technique

A systematic small group discussion technique where members of a group contribute in generating ideas, followed by a process of voting to rank and prioritize the ideas

Norminal Group Technique (NGT) is a continuation of brainstorming and brain-writing for the purpose of ranking and prioritizing. It is usually conducted for a group of 8-10 members. The discussion is guided by a facilitator. The members are seated in a circle or semi-circle position to enable them to see the list of ideas written on a flip chart/board.

NGT begins with a silent generation of ideas from all members after the facilitator provide a brief overview of the purpose and procedure of the discussion. The ideas are listed on a flip chart and the members are allowed to ask for further clarification if needed before discussion takes place. Members are later asked to rank order the ideas to get the "best ideas" by multi voting. NGT may proceed to ranking order the best ideas by getting members to include scoring in their votes. Criteria and value for each criteria may be developed, if necessary, to enable higher weights be given to more important ideas.
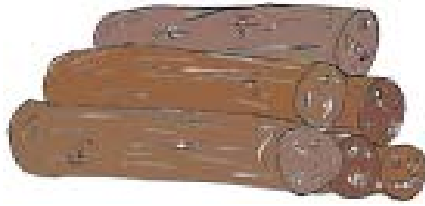
Logs

Track sequence of events or the time
of occurrence of certain data

A log is used to tract the sequence of events or the time of occurrence of certain data for charting trends or frequency analysis.

For example, a log sheet can be used to review medical charts by tracking the reviewers, date, time and findings.

R/N	Reviewer	Date	Findings
126/01	Fatimah	21/3/01	No lab results
800/01	Othman	30/3/01	No signature
1232/01	Siti	3/4/01	Incomplete biodata
232/01	Elaine	5/08/01	No lab results
2231/00	Muthu	28/08/01	Missing x-ray film

Check Sheets

A check sheet is a data-gathering and interpretation tool. It records happening of event of interest

```
卌 卌-卌-卌-卌 卌 II
卌 卌-卌-卌-III
卌 卌-IIII
卌 卌
卌 卌-I
卌 III
II
```

A check sheet is a form designed to record how many times a given event occurs. A check sheet makes use of the product of Logs to display and interpret its results. It uses categorical or numerical data to record a process that can be used to detect patterns about that process.

The categorical check sheet can be used later to plot a Pareto Chart. The numerical check sheet can be used to plot a histogram. An example of a checklist to record on the types of medication error is given below.

Type of error	Tally	Subtotal
Wrong Dose	卌 卌-卌-卌-卌 卌 IIII	34
Dose Omitted	卌 卌-卌-卌-III	23
Wrong Solution	卌 卌-IIII	14
Wrong Time	卌 卌	10
Prescription Concentration	卌 卌-I	11
Wrong Route	卌 III	8
Others	II	2
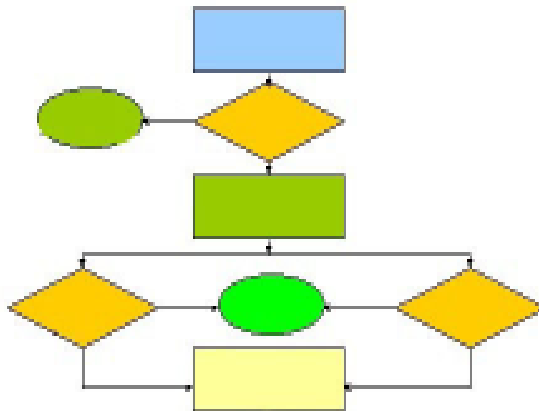
Flow Charts

Step-by-step sequence of processes and sub-processes that pictorially include events, reaction(s) or decision(s)

A Flowchart identifies and displays the actual path of a process. It helps the investigator to understand the process steps and to identify redundancies, inefficiencies, "bottlenecks", misunderstandings, waiting loops and opportunities for improving the process flow.

To enhance the accuracy and relevance of flowcharts, the people who are directly involved in the processes should be the ones who prepare them.

There are at least 3 different types of flowchart:
- Top down flowchart, only displays the main processes
- Detailed flowchart, outlines each of the detailed steps
- Work-flow diagram, maps the floor plan and displays the work-flow of the process

Chapter 7

Cause and Effect Diagram

Reasons for Phone Not Answered
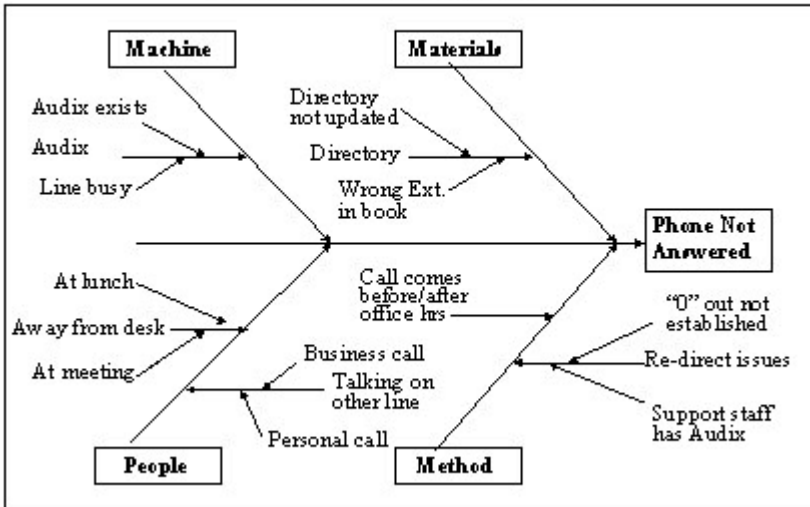
A Cause and Effect Diagram is an analysis tool that helps to display possible causes of a specific problem or condition. It shows a large number of possible causes of a particular outcome. It is also known as a Fishbone Diagram or Ishikawa Diagram.

It helps a team identify and define an outcome or problem, determine causes of a given outcome or problem, or identify causes for variation in a process. It enables the team to identify the obvious areas for improvement; the causes that are readily solved or eliminated and the areas needing more study so that they can be more readily understood.

A Cause and Effect Diagram can also be presented in the form of a Problem-Analysis Diagram or a Mind-Mapping Diagram as shown below:
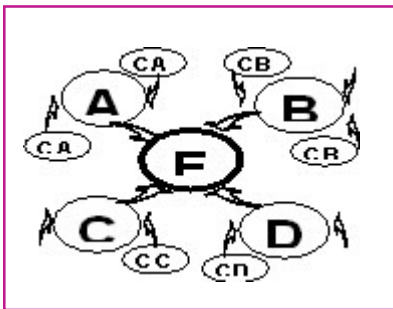
Notes:

E – The problem

A, B, C, D – Causes directly affecting the main problem (1st generation)

CA, CB, CC, CD – 2nd generation causes affecting the main problem

Force Field Analysis
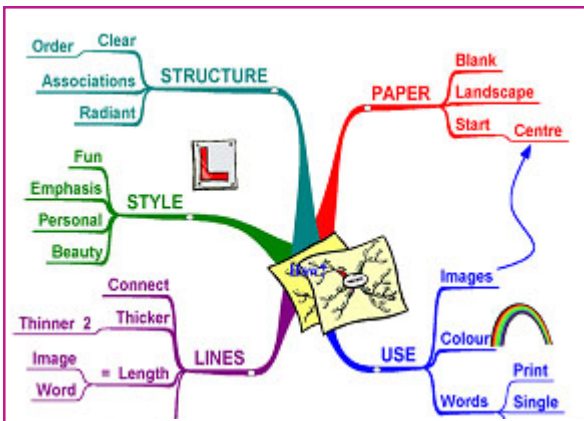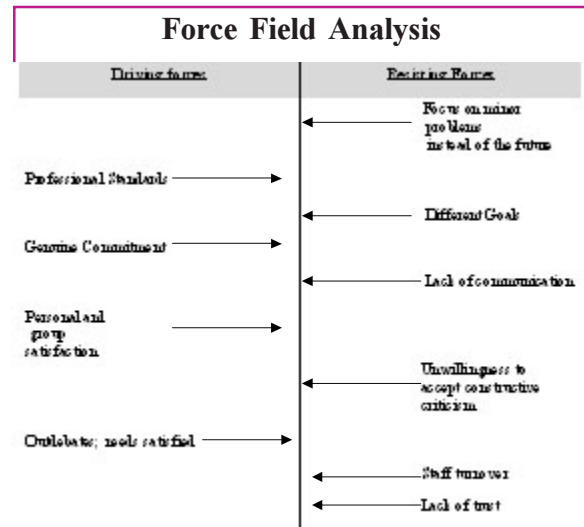
A Force Field Diagram shows the drivers and resisters to problems we face when facilitating change in process improvement.

It helps the team to identify obvious areas for improvement, causes that are solved or eliminated and those that they can concentrate their efforts on. It also allows an examination of the relative strengths of forces and therefore the ability to develop ways of correcting those forces. An example of the Force Field Diagram on the acceptance of quality improvement in an organization is shown in the slide.

Chapter 7

Bar Chart

Bar Chart presents results that compare different groups. It works best when showing comparisons among categories, such as comparing sizes, amounts, quantities, or proportions of various items or groupings of items.

Bar charts can be used in defining or choosing problems to work on, analyzing problems, verifying causes, or judging solutions.

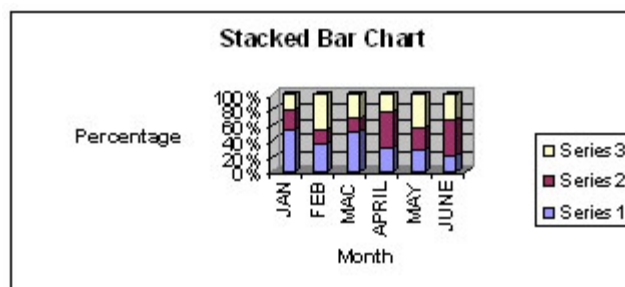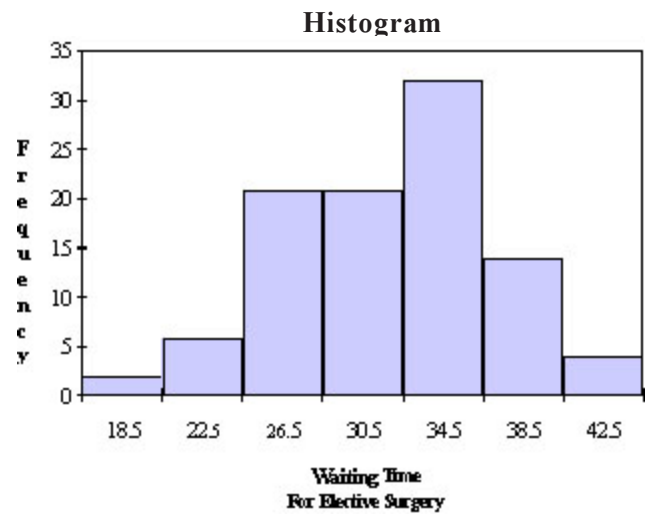There are at least 3 types of bar chart:

   a) A simple bar chart
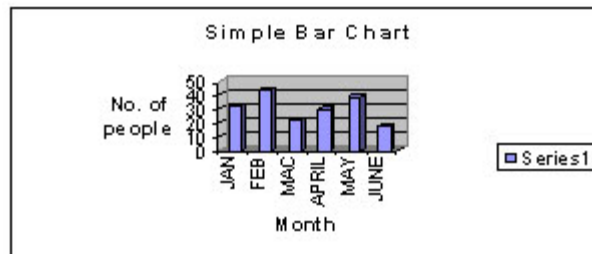
   b) A grouped bar chart

   c) A stacked bar chart

Histogram

Waiting Time
For Elective Surgery
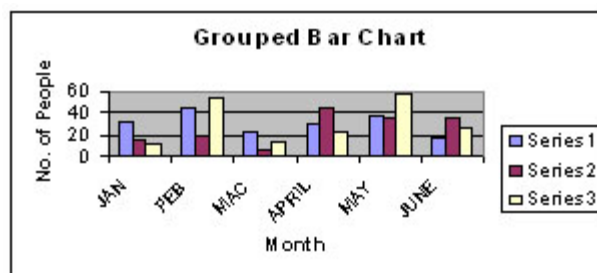
|		
Mode = 31.00	**Mean = 29.89**	**Mean < Mode**
Skewness = -0.183	There is a slight skew to the left	

A Histogram is a modified bar graph, used to display continuous/measurement data, distributed by categories. It helps to discover and display the distribution of data by bar graphing the number of units in each category.

All processes have variation and a histogram helps teams see how much and what kind of variation exists in a particular process. A histogram provides information on the nature and distribution of the data such as:
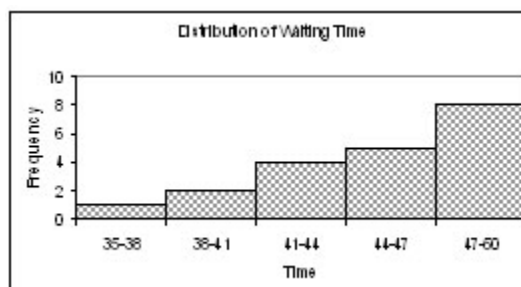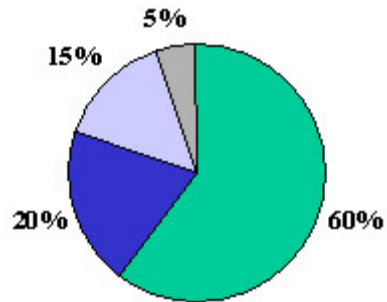
● Bell Shaped
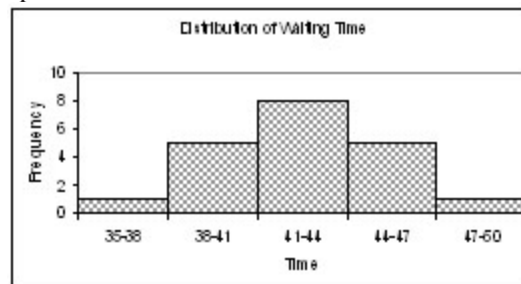
● Double Peaked

● Skewed

Chapter 7
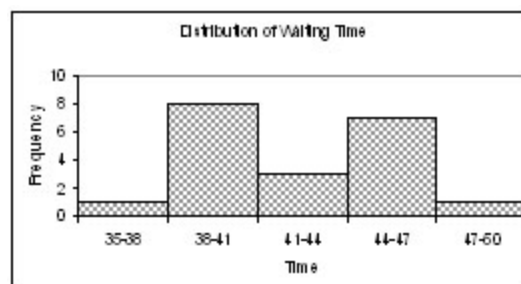
Pie Chart

A pie chart is a form of graphic presentation of data elements that are part of a whole

A Pie Chart helps to visualize the difference between the several parts of a whole. They are used for displaying relative proportions of various items in making up the whole, i.e. how the "pie" is divided up. Pie Charts can be used in place of bar charts.

Simple rules in pie chart:
- The segments must add up to 100% of the whole.
- The number of segments not more than 6.
- Shows % of segment to the whole for comparability.
- It should not be used if one or more of the segments have a zero value.

Chapter 7

Run Chart

An example: A Run Chart of Arterial Hypertensive patients
under observation (per 1,000) in a hospital
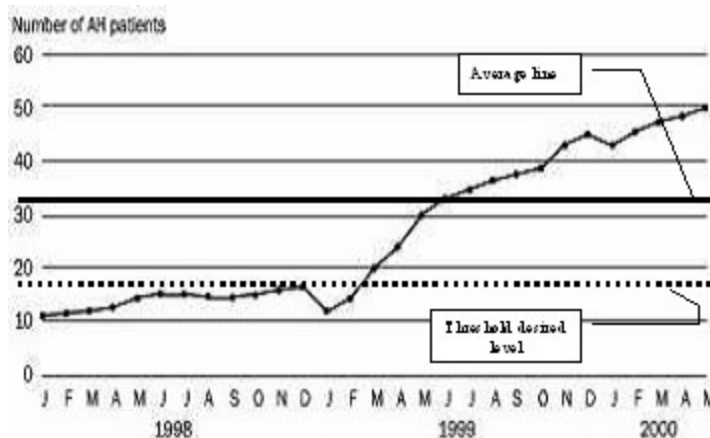
A Run Chart is a line graph that shows data points over time. It identifies variations and trends, including movement away from the average. It is commonly used to analyze performance data and to monitor actions taken to improve performance.

A Run Chart is used to:
- show trends and shifts in a process over time,
- show variation over time,
- identify decline or improvement in a process over time.

Chapter 7
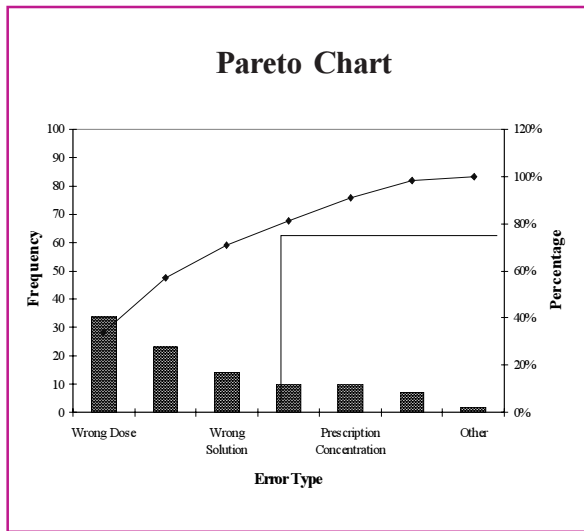
Pareto Chart

A Pareto Chart is a bar and line graph to display the relative importance of problems or conditions, collected in the form of categorical data. Its goal is to separate the numerous problems or causes of problems into two categories of the "vital few" and the "useful/trivial many", explaining the principles that a relatively few of the contributors account for the bulk of the effect.

A Pareto Chart depicts, in descending order, the frequency of events being studied. This chart is used to determine priorities, a way of sorting out the vital few from the many trivial, narrowing down problems often referred to as the "80-20 rule" where 80% of variables commonly account for 20% of another. It helps to identify major areas of concern, so that we can concentrate our resources towards the rectification of the problem. It also helps in setting priorities when selecting the problems to work on and weeds out many trivial problems.

Control Charts
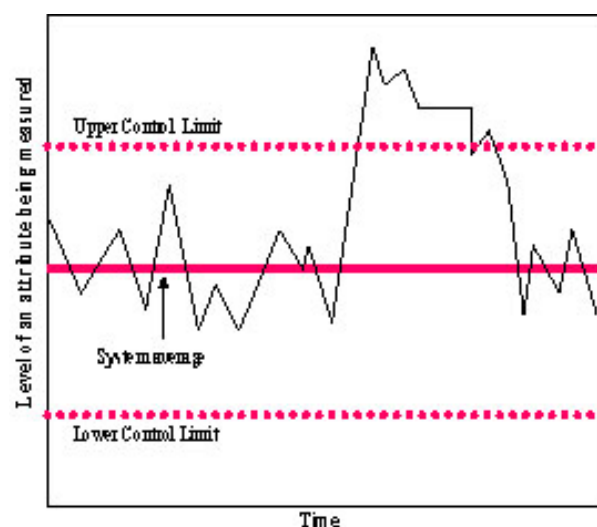
A Control Chart is a run chart with statistically determined upper (Upper Control Limit) and lower (Lower Control Limit) lines drawn on either side of the average. The limits are to state whether the process is statistically in control, and not to say if the process is running at the desired level.

A Control Chart is used as a monitoring tool to continually monitor processes, performance over time, and to offer some signs of when variations in the process require attention.

It shows variations in a process and suggests what types of cause may underlie the variation. Common cause variation will always be present. It is the random everyday occurrence that individually has little demonstrable consequence. When performance jumps outside the upper or lower control limits, the cause is called – special or an assignable cause. Special cause variation requires immediate attention. However, remedying a special cause does not necessarily improve the overall level of performance. Special cause variation may include machine malfunction and human error.

When performance variations stay within the upper and lower control limits, the process is said to be under control. There are specific pointers to indicate that a process is "out of control".
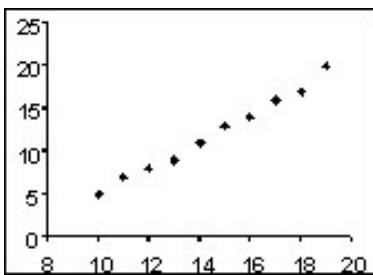
Chapter 7

Scatter Diagram

- A plotting of points on a graph to show the relationship between two continuous variables

- To study the possible relationship between the variables when teams want to test a theory about cause and effect
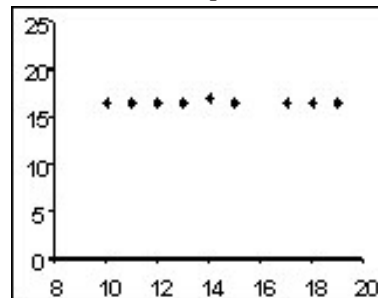
A graph displaying the relationship between two variables, validating "hunches" about a cause and effect relationship between types of variables, displaying the direction of the relationship (positive, negative, etc.) and may also displaying the strength of the relationship.
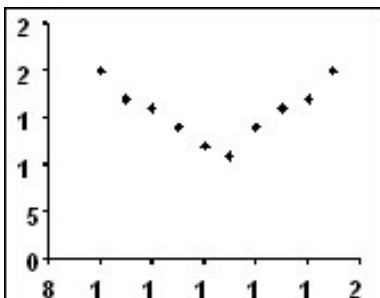
Linear   relationship

No relationship

Quadratic relationship

No relationship
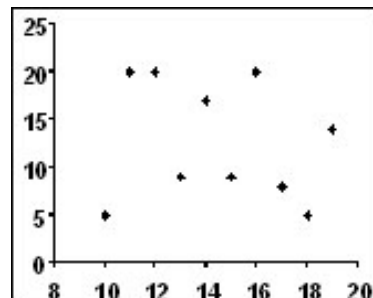
Summary

Simple yet powerful tools/techniques have been proven useful in the various steps of quality improvement process

The simple tools/techniques in this chapter have been shown to assist teams in displaying and analyzing data that helps to:

- generate ideas
- establish meaningful classification
- set priorities
- provide direction in decision making
- understand root causes
- understand processes
- measure performance (including collecting data)
- display performance data in a different way to uncover specific kinds of information, such as performance overtime and performance depending on certain variables

Chapter 7

Case Study

Patients are complaining about receiving cold food trays. In the last month, 35 complaints from patients and their families have been received. This problem has been turned over to your team. The first reaction is that the trays are just not delivered and Dietary is at fault.

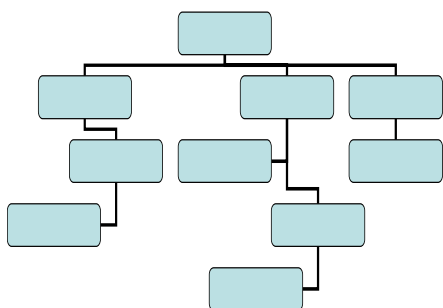Let's look at the problems and see what improvements can be made.

Bibliography

Al-Assaf, A. F., "International Health Care and the Management of Quality" in Quality Management in Nursing and Health Care, Delmar Pub., 1996.

Al-Assaf, A. F., "Quality Improvement in Health Care: An Overview", Journal of the Royal Medical Services, 1994;1(2):44-50.

Al-Assaf, A. F & Schmale J.A. (1993). The Textbook of Total Quality in Health Care. DelRay Beach, FL : St. Lucie Press.

Al-Assaf, A. F. (1998). Managed Care Quality: A Practical Guide. Boca Raton, FL: CRC Press

Al-Assaf, A.F. (2001), Quality Improvement: Tools and Methods, in: Al-Assaf, A.F. (Ed.) Health Care Quality: An International Perspective, WHO Regional Publication SEARO, NO. 35, New Delhi, India.

Hughes, R. (1996) Facilitator's Handbook for Quality Improvement, 2nd ed, USA.

Namara, Mc. "General Guidelines for Conducting Interviews", Available: http://www.mapnp.org/library/evaluatn/interview.html

"Using Interviews in Research", Available: http://www.rider.edu/users/suler/interviews.html

"In Depth Interviews", Available: http://www.pra.ca/depth2.html

Intermediate Coaching and QI Skills, FHS/QAP Jordan. (1995).

"Questionnaire Design" , Available: http://www.staffs.ac.uk/buss/bscal/mandev/m_qm/t_que/que.html

"Observation", Available: http://www.garland.co.uk/RM/observation.html

Quality Improvement Cycle in: Quality Assurance Awareness Manual, The Quality Assurance Awareness Center for Human Services, Bethesda, USA.

"QA Resources – Bar and Pie Chart", Available: http://www.qaproject.org/ (7/8/2002)

"QA Resources – Histogram", Available: http://www.qaproject.org/ (7/8/2002)

TQI Tool Kit: Reference Book, ECM INC. – Experimental Consultants in Management, Inc. Onancock.

Varkevisser M., Pathmanathan, Brownlee (1991), Designing and Conducting Health Systems Research Projects, Health Systems Research Training Series Vol. 2, International Development Research Centre, Ottawa, Canada and WHO, Geneva, Switzerland.

Chapter 8

Quality Structure

Maimunah A. Hamid, MBChB, MPH, CHQ
Norbayati Nordin, SRN, Dip.Edu

Institute for Health Systems Research
Ministry of Health, Malaysia

Learning Objectives

At the end of the chapter, you will be able to:

- appreciate the needs and functions of various structures for quality improvement program

- describe the roles and responsibilities of various players in the quality infrastructure

- identify the resources needed for quality improvement program

Contents

Chapter 8

Quality Structure

- Quality Improvement Program
- Quality Infrastructure
- Leadership
- Human Resources
- Information System
- Financial Resources
- Facilities and Equipments
- Quality Culture

Quality improvement just does not happen. It has to be managed. The management of quality improvement requires basic elements that include items listed in the above slide.

The elements are discussed in further detail in the subsequent slides.

Quality Improvement Plan

A document developed by the team that defines the conceptual understanding of quality in the institution and provides a description of the organization structure

A Quality Improvement Plan is a guiding document that an institution would use and refer to in the development, planning and evaluation of their quality improvement program.

The plan should be developed by the team in the institution itself, with or without external assistance. It should reflect the needs and desire of a majority of the institution's members. Hence, in the process of drafting the plan, input and discussions should take place among its members. This is essential to ensure ownership of the document and acceptance of its use as the master guide for their plan on quality improvement.

A plan should contain the following:
- The table of content
- Background and history of the program
- The mission and vision of the institution
- How does the mission fit in the overall goal of the quality improvement program
- Objective of the program
- Who is involved? Describe the positions of different personnel associated with the program, and list the main duties and responsibilities
- Organizational structure of the program, outlining the hierarchy
- List of quality related committees
- List of all of the major activities of the program
- List of key indicators
- Standards being followed
- Linkages with other services
- Report and communication
- Synopsis of annual report/evaluation of the program
- Evaluation

Chapter 8

Operational Planning of a Quality Improvement Program at Institutional Level

- Introduce the Concept of Quality Improvement
- Develop the Objectives for the Plan
- Discuss Plans and Resources
- Establish Structure
- Plan Training Requirement
- Plan Implementation Assessment
- Develop Reporting System and Method for Evaluation

Introduce concept of quality improvement:
Introduce the concept of quality in health care and its relevance to the institution. Emphasize on principles and benefits of the program.

Develop the objectives for the program:
Discuss and deliberate on the local needs and expectations of the health care providers and community on the need for quality services. Develop objectives to the program based on these needs.

Discuss plans and resources:
Make a preliminary estimate on the resources needed for the program. Identify and broadly describe the type of resources needed and their uses.

Establish structure:
Work on a structure that has a high potential of sustainability. The extent and mapping of the details of the structure is dependent on the best approach of the institutions system. It can also be developed slowly and gradually.

Plan training requirement:
Training is an essential component for a sustainable program. A plan for a training program must be developed based on the actual needs, with the goals for achieving optimum training. The issue related to training materials, objectives, participants, methods, contents, trainers, timetable and expected outcomes should be discussed and the required support identified.

Plan implementation assessment:
A planned assessment or evaluation of the program must be thought of at the planning stage of the program development. Problem areas should be identified as to aid in the selection of improvement intervention and also to provide a baseline data of the status of the system before improvement.

Develop reporting system and method for evaluation:
Progress towards meeting the objectives of the quality initiative needs to be documented. The obstacles can be identified and corrected early. Reporting and evaluation should be encouraged. Adjustments to plan should be made for the purpose of learning, and not for judgement.

Chapter 8

Quality Infrastructure

- Department and Staff Responsible for Quality Processes
- Quality Committees/Councils
- Quality Teams
- Quality Team Coordinator
- Quality Facilitator(s)
- Quality Trainers

An organizational structure is important to delineate line of authority, reporting and accountability in quality improvement. An example of the Quality Assurance Structure in the Ministry of Health Malaysia is provided at the end of this chapter.

A Quality Committee/Council at the highest level in the institution would take charge of formulating policies for quality, approving quality improvement plan and mechanism, monitoring progress of implementation, providing the necessary resources and supporting and evaluating quality performance.

A Quality Department would assist in developing quality plan and mechanism for implementing the plans, coordinate quality improvement activities and work with quality teams to improve quality.

Quality Teams would be working on specific quality improvement projects, targeted at improving quality.

Quality Team Coordinator is the leader of the quality team.

Quality Facilitator(s) provides technical leadership in the development of quality plans and projects and facilitate the work of quality committee, department and teams. He/she is a knowledgeable and experienced person in quality improvement from the institution or a consultant from another organization.

Quality Trainers support the training and educating of staff members in all aspects of quality improvement.

Chapter 8

Criteria for Selecting a Quality Team Member

- Leadership and support for the implementation of quality improvement activities
- Interested and enthusiastic
- Possess technical and process skills
- Be the prime mover and resource person

To facilitate the implementation of activities at institutional level, a quality team(s) should be formed. The members of this team can act as the prime movers to encourage and influence others to participate and be involved in quality improvement activities. The team members should consist of motivated individuals who proactively support the program. Ideally, it should have members who could offer a variety of skills and abilities. A multi-disciplinary team is essential to represent the needs of various categories of staff in the institution.

The functions and roles of each member should be identified and discussed with the team members.

The team members should be given a priority to be trained and to have further exposure in quality improvement to enable them to perform their roles more effectively. The team also needs members with control over resources required for the implementation of goals, plan and processes. The team must have creative, innovative and analytical skills.

The team members should understand the mission and goals for quality in the institution. They should participate in meetings, listen to suggestions and share ideas. They should communicate and get along with their team members by respecting their opinion and avoid negative comments. Team building is essential in creating team cohesiveness and team spirit.

The team should meet often to report their findings and activities. They should use whatever decision-making process that they feels comfortable with to decide on the key elements and quality characteristics to monitor quality.

Chapter 8

Quality Team Coordinator

- An advocate and speaker for quality
- Coordinates the strategic and operational planning of program activities and allocation of resources
- Supports quality teams
- Coordinates the training plan

The Quality Team Coordinator may be selected from a team member with a leadership ability, both in the technical and administrative matters related to quality. He/she does not necessarily be selected because of his/her seniority position in the organization, though such position may provide additional influential advantage. He/she can have a background in management or clinical.

The coordinator should have a direct and free access to the director of the institution to enable him/her discuss matters and seek support.

The coordinator should have a basic training in quality improvement to enable him/her to effectively advocate the principles and ideas on quality to other members in the organization.

His/her main responsibility shall be spearheading the activities on promoting and creating awareness on the needs for quality in the institution, planning for quality activities including training plans, providing technical input in the development and implementation of quality activities and evaluating the effectiveness of the program at institutional level.

Chapter 8

Quality Improvement Facilitator

- Runs the meeting accordingly and intervene if discussion is off track
- Observes team and helps put strengths and overcome problems
- Assists leaders/coordinators in decision making, and conflict management
- Assists leaders with meeting agenda
- Writes important facts, issues and ideas

A Quality Improvement Facilitator is the resource person for the quality initiatives in the institution. He/she can come from a member of the institution or recruited from another organization, as a consultant for a long or medium term duration, depending on the needs of the institution.

He/she should have direct access to the director or manager of the institution.

His/her main responsibilities are to:
- provide technical leadership in the planning, development and evaluation of quality plan and initiatives in the institution,
- provide leadership in training members of the institution, developing training plan, preparing training curriculum, conducting and evaluating training activities,
- continuously motivate members of the institution, and
- assist in documenting quality activities.
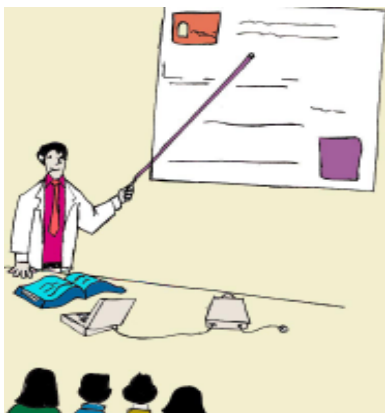
Quality Improvement Team Trainers

Roles
> Encourage learning, resource persons

Responsibilities
> Plan and design training program, Plan the logistics, Evaluate training program

Skills
> Technical skills, Communication skills, Motivational skills, Presentation skills

Characteristics of a trainer
> Confident, Enthusiastic, Patient, Practical job experience

The primary responsibility of the trainers is to organize and conduct training course in quality improvement. Their role is to encourage learning among trainees. They must be able to create a motivational climate that encourages the trainees to learn and make training interactive. As resource persons, they must be thoroughly familiar with course materials/contents. They must have communication skills and able to deliver the presentations well.

Allocation of Resources

Physical, human and financial
resources are essential in ensuring
success in the implementation of
a Quality Plan in an institution

- **Human Resources**

  - Staff members to be trained in quality improvement.
  - Consultant to provide expert support, if necessary.
  - Additional staff members may be required to help disseminate the concept at the grassroots level and to the professional staff.

- **Physical Resources**
  - Physical space/centre for the activities.
  - Equipment and material to assist in preparation of program document, production of training modules and program plan.

- **Financial Resources**
  - Investment in training.
  - Purchase or rental of equipment and material needed for implementation of Quality Improvement Plan.

Quality Culture

Culture is shared beliefs and values
that guide organizational members
in their manifest behavior

Quality Culture is the ultimate aim to institutionalize quality in an Institution. Quality Culture is said to exist when:

- Quality activity becomes routine activities.
- Each employee is aware of quality concept, believes in it, practice its principles and makes it part of his/her responsibility.
- Each individual owns quality structure, process and outcomes and never ending quest for higher quality.

Chapter 8

Organization Structure of the Quality Assurance Program (QAP) in the Ministry of Health, Malaysia

```
                        ┌─────────────────────────┐
                        │  QAP Steering Committee  │
                        └─────────────────────────┘
         ┌──────────────────────────┬──────────────────────────┐
┌─────────────────────────┐               ┌─────────────────────┐
│  QA Technical Committee  │               │    QA Secretariat   │
└─────────────────────────┘               └─────────────────────┘
```

QAP Committee Patient Care Services	QAP Committee Health Services	QAP Committee Pharmaceutical Services	QAP Committee Laboratory Services	QAP Committee Engineering Services	QAP Committee Dental Services	QAP Committee Training & Manpower

QAP Committee State Health Services	QA Committee, other institution (as per MOH Organizational Structure)

| QAP Committee Hospital	QAP Committee Health District	QAP Technical Sub-Committee

An example of the Malaysian Quality Assurance Program is used in this chapter to provide an appreciation of the organizational structure and mechanism therein in managing a quality program.

Malaysia established its Quality Assurance Program in 1985 by formalizing a formal structure at national, state and hospital levels. The structure, in the form of committees, concurs with the existing organizational structure of the Health Ministry. This has provided opportunity to institutionalize the mechanism for monitoring and improving quality into an already functioning infrastructure. This structure takes the strength of the existing system in providing leadership, support services, reporting and feedback for the implementation of quality improvement at various levels.

To date, seven Health Ministry's programs have established their Quality Assurance Programs monitoring specific national indicators on quality for their respective health programs. National indicators were developed through extensive consensus approach. Each state committee monitors and evaluates the implementation of indicators and provides feedback to the national level.
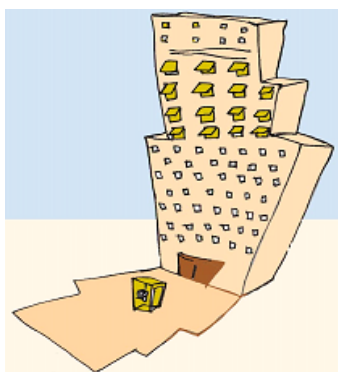
Quality Assurance Program Committee at National Level

- The Ministry of Health Quality Assurance Steering Committee
- The Ministry of Health Main Committees for the various health programs
- The Quality Assurance Technical Committee
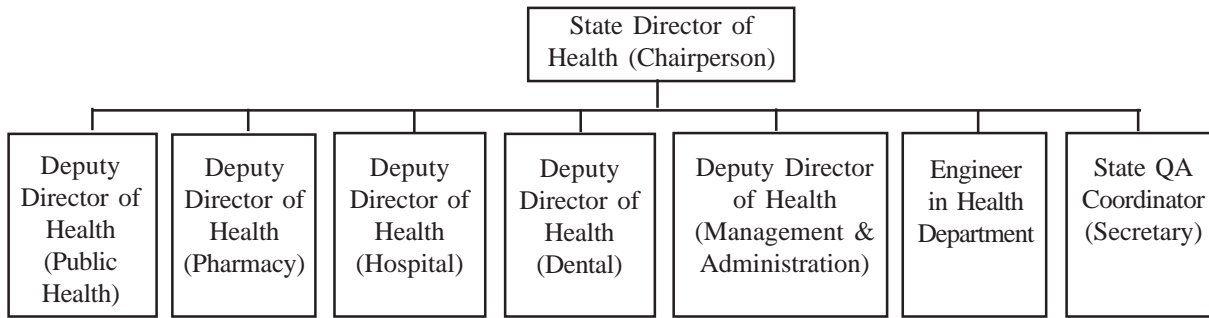- The National Secretariat for Quality Assurance Program

The Steering Committee is the umbrella committee for the program, chaired by the Director General of Health. The membership includes the Deputy Directors and Directors of the various Health Program Service Divisions. The Steering Committee meets twice a year to decide on policy direction, determine priorities for development of the program, and monitor the progress of implementation of the program.

To date seven Health Program Service Divisions have their own Main Quality Assurance Program Committees, chaired by their respective Directors. These committees develop strategies for implementation and monitor the development and implementation of their respective quality assurance programs.

The Technical Committee meets at least four times a year to deliberate on technical matters related to the development and implementation of quality improvement across Health Ministry's programs. The membership consists of coordinators of the various QA Programs at national level.

The National QA Secretariat coordinates the implementation of QA Programs. It provides technical input in the development of QA at national and state levels and conducts national training program. It acts as the secretary to the Steering Committee.

Chapter 8

Quality Assurance Program Committee at State Level

```
                    ┌─────────────────────┐
                    │   State Director of  │
                    │ Health (Chairperson) │
                    └─────────────────────┘
```

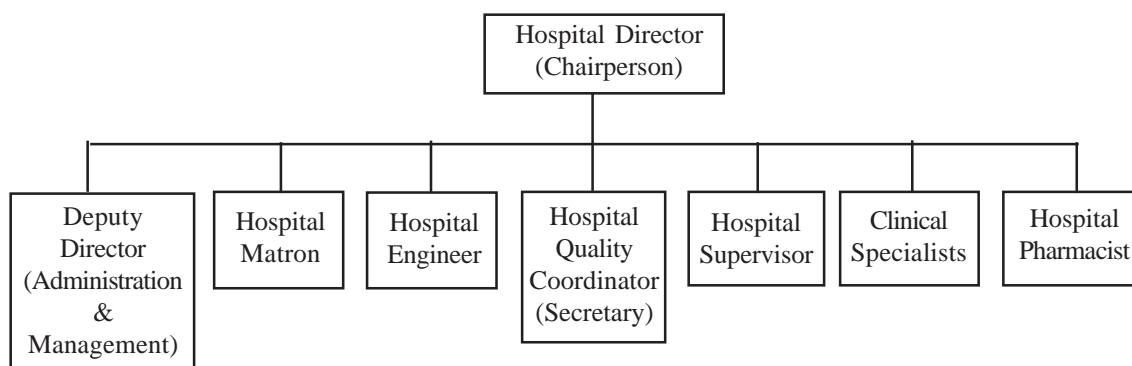| Deputy Director of Health (Public Health)	Deputy Director of Health (Pharmacy)	Deputy Director of Health (Hospital)	Deputy Director of Health (Dental)	Deputy Director of Health (Management & Administration)	Engineer in Health Department	State QA Coordinator (Secretary)

The QA Program Committee at State level is a multi-disciplinary committee. The composition of the members varies from state to state but typically it would have membership as shown in the above chart.

The Committee has the following terms of reference:
- Plan, coordinate and monitor the Quality Assurance Program at state level
- Plan and implement relevant training programs at state level
- Provide technical input on Quality Assurance Program at state level
- Provide relevant feedback to the QA Steering Committee, Ministry of Health

Quality Assurance Program Committee at Hospital Level

```
                    ┌─────────────────┐
                    │ Hospital Director│
                    │  (Chairperson)  │
                    └─────────────────┘
```

Deputy Director (Administration & Management)	Hospital Matron	Hospital Engineer	Hospital Quality Coordinator (Secretary)	Hospital Supervisor	Clinical Specialists	Hospital Pharmacist

The Hospital QA Committee is also a multi-disciplinary committee. A typical structure and composition of the members is as shown above, though variation does exist between different hospitals in the Ministry of Health.

The terms of reference of the Hospital Committee are:

1. Plan, coordinate and monitor the Quality Assurance Program in the hospital, including the implementation of specific Quality Assurance projects/activities.

2. Plan and implement relevant training program at hospital level.

3. Provide feedback to the State Quality Assurance Committee.

4. Provide technical input on Quality Assurance Program at the hospital level.

The Hospital Quality Assurance Coordinator, is currently a clinician, contributing to the planning and implementation of QA activities at hospital level on a two-year rotation basis. The Hospital QA Coordinator is the prime mover of the QA activities at local level.

Chapter 8

Summary

The first step for all facilities intending to introduce Quality Assurance Program is to determine who shall manage the program and how. The program needs to have principal players in place. The determination of the structure is dependent on the resources available at local level. External assistance should be sought for if required.

Exercise

There is a newly built "paperless hospital" in the city. The Hospital Director called the Head of Department, Nursing Manager and Hospital administrator for a meeting. The Director informed them that the hospital needed to maintain the **standard and quality of care**. He told them to form a committee and work on the structure of the Quality Assurance Program. The brainstorming began………………

- How should the structure look like?
- What should the quality plan be?
- How to select the team members?
- What are their roles?

Bibliography

A.F. Al-Assaf. Health Care Quality: An International Perspective. WHO Regional Publication. 1997, SEARO, No. 35. India, 2001.

Al-Assaf, A. F & Schmale J.A. (1993). The Textbook of Total Quality in Health Care. DelRay Beach, FL : St. Lucie Press.

Al-Assaf, A. F. (1998). Managed Care Quality: A Practical Guide. Boca Raton, FL: CRC Press

Al-Assaf, A. F., "International Health Care and the Management of Quality" in Quality Management in Nursing and Health Care, Delmar Pub., 1996.

Al-Assaf, A. F., "Quality Improvement in Health Care: An Overview", Journal of the Royal Medical Services, 1994;1(2):44-50.

Indra P, Nik Safiah N. I. Training of Trainers for Health Systems Research, Health System Research Training Services Vol.5 Indra P, Nik Safiah N. I, 1991.

J.M Juran. Juran on Quality by design. The Free Press, New York, 1992.

Maimunah A.H, Suleiman A.B, Rusnah H, Ding L.M. Kadar M.A. Quality Assurance in Malaysia, Health Care Quality. 1997.

Michael J. F. Chapman & Hall, Quality Assurance Management, Quality Assurance Management, 1994.

Michael J. F. Chapman & Hall. The New Steps for Planning Quality into Goods and Services, 1994.

Chapter 8

Chapter 9

Leadership and Quality

Rozaini Mohd. Zain, MD, MPH, CHQ
Institute for Health Systems Research
Ministry of Health, Malaysia

Learning Objectives

At the end of the chapter, you will be able to:

- describe the skills of a leader in an organization

- describe the types of leaders that are most effective in quality improvement

- apply the principles of leadership skills in promoting quality improvement

Contents

Chapter 9

Frequently Asked Questions

- Can I learn to be a leader in quality improvement?
- What is the difference between a manager and a leader?
- What is a leader or how to be a leader?
- What are the skills required by a leader?

The good news is yes, anyone can learn leadership skills useful in quality program. That is not to say that it is easy, but it can be done. Learning to be a leader takes effort, application, practice, determination and dedication.

Before you start learning the skills, you need to find out what your true preference is, being a manager or a leader. To know this, you will need to complete a Leader/ Manager Inventory. You need to be honest. The more you are open with yourself, the quicker you can learn to be a leader.

Leadership is about getting people to achieve new things, and therefore largely about change - about inspiring, helping and sometimes enforcing change in people. During the course of growing up, at home, at school, at work etc., we acquire behaviors and aptitudes that were typically us - our personality. For few people some of these behaviors and aptitudes are exactly the sort of qualities that would make them natural leaders – not natural in the sense that they are born leaders, but in a sense that they are very comfortable behaving that way.

For others their normal and comfortable ways of behaving are far from making them an effective leader – in short they have more to learn to be one.

The following slides will elaborate on what are the key actions or skills required by leaders.

Chapter 9

Leader/Manager Inventory

Which of the following is most true of your current behavior (i.e. which of the two behaviors do you prefer?). For each of the ten pairs of behavior, choose either 'a' or 'b'

1a. Concentrate on the task to get it done	☐	1b. Question whether it's the right task	☐
2a. Form your own opinion, then listen to others	☐	2b. Listen carefully to others' opinions then choose the one you believe in	☐
3a. Avoid or minimize risk	☐	3b. Take risks	☐
4a. Get impatient for urgent progress	☐	4b. Make steady progress towards your goal	☐
5a. Concentrate more on the task	☐	5b. Concentrate more on relationships with people	☐
6a. Worry about what you haven't achieved	☐	6b. Take pride in what you have already achieved	☐
7a. Keep your excitement about a task to yourself	☐	7b. Show your excitement about a task	☐
8a. Create adventure	☐	8b. Create a plan you can control	☐
9a. Keep your points of view to yourself	☐	9b. Often spend time persuading people to take your point of view	☐
10a. Often surprise people	☐	10b. Rarely surprise people	☐

(Source: Paul Taffinder. The Leadership Crash Course. A 6 step fast track self development action kit. Kogan Page, 2002.)

Before you start to learn about the skills required in a leader, the following inventory will help you score yourself, either more of a manager or a leader.

Scoring

Give yourself 1 point for each of the following items that you ticked: 1a, 2b, 3a, 4b, 5a, 6b, 7a, 8b, 9a, 10b.

Give yourself 2 points for each of the following items that you ticked: 1b, 2a, 3b, 4a, 5b, 6a, 7b, 8a, 9b, 10a.

- **Score 18 or more:**

  You are very comfortable with leadership, probably dislike many of the everyday tasks required to be a good manager. But don't be complacent, making sure that you can handle or rely on others around you to handle, the regular management tasks, is as important as being an effective leader. Remember too, the best leaders are constantly striving to be better.

- **Score 13 - 17:**

  You have a feel for leadership, but at times you need to improve areas of weakness.

- **Score 12 or less:**

  You prefer managing rather than leading and probably look to others for leadership in most situations, concentrating instead on making progress on tasks and keeping work on track. You have, no doubt, often asked yourself: How can I lead people? What is leadership? How do leaders do it?

Chapter 9

Skills of a Leader

- Impose context
- Make risks and take risks
- Be unpredictable
- Have conviction
- Generate critical mass

Harry Truman:

"A leader is a man who has the ability to get other people do what they don't want to do and like it".

Field Marshall Montgomery:

"Leadership is the capacity and the will to rally men and women to a common purpose and the character which inspires confidence".

John F. Kennedy in 1960's made the famous remark about leadership as "One of the most observed and least understood phenomena on earth".

Paul Taffinder in his book 'The leadership Crash Course' identified three ways to define a leader:

1. The easy answer: Leadership is getting people to do things they have never thought of doing, do not believe are possible or that they do not want to do.

2. The leadership in an organization: Leadership is the action of committing employees to contribute their best to the purpose of the organization.

3. The complex (and more accurate) answer: You only know leadership by its consequences – from the fact that individuals or a group of people start to behave in a particular way as a result of the actions of someone else.

Chapter 9

Leaders Impose Context

- Concentrating people's attention on what matters
- Show individual goals
- Give direction
- Distinguish what are important actions and what are not
- Formulate mission and vision of the organization and ensure that everyone in the organization goes in the same direction

As a saying goes:

"To be a leader, you have to make people want to follow you, and nobody wants to follow someone who doesn't know where he is going", Joe Namath.

Impose context means you make absolutely clear what is important in the enterprise, what its direction and goals are, where it has come from and where it is going. People need a framework within which to live, work and achieve. Therefore, know your organization, understand its strengths and weaknesses.

Ultimately, a leader needs to formulate mission and vision of the organization and ensure that everyone in the organization goes in the same direction. Make sure that people do not lose sight of your guiding purpose. Make sure that people always have a sense of proportion and can distinguish between what actions are important and what are not important.

You can make a rapid impact by learning to adjust your gestures, postures and tone of voice to assert your leadership.

Chapter 9

Leaders Make Risks and Take Risks

- Create opportunities
- Seek out opportunities
- Create new ways of doing things that are beneficial, advantageous or profitable to the organization
- Expose to new situation to develop thinking and skills

As a saying goes:

"You can judge a leader by the size of problems he tackles – people nearly always pick a problem their own size".

Leaders are distinguished by their ability to make (create opportunities) and take risks (seek out opportunities) and turn these opportunities into advantages and results.

Leaders need to make risks and to take risks for the success of the organization, for the present or the future. They also need to try things or create new ways of doing things that are beneficial, advantageous or profitable to the organization. They dare to discard projects, initiatives, processes or activities that do not add value or contribute to purpose.

A leader needs to find opportunities to expose his/herself and his people to new situations that develop thinking and skills, for example creating competition between and among teams.

Chapter 9

Leaders Must Be Unpredictable

- Experimenting and being adventurous
- Grab attention
- Energize followers

Being unpredictable is about experimenting and being adventurous in order to grab people's attention, energize followers, take competitors by surprise and jolt people from time to time, out of accepting things as they are, to prevent the ordinary becoming all that they believe is possible.

In grabbing attention, a leader takes the organization by surprise, disturbing the equilibrium, moving the people around, breaking up hierarchies and boundaries, regularly transforming the physical setting, and sometimes getting angry and showing it.

In energizing followers, a leader invites challenge and rewards it, encourages people to work on the basis that it is better to ask for forgiveness then to ask permission.

Chapter 9

Leaders Must Have Conviction

- Need to Demonstrate it – stand on ground
- Guide decisions
- Build self belief in people

Having conviction is concerned with being serious about the things you want to achieve in order to guide your decision, inspire people to follow, overcome the barriers and obstacles, have courage to stand your ground and build self belief in your people.

Stand on your ground, have a point of view, express your opinion and take a stand. Display your conviction, be consistent and bold, state your position, be firm and show that your heart is in it.

Build relationships and trust by sharing information, getting the issues out and fulfilling your promises.

Nelson Mandela, Mahatma Gandhi, Martin Luther King showed the true examples. They stood on their ground and what they believe in, and that they fought to keep on no matter what penalty it had on their lives.

Chapter 9

Leaders Generate Critical Mass

- Motivate people to develop knowledge and skill
- Working together, stand in a group
- Making things happen
- Groom others to take his place
- Make people feel valued

All the above action will help the leader to generate a critical mass to achieve the goals of his organization.

By influencing and motivating people, and turning knowledge and skills into action, the people's energy will be channelled into appropriate activities, and mobilize all the people to work together in a coordinated way.

In order to build the ethos for human development, a leader need to be active in the following ways:

- make people feel valued (praise them, thank them and recognize their work)
- expose people to developmental experiences
- give people space to succeed and grow
- develop a number of potential successors

Chapter 9

The 4 Leadership Styles
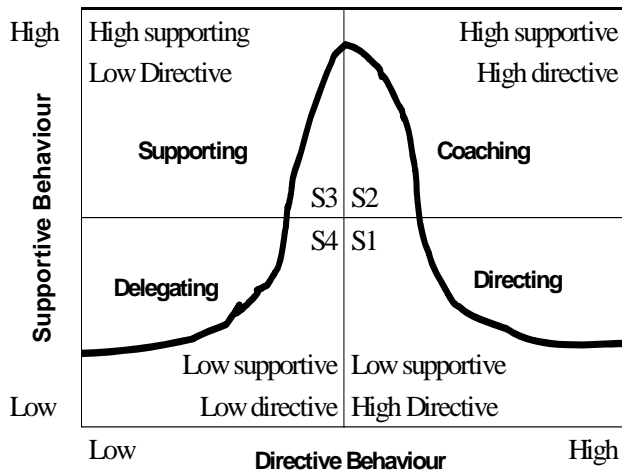
Leadership style (Hersey Blanchard Situational Theory) changes as a team develops. The leader's supportive and directive behavior will continue to change as the team activity progresses.

Beginning at the bottom right hand corner, the diagram shows that a leader's style is likely to be highly **directive** and not very supportive (area S1) - giving clear instructions to meet agreed goals and proceed through highly supportive/directive (S2) where it adopts a more **coaching** approach. The highly **supportive**/less directive (S3) phases to a point, where he or she needs to supply only low support and direction (S4) - **Delegation** which can only take place with developed "followers".

It is important to recognize that there is no right or wrong approach to leadership, no matter what level of willingness or ability a team may have.

Leadership and Quality

- What is the concern?

To improve is to continuously change for the better so that what is being delivered today is better than yesterday and tomorrow's product will be better off than today's.

Hence, to ensure continuous quality improvement, a change management must be installed. Changes can only happen when there are leaders to lead the followers for the change.

Every organization must invest on developing leaders in quality to stimulate change and ensure a sustainable quality improvement.

Summary

- Leadership skills

- Preference as a manager or leader

- Types of leadership styles

This chapter has introduced to you the skills required of a leader, i.e. to impose context, make risks and take risks, be unpredictable, have conviction and generate critical mass.

The exercise to see what is your preference, either being a manager or a leader through the Manager/Leader Inventory helps you to focus on improving the weak points you have as a manager.

The types of leadership would assist you to sharpen your skills to lead different groups of personnel including quality teams in your organization.

These skills and styles are useful in your effort to promote and improve quality in your organization.

Chapter 9

Exercise

What are the leadership skills that would help a leader in introducing a quality improvement program in a health care organization?

Bibliography

A.F. Al-Assaf, Walid Abubaker Team Building Workshop The Quality Assurance Project Module 2: Team Meeting Skills.

Al-Assaf, A. F & Schmale J.A. (1993). The Textbook of Total Quality in Health Care. DelRay Beach, FL : St. Lucie Press.

Al-Assaf, A. F. (1998). Managed Care Quality: A Practical Guide. Boca Raton, FL: CRC Press

Al-Assaf, A. F., "International Health Care and the Management of Quality" in Quality Management in Nursing and Health Care, Delmar Pub., 1996.

Al-Assaf, A. F., "Quality Improvement in Health Care: An Overview", Journal of the Royal Medical Services, 1994;1(2):44-50.

Angeles Arien. Speech given at the 1991 Organizational Development Network, based on the work on Milton Olson pp 14 New Dimensions, Spring, 1995.

Dave Francis, Don Young 1992. Effective Team Leadership in Improving Workgroups - A practical manual for Team building (revised) Pfeiffer & Co.

Elizabeth O'Leary Leadership 10 minute guide. Management Series Volume 3. Pearson Education, 2000.

John C. Maxwell Developing the Leader Within You Thomas Nelson Inc. Publishers, 2001.

Mara Minerva Melum, Maria Kuchuris Sinoris Chapter 1: Visionary Leadership in Total Quality Management - The Health Care Pioneers. American Hospital Publishing Inc., 1992.

Paul Taffinder. The Leadership Crash Course. A 6 step fast track self development action kit. Kogan Page, 2002.

Peter Villiers. 20 training workshops for developing leadership Gower Publishing, 1995.

Rusinah Siron 1999 Leadership in Principles of Management - A Study Guide. Prentice Hall (M) Sdn. Bhd.

TAMP Desk Guide Chapter 5 - A generic TAMP Planning Model

The Johari Window. Business Open Learning, Archives: http://sol.brunel.ac.uk/~jarvis/bola/communications/johari.html

Chapter 9

Notes:

Chapter 10

Teambuilding in Quality

Maimunah A. Hamid, MBChB, MPH, CHQ
SS Rameshwaran a/l Sittampalam, RSH

Institute for Health Systems Research
Ministry of Health, Malaysia

Learning Objectives

At the end of the chapter, you will be able to:

- discuss the roles of teams and team building in quality effort

- state the characteristics of effective teams

- discuss the factors influencing team effectiveness

- apply effective team techniques in conflict management strategies

Contents

Chapter 10

What is A Team?

"A high-performing task group whose members are interdependent and share common performance objectives"

(Francis & Young)

- Not all groups are teams.

- A team is more than a collection of individuals, it is an emotional entity, rooted in the feelings as well as the thoughts of its members, who actively care about their team's well-being.

- The expressions:
  "High-performing task" - they have an important task at hand.
  "Actively interdependent" - they relate directly to one another to get things done.
  "Share common performance objectives" - they have common targets to achieve.

- For a team to be effective, members must clearly know what is to be done, who does what and what to achieve.

- Is an organization a team?   (Members are not actively interdependent)

- Is a gangster group a team?   (Achieve personal ends or protect themselves)

- Is a committee a team?   (Sometimes it can stifle creativity and complicate decision-making)

- Examples of teams in health care: operating theatre team, quality control circle team, immunization campaign team, etc.

Chapter 10
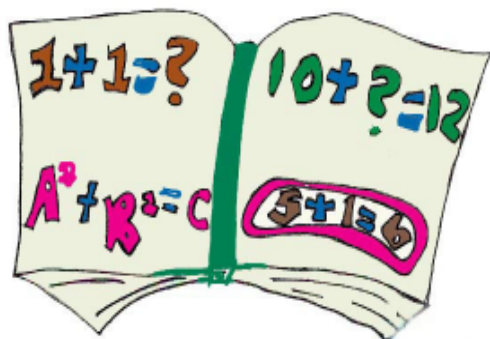
Why Teams in Quality Effort?

- Complex and multi-faceted problems in health care
- Integration of divergent points of view
- Collaboration & cooperation
- Knowledge process
- Open atmosphere
- Greater number of ideas
- Greater acceptance of solutions
- Higher implementation rate
- Mutual support

- Opportunities and problems related to quality of health care arise within the health care itself.

- Health care is complex and opportunities and problems arise in health care are multi-faceted in nature.

- Team approach is a must in attempting to improve quality in health care.

- Every step in quality improvement effort requires team involvement.

- The added value of a team is more than the summation of the number of team members.

Chapter 10

What is Team Building?

"The process of deliberately creating an effective team"

(Francis & Young)

- Team building involves the deliberate working through of all blockages to progress until a work group becomes an effective team. If a blockage is worked through successfully, the team becomes stronger. If it is not cleared, the team regresses.

- Team building requires time, focused energy and effort.

Why Team Building?

- Need to achieve rapid progress/ success
- Want to enhance creativity and commitment
- Need to overcome problems in relationships, commitment and lack of clarity

Team building is time consuming and can be expensive.

It is important to identify the benefits of the team building approach. Some of the motives that team leaders have for initiating team-building are listed above.

Team building techniques are powerful and can be abused. For example, a leader may undertake team building with the intention of increasing his or her capacity to manipulate and control. This is contrary to the values that are the foundation of team-building approach.

Chapter 10

Factors Influencing Team Effectiveness
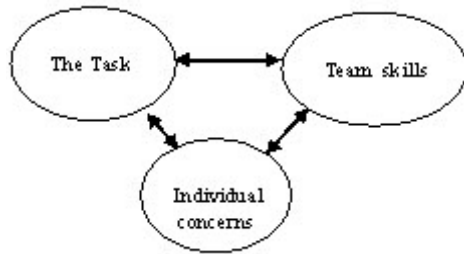
- There are three major ingredients in all team interactions - task, team skill and individual concerns, that have to do with what the team is working to accomplish.

- The task is the technical aspect the team members must consider and have knowledge about.

- Team skills is concerned with what is happening interpersonally among the team members while the team is working. The team skills deal with such aspects as morale, feelings, atmosphere, influences, participation, conflicts, competitions and cooperation.

- Individual concerns address the feelings the person has about him/herself and the team. It includes concerns about:

  - Membership inclusion: Do I belong? Do I want to belong? What can I do to fit in?

  - Influence, control, mutual trust: Who will have the most influence? Will I have influence? Will I be listened to? What can I contribute?

  - Getting along, mutual loyalty: How will I get along with other team members? Will we be able to develop any cooperative team spirit?

Stages of Team Development
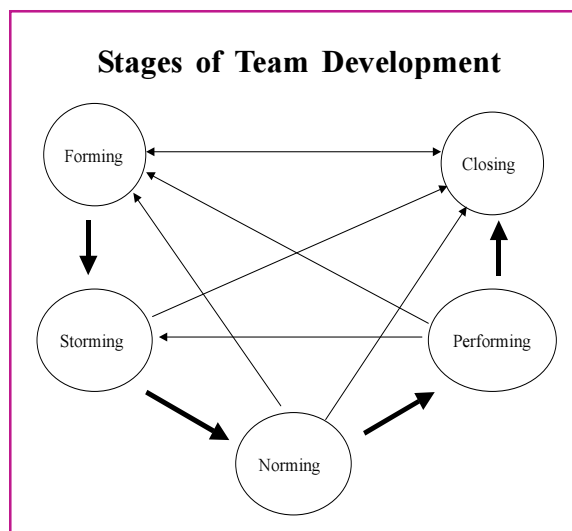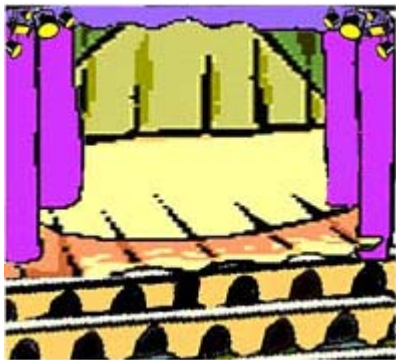
As any team develops, members gradually learn to cope with the emotional and group pressure they face. In doing so, the team goes through fairly predictable stages of "forming (testing)", "storming (infighting)", "norming (getting organized) " and "performing (mature closeness)". Ad-hoc team, such as a QA team has an additional stage of "closing".

It is important to become familiar with these stages of team development because of the following:

- To have realistic expectations for team accomplishment.

- To help team members increase their self-awareness in team development patterns so they are more able to solve their own group process problems.

- To understand that there is no standard pattern. Each team develops in its own way. Some team will reach the "performing" stage by going through all the stages sequentially, others will develop erratically, skipping some aspects of the stages and then return to earlier stages later.

In general, when group is moving forward towards its goal, the team progresses developmentally, when the group gets stuck in its progress, or its organization is disrupted, its developmental process tends to revert to an earlier stage. All members need to learn to handle the various feelings and behaviors in each of the different stages. They need to be aware of the "signs and symptoms" and what needs to be done in order to move on.

Chapter 10

Stage 1: Forming

- Excitement
- Anticipation
- Optimism
- Anxiety
- Formal
- Attempts to define task
- Complaints
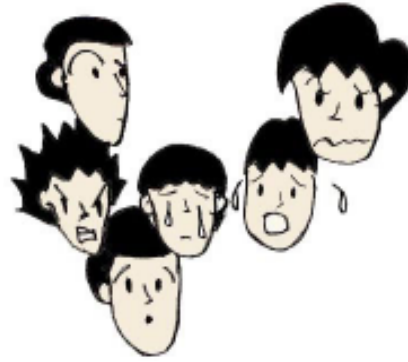
In the "Forming" stage people's roles change from "individual" to "members". Members cautiously explore acceptable group behaviors.

- **The symptoms**
  - Generally they have the feelings of excitement, anticipation, optimism, pride in being chosen for the project, tentative initial attachment to the team, anxiety, fear or even suspicion about the job ahead.

- **The signs**
  - Polite, fairly formal interactions with other members
  - Attempt to define the task and decide how it will be accomplished
  - Attempt to figure out what is acceptable group behavior and how to deal with group problems
  - Make first decisions about what information needs to be gathered
  - Discuss concepts and issues
  - Discuss issues not relevant to the task; difficulty in identifying relevant problems
  - Complain about the organization and behaviors to the task

- **What helps?**
  - Introduction and specifying activities
  - Clarify the mission/project
  - Establish ground-rules for team behavior
  - Provide any needed training

Stage 2: Storming

- Resistance
- Varying attitudes
- Arguing
- Defensiveness
- Competition
- Questioning purpose
- Unrealistic goal setting

The "Storming" stage is critical to effective group development, but usually is a difficult time for the team. If the team gets stuck here and does not resolve its interpersonal and role issues, it will never reach optimal performance.

- **The symptoms**
  - Generally they have the feelings of resistance to the task and quality improvement approaches; varying (often negative) attitudes about the team, the team members, and the project's chance of success.

- **The signs**
  - Arguing among members
  - Defensiveness, competition, withdrawal
  - Questioning the purpose of the project
  - Unrealistic goal setting, concern about excessive work

- **What helps?**
  - Conflict management techniques
  - Clarification/teaching of QI concepts, tools, team dynamics, meeting standards and roles

Stage 3: Norming

- Acceptance of membership
- Relief
- Commitment to working out differences
- "Playful" interactions
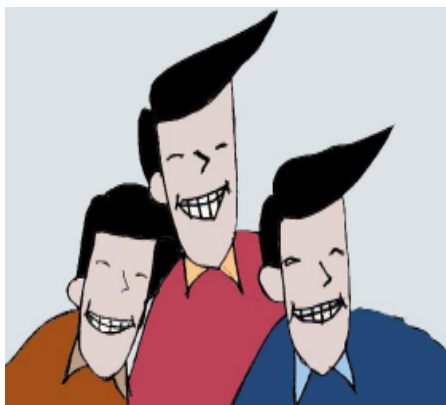
The "Norming" stage is when the teams begin to feel comfortable and ready to take the next action of performing.

- **The symptoms**
  - Generally they have "playful" interactions, cracking jokes and hearing laughter, showing friendliness among team members.

- **The signs**
  - Friendly gestures
  - Relief
  - Ready to perform

- **What helps?**
  - Describing and explaining the tasks to be performed.

Stage 4: Performing

- Satisfaction
- Trust
- Anticipate Problems
- Prevention
- Risk Taking
- Commitment to Process

At the "Performing" stage, members accept each other's strengths and weaknesses, and know what their own roles are. They gain insight into personal and group processes.

- **The symptoms**
  - They generally have feelings of satisfaction with the team progress and trust one another.

- **The signs**
  - High energy - members feel positive and motivated
  - Attention to tasks - care, objectivity and hard work
  - Shared values - common basic beliefs in what is important
  - Openness - willingness to consider new information and different view points
  - Confrontation - constructive use of conflict
  - Trust - belief that its members take one another's interest seriously and that people will fulfil their promises
  - Enjoyment - taking pleasure in being part of the team

- **What helps?**
  - Training in QA concepts and tools to enhance their performance

Chapter 10

Stage 5: Closing

- Discuss next steps
- Evaluate
- Presentations

The "Closing" stage disbands the team. In quality improvement team, "closing" is intended to end when process improvements are in place. The team must deal with either the success or failure of their efforts. The team should be able to identify lessons learned and plan on the way they could disseminate these lessons.

- **The symptoms**
  - If successful: joy, pride, elation, loss (due to the disbanding of the team)
  - If unsuccessful: frustration, anger

- **The signs**
  - If successful: expression of appreciation, avoidance of the final close-out activities
  - If unsuccessful: denial, blame, dissociation

- **What helps?**
  - Discussion of feelings/next step
  - Evaluation of what worked/did not work
  - Assisting the team to prepare presentations to management, if necessary

<div style="border">

**Characteristics of an
Effective Team (1/2)**

1. Conflict
2. Discipline
3. Energy
4. Learning
5. Methodology

</div>

Effective teams skilfully combine appropriate individual talents with a positive team spirit to achieve results.

Some of the characteristics are seen to contradict one another. Effective teamwork is the synthesis of apparently contrary forces.

1. **Conflict:**
   Challenge, openness and veracity among team members are essential characteristics of team effectiveness. Excessive harmony can encourage intellectual dishonesty.

2. **Discipline:**
   Teams need to do what they are told or aimed to achieve. Discipline among team members is essential in getting the allocated work done.

3. **Energy:**
   Members gain strength from one another. Collectively they feel more potent and find that team activities renew their vitality and enjoyment. This special group energy is termed synergy. Synergy equation is $2 + 2 > 4$, i.e. the team's power goes beyond the sum of its individual members.

4. **Learning:**
   Continually learning better ways of working together. They review their experiences in order to critique both individual and team performance. They learn regardless of who the members are.

5. **Methodology:**
   A shared methodology of problem solving is an essential discipline, teams need to be creative and innovative.

Chapter 10

> ## Characteristics of an Effective Team (2/2)
>
> 6. Objectives
> 7. Output
> 8. Structure
> 9. Mutual Support
> 10. Team-member Fulfillment

6. Objectives:

Teams draw strength and direction from a deep, shared understanding of common purpose (mission) and from an understanding of how each member's objectives contribute to the achievement of the team's broader purpose.

7. Output:

The "acid-test" of a team is its capacity to deliver the goods. A team is capable of achieving results, both in quality and quantity, that its members cannot achieve in isolation. Team members' diverse talents combine to create end products that are beyond individual member's capabilities.

8. Structure:

A mature team has dealt with thorny questions about control, leadership, procedures, organization, and roles. They have learned to understand one another and to cope with any feeling of hostility, competitiveness, or aggression. Mature teams are flexible, responsive, orderly and directed.

9. Mutual Support:

A distinctive team spirit that encourages mutual respect, support and simple enjoyment of one another. Team members identify themselves with their team. They have an atmosphere that supports confidence sharing, effective listening, problem solving and risk taking.

10. Team-member fulfillment:

Team members grow in stature through their membership. They look after their members in more ways than through providing psychological rewards.

<div style="border">

Conflict

- The value of conflict
- Understanding your responses to conflict
- Conflict intervention

</div>

- Whenever people work together, conflict is likely. Many people associate conflict with stress, tension and anger; and consider conflict as a disease that should be avoided.

- Conflict can be of value to a working team. It can help a team by:
  - Increasing the energy level
  - Providing creativity through a diversity of viewpoints
  - Adding depth to discussions where members are challenged to elaborate their ideas
  - More effective solutions result because more diverse perspectives are taken into account
  - *Too much agreement is a risk for a team.* The danger of "groupthink" where everyone goes along with a proposal even when they secretly have reservations about it. Critical information may be withheld from the team because individual members censor themselves, deciding that their concerns are not worth discussing. Ideas are accepted without careful consideration of the pros and cons. It can lead to bad decisions.

Conflict (1/2)	
If Ignored	**If Managed**
• Productivity drops	• Changes occur
• Unpleasant	• Feelings aired
• Breakdown	• Clarification
• Stress	• Understanding
• Less information	• More involvement
• More time lost	• Increased motivation and creativity
	• Increased alternatives

"If you have one finger pointing at somebody, you have three pointing towards yourself"

Proverb of Nigeria, West Africa

As much as we like to avoid or ignore conflicts, they will be there when a group interacts. It is best to recognize what harms it can bring if they are ignored and attempt to manage them in the best possible ways.

Chapter 10

Conflict (2/2)

Conflict results from disagreement about the following:

- Facts
- Methods
- Goals
- Values

In order to manage conflicts, it is important to appreciate why conflict occurs in a group, including those working for quality improvement. They are commonly the results of disagreement of facts or methods since members of quality improvement team may have differing level of content knowledge about the subject matter and understanding of the quality improvement concept. They may also have differing opinion as to how issues or solutions in quality improvement should be handled.

In addition, each member may have different values and goals in their association with the team and of the quality improvement in the organization.

Hence, having clarified goals and sharing common values in a team would help bring team members to common aspirations. Investing on educating team on specific methodology or approach may reduce conflicts.

However, it is also to note that conflicts in a quality team could also bring creativity and innovation to the way the team carry out their quality improvement activities. Too much of agreement in a team may bring the danger of groupthinking phenomenon, which is unhealthy in a quality improvement team.

Chapter 10

Understanding & Belief About Conflict

- Conflict is natural and can be valuable
- Conflict can be a source of energy
- Conflict is a result of real differences
- Differences in perspectives are often necessary for breakthrough thinking
- One's view and habits in handling conflict are important determinants of the outcomes of a conflict
- Mastering skills in managing conflict takes lots of practice

It is a healthy environment for team members to understand and believe that as much as conflicts can cause disruptions, they also bring benefits to the team and the organization.
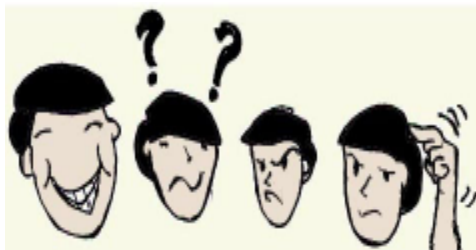
Response to Conflict

Ask yourself 2 questions:

- How important to you is the opinion, goal, or perspective under discussion?

- How important to you is it to maintain good relationship with the people with whom you are in conflict?

Different people use different strategies for handling conflicts. In order to choose an appropriate strategy it is important to understand the response that come to us naturally as well as to be aware of new behaviors that may be valuable to adopt.

The balance between these two issues is played out in the following common response to conflict :

1. **Avoiding the conflict:**
   Avoiding both the issues that are likely to lead to conflict, and the people with whom you are likely to be in conflict. A belief that it is easier to avoid than to face it.

2. **Smoothing over the conflict:**
   Minimizing the conflict so that the group relationships will not be strained. A belief that discussing conflicts damages relationships rather than strengthens them. It sacrifices personal opinions and goals out of fear of losing the relationship.

3. **Forcing the conflict:**
   Overpower others and force them to accept your position. This is a competitive, win-lose approach.

4. **Compromising:**
   Try to get others give up some of what they want in exchange for giving up some of what you want. This is a lose-lose strategy.

5. **Problem-solving through conflict:**
   To find the path forward that meets everyone's goals and by doing so, preserve group relationship. This is a win-win strategy.

Dealing With Conflicts
- Anticipate & prevent whenever possible
- Think of each problem as a group problem
- Neither over-react not under-react. A leader's range of responses includes:
  - do nothing (non-intervention)
  - off-line conversation (minimal intervention)
  - impersonal group time (low intervention)
  - off-line confrontation (medium intervention)
  - in-group confrontation (high intervention)
  - expulsion from the group (rarely used)

- **Anticipate and prevent whenever possible**
  This can be achieved if group spend time developing itself into a team; getting to know each other, establishing ground rules and discussing norms for group behavior.

- **Think of each problem as a group problem**
  Many problems arise because the group lets them happen or even encourages them in some way. Each problem should be analyzed in the light of what the group has done to encourage it to happen and what the group could do to prevent it to happen.

- **Neither over-react not under-react**
  Some behaviors are only fleeting disruptions in the team's progress and should not be treated as a problem. Other behaviors are very disruptive and impede, halt, or reverse the team's progress towards its goals. Experienced leaders develop the following range of response to typical problems:

  - *do nothing (non-intervention):* particularly if the problem is not a chronic one and does not seem to inhibit the group.

  - *off-line conversation (minimal intervention):* talk to the disruptive members outside the group meeting and give constructive feedback.

  - *impersonal group time (low intervention):* talk about general group process concerns without pointing out individuals.

  - *off-line confrontation (medium intervention):* talk to the disruptive members outside the group meeting but the leader is more assertive.

  - *in-group confrontation (high intervention):* as a last resort, after all other approaches have failed, the leader may deal with the offending behavior in the presence of the group. This can be effective or disastrous.

  - *expulsion from the group (rarely used):* should be avoided because it can create stigma that remains with the team and with the expelled member for a long time.

Chapter 10

Tactics for Conflict Intervention

- Select neutral territory
- Make sure the setting is informal
- Make sure all appropriate people are present
- Set an agenda and ground rules; stick to them
- Manage the time carefully
- Use active listening and constructive feedback skills throughout the intervention

To make an intervention effective, you must carefully structure the environment in which it takes place.

Always try to state the views and issues in neutral terms for this will help all members hear and understand the key elements of the conflict. Try to uncover the core issue in the conflict, and move members towards a resolution.

Suppress or contain triggers such as highly emotional language, sarcasm, ignoring someone, or attacking someone's values, because triggers themselves escalate conflicts. Re-framing it more neutrally would contain it.

Chapter 10

Groupthink (1/3)

- What is it?

- How to recognize it?

- **What is it?**
  When team members want to get along above all else, there is a danger that "groupthink" can occur. Critical information may be withheld from the team because individual members censor themselves, deciding that their concerns are not worth discussing. Ideas are accepted without careful consideration of the pros and cons. It can lead to bad decisions.

- **How to recognize?**
  - No one raises objections and there is insufficient examination of risks and weaknesses.
  - No alternatives are offered.
  - If different perspectives are offered, they are quickly dismissed.
  - Options that were rejected during discussion are never brought up again for re-evaluation.
  - Information that might challenge the team's thinking is not actively sought (the team thinks it knows all it needs to know).

Groupthink (2/3)

● What encourages groupthink?

● **What encourages groupthink?**

- The team has a high level of agreement and cohesiveness among its members. Team members are very similar to one another. There is little diversity in background, experience or beliefs.

- The team is isolated from sources of information that might contradict its emerging opinions.

- The team leader states his or her opinions early in the discussion rather than waiting until the team has developed some of its own thinking.

- The team leader encourages members to agree with the leader's position instead of encouraging critical discussion of all options.

- The team does not have methods or procedures that require data collection and reality checking of options, and chooses a close-minded path that is relatively free of criticism and conflict.

Groupthink (3/3)

- How to prevent groupthink?

- **How to prevent groupthinking?**

  • Have team agree to follow the scientific method. Gather data to guide decisions.

  • Have a group norm of brainstorming a list of alternatives before discussing any course of action in detail.

  • Team leaders or members with positions of power should not state their opinion and positions at the beginning of discussion.

  • Invite outside experts to share their knowledge with the group.

  • Develop a list of criteria against which to evaluate all the options.

  • Once an option is selected, ask the team to brainstorm everything that could go wrong with that choice. Discuss ways of assessing risks. Decide whether or not additional information is needed.

  • Once a solution has been selected, require the team to develop a second solution.

Chapter 10

Summary

● Understanding team and team building is essential in quality improvement since all quality improvement activities require team work.

● Appreciation of effective team work would enhance the team productivity, not only in performing the tasks but also getting the task done in a harmonious and enjoyable environment.

● Conflict in a team can be healthy. Appreciating the value of conflict and how to recognize it would enhance the team ability to strategically managed it.

Exercises

1. Using the behaviors demonstrated by individuals in the picture provided, discuss how would you manage the conflicts that may arise in the team

2. Exercise on "Team Development Stages" (Francis and Young: Activity 6, pp. 203-208)

3. Exercise on "Team Survival" (Francis and Young: Activity 12, pp. 235-238)

Bibliography

Al-Assaf, A. F., "International Health Care and the Management of Quality" in Quality Management in Nursing and Health Care, Delmar Pub., 1996.

Al-Assaf, A. F., "Quality Improvement in Health Care: An Overview", Journal of the Royal Medical Services, 1994;1(2):44-50.

Al-Assaf, A. F & Schmale J.A. (1993). The Textbook of Total Quality in Health Care. DelRay Beach, FL : St. Lucie Press.

Al-Assaf, A. F. (1998). Managed Care Quality: A Practical Guide. Boca Raton, FL: CRC Press

Francis, D. and Young, D. (1992), Improving Work Groups: A Practical Manual for Team Building (Revised). Pfeiffer & Company, San Diego, California.

Scholtes P.R., Joiner B. L. and Streibel B. J. (1996). The Team Handbook. Second Edition. Joiner Associates Inc. Madison, USA.
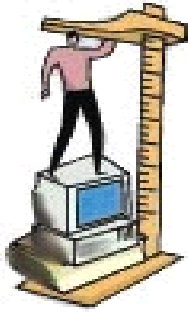
The group of eleven

Chapter 10

Notes:

Chapter 11

Measuring and Monitoring Performance

Mohammad Omar, MD, MPH
State Health Department of Terengganu
Ministry of Health, Malaysia

Nordin Saleh, MD, MPH
Institute for Health Systems Research
Ministry of Health, Malaysia

Learning Objectives

At the end of the chapter, you will be able to:

- understand the needs for performance measurement

- understand the role of measurement in quality improvement

- understand the uses and benefits of performance measurement

- understand the challenges of its use

- understand the needs for monitoring and evaluation

Contents

Chapter 11

What is Performance Measurement?

Performance Measurement (PM) is a measurement on a regular basis of the results (outcomes) and efficiency of services or programs.

The definition has the element of regular measurement of results or outcomes. The emphasis is on outcome measurement and how to increase the ability to get the job done within the available resources.

The Purpose of Performance Measurement

1. To measure the quality of care
2. A tool for quality improvement
3. Reinforce public accountability
4. Report cards
5. Consumer demand
6. Competitive market
7. Professional integrity
8. Accreditation/Licensure
9. Others

The major purpose of Performance Measurement is to raise questions and by itself, seldom provides the answers as to what should be done. One should be aware of its following limitations:

- Performance data do not, by themselves, tell why the outcome occurred, i.e. they do not reveal the extent to which the program caused the measurement results. There is a need to tract the outcomes to know why it has happened so that improvement can be instituted.

- Some outcomes cannot be measured directly or take a long time to occur. In such situation, a proxy indicator that reflect trends over time may be used.

- The information provided by Performance Measurement is just part of the information managers or health care providers need, to make decision. It does not replace other routine information, common sense, good management judgement and creativity of the managers or health care providers.

Chapter 11

**Data Source for
Performance Measurement**

- Administrative data
- Clinical data
- Customer Survey
- Observation

Performance Measurement is very much data-driven, requiring statistically valid and reliable data identified through indicators to regularly monitor the process and outcome of care. The data sources can come from the following:

- The **administrative data** refers to information generated as a by-product of administering care and services. The data typically encompasses information such as patient demographics, codes that identify diagnoses and procedures performed and billing charges. It provides information about major processes of care and covers a large segment of population. It is inexpensive to acquire and readily available. On the other hand, administrative data has the shortcomings of limited clinical information, retrospective in nature with diagnosis and procedure with no clinical definition, causing ambiguity and allowing wide interpretation.

- **Clinical data** refers to the clinical attributes of patients and represents factors that health care professionals use when caring for patients such as; symptoms, vital signs and laboratory test results. They are the types of observations written down by health care providers (doctors, nurses, etc.) in the medical records that were used for diagnoses and treatment plans.

- **Customer's survey** involves the process of collecting data directly from the clients, patients or their proxy. It could be obtained through face-to-face interview or self-administered questionnaires. It plays an important role in assessing quality because it is the only tool for determining:
  - the patient's viewpoint about the care they received
  - the quality of interpersonal communication
  - the patient's physical and psychosocial functioning

- **Observation** is the objective mechanism to record the specific behaviors in the process of care, through a systematic manner to avoid bias.

<div style="border: 2px solid magenta; padding: 1em;">

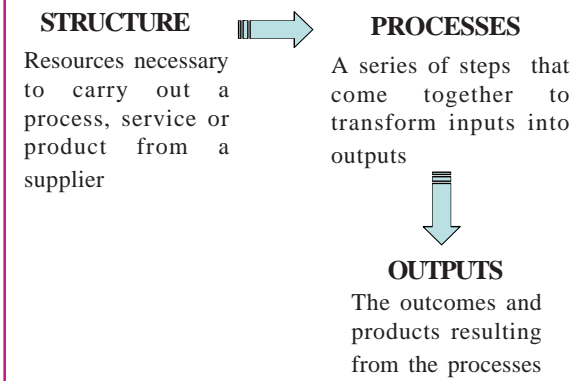**Focus of Performance Measurement**
(1/3)

1. The Six Dimensions of Quality
- Equity of access
- Effectiveness
- Efficiency
- Safety
- Appropriateness & timeliness
- Consumer-centredness

</div>

- **Equity of access** refers to the extent to which an individual can obtain health care services irrespective of geography, ability to travel to health care facilities, social standing, ethnicity, age, race or level of income.

- **Effectiveness** assessment is to measure the extent to which treatment or intervention has achieved the desired outcomes.

- **Efficiency** is an economic concept that requires the relative costs and benefits of health care interventions from the available resources.

- **Safety** in health care is defined as "the extent to which potential risks are avoided and inadvertent harm is minimized in care delivery processes". The harm can occur from diagnostic and therapeutic interventions.

- **Appropriateness** refers to the right selection of intervention that is most likely to reduce the desired outcome. It has few considerations as the selected intervention must be performed according to agreed, evidence-based indication, tailored to individual patient (customized) and in a timely manner.

- **Customer-centredness** refers to the consideration to identify priorities, expectation and the needs of customers and to tailor the services accordingly. These also include the elements of continuity of care and community participation.

Chapter 11

Focus of Performance Measurement (2/3)

2. Structure-Process-Output Model

STRUCTURE

Resources necessary to carry out a process, service or product from a supplier

PROCESSES

A series of steps that come together to transform inputs into outputs

OUTPUTS

The outcomes and products resulting from the processes

Avedis Donabedian, a pioneer in the science of measuring health care quality, looked into a conceptual model of a work system. He urged to consider three aspects in performance measures:

Structure - as the input to the health care system, including both human and physical resources. A good structure is often the precursor to good processes and outcomes. This approach starts from the assumption that good pre-conditions are more likely to result in good care and subsequently good outcomes. Examples of structure of care include equipment, personnel qualification, licensure and accreditation process.

Processes - include all procedures and activities that transpire between providers and consumers. These include usage of clinical guidelines and protocols, laboratory investigations and various treatment regimes. The process approach denotes that improvements result from organization ability to incorporate inputs efficiently and effectively into the delivery of care. It contains two major components; what is done (content) and how it is done (process of care).

Outcomes - include the results and outputs of the care process. It can be divided into immediate, medium-term and long-term outcomes The goal of health care is to improve health, we therefore can measure the success and quality of care in terms of health outcomes.

Focus of Performance Measurement
(3/3)

3. Technical-Interpersonal-Amenities
Model

Quality elements
- Technical aspect
- Quality elements
- Interpersonal
- Amenities
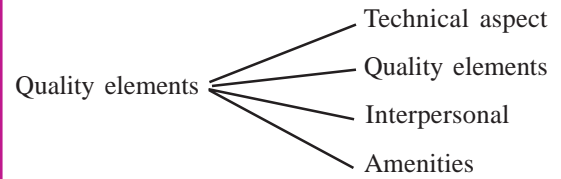
To complement 'Input-Process-Output' model, Donabedian had also classified the services provided in health care organizations into three aspects of quality; Technical, Interpersonal and Amenities. These three components are to be considered in measuring to quality of care.

- The **technical aspect** looks at the mechanics of administering medical care and their associated implications (*the science of medicine*). Among such technical considerations are the equipment availability, personnel skill and competency, treatment protocol efficacy and appropriateness of treatment administration.

- The **interpersonal element** (*the art of medicine*) is the manner in which social interactions, the caring aspect, takes place among providers themselves and between the providers and patients. It can influence the course of one's illness and recovery.

- The **amenities aspect** looks at medical care quality which can be addressed by the organization such as cleanliness of facility, the attractiveness and comfort of the surroundings, and the accessibility to conveniences such as television and telephone.

Topology of Quality Dimensions

	Structure	Process	Outcome
Technical	Indicator	Indicator	Indicator
Interpersonal	Indicator	Indicator	Indicator
Amenities	Indicator	Indicator	Indicator

Indicator is the tool used to measure the standard of quality of health care element in each intersection.

The **structure-process-outcome** and **technical-interpersonal-amenities** matrix is a useful conceptual tool for those measuring standard of quality in health care through appropriate *indicators*. The intersections of the column and rows constitute a set of generic definition of quality listed in the elements of 'Six Dimensions of Quality', which is comprehensive in scope and easily applied.

For example, the performance measures in *structure/technical* cell includes accreditation status, type of technology available, professional credentials, level of complexity of service rendered etc. Whilst treatment competent, appropriateness of diagnosis/therapy and compliance to clinical practice guidelines reflect the *process/technical* measurement and so forth.

Health care provision is complex and thus the measurement of standard of quality requires a balanced portfolio of indicators that cover the cell in the vertical and horizontal elements in the matrix to provide the true picture of quality in the organizations.

For example, even doctors who are marginally competent and behind-the-time on their medical knowledge can be loved by their patients because they take the time to interact with them on personal level. Thus if these doctors were to be judged on the competency in handling the care through a *technical/process* indicator, serious deficiencies might be found. But when the same doctors are evaluated based on general patient satisfaction (*interpersonal/process* indicator), their patient would be completely content with the his/her performance.

> **Characteristic of
> Performance Measurement**
>
> - Reliability
> - Validity; specificity and
>   sensitivity
> - Standardized and clear
> - Applicability
> - Appropriateness

A Performance Measurement tool must be objective and scientifically sound, based on scientific evidences.

In the current health care performance measurement, expert consensus is often used to reach agreement on precise definition and measurement specifications. In developing a performance measure, it must be tested to ensure that it is:

- **Reliable (consistency)**:
  Generation of consistent results regardless of who does the measuring or when or where the measurement is taken.

- **Valid**:
  The tool should measure what it is intended to measure. The performance measures must correctly identify the events they are designed to identify, that is, it is sensitive and specific.

- **Standardized**:
  Definition of data elements, data collection and data analyses are sufficiently precise and comprehensible that they can be understood and applied in the same way regardless of who refers to or applies them.

- **Applicability**:
  Performance measures should be administratively feasible and manageable. It would facilitate operational and clinical decision making as well as to effectively allocate scarce resources.

- **Appropriateness:**
  This refers to the selection of measurements that are most likely to produce desired benefit and suit the objective. It stems from the concern that proper measurement tool should be appropriately applied for the particular discipline of care.

Chapter 11
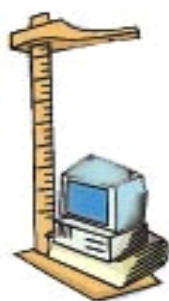
**Approach on the Use of
Performance Measurement**

- Judgement versus Learning

- The Use of Performance Measurement is governed by the two major environments; judgement and learning, which means that either you use it as a tool for judging the quality of individuals or the quality of organizations or as a tool for learning, towards further improvement.

- The idea here is that when you want to *judge the performance of people or organizations* using a certain set of performance measures, you should be sure that these measures are flawless and that you are able to re-measure it again accurately because data is available. People and organizations will limit the access to their data or provide the wrong set of data in order to protect themselves from being judged negatively.

- For example, if you judge the performance of a group of nurses using the number of medication errors as the tool, then the next time you asked the number of errors committed you will get none! People and their organizations will be fearful of sharing their true data with you since you are using it to judge them, which perhaps may carry negative consequences.

- If, however, we change the environment and make the use of the measures as a tool for *learning from errors and mistakes,* then people and individuals will be more cooperative in identifying causes and to develop mechanisms for prevention and resolution. No one will be threatened to share their data as long as its use will be for improvement and not for judgement.
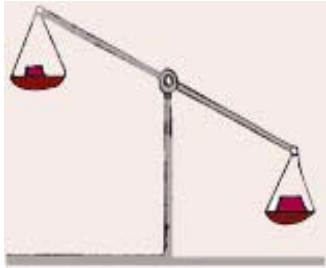
Uses of Performance Measurement
(1/2)

- Track performance over time
- Provide information for external sources
- Identify areas for improvement
- Facilitate comparison across health program
- Determine priorities for health initiatives

- **Track performance over time**:
  Standardized measures enable health care organization to determine its current position at any point in time and to repeat the measure in the future to determine if any change has occurred.

- **Provide information for external sources**:
  Performance measurement, by collecting quality and utilization data, is useful since it serves to prove effectiveness to individuals or interested groups outside the organization. Its accountability activity lies in providing information to show how they have achieved objectives or promises.

- **Identify area of improvement**:
  Results obtained from data collection on standard performance measures enable health care organization to appropriately target its improvement effort. Without that, it is left to subjectively determine what areas or services that require improvement.

- **Facilitate comparison across health plan/program:**
  By using standardized performance measures, consumers and purchasers can make informed decisions regarding health plan selection. These standard measures also make it easier for health providers to compare itself to others and to market its services and product accordingly.

- **Determine priorities for health initiatives**:
  When a number of performance measures are employed, the health providers can target its resources into the areas where activities can make a difference.

Chapter 11

Uses of Performance Measurement (2/2)

Performance measurement as management quality tool:

- Program management
- Accountability
- Quality Improvement

- **Program Management** oversees the key functions to ensure that program goals are met and resources are used efficiently. Regular measurement is an important program management tool, because it:
  - Promotes the effective use of scarce resources and delivery of needed services.
  - Provides information needed to manage health plans, providers and other vendors.
  - Allows comparison of plan or program performance with that of others.
  - Allows the tracking of trends over time.
  - Provides an objective basis for ongoing quality improvement programs.
  - Facilitates customized reporting to multiple constituencies.

- **Accountability** in publicly funded health care programs is a top priority. The use of performance measurement allows program managers to hold health care plans and providers responsible for the services they furnish, assess the extent of their own accomplishments and identify whether the decisions they have made are having the intended results. Performance Measurement information is frequently required and reported to stakeholder groups and other audiences. The potential audiences for the reports include state officials, providers, regulators, advocates, health planners, peer groups, consumers, purchasers. Each audience has its own needs and interest in the use of the information.

Performance Measurement provides one of the tools needed for effective **quality improvement** initiatives. It can be used to established the initial or baseline level of performance and to remeasure performance after quality intervention has begun or is completed.

Examples of Performance Measurements

- Quality assurance
- Accreditation
- Peer review
- Certification
- Report cards
- Utilization review

- **Quality assurance**
  Periodic systematic assessment of actual care against accepted indicators and standards. Any quality defect should be corrected.

- **Accreditation**
  A process of measuring the compliance of actual performance of the organization against a set of standards.

- **Certification**
  The process of assessing the extent a facility, organization and professional attains minimum requirements. These include setting minimum standards for educational level, training and experience.

- **Peer review**
  Assessment and improvement of quality whereby the assessors and those being assessed belong to the same profession, using the criteria accepted by that profession.

- **Report cards**
  Public released standardized reports on the quality of care that may cover the institutions, health plan/program and even the health care personnel.

- **Clinical practise guideline**
  Expert consensus guideline on the practice of certain clinical care. It contains accepted standard of care, based on scientific evidences, on specified case management.

- **Utilization review**
  An assessment on appropriateness of the use of resources in providing the care.

Chapter 11

Benefits of Performance Measurement

- Impact on Outcome Management
- Impact on Quality
- Customer Satisfaction
- On-going Evaluation and Monitoring
- Improvement of Health Systems
- Information System Upgrades
- Research

- In outcomes management, one should first identify the desired outcome and then study and improve the processes that may lead to such outcome. Therefore one has to identify the right performance measured to see where one stands and then identify the level desired for achievement.

- Performance Measurement would help meet the definition of "incremental improvement". Without it, we are not able to answer the two fundamental questions to this quality definition: are you better today than yesterday and will you be better tomorrow?

- Patient satisfaction measures are a type of performance measures where the performance of individuals and organizations are measured in terms of outcome - satisfaction rates. Patients also can make an informed decision about their providers hence making them more satisfied with the credibility and accountability of those providers.

- Performance Measurement is also beneficial in CQI where a well developed measure can be used to monitor a process or compliance to a standard on an ongoing basis. Similarly, evaluation could be easily done and is more objective if the right performance measures were used and applied to a program or service.

- Performance Measurement is equally useful in research where limitation of bias is a top priority and where objective and robust measures are a must.

Evaluation of Performance Measures

The purpose of evaluation is to monitor:

- the accuracy and completeness of data element

- the appropriateness of the performance measures

- the compliance to the needs of organization

- The process of monitoring and evaluation must be designed to help health care organization effectively use the Performance Measurement to improve the quality health care it provides. It is a proactive approach intended to identify the correct implementation and application of performance measures.

- Performance Measurement involves various steps of data collection and analysis. Its reliability, validity and accuracy depend on various factors like the definition of data elements which could vary over time. The variation can produce measurement error, thus providing incorrect interpretation on quality of care and subsequent action of correction.

- Monitoring and evaluation is a continuous process. It also helps organization to identify future deficiencies and new development in measuring performance. The needs of the organization may change with influents from internal and external factors such as pressure from consumers and purchasers, technology advancement, government regulators and the rising health care cost. In the context of quality improvement, the appropriate application of performance measures will guide health care providers to comply with the quality improvement goals.

<div style="border:1px solid purple;">

Challenges on the Use of Performance Measures (1/3)

- "A different thing for different people"
- Confounds and the Feedback Loop
- Applications of the Measures
- Data Access and Data Integrity
- Sources of Data
- Cost, Access and Availability
- Methodology and Analysis

</div>

- Challenges to developing and identifying the "perfect" measures are numerous and may be difficult to overcome. Performance Measurement may mean different things to different people and that includes patients, providers, regulators, etc. To a provider, Performance Measurement is a tool for comparing his/her performance to a peer's, therefore these measures have to be used as scientifically as possibly to enable objective comparisons. However, the same measure to a patient may mean nothing. The patient may want to see performance in terms of client satisfaction, or interpersonal skills or the like.

- A Performance Measurement has to be measured in the context of its environment and the factors that may affect it or are associated with it. Without taking into account the situation it is to be applied to, or the environment it is to be used would render that measure useless, and may even be interpreted differently.

- To ensure the objectivity of any measure, one must make sure the measure is obtained from accurate data sources and the method of data collection is scientifically sound, and the method of analysis is the appropriate one.

Chapter 11

**Challenges on the use of
Performance Measures** (2/3)

Risk Adjustment:
- Age
- Sex
- Diagnosis Severity
- Co-morbidity and Chronic Diseases
- Health Status
- Environmental and Geographical Factors

---

- Risk adjustment is a process for reducing, removing or clarifying the influences of confounding patient factors that differ among comparison groups. A significant proportion of the variance in health care outcomes is the result of patient-related risk factors - the intrinsic risk of the patient for experiencing a good or bad outcome, which is not modifiable by health care episode. To draw inferences about quality of care from health care outcomes, one must adjust for the covariates that are not related to quality.

- The covariates include patient demographics (age, ethnicity, gender), many co-morbid conditions, severity of illness classification, health status (physical functioning, general mental health, etc.) as well as environmental and geographical factors.

- The more thorough the quantification of patient risk and its use in the adjustment of outcome, the more likely health care outcomes will be a reflection of quality of care. This has led to concern that inadequate risk-adjustment could lead to erroneous conclusions and unfairness to the providers and consumer.

Challenges on the Use of Performance Measure (3/3)

- Credibility
- Cost
- Appropriate Interpretations
- Acceptability

- A Performance Measurement may not be useful if the person of any entity supplying it or measuring it is not credible. Imagine asking a bank to measure the performance of a hospital or an engineer to measure the performance of a physician. In all of these examples, the credibility of the individual making the measurements is at stake and so is the measure itself, even if the measure was the most perfectly designed measure.

- Similar to the above, if the measure to be used is not acceptable to the entities to be measured then the use of that measure is lost.

- Making the measures as objective and as valid as possible is a priority but even that priority may have to be compromised if achieving this level of accuracy means costing the measuring organization too much in resources. It behooves the organization involved to know when to say enough is enough when it comes to upgrading and refining the measures, if these processes incur exorbitant cost.

- Additionally, the measure must be interpreted appropriately by the right individuals and for the right situation. Imagine applying a measure related to inpatient care to measure performance of a health centre such as, timing of re-perfusion of acute myocardial infarction patient.
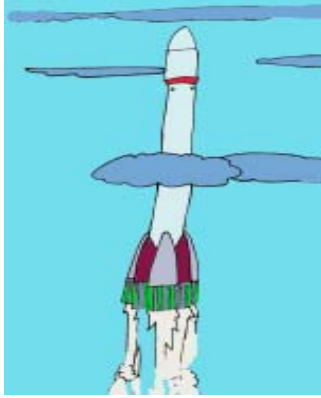
The Future of Performance Measures

- Involvement in Accreditation
- Consumer Interest
- Provider Cooperation and Compliance
- CQI and Cost Issues
- Information System and Use of Information Technologies

- The accrediting organizations are becoming more interested in developing and using Performance Measurement in their assessment of health care organizations. Initially, accreditation was primarily based on structural standards that has very little to do with performance. Now accreditation is becoming increasingly reliant on performance measures and the process is dependant on verifying improvement accomplishments via specifically developed performance measures.

- Consumer advocates and interest groups are becoming more interested in comparing the performance of individual practitioners and other providers. Some research groups are developing a rating system for hospital and productivity profiles for physicians.

- Providers were always reluctant to embrace Performance Measurement to report on their performance. Measuring their performance has always been an internal affair but more and more providers are seeing themselves forced to measure and be measured. Most of them have accepted this trend and even become advocates for this phenomenon.

- Unit cost analyses and tying these to outcomes and quality of care are increasing in use and application. Incentives and recognitions in the near future will be based on cutting costs and true improvements in performance.

- As we become more dependent on information technology and automation, so will our measurement systems. Future health care organizations will offer readily accessible and available performance data to the consumer at the tip of their finger, where e-health will soon be the norm in the industry.

Summary

The goal of performance measurement is to provide some objective measures of the competence of health care providers. The drive to measure performance is both internal and external.

The internal drive comes from within the health care provider, a desire to improve quality of patient care. The external drive comes primarily from purchaser of health care and advocates who believe that health care providers should be held accountable.

The performance of health care providers is made up of processes, intermediate results and outcomes. The complexity of health care provision requires a comprehensive set of measurement tools in order to approximate the true picture of quality in the organization.

The changing nature of today's health care organizations, including pressure to reduce costs, demand from consumer groups, improvement in the quality of care and meeting stringent guidelines, will force health care professionals to re-examine how they evaluate their performance.

Chapter 11
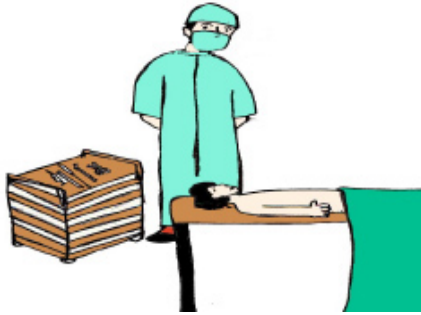
Case Study

The rationale for the measurement and reporting of quality rests largely on the belief that public release of data on performance will lead to behavioral change and improved quality. These, in turn, along with the professional ethos, are expected to motivate institutional and individual efforts to improve performance.

The experiences of New York and Pennsylvania with the public reporting of statewide outcomes data provide natural experiments with these ideas. Since 1989 and 1991, these States respectively, have compiled annual statistics on risk-adjusted mortality after coronary-artery bypass for individual hospitals and surgeons.

There is evidence that the release of these data motivated hospitals in New York to improve quality of care. Between 1989 and 1992, there was a 41 percent decline in mortality. Some hospitals restricted the privileges of surgeons with low volumes procedures and those who had relatively high risk-adjusted mortality rate; other hospitals embarked on efforts to identify and improve specific processes with higher-than-expected mortality.

Another study found a dramatic increase in recorded co-existing conditions among patients undergoing bypass surgery, which they attributed to changes in coding practices by physicians and hospitals wishing to improve their risk-adjusted statistics.

On the other hand, public reporting may also have affected patients' access to services. In Pennsylvania, the study showed a majority of cardiovascular surgeons said they were less willing, since the state's reporting system began, to operate on severely ill patients who needed bypass surgery, none said they were more willing than before reporting began.

Questions: What lessons can we learn from the experiences of instituting Performance Measurement in the two States? If history could be reversed and you were given a chance to introduce Performance Measurement in the two states, how would you approach it?

Chapter 11

Exercise

- How can you assure that reporting on performance measures will help your organization strive for better quality in providing health care?

- Should you develop your own measures or adapt/adopt those developed by other organizations?

- Current perspective of quality is to meet and exceed the demand of customers. What is the best possible roles for them in measuring performance of health care providers and to what extend should they be involved?
  "don't let the Perfect be the enemy of the Good"

1. The followings are the factors to be considered in measuring performance, *except:*
   A) identify appropriate quality elements
   B) methods of data collection and analysis
   C) complexity of service rendered
   D) assess customers' need and demand
   E) impact to the organization

2. *Caring service* is an element in "Excellent Working Culture" of the Ministry of Health Malaysia. Which matrix of quality dimensions do you think can best measure this indicator?
   A) technical-structure intersection
   B) technical-process intersection
   C) interpersonal-outcome intersection
   D) amenities-process intersection
   E) interpersonal-process intersection

3. The main purpose of evaluating performance measures is the followings, *except*:
   A) to assess its appropriateness and applicability
   B) identify the compliance to the needs of organization
   C) re-assess cost of resources used
   D) re-look at the data element
   E) identify priority areas for improvement

   ****
   The answer: 1 (D)   2 (E)   3 (C)

Bibliography

Agency for Health Care Policy and Research: Using Clinical Practice Guidelines To Evaluate Quality of Care, pub. No. 95-0046 Vol. 2 and Vol. 3, March 1995.

Al-Assaf, A. F & Schmale J.A. (1993). The Textbook of Total Quality in Health Care. DelRay Beach, FL : St. Lucie Press.

Al-Assaf, A. F. (1998). Managed Care Quality: A Practical Guide. Boca Raton, FL: CRC Press

Al-Assaf, A. F., "International Health Care and the Management of Quality" in Quality Management in Nursing and Health Care, Delmar Pub., 1996.

Al-Assaf, A. F., "Quality Improvement in Health Care: An Overview", Journal of the Royal Medical Services, 1994;1(2):44-50.

Blumenthal D., Epstein A.M.: The role of physician in the future of quality management; The New England Journal of Medicine, Vol. 335, No. 17 October 1996, pp: 1328-1331.

David Calkin et. al: Quality; Health Care Policy; Blackwell Science Incorp 1995, pp: 194-225.

Harry P. Hatry. Performance Measurement - Getting Results. The Urban Institute Press. Washington DC 1999.

Ministry of Health Malaysia: Quality Measurement Framework, March 2001.

Rockville MD: Agency For Health Care Policy and Research; Understanding Performance Measurement, March 2002; http://www.achpr.gov/chtoolbx/understn.htm

Chapter 12

Patient Safety and Risk Management in Health Care

A. F. Al-Assaf, MD, MPH, CQA
University of Oklahoma, USA

Learning Objectives

At the end of the chapter, you will be able to:

- identify patient safety issues

- appreciate the magnitude of medical errors

- identify potential risks in health care

- determine the steps for controlling risks

- describe the impact of health care risks on the health system and patient care
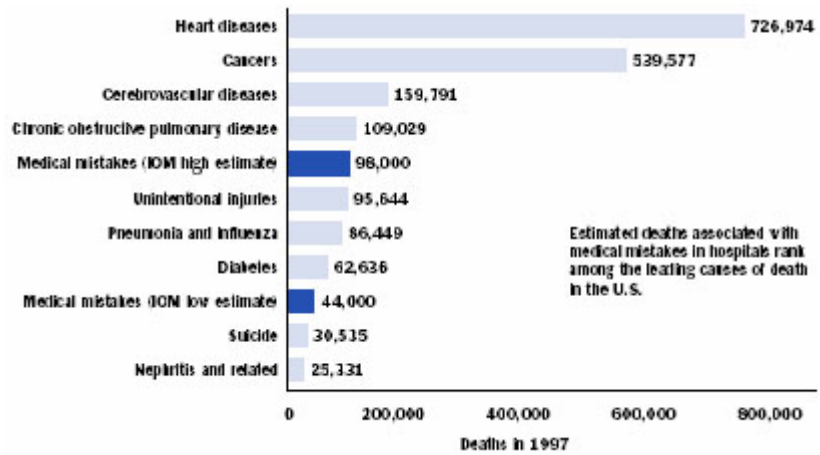
Contents

Chapter 12

"The transforming insight for medicine from human factors research is that errors are rarely due to personal failing, inadequacies, and carelessness. Rather, they result from defects in the design and conditions of medical work that lead careful, competent, caring physicians and nurses to make mistakes that are often no different from the simple mistakes people make every day, but which have devastating consequences for patients. Errors result from faulty systems not from faulty people, so it is the systems that must be fixed. Errors are excusable; ignoring them is not"

This quote highlights several key concepts:

1. Errors in medicine are not intentional. It is a fact that no health professional (unless he is mentally sick) wants to intentionally commit an error in their practice.

2. Errors are not due to human errors but due to problems in the system. Not having the right tools, the right policies and procedures, the right training, the right orientation, the right incentive, etc. will have negative impact on the way health professionals behave. Regardless of who the professional is, if left in an environment that is not supportive of quality work, will eventually commit an error, thus endangering patient care.

3. We may excuse people who committed errors and may even find a way to exonerate them but ignoring these errors is not acceptable. Error should be studied to find ways to prevent them from happening again.

**Estimated Deaths Associated with Medical Mistakes
Compared to the Leading Causes of Death in the U.S.**

Heart diseases	726,974
Cancers	539,577
Cerebrovascular diseases	159,791
Chronic obstructive pulmonary disease	109,029
Medical mistakes (IOM high estimate)	98,000
Unintentional injuries	95,644
Pneumonia and Influenza	86,449
Diabetes	62,636
Medical mistakes (IOM low estimate)	44,000
Suicide	30,515
Nephritis and related	25,331

Estimated deaths associated with medical mistakes in hospitals rank among the leading causes of death in the U.S.

Deaths in 1997

This graph illustrates that medical errors, plotted against other leading causes of death in the US amount to either the fifth or, more conservatively, the eighth leading cause of death.

Chapter 12

The Medical Errors Magnitude...

Administration of Drugs Errors

Key facts about Medication Errors

More than 1 million serious medication errors occur every year in US hospitals. These errors occur for many reasons. Common examples are:

- Illegible handwritten prescriptions by physicians leading to administration of the wrong drug.
- Serious drug overdosing resulting from simple decimal point errors.
- Overlooked drug interactions and allergies.

Medication errors often have tragic consequences for patients. Over half of serious medication errors result in preventable adverse drug events (ADEs), of which approximately 20% are life-threatening. According to the 1999 Institute of Medicine report, *To Err is Human: Building a Safer Health Care System*, medication errors alone contribute to 7,000 deaths annually.

Medication errors also result in tremendous financial costs. One error adds, on average, $2,000 to the costs of hospitalization. This translates to $2 billion per year nationwide in hospital costs alone. This figure excludes other important costs of medication errors, such as malpractice costs and losses in worker productivity (Leapfrog, 2002).

**...and more facts about
medical errors...**

**...and more facts about the
risks to patients...**

Most people believe that medical errors usually involve drugs, such as a patient getting the wrong prescription or dosage, or mishandled surgeries, such as amputation of the wrong limb. However, there are many other types of medical errors, including:

- Diagnostic error, such as misdiagnosis leading to an incorrect choice of therapy, failure to use an indicated diagnostic test, misinterpretation of test results, and failure to act on abnormal results.

- Equipment failure, such as defibrillator with dead batteries or intravenous pumps whose valves are easily dislodged or bumped, causing increased doses of medication over too short a period.

- Infections, such as nosocomial and post-surgical wound infections.

- Blood transfusion-related injuries, such as giving a patient the blood of the incorrect type.

- Misinterpretation of other medical orders, such as failing to give a patient a salt-free meal, as ordered by a physician.

However, research clearly shows that the majority of medical errors can be prevented. One of the landmark studies on medical errors indicated 70% of adverse events found in a review of 1,133 medical records were preventable; 6% were potentially preventable; and 24 % were not preventable (AHRQ, 2002).
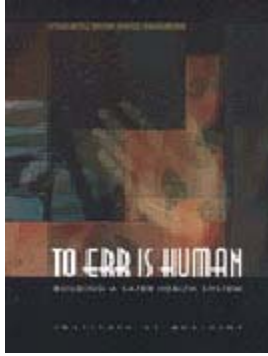
Serious Medical Mistakes

The main kinds of serious medical mistakes, as reported by 114 interns and residents who responded anonymously to a questionnaire about their own most significant errors in the last year.

(Source: JAMA article and reported in New York Times)

Here is a study of a group of medical interns and residents to identify and appreciate human errors. Remember however, that these "reported" errors are only the tip of the iceberg!.

	Outcome
● **Errors in Diagnosis (38 cases, 33%)**	
• Failed to diagnose bowel obstruction in patient with fluid buildup in abdomen.	• Death
• Failed to examine and diagnose fracture in crack cocaine user.	• Delayed treatment
● **Evaluation and Treatment (24 cases, 21%)**	
• Treatment of malignant hypertension in the ward instead of in intensive care unit.	• Stroke
• Incompletely cleaned a diabetic foot ulcer.	• Amputation
● **Prescribing and Dosing (33 cases, 29%)**	
• Did not read syringe and gave 50 times the correct dose of a thyroid drug.	• None apparent
• Inadvertently stopped asthma medication at time of hospitalization.	• Respiratory failure
● **Procedural Complications (13 cases, 11%)**	
• Removed pulmonary artery catheter with the balloon inflated.	• Small amount of bleeding
• Placed intravenous line in main vein without a follow-up X-ray.	• Fatal lung collapse
● **Faulty Communications (6 cases, 5%)**	
• Failed to put "do not resuscitate" order in chart and failed to inform spouse.	• Resuscitation performed against patient's wishes
• Failed to obtain consent before placing intravenous line in main vein.	• Fatal complication after procedure

To Err Is Human...

- In NY, adverse events occurred in 2.9% of hospitalizations
- In Colorado and Utah the number was 3.7%
- Of the above 13.6% resulted in deaths in NY and 6.6% in the other states
- At least 44,000 and up to 98,000 deaths occur per year in the US due to medical errors
- What is the number in the rest of the world?

(Source: IOM, 2000)

The knowledgeable health reporter for the *Boston Globe*, Betsy Lehman, died from an overdose during chemotherapy. Willie King had the wrong leg amputated. Ben Kolb was eight years old when he died during "minor" surgery due to a drug mix-up.

These horrific cases that make the headlines are just the tip of the iceberg. Two large studies, one conducted in Colorado and Utah and the other in New York, found that adverse events occurred in 2.9% and 3.7% of hospitalizations, respectively. In Colorado and Utah hospitals, 6.6% of adverse events led to death, as compared with 13.6% in New York hospitals. In both of these studies, over half of these adverse events resulted from medical errors and could have been prevented.

When extrapolated to the over 33.6 million admissions to US hospitals in 1997, the results of the study in Colorado and Utah imply that at least 44,000 Americans die each year as a result of medical errors. The results of the New York Study suggest the number may be as high as 98,000. Even when using the lower estimate, deaths due to medical errors exceed the number attributable to the 8th leading cause of death. More people die in a given year as a result of medical errors than from motor vehicle accidents (43,458), breast cancer (42,297), or AIDS (16,516)" (IOM, 2000).

The key points in these two studies is that errors in medicine are too high while death because of them is excessive. This fact and the recommendations for preventing such errors were highlighted in a report issued in 2000 by the Institute of Medicine, a US government think tank on health care issues, entitled "To Err is Human". An electronic copy can be downloaded free from http://www.nap.edu website.

Leading Causes of Death, 1997
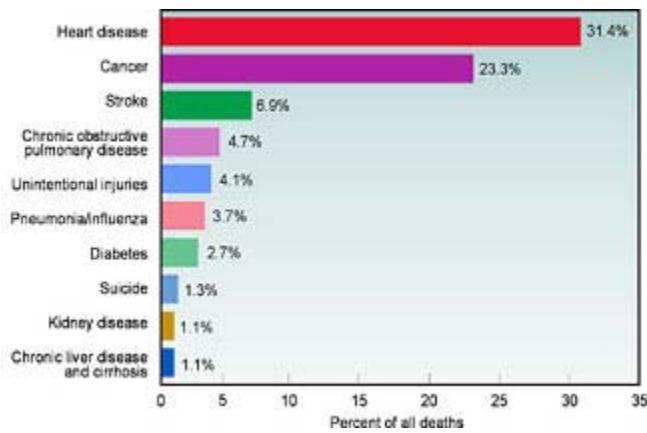
This slide is placed here to prove a point. The point is that in the last decade, the leading causes of death are primarily chronic diseases. What this means to health care quality is that in order to provide the best possible care to patients with these conditions, providers have to be up-to-date in their knowledge since these patents are becoming increasingly more informed about their condition and the associated co-morbidities. Providers also have to establish better relationships with these patients to gain their trust and enhance their credibility. This means that providers must exhibit more compassion and respect to their patients and provide personalized care based on severity and needs of these patients.

Estimated Deaths Associated with Medical Mistakes Compared to the Leading Causes of Death in the U.S.
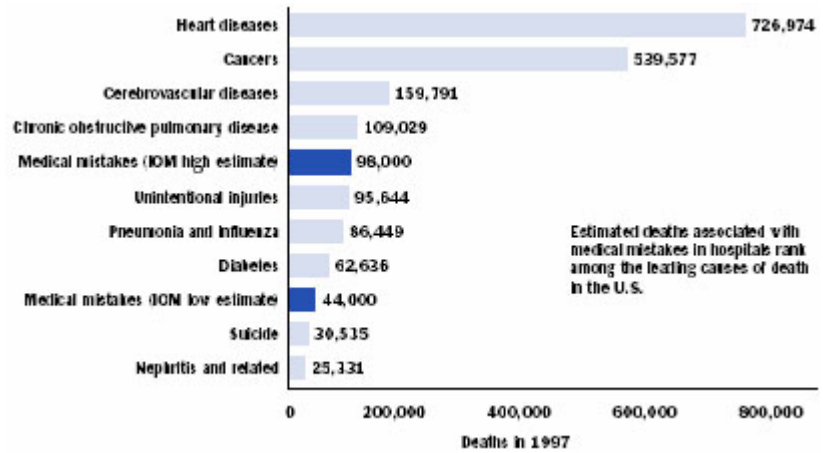

Here we look at the same slide of leading causes of death and added the estimates of patient deaths due to medical errors. It is therefore shown that among the leading causes of death, deaths due to errors are as high as the fifth leading cause of death for the top estimate, and as high as the eighth leading cause of death for the lower estimate.

This means that these preventable deaths are too much! Therefore, a new focus for health care professionals has been developed to identify and study this phenomenon under the auspices of PATIENT SAFETY.

Enhancing Patient Safety

- New Risk Management Initiatives
- Learning versus Judgement
- Reporting Incentives
- Peer Review Reforms
- SIX SIGMA…and the like
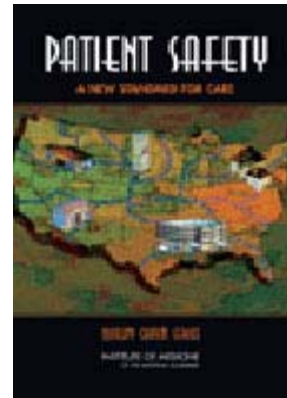
- New initiatives in risk management now put patient safety at the top priority for risk managers, with emphasis on identifying the types of errors being committed, the frequency, the reasons behind them and the mechanisms for preventing them from occurring.

- Managers started to realize that an environment of judgement is no longer acceptable. If a health care worker found out that reporting on errors would jeopardize their jobs then they will not report them. However, if the objective is to learn from mistakes (the Japanese say that mistakes are treasures!) then it behooves us to get workers report freely on mistakes committed without being disciplined. This principle will help in identifying the majority of errors and would help identify the reasons for their occurrence, thus making it easier to identify solutions and mechanisms for preventing them from occurring.

- One of the main barriers for workers to report on errors is that there are no incentives for doing so. Actually, as described earlier, there is a disincentive to report on errors and it is "safer" for the worker to keep these errors hidden. Therefore, in the US for example there are now proposed legislations that would provide incentives for workers to report on errors. Incentives may include recognition, appreciation, or even make it illegal not to report errors. And as another motivating factor to report these errors, some proposals mention the possibility of giving the reporting worker an immunity from being harmed. These same proposed legislations are also targeting to reform the process of peer review in the same manner with immunities and incentives.
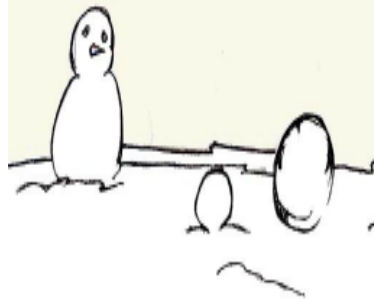
What is Risk Management?

Risk Management (RM) is the process of reducing the incidence of preventable injuries in order to minimize the financial loss to the institution should an injury occur

The key words in this definition are:

- Risk Management is a process. That means it is ongoing and continuous. It is not a program where it begins somewhere and then ends someplace else.

- Risk Management aims at reducing *preventable injuries.* Note, the new word "injuries" to replace "accidents". Injuries are preventable, accidents are not!

- Although Risk Management's traditional aim is to reduce financial risk to the organization, this aim has evolved recently to include the reduction of risks to the patient, even if that would incur more costs on the organization. This notion is enhanced by legal and ethical consequences for the reverse.

Preventive Management

- What is Preventive Management?
- How does Preventive Measures relate to Risk Management?
- It is a Snow Ball Effect
- The Rule of 1-10-100

- Preventive management is a method and practice of management where problems are *proactively* searched for and identified early to minimize further damage these problems may cause.

- Risk Management also operates on the same principle. Instead of waiting for problems to occur then act on them, risk management tries to identify problems early or search for potential areas where problems might happen and try to prevent them from happening.

- It is like the snow ball principle. A snow ball is small and easy to handle at the top of the hill, but it will be much bigger if it was let to roll down the hill as it will increase in size thus making it more difficult to stop. This principle could be applied to problem identification and solving. A problem caught early is still small in its effects and are easily manageable, but if this problem is not identified early and kept to "mature" it will then cause more negative impact and at that point, solving it would be more costly and much more difficult.

- The 1-10-100 rule means that preventing a problem from occurring may cost a fraction of what it would cost to solve it (manage it) after it has already occurred and it would cost even more if it is allowed to become chronic.
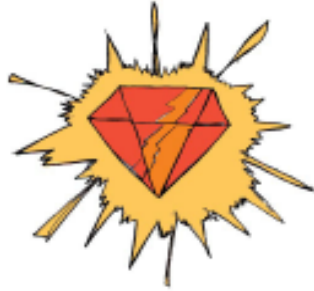
Risk Management and Quality

Quality Dimensions:
- Effectiveness
- Efficiency
- Technology Competence
- Safety
- Interpersonal Skills
- Continuity
- Amenities

The slide above identifies "safety" as one of the main dimensions of quality and it is the main objective of risk management.

Crossing the Quality Chasm

- Safety
- Timeliness
- Effectiveness
- Efficiency
- Equity
- Personalized Care

(Source: Institute of Medicine Report: "Crossing the Quality Chasm: A New Health System for the 21st Century", Washington, D.C.)

Here again with the publication of the other famous report from the Institute of Medicine, "safety" came on top, as one of the main issues to focus on towards health care system reform.

3R

Steps of Risk Management (1/2)

3 R's:
- Risk Identification
- Risk Analysis
- Risk Control/Treatment

3 R's and 5 I's are the steps for performing risk management in a health care organization.

- Risk identification includes the proactive identification of risks and potential risks. This could be done through surveys, observations, reports, and employee empowerment.

- Risk analysis is to study the reasons of its occurrence, who is involved in it, what is its impact, how to prevent it and who would take the responsibility to do so.

- Risk control and treatment follows the same principle for quality improvement projects where risks are evaluated and methods to prevent them and treat them are identified for implementation. For example, preventing patient falls by identifying those patients with a potential for falls (due to drugs, mental or nervous system condition, etc.) and provide assistance when ambulation is necessary.

Steps of Risk Management (2/2)

5 I's:
- Investigate
- Inform
- Influence
- Interpret
- Integrate

The 5 I's of risk management steps include the following:

- Investigate is the next step after managing the immediate effects with the 3 R's. Now it is time to do more investigation as to where the risk is concentrated in, whether there are any specific areas or factors that trigger it.

- Informing those that are involved in risk management, and also those that are affected by that risk to take the necessary precautions, and perhaps the legal department, if a potential legal action might be forthcoming.

- Influencing others to change their behaviors, or have them affect the environment they work in or the individuals they work with or come in contact with. Here providing incentives for compliance could be one mechanism to influence change in practice or develop a policy and procedure to tackle the risk in question.

- Interpreting impact after implementation of actions is the next step and try to sustain improvement.

- Integrate the action into daily activities and involve other units and departments in the process.

Risk Managements Activities and Functions

- Risk Acceptance
- Exposure Avoidance
- Loss Prevention
- Loss Reduction
- Exposure Segregation
- Contractual Transfer
- Risk Financing
- Incident Identification, Reporting and Tracking
- Incident Review and Evaluation
- Actions to Prevent Recurrence of Incidents
- Internal Documentation
- Education
- Liaison with Regulators, Insurers, etc.
- Managing Liabilities

Resources

- The Risk Manager
- Risk Management Coordinators
- Organization Structure
- Roles and Responsibilities
- Risk Management Committee
- Outsourcing Functions

- The Risk Manager in a hospital has traditionally been a health care professional with strong skills and background in clinical care, data management and analysis. He/she is responsible for coordinating the risk management processes in an organization including the identification and control of risks. Recently added tasks to this position were patient safety and confidentiality/privacy compliance.

- The Risk Manager is usually assisted by a group of risk management coordinators usually at the department/unit levels, working either part-time or full-time to ensure the effective application of the risk management activities and techniques.

- Risk Management is traditionally a separate unit in an organization's hierarchy. This unit may report directly to the Medical Director in some institutions or directly to the Chief Executive Officer in other institutions.

- This unit is further supported by a multifunctional/disciplinary team of professionals representing the most relevant functions/departments in that organization. This committee will be chaired by the risk manager and assisted by one or two of the coordinators. The QA coordinator is also a member of that committee.

- Delegation or outsourcing of certain tasks or activities related to risk management especially in a small organization may be done to an external organization or is handled by another unit of that organization.

Costs of Risks

- Appraisal Costs
- Prevention Costs
- Failure Costs
  - Internal Failure
  - External Failure

There are three costs associated with quality activities; appraisal, prevention and failure costs. The first two are somewhat necessary and expected costs to perform a quality activity or run a quality process. However the third cost is to be avoided as much as possible as it relates to failure and errors.

Appraisal costs are costs related to surveying, problem solving, auditing, inspecting, peer reviews, utilization management, preparing for accreditation, risk management, etc.

Prevention costs are costs associated with the prevention of problems such as training, education, awareness activities, preventive management, preventive maintenance, etc.

Failure costs are two; internal failure (costs associated or as a result of mistakes by employees without affecting the patient or at least the patient is unaware of it) such as duplication of procedures or rework; and external failure (costs due to employees' mistakes which have affected the patient with varying severity and impact (malpractice, medical errors, etc.).

This principle is to reduce these costs as much as possible through effective risk management processes and quality improvement activities. Ideally, an organization would invest heavily in eliminating external and internal failure in that order, and reduce the costs of appraisal activities while maintaining a steady stream of prevention activities as they are the best investment towards eliminating or reducing failure costs.

Managing Structural Risks

- **Human Resources**

- **Physical Resources**

Human Resources - training and education of staff and patient to increase their awareness of the potential risks in an organization and ways to avoid these risks or at least control them.

Physical Resources - such as the scheduling of periodic preventive maintenance of all equipments, posting signs of caution, updating old equipments, effective calibration of machines, etc.

Managing Process Risks

The following are methods to manage risks at the PROCESS level of the health care system:

- Clinical Practice Guidelines
- Policies and Procedures
- Critical Pathways
- Accreditation Standards
- Peer Review

Managing Outcome Risks

Identification of Outcomes

Outcome Indicators such as patient satisfaction rate, infection rates, morbidity rates, mortality rates, etc., are useful in managing outcome risks.

The Bottom Line is to reduce $$$$ spent, directly or indirectly, and maintaining the good reputation of the organization.

Malpractice Issues

"Malpractice" is an act of omission and/or commission by a worker or a professional during the line of duty resulting in external failure costs.

Negligence is an intentional act or due to carelessness.

The Act of Omission is not doing something (for example, forgetting to administer medication to a patient, etc.).

The Act of Commission is doing the wrong thing (for example, giving the wrong medication, or wrong dose, etc.).

- Provider-Patient Relationship
- Informed Consent
- Legal Implications
- Liabilities from Medical Negligence
- Institutional Liabilities
- Other Liabilities
- Litigation and Insurance

Regulation and Risk Management

- Local Laws
- Certification and Licensure
- Accreditation
- Employer Mandates
- Patient Advocates

The above are some of the motivating factors for having a viable and effective risk management process in your organization.

Local laws usually have stiff penalties for negligence or malpractice.

The processes of certification, licensure and accreditation are all methods to set certain practice guidelines and standards for individuals and organizations to comply with, to control outcomes and expectations. These processes have a number of provisions where it is impressed upon organizations and professionals to perform in a certain way and to provide the best possible service or care, or to reduce risk losing the privilege received from certifications, licensure or accreditation.

Of course the organization may develop its own policies and procedures to protect itself from liabilities and protect its employees and patients from risks. Therefore, it becomes an internally imposed requirement for individuals and units in that organization to prevent and control risks associated with the practice and delivery of health care services.

The other motivating factor is that certain organizations invest in creating a new position such as a "Patient Advocate" or representative. This professional would have the responsibility to attend to patient needs while they are at the hospital and would act as a liaison between the organization (administration and employees) and the patient in meeting everyone's needs and expectation. So, this person would visit the patient frequently while in the hospital and show compassion and understanding of the patient's condition and make every effort to make the patient's hospital stay as problem free as possible. This function is very important in risk management because it was shown in several studies that satisfied patients are seldom suing patients.

Ethical Issues in Risk Management

- Codes of Ethics
- Confidentiality
- Research in Human Subjects
- Bioethics Committee

- As health care workers, each of us should be aware of the ethical principles that deter a professional from increasing the likelihood of risk to their patients. Doing no harm, doing good acts, or equity in care or respect to the patients are known principles of the ethics of health care and health care professionals are obligated to abide by them.

- Another important issue is the respect and protection of patients' privacy and the confidentiality of their medical information.

- The issue of ethical considerations in human research is another point of focus for risk management. Subjects participating in research should be offered the same respect and rights provided to patient. Informed consents must be duly obtained from them before their participation in any research study or project.

- The above point could be further validated through judgments offered by ethics committees whereby ethical principles are applied to individual cases to protect patients from any harm or the risks thereof.

Summary

- Patient Safety has moved up in the priority list of health care issues

- Safety is associated with identifying potential areas of risks

- Risks have to be prevented, identified, studied, controlled and managed

- Managing risks has financial, legal and ethical implications on patient care

---

Exercise

- What should be done to lower medical errors, in general?

- Identify motivation mechanisms to improve the reporting on medical errors.

- Identify methods to protect health care employees from risks.

- Describe the process of managing an adverse event in an Health Care Organization of your choice.

Bibliography

Agency for Health care Research and Quality; http://www.ahcpr.govqual/errorsix.htm

Al-Assaf, A. F & Schmale J.A. (1993). The Textbook of Total Quality in Health Care. DelRay Beach, FL : St. Lucie Press.

Al-Assaf, A. F. (1998). Managed Care Quality: A Practical Guide. Boca Raton, FL: CRC Press

Al-Assaf, A. F., "International Health Care and the Management of Quality" in Quality Management in Nursing and Health Care, Delmar Pub., 1996.

Al-Assaf, A. F., "Quality Improvement in Health Care: An Overview", Journal of the Royal Medical Services, 1994;1(2):44-50.
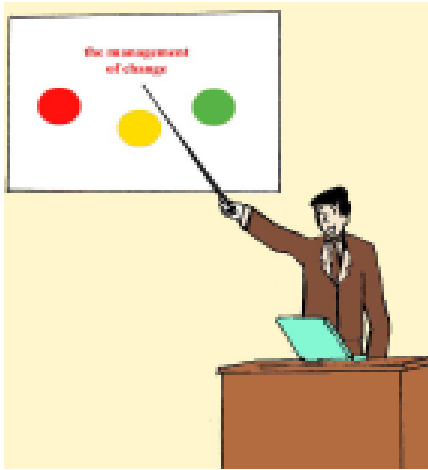
Association for Professionals in Infection Control; http://www.apic.org/safety/

National Patient Safety Foundation; http://www.mederrors.org/, http://www.npsf.org/

Patient Safety Institute; http://www.ptsafety.org/

The Leap Frog Group; http://www.leapfroggroup.org/

Chapter 13

The Management of Change

Haniza Mohd. Anuar, BSc. (Hons) Life Sc, Dip. Transl.,
Post Grad. Dip.Mgmt.Sc., MSc. Mgmt
Institute for Health Systems Research
Ministry of Health, Malaysia

Learning Objectives

At the end of the chapter, you will be able to:

- recognise the champions of change management

- appreciate the primary principles for change management

- appreciate the concept of ADKAR

- recognise the Prosci Flight and Risk Model

Contents

Chapter 13

History of Change Management

- Began with application of many different ideas from the engineering, business and psychology fields

- Two converging and predominant fields of thought: an engineer's approach to improving business performance and a psychologist's approach to managing the human-side of change

Mechanical System (Frederick Taylor, late nineteenth century): focused on observable, measurable business elements that can be changed or improved e.g. business strategy, processes, systems, organizational structures and job roles. This was often faced with resistance.

Psychologists (William Bridges, *Transitions,* 1980): focused on how an individual thinks and behaves in a particular situation. Humans are often exposed to change, hence psychologists study how humans react to change.

The extreme application of either of these two approaches, in isolation, will be unsuccessful. An exclusively "engineering" approach to business issues or opportunities results in effective solutions that are seldom adequately implemented, while an exclusively "psychologist" approach results in a business receptive to new things without an appreciation or understanding for what must change for the business to succeed.

Who's Who

- Jeanenne LaMarsh, *Changing the Way We Change*
- Daryl Conner, *Managing at the Speed of Change*
- Ackerman and Anderson
- John Kotter, *Leading Change*

Jeanenne LaMarsh, 1980's – organizational change model; advocated a structured change management process with companies like AT&T Bell Laboratories and later with Ford and Caterpillar. She authored the book *Changing the Way We Change* in 1995 and recently introduced the *Managed Change* process.

In the book *Managing at the Speed of Change*, Daryl Conner begins with an emphasis on understanding the psychology of change and then moves to a structured change process.

In the recent publication by Ackerman and Anderson, change management concepts are presented in a combined process with business improvement activities.

John Kotter, in *Leading Change*, presents an 8-step model for leading change initiatives.

Chapter 13

Change Management and Quality

To ensure success, any quality
improvement effort must have an in-built
change management component

Regardless of the level of benefit and the absence of risk, quality improvement involves change and as such, calls for change management.

Change management techniques is an integral part of quality improvement.

<div>
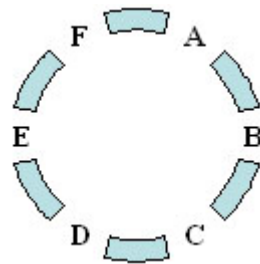
What is Change Management?

The process of ensuring staff of different levels (directors, managers, front line employees) play their roles to successfully implement the needed process, technology or organizational changes

- Organizational change management
- Individual change management

</div>

What is change management?

Two perspectives – employers' and employees.

Change management is about developing specific management competencies around effective change leadership.

It benefits employees by keeping them involved and informed throughout the change process. They may then make informed choices about how they will undergo the transition through the change rather than react based on fear.

Change management provides the tools to proactively manage resistance to change and to deal decisively with resistance to change that is persistent and threatening to the organization. Without these tools, changes can become stuck in workplace politics and ultimately fail.

The health care environment is different today than even 10 years ago. Change is the norm. In response, management competencies must adapt and the organization should work to develop change management and change leadership competencies from the highest level down to the frontline manager.
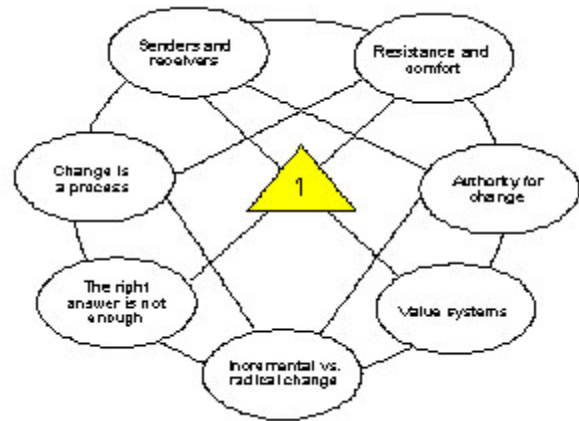
What calls for Change Management?

- Adding a new person
- Modifying a program
- Change in mission
- Restructuring operations
- New technologies
- Mergers
- Major collaborations
- "Rightsizing"
- New programs
- Re-engineering
- QUALITY IMPROVEMENT

No matter how big or small the change, managing the change in a correct manner will result in a more successful and effective change.

**Primary Principles for Change Management**

Primary principles for change management

The figure above indicates the 7 guiding principles that will impact your change management activities.

Each principle will be further elaborated in subsequent slides.

Principle 1 - Senders and Receivers

- Had messages about the change been "sent" to all concerned?

- Had the messages been "received"?

- Had the messages been understood?

- Had the messages been internalized?
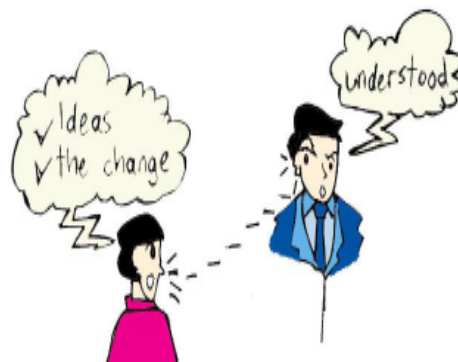
Principle 1 - Senders and receivers

Realising that what receivers hear and what senders say is not always the same is the first step to understanding that change management cannot be reduced to a set of activities or steps. Managers must not only be clear in their communications, they must also listen to employees to understand how their messages are being received. Change management communication is only effective when employees have internalized the change messages and can begin the transition process.

Principle 2 - Resistance and Comfort

Remember:
*   Do not react to resistance with surprise
*   Assess how much other change is going on
*   Determine and understand why the resistance exists and deal with the root cause

Principle 2 - Resistance and comfort

The level of comfort with the current state is often underestimated. Thus change is often resisted. Level of resistance depends on several factors such as personal history, current events in their life, current changes at work, how much other change is going on; some resist change no matter what. Resistance is a barrier to success.

A critical component of any good change management process will be a program to proactively manage resistance.

The three critical and relevant lessons for change management practitioners related to staff resistance and the power of comfort with the status quo are:

*   Do not react to resistance with surprise; expect it and plan for it. Be patient with individuals as they work their way through the change process.
*   Assess resistance not only from an individual's natural aversion or dislike to change, but also based on how much other change is going on (what is the capacity for more change).
*   Persistent and prolonged resistance from middle management (or anyone in the organization) that is not addressed by top management can threaten a project and compromise success. Top management must determine and understand why the resistance exists and deal with the root cause.

Principle 3 - Authority for Change

- Staff resistance to change increases as the authority for change decreases

Principle 3 - Authority for change

Research has shown that the number one success factor cited for implementing change is visible and active top management support. Staff resistance to change increases as the authority and sponsorship for change decreases.

As a change leader, you need to be aware that effective support at the right level may determine success or failure of the project. However, the top management must be coached that their involvement at each phase of the project is critical. They must also be given guidelines and tools.

Principle 4 - Value Systems

Employees:

• Take ownership and responsibility for their work

• Have pride in workmanship and look to improve their work processes

• Feel empowered to make decisions that improve their product and the level of customer service

• Focus on results

Principle 4 - Value systems

A new culture evolved in many of today's businesses.

Employees:
• Take ownership and responsibility for their work
• Have pride in workmanship and look to improve their work processes
• Feel empowered to make decisions that improve their product and the level of customer service
• Focus on results

These values have improved work productivity and the ability to react to customers' needs. However, top-down business change can be more difficult. When told to jump, employees used to say "how high?" but now they often say "why?".

These new values mean that change management is needed more today than ever before. Both, organization as a whole as well as individual, needs support.

Principle 5 - Incremental versus Radical Change

- What is the type of change?
- How big is the change?
- Customized change management
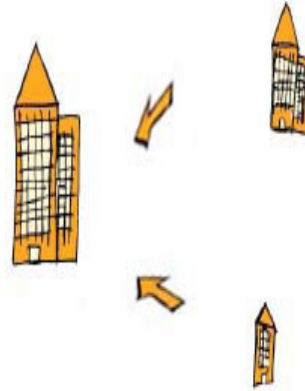
Principle 5 - Incremental versus radical change

Change management activities should be scaled based on the type and size of the change. Change can be broken down into two types:

- *Type 1* - Incremental change: Examples of programs that result in incremental improvement include Six Sigma or continuous quality improvement.
- *Type 2* - Radical change: Example of initiatives that create radical change include business process reengineering, regulatory changes, mergers and acquisitions.

With radical and dramatic change, change management is a critical success factor. With gradual or incremental change, employees have more time to adjust to the change. In both situations, change management is still required, but the scale of the change management activities will be different.

**Principle 6 - The Right Answer is
Not Enough**

- Engage staff early in the change
  process

- Focus on results

- Effectively integrate staff feedback into
  the business solution

Principle 6 - The right answer is not enough

A common mistake among health managers is the assumption that the correct or "right" answer to a problem is sufficient to overcome staff resistance.

The error that can occur in this situation is forcing solutions onto employees because of the belief that "we know what is best." Unfortunately for managers who take this approach, employee resistance may actually increase and their changes may be unsuccessful. Even the best solutions still require change management to be effective, and it cannot be assumed that employees will buy-in simply because "it is the right thing to do."

Ultimately, it is the employees who will use the new processes, tools and systems. If they understand and are supportive of the desired outcomes, then the "how" becomes less important and achieving the business objectives becomes the primary goal. Involve staff early in the change process.

Chapter 13
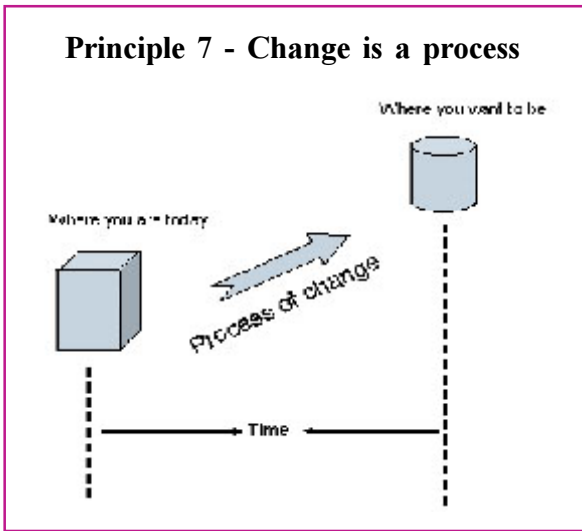
Principle 7 - Change is a process

The concept of change as a process has been well documented in change management literature for many years. **By breaking change down into discrete time periods or phases, change leaders can adapt their strategies and techniques based on the unique attributes of that phase**.

The most common lesson from this model for change is that managers must avoid treating change as a single meeting or announcement. Change is not implemented in a single moment, and likewise, the role of leaders in managing change should not be reduced to a single event. The manager's role in change must be active and visible in all phases of the change process. Customize your change management activities according to where you are in the change process.

The manager must first prepare for the change, i.e. define the strategy to be taken, form the change management team and develop the support model; then manage the change, i.e. develop and execute change management plans, and finally reinforce the change i.e. get feedbacks, identify gaps and manage resistance and implement corrective actions and celebrate successes.

Readiness Assessments

- Assess the scope of the change
- Assess the readiness of the organization impacted by the change
- Assess the strengths of your change management team
- Assess the change sponsors

Assessments are tools used by a change management team or project leader to assess the organization's readiness to change. Readiness assessments can include organizational assessments, culture and history assessments, employee assessments, sponsor assessments and change assessments. Each tool provides the project team with insights into the challenges and opportunities they may face during the change process.

Assessing the scope of the change include:
- How big is the change?
- How my people are effected?
- Is it a gradual or radical change?

Assessing the readiness of the organization include:
- What is the value-system?
- What is the background of the groups?
- How much change is already going on?
- What type of resistance can be expected?

Assessing the change sponsors and take the first step to enable them to effectively lead the change process.

Work Dimension of Change

- Business needs or opportunity is identified
- Project is defined (scope and objectives)
- Business solution is designed (new processes, systems and organizational structure)
- New processes and systems are developed
- Solution is implemented into the organization

Change involves the work as well as the people.

The work dimension of change includes the typical project elements. These are the standard elements of a business change that managers feel most comfortable managing.
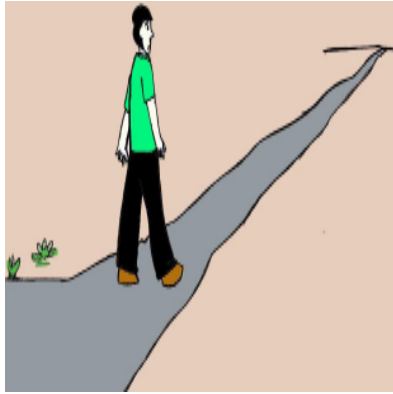
People Dimension of Change (ADKAR)

- **Awareness** of the need to change
- **Desire** to participate and support the change
- **Knowledge** of how to change (and what the change looks like)
- **Ability** to implement the change on a day-to-day basis
- **Reinforcement** to keep the change in place

The people dimension of change is how employees experience the change process.

Awareness may be brought about by communication from managers, customer input and market place changes.
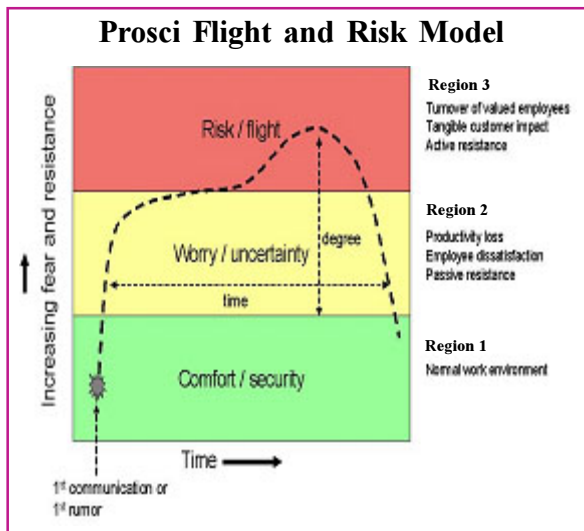
Desire may come from hope in the change, seeing benefit in the change, fear of losing job, trust and respect in leadership.

Knowledge is acquired through training, information access, examples and role models.

Ability, may come through coaching, mentoring and remoral of barriers.

Reinforcement may be in the form of incentives and rewards, compensation for change, celebrations and personal recognition.

Successful change happens when both the work and people dimensions of change, occur simultaneously.

Chapter 13

Prosci Flight and Risk Model

(Source: http://www.change-management.com/tutorial-flight-
risk.htm)

The Prosci Flight and Risk Model explains resistance to change. The level of resistance is on the y- axis. Time is on the x- axis. The regions are characteristics of the employee behaviour.

When a management communication or rumor starts about change, the organization moves upward in this Flight and Risk model. That movement is normal and predictable. The rate at which the organization moves upward in this model (the slope of the curve) depends on several defining attributes of the organization and the change itself.

The factors that can impact the rate of climb into Region 2 or Region 3 are:

• The organization's history with past change.

• The organization's values and culture.

• The level of change already going on within the organization.

These factors are inherent in the company. That does not imply that the track through the Flight and Risk Model is pre-determined. In fact, the variables that managers can control have a significant impact on this track. These variables include:

• How communications are made (who, when, how and what). For example, rumors accelerate the rise in the Flight and Risk model faster than a carefully planned management communication.

• The backing for the change at all management levels.

• How the future state is perceived by each employee.

• The level and type of training and coaching provided to employees.

• How resistance to change is dealt with by managers.

(Source: http://www.change-management.com/tutorial-flight-risk.htm)
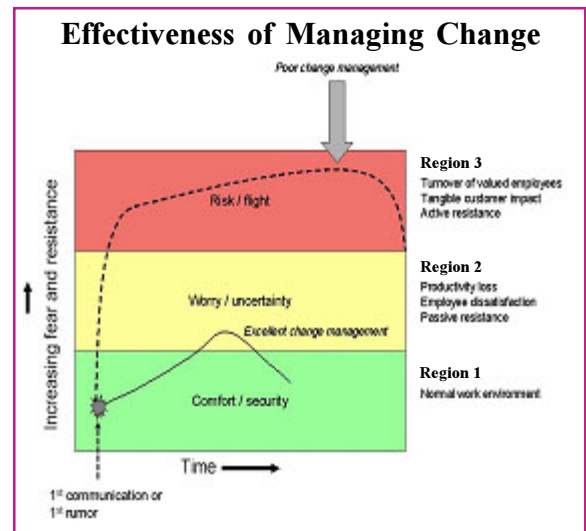
The time and degree for the track through the Flight and Risk Model is controlled by how effectively change management techniques are employed to deal with these inherent organizational factors. The figure above shows two potential tracks for an organization. One in which an organization employs change management effectively, and the other track in which change management is not employed effectively. Note that in the track labeled *Poor Change Management*, the organization rises rapidly into Region 3, and stays there for a long period of time. In this track, the organization is surprised and shocked into change, and suffers customer and productivity impacts. In the second track labeled *Excellent Change Management*, the rise into Region 2 is slower, and the duration is shorter. In this track, change management techniques were employed carefully to manage the negative consequences of the change.

Chapter 13

(Source: http://www.change-management.com/tutorial-flight-
risk.htm)
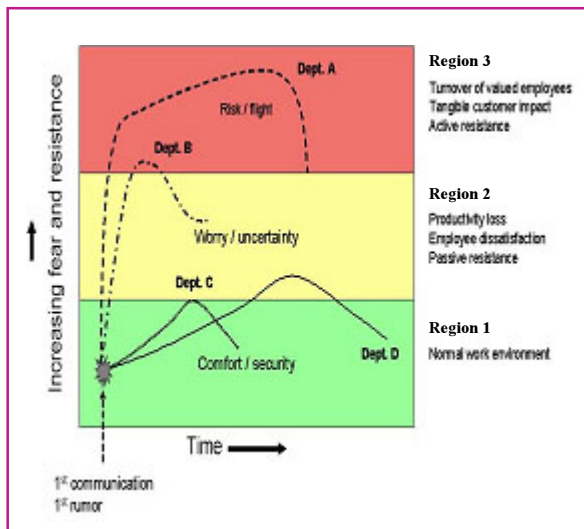
The track through the Flight and Risk Model is not the same for every group in an organization. Each group or department will have unique values and management styles. Each of them will be impacted differently by proposed changes. The figure above shows the multiple tracks that may be experienced during the change process. Note that while Departments C and D followed a positive track through the Flight and Risk Model in this example, Departments A and B had a greater level of resistance.

When faced with change, there will often be those who are open and willing to change, those uncertain and hesitant and those who will not change.

Hence, different strategies for different groups of people are called for.

Reflections on Change

"Change is what makes the world go round, not love – love only keeps it populated" **-** *Charles Brower*

"The only stability possible is stability in motion" **-** *Gardner*

"There is nothing permanent except change" *- Heraclitus*

"One fifth of the people are against everything all the time" *- Robert Kennedy*

"If we don't change, we don't grow. If we don't grow, we aren't really living" **-** *Gail Sheehy*

The reflections clearly demonstrate that change is inevitable for any organization to grow i.e. to futher improve its quality of care.

Chapter 13

Exercise

Identify a change you are trying to bring about unsuccessfully. Determine the ADKAR scores among the staff from 0 to 100%

- Awareness
- Desire
- Knowledge
- Ability
- Reinforcement

Develop a plan to handle the low (<50%) scores

Exercise

Awareness. List the reasons you believe the change is necessary. Review these reasons and rate the degree to which the staff is aware of the reasons or need to change (0% - 100%).

Desire. List the factors or consequences (good and bad) for the staffs that create a desire to change. Consider these motivating factors, including the person's conviction in these factors and the associated consequences. Rate his/her desire to change (0% - 100%).

Knowledge. List the skills and knowledge needed to support the change, including if they have a clear picture of what the change looks like. Rate their knowledge or level of training in these areas (0% - 100%).

Ability. Considering the skills and knowledge identified in the previous question, evaluate their ability to perform these skills or act on this knowledge. To what percent do you rate their ability to implement the new skills, knowledge and behaviors to support the change (0% - 100%)?

Reinforcement. List the reinforcements that will help to retain the change. Are incentives in place to reinforce the change and make it stick? To what percent do you rate the reinforcements as helping support the change (0% - 100%)?

Take a moment to review your scores. Highlight those areas that scored a 50% or below, and identify (using the order listed on the score sheet) which was the first area to score less than 50%. Draft a plan to address these areas first e.g. if you identified **awareness** as the area with a low score, then working on desire, knowledge or skill development will not help you make the change happen.

Bibliography

Beckhard, Richard and Reuben T. Harris, Organizational Transitions, Reading MA: Addison-Wesley, 1987.

Change Management - the systems and tools for managing change.   http://www.change-management.com/tutorial-change-leadership-mod3a.htm

Dalziel, Murray M, and S. C. Schoonover, Changing Ways: A Practical Tool for Implementing Change within Organizations New York: Am. Management Association, 1988.

Jick, Todd D. Implementing Change. Harvard Business   School Case 1991;N9-491:114.

Moohrmann, Allan, S. Mohrmann, G. Ledford, T. Cummingsand E. E. Lawler Jrs (eds.), Large-Scale Organizational Change.
San Francisco: Jossey-Bass, 1989.

Process, technology and organization design.   http://www.prosci.com/tutorial-design-mod5.htm
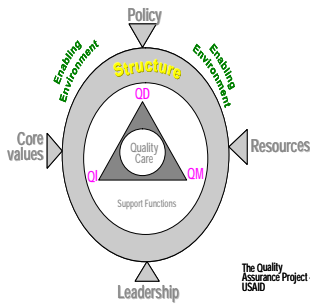
Seven principles of change. http://www.change-management.com/tutorial-seven-principles.htm

Understanding resistance - Prosci's Flight and Risk Model.   http://www.change-management.com/tutorial-flight-risk.htm

Notes:

Chapter 14

Institutionalization of Quality, Sustaining Quality & Quality Culture

PAA Mohamad Nazir Abdul Rahman, MBBS, MHA
Medical Development Division, Ministry of Health, Malaysia

Kalsom Maskon, MBBS, MPH
Planning Development Division, Ministry of Health, Malaysia

Maimunah A. Hamid, MBChB, MPH, CHQ
Institute for Health Systems Research, Ministry of Health, Malaysia

Learning Objectives

At the end of the chapter, you will be able to:

- understand the meaning of "institutionalization of health care quality"

- understand the elements needed to achieve "institutionalization of health care quality"

- understand the role of quality culture in the institutionalization of quality

Contents

Chapter 14

Definitions

Institutionalization is an ongoing process in which a set of activities, structures and values becomes an integral and sustainable part of an organization

Institutionalization of Quality Assurance/Improvement is described as a process that requires leadership, shared values, commitment to change and continuous implementation of QA activities. It involves a systematic process of continuous improvement in the structure, processes and outcome of health care, towards the development of a culture of quality. Quality culture is a state where each employee is aware of the quality concept, believes in it, practices its principles, and makes it part of his/her responsibility.

Fundamental in this process is the continuous efforts of quality improvement that involves three core dimensions of quality design where quality is planned for in a systematic manner; quality control where monitoring for quality takes place, identifying where and how well an activity or organization performs; and quality improvement where opportunities for improvement are identified, developed and implemented. These dimensions are pursued through the implementations of the ten steps of planning, setting standards, communicating standards, monitoring quality, identifying and prioritizing opportunities for quality improvement, defining quality improvement, identifying who will work on the improvement, analyzing and studying quality improvement, choosing and designing solution and implement solution.

A similar term to institutionalization is internalization, which gives a meaning of "within oneself".
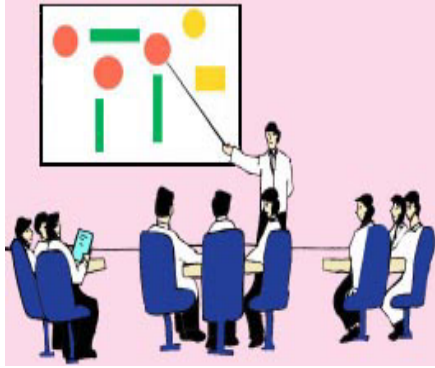
Sustaining Quality

Sustaining health care quality means that all activities related to performance measurements and improvement becomes spontaneous and perpetual in the health care system.

- The leaders are leading the organization & keeping the momentum for quality
- Individuals are willing & self-responsible for quality
- Quality activities are producing measurable improvements in quality
- Consumers are satisfied with the quality of care

Sustaining health care quality is a systematic process of employee involvement, empowerment and teamwork. It is the process of cultural transformation. It requires leadership skills to keep the momentum of improvement going.

Every one has the individual responsibility to initiate quality improvements. It is the state when changes are well accepted, and where consumers are satisfied with the product of health care or services. It is the state which leads to institutionalization of health care quality in an organization.

Chapter 14
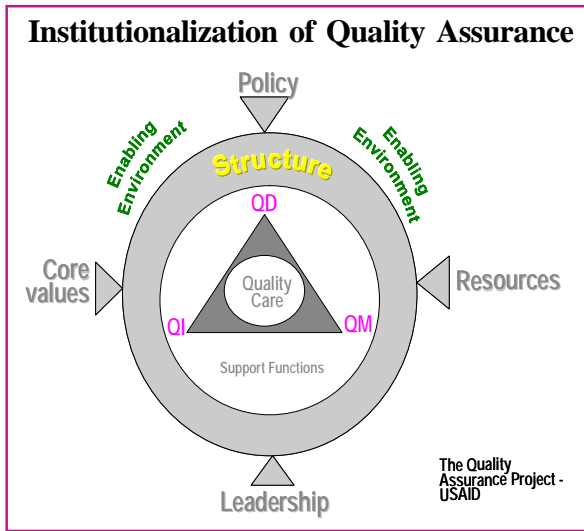
The Model of Institutionalizing Quality Assurance/Improvement as conceptualized by the Quality Assurance Project USAID describes the elements and components of an institutionalization.

The center is quality care which is the desired outcome. The technical activities represented by the trilogy of designing/planing for quality (QD), monitoring/controlling quality (QC) and improving quality (QI) are being implemented in a coordinated manner.

An environment that enables the initiation, growth and continuity of QA activities must incorporate supportive policies, effective leadership, structures with clear roles, responsibilities and accountability, and adequate resources allocation. This enabling environment emphasizes the importance of quality and encourages people to practice QA activities as part of the daily works.

Policies are written statements that support quality through clear directions and guidance towards achieving a common goal. Leadership consists of visionary, knowledgeable and committed leaders in quality improvement at the various levels of health care, moving members towards the shared goals.

Core values are the organizational shared values that emphasize on quality, on-going learning and continuous improvement. Resources depict sufficient allocation of physical, human and financial resources necessary for making quality happen in the organization.

Chapter 14

The Concept of Fully Developed QI Program
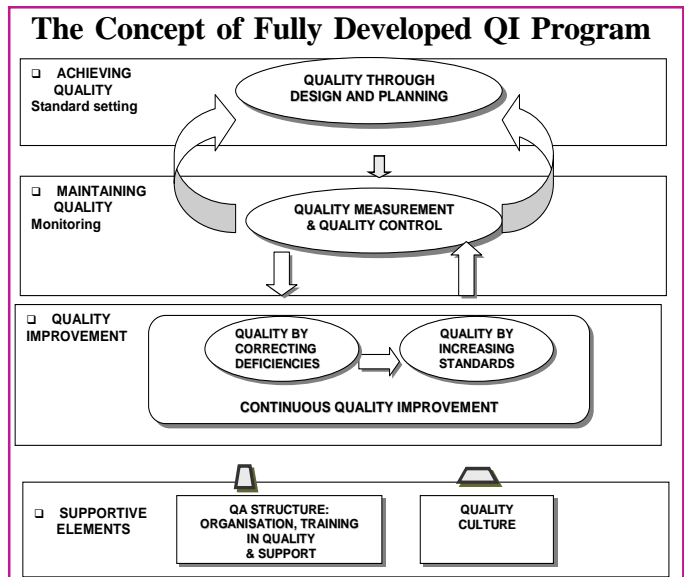
Another way of understanding institutionalizing Quality Assurance is through the concept of having a fully developed QA system in an organization.
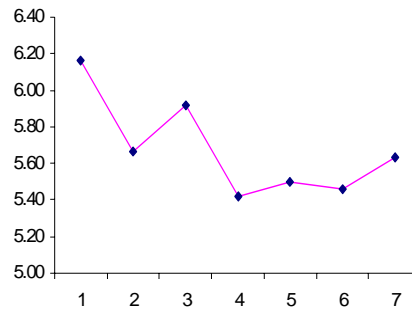
The QA System must have:
- Quality Planning
- Quality Control
- Quality Improvement

  Supported by:
  - Quality Structure
  - Resources
  - Quality Culture

Elements of a Fully Developed QI Program

- Quality structure
- Ongoing standard setting activities
- Routine monitoring activities
- Quality improvement activities
- Development of a culture of quality

Each element of a fully developed quality improvement program is part of a continuum, sharing the common objectives, which are to achieve, maintain and improve health status of the population.

Quality structure includes the organization structure of quality improvement program which outlines each position and its hierarchy within the organization, the lines of authority, tasks and duties and reporting mechanism. It also include human resource such as QI coordinator, facilitators, trainers; and physical resources such as QI program documents, training modules and QI program plans.

Setting of standard defines the quality measure of the expectations for the inputs, processes, and outcomes of care provided. The standards translate quality into operational terms. They can be in the forms of protocols, standard-operating procedures, specifications, practice guidelines and others.

Monitoring of quality achievement by measurement and control is also required for quality to be achieved. Indicators are developed to measure compliance to the standards. Monitoring quality plays an essential role in quality improvement by providing feedback.

Quality can be improved by finding solutions to problems. Much of **improvement** is about improving design and ensuring better control. The lessons learned from monitoring and control can be used for improving the future design, as well as for continually improving the standards.

Culture has a very important effect on performance, as a strong culture has almost always been the driving force behind continuing success. In an organization striving for quality, shared values and traits need to be propagated, encouraged and disseminated.

Chapter 14

Quality Culture

Culture is shared beliefs and values that guide organizational members in their manifested behaviors

Culture of quality is said to exist when:

- Quality activities become routine activities.
- Each employee is aware of the quality concept, believes in it, practices its principles and makes it part of his/her responsibility.
- Each individual own their quality structure, process and outcomes and never ending quest for higher quality.

Determinants of Quality Culture

```
Leadership Values  →  Vision        ←  Customer
                                         Expectations
        ↓              ↓                    ↓
     Style           Goal         →  Quality Policies
        ↓              ↓                    ↓
  Environment    ( Quality Culture )  ←  Strategies
        ↓              ↑                    ↓
 Staff Behaviour ←  Methods       ←  Implementation
        ↑              ↓                    ↓
  Staff Attitude  ←  Customer      ←  Results
                    Response
```

The most influential determinants of culture are **the values held by leaders**, be they explicitly expressed or implicit in their **management style and behaviors.**

Work environment create the presence or absence of factors such as motivation, mutual respect and stress that mould the culture therein. The physical environment too affects culture.

Staff behavior is as much a reflection of their own attitudes as their responses to the way they are treated by the organization.

Aspirations and values that relate to quality form a substantial part of the **vision** of the organization.

Quality goals and objectives that emanate from this vision guide members of the organization along a common path towards meeting a shared goal of achieving quality. The methods with which quality are achieved, maintained and further improved have to be chosen carefully as it will reflect and affect behaviors and beliefs.

Summary

Institutionalization, internalization, sustaining quality are elements of a fully-developed QA Program.

Institutionalization of quality and development of quality culture do not happen overnight.

Institutionalization of quality as a system is achieved only after the process of full implementation of quality has been completed and the establishment of quality culture.

Chapter 14

Case study

Malaysia has stated in the Vision for Health its concern for Quality. The National Strategic Plan for Quality in Health has been formulated in 1998, followed by an Implementation Action Plan. Organized structure for Quality has been established. Malaysia has invested in quality through allocation of funds and dedicated human resources for quality.

The Quality Assurance Programs have been developed and implemented at all levels of the Ministry i.e. National, State and District/Institution). Awareness and commitment of quality is widespread in the Ministry of Health, and the approach that quality is the business of everybody is well known, if not completely accepted. The willingness of other stakeholders in health, including the private sector to be actively involved in quality activities is a healthy sign. Collaborative approach in working on quality between the public and private sector continue to progress with the active involvement of the Malaysian Society for Quality in Health.

Greater efforts to internalize quality into management and into daily activities will continue to be emphasized in the future as has been expressed by policy makers through rules and regulations, policies and procedures and line of communications as well as rewards and incentives. The organizational culture that emphasizes quality in everything that we do has been developed and will continue to be nurtured. Malaysia has nurtured its Corporate Culture with the core values of Professionalism, Teamwork and Caring in the health system.

- From the case study of Malaysia, can you identify the elements that have made it successful in institutionalizing quality in the health care system?

- Do you think this organization has a Quality Culture? Give details.

- Can the experience of Malaysia be replicated in another country? Give details.

Bibliography

Al-Assaf, A. F & Schmale J.A. (1993). The Textbook of Total Quality in Health Care. DelRay Beach, FL : St. Lucie Press.

Al-Assaf, A. F. (1998). Managed Care Quality: A Practical Guide. Boca Raton, FL: CRC Press

Al-Assaf, A. F., "International Health Care and the Management of Quality" in Quality Management in Nursing and Health Care, Delmar Pub., 1996.

Al-Assaf, A. F., "Quality Improvement in Health Care: An Overview", Journal of the Royal Medical Services, 1994;1(2):44-50.

Al-Assaf, A.F. (2001), *Health Care Quality, An International Perspective: Lessons in Sustaining Health Care Quality*. WHO, pp 133-142.

Al-Assaf, A.F., *Institutionalization of Health Care Quality. Managed Care Quality: A Practical Guide,* pp 173-180.

Brown, L.D. (1995), *Lessons Learned in Institutionalization of Quality Assurance Programs : an International Perspective* in International Journal for Quality in Health Care, Vol.7 No. 4, pp. 419-425.

Dunford, R.W. (1992), Organizational Behavior Addison-Wesley Business Series.

QA Project (2000), Institutionalizing Quality Assurance
.
Schermerhorn, J.R. (2002), Management 7th Edition John Wiley & Sons. Inc. New York.

Sulaiman, A.B.(1998), Towards a Dynamic and Progressive Quality Culture in Health. National International Conference on Quality in Health, Kuala Lumpur.
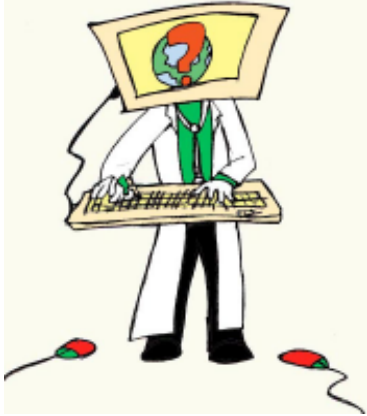
Chapter 15

Who's Who In Quality

Haniza Mohd. Anuar, BSc. (Hons) Life Sc, Dip. Transl.,
Post Grad. Dip.Mgmt.Sc., MSc. Mgmt
Rozaini Mohd. Zain, MD, MPH, CHQ
Maimunah A. Hamid, MBChB, MPH, CHQ

Institute for Health Systems Research
Ministry of Health, Malaysia

Learning Objectives

At the end of the chapter, you will be able to:

- know the key figures and their contributions in quality

- know examples of World Class companies

- appreciate and access the websites related to quality improvement

Contents

Chapter 15

**The Key Figures in
Quality Improvement**

- W. Edwards Deming
- Joseph Juran
- Philip B. Crosby
- Avedis Donabedian
- Donald Berwick
- Kaoru Ishikawa
- Genichi Taguchi
- Tom Peters
- Others

It is not the aim of this chapter to comprehensively include all the key figures or "guru" of quality. The list above provides the eminent names often quoted in quality improvement related to health care.

Each of the guru of quality has their own philosophy, teachings and tools. Their contributions had all been major and with lasting impact, towards the efforts in improving quality.

(http://www.doright.org/deming.html)

W. Edwards Deming

- **Plan** what is needed
- **Do** it
- **Check** that it works
- **Act** to correct any problem or improve performance

Deming encourages a systematic approach to problem-solving. He promotes the widely known plan, do, check, act cycle, introduced by his colleague, Dr. Shewhart. The idea is to constantly improve, reducing the gap between customers' requirements and process performance, and as soon as one cycle is complete, another starts.

More details on Deming's principles can be found in Chapter 3: Quality Principles of this Module.

Chapter 15

Joseph Juran

Plan/Design
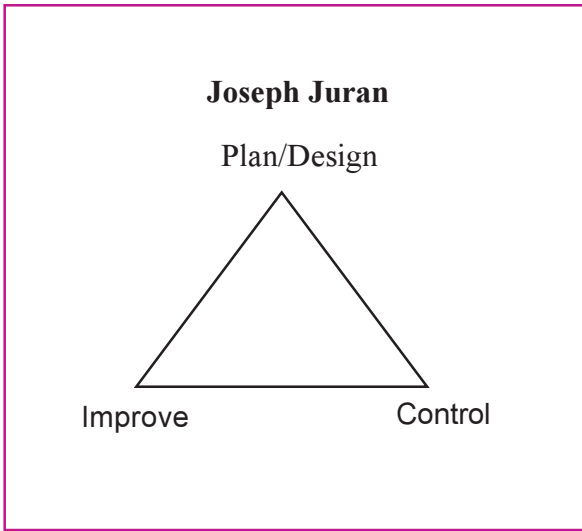
Improve   Control

(http://www.qualitydigest.com/
feb99/html/body_juran.html)

Juran introduces the trilogy of quality, termed as Juran's Trilogy. The process achieves control at one level of quality performance, then plans are made to improve the performance on a project by project basis, using tools and techniques such as Pareto analysis. This activity eventually achieves breakthrough to an improved level, which is again controlled, to prevent any deterioration.

Juran believes Quality is associated with satisfaction and dissatisfaction, not only of the end customers, but also of other external and internal customers.

Refer to Chapter 3: Quality Principles of this Module for more details on his principles.

Philip B. Crosby

- Quality is conformance to requirements
- The system of quality is prevention
- The performance standard is zero defect
- The measurement of quality is the price of non-conformance

(http://www.philipcrosby.com/pca/C. Articles/ articles/year.2002/philsbio.htm)

Phillip B. Crosby is best known as the creator of the "Zero Defects" and "Buck A Day" concepts. He is a career-long teacher and leader in making defect prevention part of the management style of American business.

Refer to Chapter 3: Quality Principles of this Module on more details of his principles in quality.

Chapter 15

Avedis Donabedian

- 3 Elements in definition of quality in health care:
  - The Science of Care
  - The Art of Care
  - The Amenities of Care

- Approach to assessment of quality of care:
  - Structure
  - Process
  - Outcome

(http://www.intqhc.oupjournals.org/ cgi/reprint/12/6/451.pdf)

Avedis Donabedian is the guru of quality in health care who introduces the concept that quality in health care can be measured through structure, process and outcomes.

He introduces the concept of defining quality in health care. The science/technical care is the application of science and technology of medicine, and other health sciences, to the management of a personal health problem. The art of care relates to the social and psychological interactions between health care providers and the customers. The amenities of care are the properties of more intimate aspects of settings in which care is provided, such as the comfort at the health care facilities.

In assessing health care, he approaches it through three elements of structure, process and outcome.

A structure is the relatively stable characteristics of the providers of care, of the tools and resources they have at their disposal, and of the physical and organizational settings in which they work, things that exist prior to and separate from interaction with patients. Structure, an indirect measure of quality, is useful to the degree that it can be expected to influence the direct provision of care.

Process concerns the activities that go on between practitioners and patient. Process measures may be used to assess the quality of the technical management of care (e.g. was the appropriate laboratory test ordered?), as well as the interpersonal aspects of care (e.g. was the medical history taken in a sensitive and caring manner). Process may be viewed as what is done to patients.

Outcomes are what happen to them as a result of interventions. It refers to a change in patient's current and future health status that can be attributed to antecedent health care. It includes mortality rates, post operative infection rates and rates of re-hospitalization.

(http://www.hsph.harvard.edu/
faculty/DonaldBerwick.html)

Donald Berwick's 11 Aims

● Reduce unnecessary surgery, admissions, and test
● Reduce underlying root causes of illness (e.g. smoking)
● Reduce c-sections to pre-1980 levels
● Reduce unwanted care at the end of life
● Simplify pharmaceutical use
● Increase patient participation in decision making
● Decrease waiting times
● Reducing supply inventories
● Recording useful information only once
● Consolidating and rationalizing high-tech services
● Reducing disparities

Donald Berwick is a Pediatrician at Harvard University and Brigham and Women Hospital in Boston, Massachusetts, USA. He is currently the President and Chief Executive of the International Healthcare Institute in Orlando Florida, an international think tank center on quality improvement in health care. He published a famous article in January 1989 issue of the New England Journal of Medicine where he introduced the term CQI, continuous quality improvement in health care. Also in this article he described, perhaps for the first time, the difference between quality assurance and quality improvement in health care.

Refer to Module 3: Quality Principles of this Module for more details.

Chapter 15

Kaoru Ishikawa

- Pareto analysis
- Cause and effect diagrams
- Stratification
- Check sheets
- Histograms
- Scatter charts
- Process control charts

(http://www.saferpak.co.uk/
cause_effect.htm)

Kaoru Ishikawa is an engineer majoring in applied chemistry. He has made major contributions in quality control and had written many books in quality control and statistics. He introduces Quality Control Circle, a unique feature in Japan, where workers study and analyze the quality control process on their own initiatives.

He used the following techniques in quality control, which are widely used in quality improvement:

- Pareto analysis   *Which are the big problems?*

- Cause and effect diagram   *What causes the problem?*
  (Ishikawa Diagram)

- Stratification   *How is the data made up?*

- Check sheets   *How often does it occur or is it done?*

- Histograms   *What do overall variations look like?*

- Scatter charts   *What are the relationships between*
                                                          factors?

- Process control charts   *What variations to control and how?*

(http://www.amsup.com/
BIOS/g_taguchi.html)

Genichi Taguchi

- System design (statistical process control)
- Parameter design
- Tolerance design (robust product design)

Taguchi made knowledge on experimental design more usable and practical for quality professionals. He pushes quality and reliability back to the design stage. He stresses on the routine optimization of product and process prior to manufacture rather than quality through inspection.

Chapter 15

Tom Peters

- Identified leadership as being central to the Quality Improvement process
- Discarded "Management" for "Leadership"
- "Managing by walking"
- Mckinsey's 7-S Framework

(http://www.leadershipshinesthrough.com/ profile_tompeters.html)

Tom Peters believes that the leader's role is that of a facilitator. "Managing by walking" enables leaders to keep in touch with customers, innovation and people, the three main areas in the pursuit of excellence. He believes that, as the effective leader walks, at least 3 major activities are happening: listening (suggests caring), teaching (values are transmitted) and facilitating (able to give on-the-spot help).

Through research on successful American organizations, Peters came up with the McKinsey's 7-S Framework, encompassing structure, systems, style, staff, skills, strategy and shared values, all interlinked to each other.

**Companies mentioned most often
as World-Class, Mature Quality
Organizations:**

- Motorola
- Xerox
- 3M
- AT&T
- Federal Express
- Milliken
- Eastman Kodak
- Corning

In the year 2003, the "top-notches" in different categories, as rated by members of the American Productivity & Quality Centre are:

- *Processes*
  - Motorola – has Six Sigma targets set for all processes, including business service related.
  - Xerox - particularly strong in processes to solve problems and continuously improve.

- *Customer-focus*
  - AT & T Universal Card Services – epitomizes world-class in each of the Baldrige criteria, particularly in the area of listening to customers.
  - Federal Express – continually delights the customers with fast, efficient service.

- *Employee participation and development*
  - Federal Express – invests a large amount of resources in training and developing their employees.

- *Leadership*
  - Corning – has an exemplary CEO who lives, breathes and acts quality.
  - Eastman Kodak Company – has truly dedicated quality leaders.
  - Milliken – has leadership that cascades communication and training from the top.
  - 3M – the management appears to be customer and fact-driven.

- *Profit*
  - Corning – has a superb return to investors.
  - Kodak – their market performance makes them world-class. They have been very competitive in the face of Fuji's marketing efforts both in the USA and Japan.

Chapter 15

**Websites of Organizations Dealing
with Quality in Health Care**
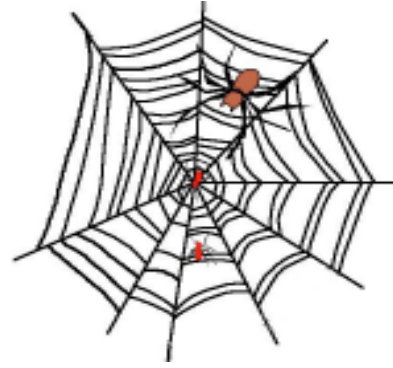
The following pages capture some of the Web Pages of Organizations dealing with quality in health care. They also contain selected paragraphs of the summary descriptions about the organizations, selected from the websites. Other websites are listed at the end of the chapter.

Readers are encouraged to visit these websites and take benefit of their contents.

Chapter 15

American Board of Quality Assurance and Utilization Review Physicians (ABQAURP)
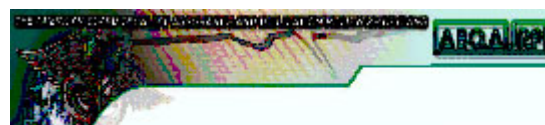
Concerned about Patient Safety?

Need to become HIPAA Privacy Compliant?
Need Continuing Education hours for your ABQAURP renewal?
Do both through one place - WEBe Learning.

(Source: http://www.abqaurp.org, Accessed date: 24 Sept 2003)

Established in 1977, the American Board of Quality Assurance and Utilization Review Physicians (ABQAURP) has evolved to become the nation's largest organization of interdisciplinary health care professionals. ABQAURP remains at the forefront of Health care Quality and Management (HCQM), a field so vital to all medical specialties and health care professions. Through its ultimate goal to improve the quality of our Nation's health care, ABQAURP is dedicated to providing health care education and certification for physicians, nurses, and other health care professionals.

ABQAURP is the only health care quality and management organization with an examination developed, administered, and evaluated through the National Board of Medical Examiners' (NBME) testing expertise. ABQAURP and the NBME collaborate on the planning, development, analysis, and scoring of the certification examination. The NBME's involvement in the certification process reflects ABQAURP's dedication to establishing health care quality and management as a specialty with definable standards upheld by knowledgeable experts.

In addition to its exemplary certification process, ABQAURP provides valuable health care education for health care professionals. Verifying the knowledge required to certify experts, ABQAURP offers health care education programs, not only for those preparing for certification but also for ABQAURP Diplomates and all other health care professionals. Each year, ABQAURP provides live conferences at geographically convenient locations throughout the United States as well as independent study options. Innovative courses provide important updates and practical tools for all health care professionals, with nursing contact hours and at least eight hours of Category 1 CME credit applied to each activity. Participation in these programs ensures that Diplomates receive up-to-date information on the ever-changing health care environment and that candidates for certification have the appropriate educational background to be considered ABQAURP Diplomates in the future.

Chapter 15

**Accreditation Association for
Ambulatory Health Care
(AAAHC)**

(Source: http://www.aaahc.org, Accessed date: 24 Sept 2003)

The Accreditation Association for Ambulatory Health Care (**AAAHC**) was incorporated in 1979 as a non-profit 501(c)3 in the State of Illinois, but its history spans more than 25 years of independent and cooperative efforts by many national organizations, all dedicated to high quality ambulatory health care.

The AAAHC is a leader in ambulatory health care accreditation and serves as an advocate for the provision and documentation of high quality health services in ambulatory health care organizations. This is accomplished through the development of standards and through its survey and accreditation programs.

As the original multi-discipline accreditation organization to focus exclusively on ambulatory health care, the founders of AAAHC were both visionary and pioneering. The AAAHC simultaneously recognized and embraced ambulatory care and challenged this newly emerging modality to meet rigorous standards for self-improvement and credibility.

Agency for Healthcare Research and Quality (AHRQ)

(Source: http://www.ahcpr.gov, Accessed date: 24 Sept 2003)

The Agency for Health care Research and Quality **(AHRQ)** was established in 1989 as the Agency for Health Care Policy and Research. Reauthorizing legislation passed in November 1999 establishes AHRQ as the lead Federal agency on quality research. AHRQ, part of the U.S. Department of Health and Human Services, is the lead agency charged with supporting research designed to improve the quality of health care, reduce its cost, and broaden access to essential services. AHRQ's broad programs of research bring practical, science-based information to medical practitioners and to consumers and other health care purchasers.

Chapter 15

American College of Medical Quality (ACMQ)

Mission
Objective
History

(Source: http://www.acmq.org/about/index.htm, Accessed date: 24 Sept 2003)

The American College of Medical Quality was founded in Pennsylvania in 1973 as the American College of Utilization Review Physicians. In 1991 the name was changed to the American College of Medical Quality to reflect the evolving changes in the specialty. Annual Founders Award winners have included such influential contributors to the specialty as Avedis Donabedian, John Williamson, William Jessee, Robert Brook, and Donald Berwick.

- **Mission Statement**
  The mission of the American College of Medical Quality is to provide leadership and education in health care quality management.

- **Objectives**
  To accomplish our mission the objectives are four-fold:
  - To educate and provide a forum for health care professionals, government agencies, and other regulatory bodies involved in medical quality management.
  - To provide a core body of knowledge to health care professionals in the field of medical quality management.
  - To elevate the standards of medical schools and post-graduate education in medical quality management.
  - To conduct and sponsor on-going research and evaluation in the various fields of medical quality.

Chapter 15

Canadian Council on Health Services Accreditation (CCHSA)

(Source: http://www.cchsa.ca, Accessed date: 24 Sept 2003)

The Canadian Council on Health Services Accreditation (CCHSA) is a national, non-profit, independent organization whose role is to help health service organizations, across Canada and internationally, examine and improve the quality of care and service they provide to their clients.

The mission of CCHSA is to promote excellence in health care and the effective use of resources in health services organizations nationally and internationally in order to improve the delivery of health services.

Chapter 15

Institute for Health Care Improvement (IHI)

IHI offers resources and assistance to help health care organizations make dramatic and lasting improvements that enhance clinical outcomes and reduce costs.

Institute for Healthcare Improvement

Continuous Improvement

"We envision a system of care in which those who give care can boast about their work, and those who receive care can feel total trust and confidence in the care they are receiving."

**Donald M. Berwick, MD, MPP
President and CEO**

(Source: http://www.ihi.org, Accessed date: 24 Sept 2003)

The Institute for Health Care Improvement **(IHI)** is a not-for-profit organization driving the improvement of health by advancing the quality and value of health care.

The activities of IHI have evolved and grown for a decade. This evolution reflects more than just the inevitable changes that every organization undergoes. It reflects the developmental stages that the professional health care community has experienced and must continue to pursue in order to ensure future improvement successes.

Chapter 15

Institute for Clinical Systems Improvement (ICSI)

(Source: http://www.icsi.org/index.asp, Accessed date: 24 Sept 2003)

The Institute for Clinical Systems Improvement (ICSI), a collaboration of health care organizations, is an objective voice dedicated to championing health care quality and to helping its members identify and accelerate the implementation of best clinical practices for their patients. The ICSI program has four elements: improvement commitment, scientific groundwork for health care, support for improvement, and advocacy for health care quality.

An independent, non-profit organization, ICSI provides health care quality improvement services to 43 medical organizations. The medical groups range in size from 4 practitioners in South Minneapolis to more than 1,000 physicians and medical scientists at Mayo Clinic in Rochester. The combined medical groups represent over 6,000 physicians.

Chapter 15

International Organization for Standardization (ISO)

ISO. The source of ISO 9000 and more than 14 000 International Standards for business, government and society.

ISO. A network of national standards institutes from 147 countries working in partnership with international organizations, governments, industry, business and consumer representatives. A bridge between public and private sectors.

(Source: http://www.iso.ch/iso/en/ISOOnline.frontpage, Accessed date: 24 Sept 2003)

ISO (International Organization for Standardization) is the world's largest developer of standards. Although ISO's principal activity is the development of technical standards, ISO standards also have important economic and social repercussions. ISO standards make a positive difference, not just to engineers and manufacturers for whom they solve basic problems in production and distribution, but to society as a whole.

ISO is a network of the national standards institutes of 147 countries, on the basis of one member per country, with a Central Secretariat in Geneva, Switzerland, that coordinates the system.

ISO is a non-governmental organization: its members are not, as is the case in the United Nations system, delegations of national governments. Nevertheless, ISO occupies a special position between the public and private sectors. This is because, on the one hand, many of its member institutes are part of the governmental structure of their countries, or are mandated by their government. On the other hand, other members have their roots uniquely in the private sector, having been set up by national partnerships of industry associations.

National Association for Healthcare Quality (NAHQ)

(Source: http://www.nahq.org, Accessed date: 24 Sept 2003)

The National Association for Healthcare Quality **(NAHQ)** is the nation's leading organization for healthcare quality professionals. Founded in 1976, NAHQ currently comprises more than 6,000 individual members and 100 institutional members. Its goal is to promote the continuous improvement of quality in healthcare by providing educational and development opportunities for professionals at all management levels and within all healthcare settings.

Q Plus is a web site exclusive for NAHQ members.

Chapter 15

National Committee for Quality Assurance (NCQA)

(Source: http://www.ncqa.org/index.asp, Accessed date: 24 Sept 2003)

The National Committee for Quality Assurance is a private, non-for-profit organization dedicated to improving health care quality everywhere. The organization is frequently referred to as a watchdog for the managed care industry, but activities are actually much broader and approach to promoting quality are much more proactive.

NCQA is active in quality oversight and improvement initiatives at all levels of the health care system, from evaluating the entire system of care to recognizing individual providers that demonstrate excellence. NCQA is best known for its work in assessing and reporting in the quality of the nation's managed care plan through accreditation and performance measurement programs. These programs are complementary strategies for producing information that consumers and employers can use to make more informed decisions about their health care.

Joint Commission on Accreditation of Healthcare Organizations (JCAHO)

The Joint Commission evaluates and accredits more than 16,000 health care organizations and programs in the United States. An independent, not-for-profit organization, JCAHO is the nation's predominant standards-setting and accrediting body in health care. Since 1951, JCAHO has developed state-of-the-art, professionally based standards and evaluated the compliance of health care organizations against these benchmarks.

Talking Quality

Talking to Consumers about Health Care Quality

The Big Picture
An introduction to the larger task of understanding a typical measurement project.

What to Say
A discussion of what consumers need to hear about health care quality and the information you may be giving them.

How to Say It
An in-depth look at strategies for presenting information in ways that facilitate comprehension and use.

Into the Hands of Consumers
An overview of effective strategies for distributing information to consumers and supporting their efforts to use the information to make decisions.

Refining What You Do
A review of testing and evaluation methods that help you assess and improve your approach.

Welcome and Orientation

About the Work Group

Site Map

(Source: http://www.talkingquality.gov, Accessed date: 24 Sept 2003)

The contents of this site were produced by the Work Group on Consumer Health Information, a group of researchers with expertise in quality reporting, current sponsors of reporting projects, and recognized experts from related fields.

The Work Group was convened by a trio of Federal Government agencies with substantial interest in these issues:

Agency for Healthcare Research and Quality (AHRQ).

Centers for Medicare & Medicaid Services (CMS).

Office of Personnel Management (OPM).

The TalkingQuality site was designed for people and organizations trying to educate consumers about health care quality. In particular, it is intended to help those who are providing consumers with information on the performance of health plans and providers.

Web Sites for Consumers:
If you are a consumer who is interested in health care quality, the following are some Web sites designed for you:

Consumer.gov: http://www.consumer.gov/health.htm

Consumer information from the Federal Government.

Healthfinder®: http://www.healthfinder.gov

Your free guide to reliable health information.

Healthchoices.org: http://www.healthchoices.org

The National Committee for Quality Assurance's (NCQA) consumer-focused Web site.

International Society for Quality in Health Care Inc. (ISQua)

(Source: http://www.isqua.org, Accessed date: 24 Sept 2003)

ISQua, The International Society for Quality in Health Care Inc., offers a unique opportunity for individuals and institutions with a common interest to share expertise via an international multi-disciplinary forum.

Supported by members, including leading quality health care providers and agencies in 70 countries, and with additional funds from the Australian and Victorian Governments, the ISQua Secretariat in located in Melbourne, Australia.

The International Society for Quality in Health Care, (ISQua) is a non-profit, independent organization with members in over 70 countries. ISQua works to provide services to guide health professionals, providers, researchers, agencies, policy makers and consumers, to achieve excellence in healthcare delivery to all people, and to continuously improve the quality and safety of care.

Chapter 15

The Leapfrog Group

(Source: http://www.leapfroggroup.org/index.html, Accessed date: 24 Sept 2003)

Composed of more than 140 public and private organizations that provide health care benefits, The Leapfrog Group works with medical experts throughout the U.S. to identify problems and propose solutions that it believes will improve hospital systems that could break down and harm patients. Representing more than 34 million health care consumers in all 50 states, Leapfrog provides important information and solutions for consumers and health care providers.

The Leapfrog Group focuses on the quality of certain aspects of care relevant to urban area hospitals. Patients are usually in fragile health when in the hospital and the consequences of preventable medical mistakes can be serious. All hospitals are invited to complete the web survey and share information with their communities about their efforts to reduce preventable medical mistakes.

Promoting Health Care Quality Through Accreditation And Certification Programs (URAC)

(Source: http://www.urac.org, Accessed date: 24 Sept 2003)

URAC, an independent, nonprofit organization, is a leader in promoting health care quality through accreditation and certification programs. URAC's standards keep pace with the rapid changes in the health care system, and provide a mark of distinction for health care organizations to demonstrate their commitment to quality and accountability. Through its broad-based governance structure and an inclusive standards development process, URAC ensures that all stakeholders are represented in setting meaningful standards for the health care industry.

Chapter 15

**University Research Co. (URC) &
The Center For Human Services (CHS)**

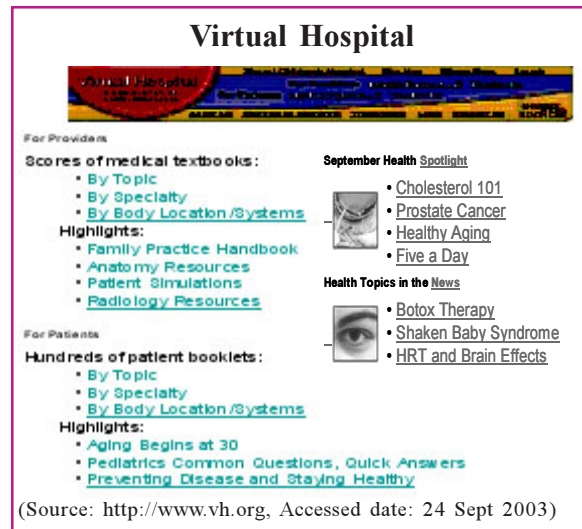(Source: http://www.urc-chs.com, Accessed date: 24 Sept 2003)

University Research Co., LLC (URC) is a professional services firm dedicated to helping clients use scientific methods and research findings to improve program management, operations, and outcomes. For over 35 years, URC has helped government and private sector clients design, operate, and evaluate programs that address health, social, and educational needs. With its non-profit affiliate, the Center for Human Services, URC works in the United States and abroad on projects that span the following core practice areas:

Communications & Outreach
Education & Training
Health & Population
Quality Management
Research & Evaluation

The Center for Human Services (CHS) and **URC** share the same capabilities, staff, and facilities, and all employees have appointments in both companies. URC thus provides the flexibility to work under either for-profit or non-profit contracting arrangements. In the education sector, for example, we are best known for our work under CHS, while most of our communications work is managed under URC.

Internationally, URC works with donor agencies, governments, and non-governmental institutions to strengthen the delivery and management of health and population services in Africa, Asia, Latin America, Eastern Europe, and the Middle East. We specialize in developing quality assurance systems to enhance the effectiveness, efficiency, and impact of service delivery. Through field-based projects and technical assistance, URC strives to help developing nations bring improved services to people in need.

Virtual Hospital

(Source: http://www.vh.org, Accessed date: 24 Sept 2003)

Virtual Hospital is a digital health sciences library created in 1992 at the University of Iowa to help meet the information needs of health care providers and patients. The goal of the Virtual Hospital digital library is to make the Internet a useful medical reference and health promotion tool for health care providers and patients. The Virtual Hospital digital library contains thousands of textbooks and booklets for health care providers and patients.

The Virtual Hospital digital library also delivers Continuing Education (CE) to health care provider's offices and homes in a clinically relevant context at their convenience, thereby making CE more effective and efficient.

Chapter 15

Other related websites

1. http://www.nap.edu/books/030908542X/html/
2. http://www.nap.edu/catalog/9728.html
3. http://www.nap.edu/catalog/10027.html
4. http://deming.eng.clemson.edu/pub/den/
5. http://iumeded.med.iupui.edu/meded/cpi.htm
6. www.vh.org/Providers/ClinGuide/ PreventionPractice/TableOfContents.html
7. www.guideline.gov/
8. http://www.isixsigma.com/me/six_sigma/
9. http://www.pfdf.org/
10. http://www.urc-chs.com/qaplinks.html
11. http://www.juran.com/main.html
12. http://mijuno.larc.nasa.gov/dfc/tqc.html
13. http://www.health.gov/healthypeople/ default.htm
14. http://cmwf.org/programs/pub_highlight.asp?ID =1&CategoryID=3
15. http:// www.patientadvocacy.org/
16. http://www.health.state.ny.us/nysdoh/ consumer/patient/patient.htm
17. Others

Exercise

- Which Quality Guru, do you think, have the biggest influence on your organization?

- In what ways have your organization adopted the concepts and philosophies of the gurus mentioned in this chapter?

- How have the websites assisted you in your quest for quality?

- Are there other websites related to quality that you can share with your colleagues?

Chapter 15

Bibliography

Al-Assaf, A. F., "International Health Care and the Management of Quality" in Quality Management in Nursing and Health Care, Delmar Pub., 1996.

Al-Assaf, A. F., "Quality Improvement in Health Care: An Overview", Journal of the Royal Medical Services, 1994;1(2):44-50.

Al-Assaf, A. F & Schmale J.A. (1993). The Textbook of Total Quality in Health Care. DelRay Beach, FL : St. Lucie Press.

Al-Assaf, A. F. (1998). Managed Care Quality: A Practical Guide. Boca raton, FL: CRC Press

Avedis Donabedian. The Criteria and Standards of Quality. Explorations in Quality Assessment and Monitoring. Vol.11. Health Administration Press. Ann Arbor, Michigan, 1982.

Avedis Donabedian. The Definition of Quality and Approaches to its Assessment. Explorations in Quality Assessment and Monitoring. Vol. 1. Health Administration Press. Ann Arbor, Michigan, 1980.

Avedis Donabedian. The Methods and Findings of Quality Assessment and Monitoring: An Illustrated Analysis. Explorations in Quality Assessment and Monitoring. Vol.111. Health Administration Press. Ann Arbor, Michigan, 1985.

J. M Juran. Juran on Leadership for Quality: An Executive Handbook. The Free Press. A Division of Macmillan, Inc. New York, 1989.

Kaoru Ishikawa. Guide to Quality Control. Nordica International Limited for Asian Productivity Organization. Japan, 1982.

Mary Walton. Deming Management. The Putnam Publishing Group, New York, 1991.

Mary Walton. The Deming Management Method. The Putnam Publishing Group, New York, 1986.

Philip B. Crosby. Completeness - Quality for the 21st Century. Dutton, Penguin Books USA, 1992.

Philip B. Crosby. Let's Talk Quality - 96 Questions You Always Wanted To Ask Phil Crosby. First Plume Printing, USA, 1990.

Philip B. Crosby. Quality is Free - The Art of Making Quality Certain. First Mentor Printing, USA, 1980.

Philip B. Crosby. Quality Without Tears - The Art of Hassle-free Management. First Plume Printing, USA, 1985.

Rafael Aguayo. Dr. Deming The American Who Taught The Japanese About Quality. Carol Publishing Group. USA, 1990.

Sherril B. Gelmon, G. Ross Baker, with John P. Evans and David H. Gustafson. A Quality Improvement Resource Guide. The Association of University Programs in Health Administration and The Institute for Healthcare Improvement, 1994.

W. Edwards Deming. Out of The Crisis. Massachusetts Institute of Technology, Centre for Advanced Engineering Study, Cambridge, Mass, 1989.