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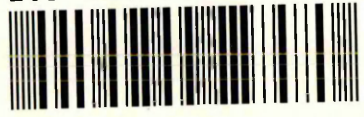
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Assessing the Implementation of Total Quality Management in the Palestinian Healthcare Sector: Lessons and Recommendations for the Future Development of the Palestinian Quality Improvement Effort

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Assessing the Implementation of Total Quality Management in the Palestinian Healthcare Sector: Lessons and Recommendations for the Future Development of the Palestinian Quality Improvement Effort

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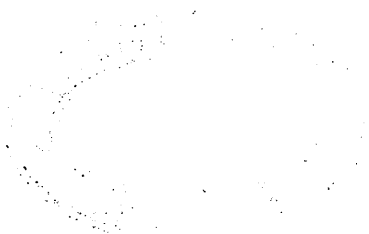
Abstract

Assessing the Implementation of Total Quality Management in

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• Sheffield Business School

The characteristics of the Palestinian Healthcare sector has led to a poor quality of care being provided which in turn pushed the Ministry of Heath (MOH) to initiate the Quality Improvement Project (QIP).That project was held responsible for improving the quality of healthcare provided through implementing Total Quality Management. This study assesses the process of TQM implementation in the Palestinian Healthcare sector. The central thrust of this study involves the identification of :

- The main pitfalls and obstacles to TQM which impede its implementation.

- The process of TQM implementation in the Palestinian healthcare sector.

- The main driving and restraining forces while implementing Total Quality Management in the Palestinian healthcare sector.

- The main lessons and recommendations for the future development of quality improvement.

Case study methodology will be used in this thesis as it is unique in its ability to deal with a full variety of evidence through the use of documents, interviews and observations. The data that will be produced cannot be generalised. To overcome this disadvantage in the case study approach, a multi- method approach will be used in this thesis. A postal questionnaire survey, as part of the evaluation study, will be also used. The use of multiple cases and questionnaire surveys will justify the validity and reliability of the data .The multi-method approach in collecting the data in this thesis shows that the Quality Improvement Project (QIP) was not methodology - bound when implementing TQM. In the first cycle of improvement, the PDCA cycle was used as a model for implementation. In the second cycle of improvement, the Tom Noland model was used as basis for implementation. In seeking to improve the quality of

healthcare, the QIP utilised no single scientific methodology for the improvement of the quality of healthcare but combination of more than one methodology that could assist in achieving the best results possible.

The thesis also shows that the Quality Improvement Project Team (QIPT) dealt with many driving forces during their attempts to implement quality improvement such as team work, planning, a well defined and a scientific methodology, the use of a simple quality improvement model, a new management system, enthusiasm of the team leaders for quality improvement, and strong coordination. Furthermore, the QIPT faced many obstacles during implementing quality improvement such as the turbulent external environment, internal problems and difficulties inside the subject organisations, lack of monitoring and follow - up systems, resistant to change, centralisation, poor communication, and the dissatisfaction of health personnel. The QIPT learnt many lessons and drew many conclusions from their efforts to implement quality management in the Palestinian healthcare sector; such as the importance of the commitment of macro level managers to quality improvement. Quality improvement in Palestine is possible and has the potential to be successfully introduced into the current professional and technical internal environment. Consumer (internal & external) views about the health services is very important to consider when seeking any improvement in the health sector, and of maintaining a cintinous pattern of consolidation for the gains made in quality provision. In particular, there is a need to note the importance of conducting improvement processes within the selected organisations in response to the annual improvement needs plan within those organisations, of meeting the demand of the MOH and the importance of providing the financial and staff support that quality improvement

processes needed if they are to be brought to a successful conclusion are recognised and recommendations offered.

CONTENTS

ANNEXES

CHAPTER ONE

Introduction :

Industry today is suffering from a new malaise: that which results from the struggle of managed or mismanaged change. World-wide competition, increasing product variety, and shorter lead times are just some of the pressures on senior management to review the way it does things and to restructure its organisations. Total Quality Management (TQM)was implemented by many organisations in the manufacturing sector and proven to be successful in many of them. TQM is greater than the sum of the traditional approaches to quality. This is because Quality Control (QC) is the control of quality during an operational process and at the post process stage. Its characteristics are containment and inspection. Quality Assurance (QA) on the other hand is the achievement of a specified level of quality by the removal of the root causes of poor quality. Its characteristics are problem solving and prevention. Total Quality Control (TQC) is finally the application of the quality assurance to every company activity, so that zero defects are achieved. It is characterised by the application of good practices.

TQM is different from what went before. The message from the TQM gurus can be readily seen as a sub-theme of the corporate culture movement. The essential features of TQM can be summarised as follows:

- Top management is the sponsor because quality is recognised as a strategic issue.

- There are systematic techniques for problem solving and problem identification.

- Quality operation is seen to require a break with traditional organisational structures and current procedures.

Despite TQM's optimistic message, there are plenty of salutary warnings that the TQM approach is prone to failure for a host of reasons. The sources of such failure are usually traced to a lack of demonstrated commitment from management at all levels, lack of resources allocated to the change programme, deficiences in managing the process side of change, and , of special importance, a failure to motivate and involve employees.

Despite these warnings, it has been said that TQM can be successfully introduced into the service industry[1] .The assertion made by TQM experts that TQM can be successfully applied in every organisation is based on two implicit assumptions[2]

- Hierarchical control dominance of management over the technical core.

- Dominance of the rational decision making processes.

This thesis looks at healthcare organisations in particular which, according to Zabada et al, largely depart from the previous two assumptions[3]. First, there exist various powerful subcultures, each of which has its own perspective of what quality should be and how the work should be done and this has created a situation where management has little control over the most strategic areas where TQM could yield greatest results. Second, the heroism of the physicians and those involved in the provision of healthcare services had put rational decision making in jeopardy. The existence of many participants with different or even opposing interests in the healthcare delivery system makes it difficult to define healthcare quality. Despite

these facts attempts were made to implement TQM in the Palestinian healthcare sector for many reasons.

Rationale

A fragmented structure and uneven distribution of services and human resources between the various providers characterises the Palestinian healthcare system. These characteristics are reflected in the low quality and high cost of healthcare, in inequities in access to healthcare, conflicts among providers and patients, disparity of care, and moral and ethical dilemmas. This situation has led the Palestinian Ministry of Health (MOH) to define healthcare quality improvement as one of its main priorities. It embarked on a serious effort to establish a special body to pursue healthcare quality improvement on a national scale. $ 1.39M was allocated from the World Bank Education and Health Rehabilitation Project (WBEHRP) for this purpose. The author of this thesis was the first to be employed by the MOH to initiate quality improvement in the heath sector. The theoretical knowledge that the author had about TQM showed that different organisations in different sectors in different countries are implementing TQM and the level of success that these organisations reach varies from one sector to another, from one country to another and even from one organisation to another in the same sector and in the same country. Furthermore, the literature shows that 70% of TQM initiatives fail in the USA[4] and the British Broadcasting Corporation (BBC) Business Report in 1993 noted that 10 out of 15 quality initiatives fail in Britain[5]. With this unpleasant picture of the chances of successful TQM implementation in countries where all the circumstances are relatively in favour of successful implementation when compared to Palestine. The author of this thesis is member of a team charged

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with rescuing the healthcare sector from one of its most chronic problems, namely the low quality of healthcare. It was important to the author to establish where the quality improvement efforts were going and the only way seemed to be to conduct this research for the following reasons:

- To assess the implementation process of TQM in the Palestinian healthcare sector and to ascertain whether the quality improvement efforts led by the Quality Improvement Project Team (QIPT) were on the right track while trying to solve the problem of low quality provision.

- To identify the difficulties that quality improvement efforts are facing during the implementation and not after the end of the Project. This was sought to prevent the occurrence of errors and to facilitate the early use of corrective measures if and when mistakes arose.

- To identify the driving forces facilitating the implementation of TQM in the Palestinian healthcare sector. This will also help those involved in sustaining those factors aiming at achieving continuous quality improvement.

- To identify the lessons and recommendations for the future development of the Palestinian quality improvement effort.

Objectives of the Research

This research has the following objectives:

- The identification of the different definitions of Quality and TQM as given by many writers.

- The identification of the main models of TQM in health and non-healthcare sectors.

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- The identification of the main difficulties and obstacles facing the implementation of TQM in both health and non-health organisations.

- The identification of the process of TQM implementation in the Palestinian healthcare sector.

- The identification of the main driving and restraining forces faced by the Palestinian Quality Improvement Project Team (QIPT) while implementing TQM in the Palestinian healthcare sector.

- The identification of the main lessons and recommendations for the future development of the Palestinian quality improvement effort.

Overview of the Thesis

This thesis is organised into eleven chapters.The chapters in the thesis include:

Chapter Two

This chapter sets out the methodology employed in this thesis. It shows the different research methodologies available to researchers and discusses the main advantages and disadvantages of these methods.

Chapter Three

Reviews the Palestinian healthcare infrastructure and the effect of this structure on the quality of healthcare provided. The socio-economic and demographic characteristics of Palestine will be explained and compared with other countries. The population characteristics such as population density, crude birth rate, fertility rate, and sex ratio will be also explained. The level of education including the literacy rate and the enrolment levels will be discussed. Furthermore, this chapter will focus on the existing health status of Palestinians and will put it in perspective

by comparing it with the health status of populations living in other countries around the world. Next it will focus on the healthcare infrastructure and personnel employed in the health care system. The status of healthcare spending and the extent to which these expenditure are linked to effective outcomes in terms of improved health or in terms of patient satisfaction will also be explored. Finally, this chapter will attempt to analyse the effect of the current healthcare structure on the quality of healthcare in Palestine using the data available up to this point in time. It will identify the core factors leading to poor quality of healthcare and will highlight the need for initiating a quality effort in the Palestinian healthcare sector. The lack of data to carry out a comprehensive review of the Palestinian health system implies that this review, with its potential effect on the quality of care provided, is of an essentially preliminary nature.

Chapter Four

This chapter looks at the goals, objectives, internal and external, and strategies of the Quality Improvement Project (QIP) . An environmental analysis will be carried out to identify the ways in which changes in the external environment can both directly and indirectly influence the implementation of TQM. The strengths and weaknesses of the Palestinian healthcare sector will be presented followed by an identification of the strategic opportunities and threats confronting the quality improvement efforts in the Palestinian healthcare sector. After analysing the resources and the environment, a gap analysis aimed at determining the extent to which a strategic change is required will be carried out. A field force analysis will follow aimed at showing that many elements will be moving the quality improvement efforts either toward or away from the quality improvement goal. To

overcome the obstacles many strategic decisions have to be undertaken. These decisions will be developed, evaluated in this chapter and alternatives will be chosen accordingly.

Chapter Five

Provides an overview of the meaning of quality and TQM. A literature review is undertaken as to the meaning of quality and whether it can be measured in the context of the healthcare. The principles of quality management as espoused by a number of quality gurus are offered.

Chapter Six

Provides a description of the implementation of TQM as stated in the literature. The main models of TQM in both health and non-health organisations will be identified.

Chapter Seven

Provides a literature review of the difficulties and obstacles facing the implementation of TQM. Coverage is offered of difficulties in both health and non-healthcare sectors.

Chapter Eight

Shows how TQM was implemented in the Palestinian healthcare sector. Two improvement projects from the first cycle of improvement and four improvement projects from the second cycle of improvement will be presented. Lessons and recommendations from both cycles of improvement will be provided.

Chapter Nine

Provides two types of evaluation. The first is the evaluation study, which is carried out to study both the driving forces as well as the restraining forces encountered during the quality initiative. The data for this study will be collected formally and

informally. The most important sources of data will be: Project reports, surveying the QIPT concerning the previous achievements and the future vision, surveying of the Quality Improvement Team Leaders (QITLs) concerning their experience in quality improvement, and surveying the Quality Improvement Teams (QITs) in different health organisations concerning their experience in quality improvement. Qualitative data analysis methods will be used to analyse the data and will concentrate on the main "themes" that will be mentioned for each subject. The second evaluation was offered by an assessor acting on behalf of the World Bank. In the interest of a balanced assessment, the observations of the World Bank assessor are offered in this chapter.

Chapter Ten

This chapter will link the results of the SWOT analysis in Chapter Three and the theory of TQM in Chapter Five, Six, and Seven with the results achieved by the Palestinian QIP.

Chapter Eleven

Is the conclusion of the study. The key points of each chapter are offered and conclusions drawn which generate lessons and recommendations for the future implementation and development of quality improvement in the Palestinian healthcare sector. Furthermore, the opinions of the QIPT concerning the second evaluation by the World Bank assessor are presented in this chapter.

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CHAPTER TWO

RESEARCH METHODOLOGY

SELECTION OF A RESEARCH METHOD

The use of an appropriate research methodology that would serve to meet the objectives of this research was considered at the outset of the investigation. Gill and Johnson state that there are four main research methods available to researchers. These are experimental research, action research, ethnography and surveys (analytical and descriptive). Table 2.1 describes these research methods.

Table 2.1 Choosing a Research Strategy[1]

Prescriptive Deductive Obtrusive From the Outside.	Analytical survey and experimental research design(concerned with precision)	Action research (Concerned with utilization)
Descriptive Inductive Unobtrusive From the Inside.	Descriptive survey research (concerned with generality)	Ethnography (concerned with character of context)

General extensive   Particular intensive

Each of these research strategies or approaches has its own strengths and weaknesses. Table 2.2 presents the main advantages and disadvantages of these research methods.

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Table 2.2 Advantages and Disadvantages of Research Methods[2]

Method	Advantages	Disadvantages
*Experimental Research: Attempts to provide a blueprint that enables the researcher to structure a research problem in such a way that the outcome is the production of valid objective and replicable answers.	High degree of control over the extraneous variables	Low in validity since it may involve small numbers of subjects.
*Action Research: Attempts to take the design of the ideal experiment out of the laboratory into the field.	High in ecological validity as the research is undertaken in relatively natural settings Low in reliability.	Low internal validity since it is difficult to control extraneous variables.
*Ethnography: The key feature of the ethnographic approach is that it is based on what are termed naturalist modes of inquiry such as participant observation within a predominantly inductivist framework.	Ecological validity is high as the research takes place in the natural setting of the every day activities of the subject under investigation.	Limited population validity. Mitchell (1983) cited in Jonson et al (1993) disputed this point[3]. Reliability is problematic as an unstructured method of data collection is used which makes replicability difficult.
* Survey	High population validity and reliability , the results can be generalised , structured questionnaire makes survey research easily replicable	Low in validity: Lack of naturalism.

QUALITATIVE AND QUANTITATIVE RESEARCHES

The two main research approaches, qualitative and quantitative, are also examined. Quantitative approaches in the human sciences rely on a hypothetico-deductive form of explanation. Inquiry begins with a theory of the phenomena to be investigated. From that theory any number of hypotheses are deduced that in turn are subjected to a test using a predetermined procedure such as an experimental, casual-comparative, or correctional design. The ultimate goal of using this hypothetical -deductive mode is to revise and support theories or law-like statements of social and behavioural phenomena based on the results of hypothesis testing. Theories are refined and extended ,and sometimes abandoned, to account for the results of testing their implications or

instances. Mark states that quantitative approaches study phenomena using numerical means. In these approaches, there is an emphasis on counting, describing, and using standard statistics, such as means and standard deviations. Quantitative researchers are likely to use complex analysis procedures such as multiple regression and factor analysis[4]. In recent years, social scientists and social work researchers have become dissatisfied with what they saw as the limitations of the quantitative approaches. These dissatisfactions can be summarised as follows:

- Quantitative research does not provide an accurate view of reality. This type of research reduces all social phenomena to specific propositions, and it studies only a limited set of variables. This produces knowledge that may be useful but that is very limited. It does not explain the truly complex patterns and reciprocal influences that operate in human interactions.

- The knowledge that is derived from quantitative researches is often so limited that it provides few practical applications in the real world. Much of the quantitative research is motivated by a desire to discover how variables influence one another. But this often occurs under such carefully controlled conditions that it has little relevance to the real world.

- The worldviews and perspectives of oppressed groups are often not reflected in the research questions or in the results. Although quantitative researches claims to be value-free, researchers often fail to recognise that they impose their own values, and fail to represent the values of those they study simply by selecting particular research questions over others. This is not to say that qualitative researches are better than quantitative researches in reflecting the perception and values of oppressed groups. Some

qualitative researches may actually make it easier for the researcher's bias to affect the study. Thus the criticism that quantitative research is insensitive to oppressed groups may apply as well to qualitative research. The critical element in conducting a valid study may not be the particular method used but rather the researcher's ability to incorporate the views of those studied.

- Social researchers are concerned with how humans interact with their institutions, such as families, schools, and social welfare agencies. Quantitative research approaches were first developed in the physical sciences and are appropriate for the study of physical phenomena. They are not appropriate for the study of human interactions, which are qualitatively different from physical phenomena. Human interactions cannot be quantified.

- Quantitative research approaches assume that observing or measuring a phenomenon does not change it. In reality, any time we observe or measure something, we change it. For example, when we interview mothers about their child-rearing practices, it is impossible for our questions about childcare not to influence the mother's knowledge, beliefs, or attitudes about that topic.

Quantitative research approaches are not relevant to this thesis as quantitative research has received criticism for being too static whilst qualitative methods are better able to identify linkages between events and activities and to explore people's interactions with those factors which produce events[5]. Human behaviour is always bound to a particular historical, social, temporal, and cultural context. Therefore, the quantitative approaches are rejected in favour of a case – and- its interpretation kind of explanation[6]. Quantitative approaches to

the study of human experience seek to isolate human behaviour from its context; they engage in " context- stripping "[7]. Certain experiences cannot be meaningfully expressed by numbers[8]. If humans are studied in a symbolically reduced , statistically aggregated fashion, there is a danger that conclusions- although arithmetically precise- may fail to fit reality[9]. Compared with quantitative procedures, qualitative procedures provide a means of accessing unquantifiable facts about the actual people researchers observe and talk to, or people presented by their personal traces[10].

In response to the previous concerns and limitations of the quantitative research methods, researchers in the social sciences have developed alternative research approaches and methods. The qualitative approach began in sociology in the 1920s and 1930s with the " Chicago School " of sociologists who felt that qualitative methods were best for the study of how people interact in-groups. At the same time in social anthropology researchers such as Margaret Mead, developed qualitative methods for the intensive study of the customs and cultures of primitive societies[11].

Qualitative inquiry relies on a different model of explanation and argues for a different goal of inquiry than that found among quantitative inquiries. In general, it holds that the search for generalisation is misguided. Human behaviour is always found in a particular historical, social, and cultural context. Qualitative inquirers seek to interpret human actions, institutions, events, customs, and the like, and in so doing construct a " reading " or portrayal of what is being studied. The ultimate goal of this kind of inquiry is to portray the complex pattern of what is being studied in sufficient depth and detail so that one who has not experienced it can understand it. Mark states that qualitative approaches study

phenomena using general description to describe or explain. Qualitative researchers tend to use narrative description of persons, events, and relationships. Their findings may be presented in the form of categories or general statements about the complex nature of persons, groups, or events[12]. Qualitative researches have been more creative in devising procedures and methods. In a sense they have been more concerned with a deep understanding of their subject matter than with a standard method .The qualitative researcher uses whatever research tools are best for the situation. As a result, there are actually a number of qualitative research methods: grounded theory, ethnography, participant observation, field research, case study, and action research. Qualitative research has the following characteristics[13].

- Qualitative methods proceed from the specific to the general level. They begin at a specific level: collecting data about a specific social phenomenon, usually by interviews and observation. The qualitative researcher then moves to a general level: making guesses about what variables are relevant and how they relate to each other and from this creating theory to explain the data.

- In qualitative research, the results are complex and rich. They usually take the form of narrative or lengthy explanations. Thus more than the quantitative research, the results of qualitative research closely fit the reality of the persons or cases studied.

- Qualitative research is flexible and intuitive. Compared with the quantitative approach, qualitative research does not adhere to a predetermined set of

research steps. Qualitative researchers use their experience and hunches to select steps, procedures, and new explanatory concepts.

- Theories generated by qualitative research are less generalisable beyond the particular persons or units studied. Although quantitative researchers attempt to discover theories that are true in a wide range of situations and across different places and times, the theories generated by qualitative researchers are more tentative. The generalisability of the results is sacrificed in favour of obtaining a rich and complex understanding about the particular situation under study.

- Qualitative researchers do not assume that there is an objective world that exists independently of their observations. They recognise that the very act of observation affects the phenomenon being studied. The researcher's subjective perceptions, feelings, and interpretations, and those of the study participants are all considered legitimate data.

- Qualitative researchers may use any method of data collection including questionnaire and structured interviews. They tend, however, to favour data collection methods that allow for complex responses and for individual perspectives: unstructured in-depth interviews, observation, and participant observation. They may also use subjective sources of data such as personal diaries, and historical accounts.

- The goal of qualitative research is to enhance our general knowledge about complex events and processes.

The following table describes the differences between qualitative and quantitative researches.

Table 2.3 Differences Between Qualitative and Quantitative Research[14]

Quantitative	Qualitative
• Test the hypothesis that the researcher begins with.	• Capture and discover meaning once the researcher becomes immersed in the data.
• Concepts are in the form of distinct variables.	• Concepts are in the form of themes, motifs, generalisations, taxonomies.
• Measures are systematically created before data collection and are standardised.	• Measures are created in an ad hoc manner and are often specific to the individual setting of researcher.
• Data are in the form of numbers from precise measurement.	• Data are in the form of words from documents, observations, transcript.
• Theory is largely causal and is deductive.	• Theory can be causal or noncausal and is often inductive.
• Procedures are standard, and replication is assumed.	• Research procedures are particular, and replication is very rare.
• Analysis proceeds by using statistics, tables, or charts and discussing how they show relates to hypothesis.	• Analysis proceeds by extracting themes or generalisations from evidence and organising data to present a coherent, consistent picture.

The author's position as a member of the Quality Improvement Project Team (QIPT) facilitated the process of choosing the research methodology. The author has a good access to the data concerning the implementation of Total Quality Management (TQM) in the Palestinian healthcare sector through

facilitating many quality improvement processes on different hospitals. The author, therefore, chose case studies as a research methodology.

CASE STUDIES

Case studies as a tool used in ethnographic approach have three types of uses as stated by Gill and Johnson .These are[15]

- Exploratory use: researchers in business related subjects traditionally limit case studies to the exploratory use: a pilot study that can be used as a basis for formulating more precise questions or testable hypothesis.

- Descriptive use: the descriptive case study as an attempt to describe for example what happened when a new product is developed and launched on the market. Description, often contrasted with prescription is usually considered less prestigious in scientific circles.

- Explanatory use: explanatory research is looked upon with scepticism or some times even horror by mainstream scientists. Despite this, this kind of research could be a useful strategy for studying processes in institutions and also for explanatory purposes.

Although it is an unwarranted attitude, exploratory and descriptive case studies are traditionally given low status. They are viewed primarily as being ancillary to other methods. Gill and Johnson state that the previous distinction is not very realistic since the different uses of case study research are hard to see in isolation. As with every research method, case study research has major advantages. An important advantage with case study research is the opportunity for holistic view of a process[16]. The detailed observations entailed in the case study method should enable the researcher to study many different aspects, examine them in relation to each other, and view the process within its

total environment. Consequently, case study research provides us with a greater opportunity than other available methods to obtain a holistic view of a specific research project.

Holism may be viewed as the opposite of reductionism. The latter consists of breaking down the subject of study into small, well-defined parts. This approach goes all the way back to the seventeenth century and the view of Decartes and Newton that the whole is the sum of its parts in the belief that they can be fitted together to form a whole picture. According to the holistic view the whole is not identical with the sum of its parts. Consequently, the whole can be understood only by treating it as the central object of the study. In this context, case study research seeks to obtain a holistic view of a specific phenomenon or series of events. This is a time consuming job and it is not generally possible to carry out more than one or a very limited number of in-depth case studies in a research project.

Case studies can be of a particular value in the applied social sciences where research often aims to provide practitioners with tools. The case study research is particularly useful when the audience are managers who must implement findings. Research addressed to practitioners carries the additional burden of drawing recommendation from the findings, which are understandable and implementable. The familiarity of a managerial audience with the language, and the data in the case study research is alone a major advantage. Further, the conceptual and descriptive richness of the data gathered enables the practitioner to assess the applicability of the findings to his/her circumstances.

A frequent criticism of case study research is that it is inferior to methods that are based on random statistical samples for a large number of observations.

Case studies irrespective of how well they are planned lack the scientific weight and general applicability of conventional research methods. However, in certain areas they present the only possible research strategy. Moreover, if sufficiently a large number of cases are examined, they can serve as a basis for fruitful theoretical development and also provide guidelines for therapeutic advice. The disadvantages of case studies as a research method can be summarised under the following three headings:

- Case studies lack statistical validity.

- Case studies can be used to generate hypothesis but not to test them.

- Generalisation cannot be made on the basis of case studies.

The above advantages and disadvantages were taken in to consideration when the research methodology for this research was selected. A case study research method was selected because of its advantages over other researc methods.

The case study method is chosen in this research as it is an extremely useful technique for researching relationships, behaviours, attitudes, motivations, and stresses in an organisational setting[17]. Other techniques such as experiments and surveys are inappropriate because experiments are particularly suited to focussed studies which fail to take into account behavioural events, whilist surveys have the disadvantage of addressing issues pertaining to who, where, what, how much, etc[18]. A case study has the advantage over other methods, such as experiments and surveys, because it gives an accurate rendition of actual events through its unique ability to deal with a full variety of evidence: documents, artifacts, interviews, and observations[19]. Surveys, on the other hand, attempt to deal with phenomenon and context but their ability to

investigate the context is extremely limited[20]. An experiment has the disadvantage of divorcing the phenomenon from its context in order to focus on a few variables. Furthermore, a case study affords the researcher enormous flexibility in that the design process can be altered, changed or developed as the researcher becomes more acquainted with the phenomenon being investigated[21]. The experiment and survey techniques require that the design format be established at the beginning and then put into practice, with any deviation being considered a disaster of such magnitude as to necessitate starting all over again[22]. The author of this thesis took the previous advantage of case study methodology over other methodologies into consideration at the initial stages of the research. A case study methodology is adopted in this research as it will give an accurate profile of the process of TQM implementation in the Palestinian healthcare sector.

The scope of this research does not, however, allow the author to cover all the sites that implemented TQM, which means that the data that will be produced cannot be generalised. Furthermore, the data that was collected in this research using the case study method has been collected through the use of participant observation.

PARTICIPANT OBSERVATION

Participant observation is the role played by ethnographers when they conduct fieldwork. The participant observer becomes part of an ongoing social setting for the purpose of making a qualitative analysis of that setting[23]. This involves living with, or having extensive contact with, the people being studied for months or years at a time and participating in their lives often as a friend, associate, or co-worker. Participant observation is sometimes contrasted with

non-participant observation. In this role, the researcher observes the persons being studied but does not actually participate in their activities[24]. Some researchers have raised ethical concerns about participant observation. To avoid changing the behaviour of those observed, participant observers may not inform the persons being observed of their true identity as researchers. Even in situations in which researchers have informed their contacts, they may find themselves interacting with others who are not aware of their role. It may be difficult to avoid behaviour that would otherwise be seen as ethically wrong. These concerns must be balanced against the research advantage of playing a hidden role.

Ethnographers write from a qualitative point of view. That is, the underlying assumption of ethnography is that reality is not a fixed characteristic of the world. Rather the observer constructs it. Therefore, the writing of ethnography is an interpretive act, inevitably coloured by the ethnographer's point of view, biases, methods, experiences, and selective attention. These are constraints that determine how the culture of social group will be presented. VanMaanen discusses several such constraints[25]

- Ethnographies are based on what the ethnographer experienced in the fieldwork. What the ethnographer experienced may or may not reflect the natives' own view. For example, natives grant quick access to some aspects of their culture but are reticent to reveal other aspects – for example scared rituals. The gender of the researcher may determine how readily the ethnographer is allowed to observe certain events, such as male initiation rites or activities engaged in only by women. The setting and the person affect what is accessible to the ethnographers.

- The nature of the ethnography is affected by politics. The ethnographer rather than the natives is the one who determines what is said about the culture. The ethnographer's choice of subject, group, or method may be determined by budgetary constraints, the politics of the academic department, and the preferences of the foundations funding the research.

- Ethnographers are affected by the particular disciplines they are affiliated with and by the currently popular practices in those disciplines. Ethnographers will tend to see what they expect to see. .

TRIANGULATION

To overcome the disadvantages of a case study as a research approach, a multi- method approach will be used in this research. The combination of methodologies within a piece of research is referred to as triangulation. This term is frequently used interchangeably with that of multi-method/ multi-trait or convergent validation[26]. The most obvious reason for adopting a triangulated approach is to combine the relative strengths of the different research approaches and to cancel out their weaknesses[27]. Ttriangulation will be used in this research because some critics of the case study methodology have stated that the case study has the disadvantage that the data produced are not readily generalisable[28]. Triangulation is a term originally more common in surveying activities , maps making, navigation, and military practices[29]. It was first used in the social sciences as a metaphor describing a form of multiple operationalism or convergent validation[30], [31]. Triangulation was used largely to describe multiple data- collection technologies designed to measure a single concept. Denzin introduced an additional metaphor, lines of action, which characterises the use of multiple data- collection technologies, multiple theories, multiple

researchers, multiple methodologies, or combinations of these categories of research activities[32]. Goetz et al describe the use of triangulation as a means of refining, broadening, and strengthening conceptual linkages[33]. Brown et al similarly stress that triangulation allows researchers to offer perspectives other than their own[34]. Researchers can minimise the degree of specificity of certain methods to particular bodies of knowledge by using two or more methods of data collection.[35] .Bryman claims that a triangulated approach enhances the researcher's claim for validity[36].

Postal questionnaire surveys will be therefore used as this research is concerned with studying the specific characteristics of a population, health personnel, at a particular point in time ,the time of introducing quality improvement into the healthcare sector.

The use of multiple cases and questionnaire surveys will justify the validity and reliability of the data. The research is based on two perspectives: micro and macro. At the micro level, the research will explore in depth the implementation process of TQM in two hospitals in the first cycle of improvement and two hospitals and one primary care clinic in the second cycle of improvement. At the macro level, an evaluation study using questionnaires will be carried out to explore the process of TQM implementation concentrating mainly on the driving and constraining elements and lessons learned from TQM implementation in relevant healthcare sites, both primary and secondary.This multiple research approach provides a scientific opportunity for generalisation. The two sites in the first cycle of improvement and the three sites in the second cycle of improvement were chosen from the many quality improvement sites because the author of this thesis was the Quality Improvement Facilitator on those

selected sites and this permitted access to the data which showed how a range of quality improvement activities were implemented.

The distribution of the evaluation surveys was managed directly by the author. The author's position as a TQM trainer in the Quality Improvement Project (QIP) in general and as a facilitator to some of the improvement processes in particular, ensured a high response rate. The surveys were pre-tested and minor modifications were made before they were distributed. The distribution process was carried out in the following way:

- Quality Improvement Project Team (QIPT): The QIPT (8 members) were sent surveys concerning its previous achievements and future vision. The response rate was 100%. This high response rate can be attributed to the QIPT's desire to learn from its previous achievements and to initiate a future action plan. A covering letter was not needed as the QIPT was well aware of the importance of the survey to the research. An introductory paragraph was ,however, included explaining the purpose and the nature of the survey.

- Quality Improvement Team Leaders (QITLs): In total,43 improvement processes were carried out during the first and second cycle of improvement in the West bank and Gaza Strip. The leaders of those improvement processes (43 leaders) were surveyed concerning their experience in quality improvement. The author's close contact with those leaders ensured a 100% response rate. A separate covering letter was not used but an introductory paragraph to the questionnaire was ,however, included explaining the purpose and the nature of the survey.

- Quality Improvement Teams (QITs): In total, 215 health personnel were trained in TQM during the first and second cycle of improvement in the West

Bank and Gaza Strip. Those health personnel were quality improvement team members who carried out improvement processes in their organisations. A survey concerning the QITs' experience in quality improvement was sent to the 215 health personnel who were trained and involved in implementing TQM in their organisations. The response rate for this survey was 75%. Most of those who did not respond were from Rafidya Hospital. The problems that the Hospital was facing during the time of the survey (see Chapter 8) led many of the health personnel to believe that the questionnaire was a waste of time.

Data analysis

Quantitative data analysis differs from qualitative in four ways[37]:

1. Quantitative analysis is highly developed and built on applied mathematics. By contrast, qualitative data analysis is less standarised. The wide variety of possible approaches to qualitative research is matched by the many approaches to data analysis.

2. Quantitative researchers do not begin data analysis until they have collected all the data and condensed them into numbers. Qualitative researchers, on the other hand, look for patterns or relationships. They begin analysis early in the research while they are still collecting data.

3. Quantitative researchers manipulate numbers that represent empirical facts in order to test an abstract hypothesis. Qualitative researchers create new concepts and theory by blending together empirical evidence and abstract concepts.

4. Quantitative researchers use the symbolic language of statistical relationships between variables to discuss causal relations. Qualitative

analysis does not draw on a large, well- established body of formal knowledge from mathematics and statistics. The data are in the form of written words, text, phrases, or symbols describing or presenting people, action, and events in social life and are relatively imprecise, diffuse, and context- based.

Furthermore, Nwabueze argues that there is no clear and accepted set of conventions for the analysis of qualitative data. The central requirement in qualitative analysis is clear thinking on the part of the analyst[38]. The analysis of the qualitative data is a test of the .....ability to think, to process information in a meaningful and useful manner[39]. Neuman argues that qualitative data analysis has moved to a more explicit and step by step approach although no single qualitative data analysis is widely accepted[40]. Neuman offers generic methods for qualitative data analysis. These methods are coding and memo-writing which can be used in most types of researches. Neuman also offered more specific methods for qualitative data analysis. There are five such methods: successive approximation, the illustrative method, analytic comparison, domain analysis, and ideal types[41]. Yin offered what he called the " Explanation building theory " for analysing qualitative data[42]. This theory entails the development of a general explanation that fits each case study even though the cases vary in their detail. This research contains two types of data, the data that was collected through participant observation in the five case studies and the data that was collected from the questionnaire through open- ended questions.

The analysis of the data that was collected through participant observation in the five case studies will be carried out using Yin's explanation building theory as it fits this research best. This research will look at five case studies , two in

the first cycle of improvement and three in the second cycle of improvement. In a multiple case study research such as this, the aim of using the explanation building theory is to develop a general explanation that fits each of the individual cases even though that the cases vary in their detail[43]. The cases consist of an accurate account and rendition of the facts and conclusions are drawn based on the simple explanation that appears most congruent with the facts[44]. In this research, an accurate rendition of the five cases will be carried out to discern the implementation process of TQM in each of them. This will be followed by some common conclusions and lessons learned derived from these cases which will meet the purpose of this study.

The analysis of the data that was collected from the postal questionnaire will be analysed in a different way. In theory questions can be classified as fixed response (structured or open-ended) or as free response (unstructured or open – ended)[45]. Unstructured questions are a useful tool made much use of by anthropologists and psychiatrists, and may also be useful with a highly knowledgeable population allowing them the liberty of stating their precise perception of a situation[46]. Unstructured or free- response questions are especially useful under the following circumstances[47]:

1. When we have limited knowledge about the kinds of answers a question is likely to provoke.

2. When we anticipate a great range of responses.

3. When we are trying in the pretest to develop answer categories for structured questions in the main study.

4. When we are interested in what people will volunteer before specific prompting about a subject.

5. When we want to dig deeper into people's motivations.

6. When we want verbatim responses to add colour to our report statistics.

The open-ended questions will be used in the three questionnaires in this research as it is believed that they fit the purposes of this research best. This choice is supported by the critics of the structured questions who feel that fixing a few response alternatives to complicated issues creates flawed data since it[48]

1. Glosses over important details.

2. Smoothes out key nuances distinguishing responses.

3. Manufactures a " coalition " or summary position that encompasses different if not conflicting views.

4. Forces people to make unnatural choices they would not make in the real world.

The analysis of the data collected from the postal questionnaire in this research will adhere to the use of a category system by which comments can be grouped meaningfully[49]. Attention will be given to the number of categories that will be devised. This is because too few categories may sacrifice subtle meanings of the data. The flavour and Intensity of responses may be lost by combining them too broadly. Too many categories will, on the other hand, introduce artificial divisions between logically similar responses, and by splitting up the respondents into too many groups, will prevent the making of safe generalisation about types of people holding particular views[50]. One compromise is to organise most of the free – response data into perhaps a half - dozen or so basic themes each which is mentioned by enough respondents to permit meaningful analysis[51].

It should be noted that the questionnaires of the surveys were designed by the Quality Improvement Project Team (QIPT) and not by the researcher. The surveys will be analysed using a qualitative data analysis method concentrating on the main "themes" that will be mentioned for each subject. The demographic data were not analysed because of the low response rate to the questionnaire.

Research Questions

This research aims at answering the following questions:

1. What is Total Quality Management?

2. What are the most popular models for implementing Total Quality Management in the health and non- healthcare sector?

3. Why did the Palestinian Ministry of Health decided to embark on implementing Total Quality Management in the Palestinian Healthcare Sector?

4. How did the Palestinian Ministry of Health implement Total Quality Management in the healthcare sector?

5. What are the main difficulties and obstacles facing the implementation of Total Quality Management in the Palestinian healthcare sector?

6. What are the main driving and restraining forces faced by the Palestinian Ministry of Health while implementing Total Quality Management?

7. What are the main lessons emerging from the research programme and what recommendations can be offered for the future development of the Palestinian quality improvement effort?

8. How can the experience of implementing Total Quality Management in the Palestinian healthcare sector be linked to the theory of Total Quality Management?

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CHAPTER THREE

STRUCTURE AND QUALITY OF HEALTHCARE IN PALESTINE

Introduction:

This chapter reviews the Palestinian healthcare infrastructure and the effect of this structure on the quality of healthcare provided. The socio-economic and demographic characteristics of Palestine will be explained and compared with other countries. The population chaacteristics such as population density, crude birth rate, fertility rate, and sex ratio will be also explained. The level of education including the literacy rate and the enrollment levels will be discussed. Furthermore, this chapter will focus on the existing health status of Palestinians and will put it in perspective by comparing it with the health status of populations living in other countries around the world. Next it will focus on the healthcare infrastructure and personnel employed in the healthcare system. The status of healthcare spending and the extent to which that expenditure is effective in producing measured outcomes in terms of improved health or in terms of patient satisfaction will also be explored. Finally, this chapter will attempt to analyse the effect of the current healthcare structure on the quality of healthcare in Palestine using the data available up to this point in time. It will identify the core factors leading to poor quality of healthcare and highlight the need for initiating a quality effort in the Palestinian healthcare sector. The lack of data to carry out a comprehensive review of the Palestinian health system implies that this review with its effect on the quality of care provided is of an essentially preliminary nature.

Socio-Economic Characteristics

Tables 3.1, 3.2 and 3.3 below summarise some of key demographic and socio-economic characteristics of Palestine and provide a comparison with other countries in the region and around the world.

Table 3.1 Demographic and Socio-economic Data for Palestine[1]

Category	Gaza Strip	West Bank
Area(square Km)	371.00	5643.00
Demography		
Population(millions)	0000.96	1.57
Population density per square Km	2594.00	278.00
Crude birth rate(per 1000 population	45-52.00	35-40
Crude death rate (per 1000 population	6.40	5.60
Total fertility rate	7.40	5.60
Sex-ratio (males per 1000 females)	1037.00	1056.00
Percentage of population less than 15 years	50.30	45.00
Percentage of population greater than 64 years	2.80	3.70
Average household size	7.80	6.70
Urban and refugee populations		
Percentage of population in urban areas	45.70	34.10
Percentage of population who are refugees	64-74	27-34
Education		
Literacy rate in population 15+years (percentage)	84.90	83.40
Primary schooling enrollment (ages 6-11years)	90.50	91.20
Secondary schooling enrollment (ages12-17years)	79.00	78.10
Economy		
Per capita GNP 1996(1995 US$)	1140.00	1900.00
Per capita GDP 1996(1995 US$)	1070.00	1820.00
Unemployment rate (percentage)	31.40	18.10

Table 3.2 Selected Population Statistics in Palestine: a comparison with other countries[2]

Country	Density (No per sq km)	Rate of growth (average annual)	Fertility Rate	Percent Aged 15-64 Years
Palestine	426	>3.8	6.2	49.7
Egypt	57	2.0	3.5	57.8
Israel	257	3.7	2.4	62.1
Jordan	45	6.0	4.8	54.1
Lebanon	378	2.7	2.9	60.2
Saudi Arabia	8	3.2	6.3	53.2
Low income	79	1.8	3.3	60.5
Middle income	26	1.5	2.7	61.5
High income	27	0.7	1.7	66.9
World	42	1.5	2.9	61.8

Table 3.3 Socioeconomic Characteristics of Palestine : a comparison with other countries[3]

Country	Per capita GNP (US$)	Adult literacy Rate (percent)	Secondary enrolment (percent)	Urban population (percent)
Palestine	1,050	83.9	78.4	38.0
Egypt	720	51.0	76.0	44.6
Israel	14,530	100.0	87.0	90.5
Jordan	1,440	87.0	53.0	70.8
Lebanon	n.a.	92.0	76.0	86.5
Saudi Arabia	7,050	63.0	29.0	79.6
Low income	380	66.0	50.0	28.0
Middle income	2,520	n.a.	64.0	61.0
High income	23,420	100.0	98.0	77.0
World	4,470	n.a.	61.0	45.0

Population Characteristics

According to the most recent projections available, the total population in Palestine in mid-1996 was 2.53 million, about 62 percent of it located in the West Bank. However, the much smaller size of Gaza implies that the province has a very high population density. As per the 1996 World Development Report[4], only Singapore and Hong Kong are more densely populated than the Gaza Strip. The population density also varies across districts within the West Bank and Gaza. For example, in the West Bank, the population density varies

from a low of about 81 per square kilometre in Jericho to a high of about 672 per square kilometre in Tulkarem. The variations in population density are not that marked in Gaza, although the central district in Gaza is considerably less densely populated than say, Gaza City in the north.

Estimates of the crude birth and death rates reported in Table 3.1 suggest that the rate of growth of population in Palestine in recent years has been in excess of 3.5 percent per annum, especially if the allowance is made for the significant immigration in recent years. The rate of growth of population appears to have been even higher in the Gaza Strip, in excess of 4 percent per annum. One report suggests a population rate of growth in Palestine of about 5 percent per year[5] This puts the rate of growth of population in Palestine among the highest in the world, although similar to that observed in other countries in the region.

Not surprisingly, the total fertility rate (TFR) in Palestine is also quite high at 6.2, which is higher than the average for low income economies, and also exceeds rates observed elsewhere in the region with Saudi Arabia being the notable exception. For a comparison with other countries, see Table 3.2. As in the case of population density, the TFR in the West Bank (5.6) is considerably lower than in Gaza (7.4). The high rate of natural growth of population suggests that a large segment of the population would be composed of dependents in the younger age groups, as observed in Table 3.1. This translates, in turn, into a high dependency ratio given that only about half of the population in Palestine is in the working age group of 15-64 years, which is similar to Jordan and Saudi Arabia, and less than that for Egypt, Israel, Lebanon and the rest of the world, as noted in Table 3.2. The sex ratio is a little skewed in favour of men, being about 1,050 males per 1,000 females as per Table 3.1, based on a recent

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demographic survey. However, another study by the Bureau of the Census using projections from the 1967 census puts this ratio at about 1,021 males per 1,000 females[6.]

Urban and Refugee Populations

As per the demographic survey, results of which are reported in Tables 3.1 and 3.3 about 38 percent of the Palestinian population resides in urban areas (excluding refugee camps). This is similar to Egypt, although much less than other countries in the region, such as Jordan, Israel, Lebanon and Saudi Arabia. Moreover, there are differences by region, with Gaza having a much larger proportion of population residing in urban areas than in the West Bank.

Table 3.1 also indicates that large segments of the population in Gaza and the West Bank are refugees. About two-thirds of the population in Gaza is composed of registered refugees, as compared to one-third in the West Bank. There are eight refugee camps in Gaza and nineteen in the West Bank[7]. Very high numbers of people living within a small area typically characterises refugee camps. A case in point is Jabaliya Camp in Gaza with a registered refugee population of nearly 87000 living in an area of 4 square km[8].

Education

The Palestinian population appears to be relatively well educated. The literacy rate in the population above 15 years of age is 84 percent, which is higher than the average of 66 percent among low income countries and similar to rates reported in countries that lie at a medium level of (human) development[9]. Within the region, the literacy rate is much higher than in Egypt and Saudi Arabia, but similar to Jordan. There is hardly any difference in the literacy rates in Gaza and the West Bank. However, there is some variation by gender. About 91

percent of the males and 76 percent of the females aged 15 and above were literate as per the demographic survey[10] Other indicators of the level of educational attainment are enrolment levels at the primary and secondary level. Data from demographic survey reported in Tables 3.1 and 3.3 suggest that these rates are quite high in Palestine. As Table 3.3 indicates, the secondary enrolment ratio in Palestine of about 78 percent is much higher than rates reported in low and middle-income economies. It is also much higher than rates reported for Jordan and Saudi Arabia. There is little difference in schooling enrolment rates in Palestine by gender. Primary enrolment exceeds 90 percent for both males and females . The rates of secondary enrolment are also similar among males and females in Palestine as a whole, with a slight bias in favour of males in Gaza[11].

Economic Situation

Using national income data for 1994 provided by the Palestinian Bureau of Statistics and projected growth rates from UNSCO (1997), the per capita Gross Domestic Product (GDP) in Palestine is estimated to be of the order of US$1,320 in 1996 , US$1,060 for Gaza and US$1,480 for the West Bank. Per capita GDP estimates reported by UNSCO (1997) are somewhat higher -- US$1,820 for the West Bank, and US$1,070 for Gaza (US$1,570 for all Palestine). By all accounts, however, real per capita income has fallen sharply in recent years[12]This classifies Palestine as a lower-middle income country, similar to Jordan according to World Bank classifications[13].

Health Status

Tables 3.4 presents information on key indicators of the health status of Palestinians. It suggests that although residents of the West Bank have done

better than those of Gaza (in terms of say, the infant mortality rate or, malnutrition), the advantage appears not to be significant.

Table 3.4. Health status of the Palestinian population, 1996[14]

Category	Gaza Strip	West Bank
Life expectancy (males)	70.0	70.0
Life expectancy (females)	73.5	73.5
Infants mortality rate (per 1,000 live births)	23-32	11-25
Maternal mortality rate (per 1,000 live births) Causes of infant mortality	N.A	N.A
Respiratory illnesses	21.6	19.4
Premature birth	22.5	N.A
Congenital anomalies	14.3	18.8
Diarrhea Causes of mortality in age >5	4.7	2.2
Cerebrovascular disease	17.5	13.8
Ischaemic heart disease	10.7	16.2
Malignant neoplasms	11.6	12.2
Respiratory illnesses	7.6	5.2
Hypertension Other health problems	3.3	5.8
Disability incidence (percent of population)	N.A	N.A
Malnutrition in children under 5 years (weight-for age)	5-15	3.9

Not indicated in Table 3.4 are differences in health outcomes by socio-economic status. Although data is sketchy, some conclusions are possible. For example, infant mortality rates among population groups with less than a secondary level of education are about 30 per 1,000 live births, compared to 18 per 1,000 live births for populations with more than a secondary level of education . Similarly, infant mortality rates are higher among residents of refugee camps in comparison to those residing in cities[15].

Table 3.4 also suggests that a fairly significant portion (about 2 percent) of the population suffers from some sort of disabling condition (including mental, sight, hearing, speech, and motor disabilities). Although a breakdown by region is not, as yet available, earlier work suggests that the incidence of disability is around 4 percent in Gaza, and 1-2 percent in the West Bank population[16].

Between one-fifth and one-third of the population with disabilities suffers from some sort of mental condition[17].

As Table 3.4 indicates, the main causes of reported mortality among infants are respiratory illnesses of various kinds, conditions related to premature birth, congenital problems and diarrhea, with little difference between West Bank and Gaza. The relative importance of the various causes of infant mortality has remained fairly steady over the last five years. Among adults aged 45 years and above, the main killers are cerebrovascular disease, ischaemic heart disease, cancers of various kinds, repiratory illnesses, and hypertension.

Diabetes accounted for about 3 percent of the reported mortality among adults above 45 years of age. The prevalence rate of diabetes mellitus was about 1,299 per 100,000 in the refugee population of Gaza in 1995. Nearly 95 percent of the patients suffered from non-insulin dependent diabetes. There is some evidence that the rate of complications among diabetes cases is high[18]. Among West Bank refugees, the reported rate of diabetes prevalence was 882 per 100,000 in 1995. 85 percent of the West Bank diabetics were non-insulin dependent[19]. There are about 13,000 registered diabetics in the refugee population of Gaza and the West Bank – with two-thirds located in Gaza.

Although not indicated in the table, the causal pattern of mortality among children aged one-to-five years is similar to that of infants with one key difference -- the important role of various kinds of accidents (especially motor vehicle accidents) as a major contributor to reported mortality -- accounting for nearly one-fifth of the cases in Palestine[20.21]

Communicable Diseases

Among refugee populations, there was either a zero or a negligible number of reported cases of polio, cholera, meningitis, tetanus, and pertussis[22]. The World Health Organisation (WHO) has declared the area "polio free"[23].

Data for refugee populations suggests that brucellosis incidence is significant in the West Bank with a reported incidence rate of 41.4 per 100,000 in 1995. It was negligible in Gaza (0.1 per 100,000). Diarrhea incidence was high among refugee populations in both provinces with reported rates of incidence ranging from 1,000-1,500 per 100,000. The incidence of mumps was 14.3 per 100,000 in West Bank, and 38.7 per 100,000 in Gaza. The incidence of typhoid was 9.3 per 100,000 in Gaza, and negligible in the West Bank. Reported TB incidence is low in the Palestinian refugee population (about 1.7 per 100,000). No cases of sexually transmitted diseases (syphilis, gonorrhoea, HIV) were reported. Intestinal parasites are common – giardia lamblia, entamoeba histolytica, and ascaris lumbricoides[24].

The relative importance of communicable diseases among refugee populations is similar to the population of Palestine as a whole. However, their incidence appears to be higher for the population as a whole than for the refugees. For instance, data on reported cases in Gaza in 1996 suggests that the greatest proportion of cases were accounted for by diarrhea (5,460 per 100,000), entamoeba histolytica, gardia lamblia, ascaris lumbricoides, hepatitis B, mumps (49 per 100,000), meningitis (26 per 100,000), typhoid (15 per 100,000), and whooping cough (7 per 100,000) in decreasing order of magnitude[25]. Among the communicable diseases prevalent in the West Bank population are brucellosis (59.9 per 100,000 reported), hepatitis A and B, rubella, measles

and mumps (94 per 100,000)[26].

Cross-country Comparisons of Health Outcomes

Table 3.5 provides a comparison of the health status of the Palestinian population with that of other countries.

Table 3.5 Health Status of the Palestinian Population : a comparison with other countries[27]

Country	Life expectancy at birth(years)	Infant mortality rate)per 1,000) live births)	Maternal mortality rate (per 100,000)	Malnutrition (% under 5) (weight/age)
Palestine	72	17-28	25-79	4.4-9.5
Egypt	62	52	170	9.4
Israel	77	8	5	neg.
Jordan	70	32	132	9.7
Lebanon	69	32	266	N.A
Saudi Arabia	70	26	108	N.A
Low income	63	58	717	48
Middle income	67	36	65-185	14-19
High income	77	7	22	neg.
World	67	53	N.A	N.A

Four indicators of health status were considered, namely life expectancy at birth, infant mortality rate, maternal mortality rate, and the prevalence of malnutrition among children aged less than five years under the weight-for-age criterion. It is immediately apparent that whichever criterion is considered, the health status of the Palestinians lies well above the countries in the low and middle-income groups under the World Bank classification, although it lies below that of high-income countries.

Within the region, the health that Palestinians enjoy closely resembles that of Jordan, Saudi Arabia, and Lebanon, but somewhat lower than that enjoyed by the Israeli population. Analysing mortality by cause, it is interesting to note that in terms of the biggest cause of adult mortality, Palestine currently lies somewhere in-between the developing and the developed countries. For example, among the age group greater than five, cerebrovascular disease and

ischaemic heart disease accounted for 39 percent of all deaths in developed countries in 1990 compared to about 20 percent in demographically developing countries[28]. In Palestine, this figure was about 29 percent [29] .Only 6.1 percent of reported mortality in ages above five in Palestine is due to respiratory illness, closer to the 8.5 percent figure in developed countries than the 20 percent figure in developing countries[30]. In other cases, however, the pattern more closely resembles that in developing countries. Cancers account for nearly a quarter of the mortality in this age group in developed countries, but in Palestine the corresponding figure is only about 12 percent, about the average for developing countries.

Healthcare Infrastructure and Personnel

There are four groups of healthcare providers in Palestine. The Palestinian Ministry of Health (MOH) , the United Nations Relief and Works Agency (UNRWA), the non-governmental sector non-profit agencies (NGO), and the private-for-profit providers. Table 3.6 summarises key statistics about the relative importance of each provider in terms of infrastructure as well as personnel employed.

Healthcare Facilities

• *Secondary care*

Table 3.6 clearly indicates that the bulk of secondary level of healthcare in Palestine is provided by the Palestinian MOH and (NGO), about 58 percent and 36 percent of all hospital beds, respectively (or, 94 percent of all beds). Not indicated in Table 3.6, however, is the fact that nearly 45 percent of the NGO hospital beds are located in Jerusalem, including the 250-bed Makassad Hospital. In other words, for Palestinians who do not reside in Jerusalem, or

who for various reasons (such as closures imposed by Israel, or inability to obtain permits) cannot enter Jerusalem, the Palestinian MOH is, by far, the most important provider of secondary care.

UNRWA and the private sector do not, in general, play a significant role in the provision of secondary care for the Palestinian population. The 42-bed Qalqiliya Hospital in the West Bank is the only UNRWA secondary care health facility in Palestine. It caters primarily to registered refugees and to other economically worse-off groups in the West Bank. A second hospital (EC-UNRWA) is presently under construction and expected to become operational soon.

Table 3.6 Health Infrastructure and Personnel in Palestine by Provider[31]

Type	Gaza	West Bank
Ministry of Health		
Number of hospitals	5	9
Hospital beds	906	1,028
Primary care centers	31	266
Doctors	518	448
Nurses	938	948
UNRWA		
Number of hospitals	0	1
Hospital beds	0	42
Primary care centers	18	34
Doctors	57	52
Nurses	224	159
Non-governmental organizations		
Number of hospitals	2	17
Hospital beds	116	1,015
Primary care centers	25	125
Doctors	156	674
Nurses	211	1,065
Private-for-profit sector		
Number of hospitals	3	8
Hospital beds	57	107
Primary care centers	450	628
Doctors	>43	>152
Nurses		

As far as the private sector is concerned, it has focused primarily on maternity hospitals and beds for surgical patients. Examples are the Al-Salam Hospital in Khan Younis and the many maternity hospitals in Ramallah and East Jerusalem[32]. More recently, ArabCare has begun adding some beds to their facility in Ramallah . Apart from hospitals in Palestine, referral patients can obtain advanced healthcare and diagnostic services from hospitals in Egypt, Jordan, and Israel. Overall, Palestine has a population-to-bed ratio of about 810 persons per bed. This is much higher than the ratio in neighbouring countries and in countries classified by the World Bank as belonging to the middle income group (Table 3.7).

Table 3.7 Health Infrastructure and Personnel in Palestine : a Comparison with other Countries[33]

Country	Population/nurse	Population/doctor	Population/hospital bed
Palestine	<677	850-895	810
Egypt	489	1,316	517
Israel	163	345	164
Jordan	481	742	502
Lebanon	N.A	754	N.A
Saudi Arabia	451	698	401
Low income	N.A	6,760	1,034
Middle income	N.A	2,060	402
High income	163	342	145
World	N.A	3,980	278

This suggests the possibility that Palestine may have a shortage of hospital beds in comparison to the international "norm" for countries at its level of income. Another issue of interest is whether these facilities are distributed in a more or less uniform manner across Palestine. For example, measured in terms of population per hospital bed, the aggregate West Bank (at 690 persons per bed) might be somewhat better endowed with secondary care facilities than Gaza (with about 890 persons per bed). However, if the hospitals in Jerusalem, for reasons alluded to above, are ignored the imbalance between Gaza and the West Bank is reduced -- the population-to-bed ratio for the "remaining" West Bank jumps to about 788 persons per bed. In fact, if the 320-bed psychiatric hospital is excluded, the ratio jumps to 975 persons per bed in the "remaining" West Bank, suggesting that the inequity may be in the opposite direction.

Another approach would be to examine the allocation of hospital beds by district. Ordinarily, the small distances in Palestine and the consequently low cost of travel time would render this issue relatively unimportant. However, the complex rules surrounding authority over areas and roads (and travel) between the Palestinian Authority and the Israeli Government suggests that such an analysis would be useful, especially for the West Bank. As noted earlier, there

is an imbalance of infrastructure between Jerusalem and the remaining West Bank. Although certain districts such as Ramallah, Hebron, Nablus are better endowed with hospital facilities than other areas, they are also more heavily populated. In general, the population-to-bed ratio in Ramallah and Hebron is high compared to the average for the West Bank (over a 1,000 persons per bed). Tulkarem and Jenin have even higher ratios -- 2,000 and 3,000 persons per bed, respectively.

• *Primary Care*

All four sets of providers are involved in primary care as well. Data presented in Table 3.6 suggests nearly 500 primary centres operated by the MOH,NGOs and UNRWA. This is in addition to private sector clinics whose number is estimated to be in excess of one thousand.

Primary care centres are typically not uniform in terms of services offered. This is true both within each category of provider (whether UNRWA, NGO, and MOH) as well as across providers[34,35] . Of the nearly 300 MOH primary care clinics, about 70 are in the nature of village health rooms (health points). As another example, of the 18 UNRWA primary care centres in Gaza, six provide only MCH services, whereas others provide both preventive and curative services (and dental services), and in some cases diagnostic services as well[36] A similar pattern is visible in the West Bank UNRWA clinics and among the nearly 150 primary healthcare clinics operated by NGOs[37,38] . Overall, UNRWA clinics provide a much broader range of services than the other two categories of providers. In addition to the above, there are a large number of private sector clinics. However, no reliable estimates are available. Nearly 628 private clinics had been registered in the West Bank and 450 in Gaza by the MOH. However,

underreporting is widespread and so this is most likely an underestimate of the true number of privately practicing doctors (and their clinics)

Table 3.8: Health Infrastructure and Personnel in Palestine, by District[39]

Region/district	Population per hospital bed	Population per primary care center
Palestine	810	5,075
West Bank		
Jenin/Tubas	3,225	3,440
Tulkarem/Qalqiliya/Salfit	1,864	3,440
Nablus	634	3,960
Jerusalem	428	N.A
Ramallah	1,202	3,210
Jericho	562	1,480
Bethlahem	650	3,770
Hebron	1,319	2,700
Total West Bank	693	3,695
Gaza		
Total Gaza	892	13,015

UNRWA clinics cater only to the registered refugee population. However, the average number of persons who can potentially use UNRWA clinics is high – 39,830 refugees per UNRWA clinic in Gaza, and about 15,300 refugees per UNRWA clinic in the West Bank.

● *Other Services*

The private sector has been moving into the diagnostic/laboratory test market. In the West Bank, nearly one hundred laboratories and 33 X-ray clinics were registered by the Palestinian MOH by the end of 1996 . Assuming that reporting is accurate, this represents nearly a three-fold increase in labs and a doubling of X-ray centers between 1994 and 1996 in the West Bank. Recent data for Gaza are not available. However, in early 1994, 61 labs and three X-Ray centers were registered in Gaza. There are some 360 private pharmacies registered in the West Bank[40]. While data for Gaza are unavailable, it can be assumed that for the purposes of estimation that an average pharmacist in Gaza would cater to the same number of people as in the West Bank.

Health Personnel

Tables 3.6, 3.7 and 3.9 present aggregate information about two categories of healthcare personnel , doctors and nurses , in Palestine.

Table 3.9. Distribution of Health Personnel in Palestine by Level of Care[41]

Type	Gaza	West Bank
Ministry of Health		
Doctors		
Primary	125	145
Secondary	393	303
Nurses		
Primary	274	365
Secondary	664	583
UNRWA		
Doctors		
Primary	57	44
Secondary	0	8
Nurses		
Primary	224	29
Secondary	0	130
Non-governmental organizations		
Doctors		
Primary	105	392
Secondary	51	282
Nurses		
Primary	98	160
Secondary	113	905

There are an estimated 2,830 to 2,983 doctors in all of Palestine. This translates into an average of about 850 to 900 persons per doctor, which is lower than the ratio in Egypt and for middle income countries in general. However, it is higher than for other countries in the region such as Jordan, Lebanon, and Saudi Arabia. Moreover, there is some concern that many of the doctors in Palestine are not properly trained/accredited which might bias the estimated of the persons per doctor statistic in terms of effectiveness. As far as nurses are concerned, there are an estimated 3,740 nurses in Palestinian health institutions. This translates into a population-to-nurse ratio of about 677, which is relatively higher than all neighbouring countries.

In terms of distribution by geographic area, Gaza has a population-to-nurse ratio of about 680, and the West Bank about the same. It appears that the distribution of doctors is somewhat in favour of Gaza (at about 640 persons per doctor), somewhat lower than in the West Bank (at about 1,300 persons per doctor), although these figures possibly are biased owing to generally poor estimates of the privately practicing doctors.

Of particular significance is the observation from Table 3.9 that the majority of the medical personnel in Palestine are employed in secondary care -- 54 percent of the doctors and 68 percent of the nurses are employed by either the MOH, UNRWA, or NGOs and are associated with secondary care. There are some differences, however, by organisation. For example, the bulk of UNRWA's doctors and nurses are involved with primary care activities.

Healthcare Utilisation Patterns

MOH facilities :

Data on utilisation for Gaza and the West Bank are reported in Table 3.10 Including visits for maternal and child health, in 1996 there were on average 235 visits per day per clinic in Gaza, and 23 visits per clinic per day in the West Bank. However, this last figure disguises the number of visits per physician day (the number of days a physician is present). Indeed, as Table 3.10 indicates, the number of visits per physician day are quite similar in the two regions.

Table 3.10 Utilisation of Health Facilities in Palestine by Provider: Selected Indicators[42]

Provider	West Bank	Gaza
Ministry of Health		
Hospitals (bed occupancy rate, %)	84.20	82.30
Average nights of stay	2.60	3.10
Primary care visits (per doctor /day)	73.00	79.00
Primary care visits (per clinic/day)	23.00	77.00
UNRWA		
Hospitals (bed occupancy rate, %)	111.80	N.A
Average nights of stay	3.60	N.A
Primary care visits (per doctor /day)	87.00	119.00
Primary care visits (per clinic/day)	110.00	401.00
Non-government organizations		
Hospitals (bed occupancy rate, %)	60.30	66.30
Average nights of stay	3.20	3.10
Primary care visits (per doctor /day)	15.00	12.00
Primary care visits (per clinic/day)	27.00	53.00

The estimates for the West Bank are close to the average of approximately 70 medical consultations per day estimate obtained by Ayad and Cousins (1997) for four government clinics in rural Ramallah[43]. In general, usage of specialised clinics is higher in government operated primary care centres (between 11 percent and 13 percent of all doctor consultations) than in UNRWA clinics (about 6-8 percent of all consultations)[44,45]. This can be attributed to the fact that UNRWA clinics have fewer specialised clinics[46] .As far as secondary care is concerned, occupancy rates were high in virtually all government hospitals in Gaza and the West Bank, averaging above 80 percent during 1996. Excluding the psychiatric hospital, the average length of stay was around 3.1 days in Gaza, somewhat higher than in the West Bank

UNRWA facilities:

UNRWA provides free outpatient facilities to registered refugees at its Primary Healthcare centres. It also supports in-patient care for registered refugees. This is done either via assistance towards hospitalisation of patients at non-

governmental hospitals (via contracts), or reimbursement of some of the costs incurred by patients on inpatient care, subject to a ceiling.

In general, utilisation of UNRWA outpatient facilities is heavy, especially in Gaza. Table 3.10 shows 119 visits per doctor per day in Gaza, and 87 in the West Bank in 1996. However, the average number of visits to UNRWA primary care clinics amounted to 400 per clinic per day during 1996 in Gaza, and about 110 per clinic per day in the West Bank.

NGOs' Facilities:

The number of visits per clinic per day was approximately 53 in Gaza, higher than in the West Bank. The number of visits per physician day was quite low suggesting a possible underutilisation of doctors in this sector.

Occupancy rates at NGO hospitals vary. The Ahli Hospital in Gaza had an occupancy rate of 66 during 1996. In the West Bank, NGO hospitals saw varying occupancy rates – from around 80 percent in the Caritas Baby and Al-Ahli (Hebron) Hospitals, to 41 percent in Red Crescent (Hebron), and 63 percent in Ittihad Hospital (Nablus) during the first three quarters of 1996[47] However, occupancy rates for Jerusalem based hospitals were dramatically lower than in earlier years, averaging at about 50 percent, owing to closures imposed by Israel[48]. Bed occupancy rates in NGO maternity hospitals were generally quite low[49].

Healthcare Spending in Palestine

The World Bank Report, Developing the Occupied Territories: An Investment in Peace, stated that: "These estimates of healthcare expenditures suggest that per capita spending is about US $ 110 a year. (The population figures on which estimates of per capita spending must be based are themselves subject to a

wide range of error.). If these estimates are roughly correct, then the Occupied Territories would be spending an amount equal to about 7 percent of GDP, or about 9 percent of GNP, on healthcare"[50]. The National Health Plan for the Palestinian People, Objectives and Strategies, April 1994, (NHP), stated that: "The estimated National Health Expenditure in 1991 was around 173.6-206.6 million US $. The per capita expenditure on health was 95 dollars, which in total represents 10.5% to 12.6% of the 1991 Gross Domestic Product (GDP) of about 1.7 billion dollars"[51]. Other similar studies yielded results within the same range. National expenditures on healthcare appear to be very high relative to National Product. Comparisons with national expenditures on healthcare in other countries also indicate that the Palestinian people is spending a relatively higher proportion of the national product on healthcare than countries of similar national products. For the purpose of comparison, per capita expenditures on healthcare for neighboring countries in 1990 were: Jordan $48, Egypt $18, and Syria $23[52].

At a macro-level one can ask the question: To what extent are the expenditures on health in Palestine effective in producing desired outcomes, whether measured in terms of improved health, or in terms of patient satisfaction?

One approach would be to examine the relationship between health expenditures and health outcomes such as infant mortality and life expectancy over time. Unfortunately, the absence of reliable data on both variables and especially on health expenditures for any length of time rules this out as a method of analysis. Another approach would be to focus on the relationship between health expenditures and outcomes across countries and evaluate Palestine's performance in a cross-country setting. It is apparent that at about

US$100 per capita, health expenditure in Palestine is much higher than in Jordan, and nearly three times as high as in Egypt, when measured in per capita terms.

When compared to some of the health indicators in these countries, it does appear that the additional advantage of the Palestinians, measured in terms of life expectancy, infant mortality and maternal mortality is small in comparison to the additional amounts spent on healthcare. Some of these differences may simply reflect diminishing returns to additional healthcare spending in terms of outcomes attained. Moreover, such cross-country comparisons are often confounded by the fact that income and educational levels are also correlated with both health expenditures and health outcomes. However, there are strong reasons to suspect the existence of inefficiency in the provision of healthcare in Palestine.

Alternatively, it may be asked whether the relatively high health expenditures in Palestine are associated with a correspondingly high level of patient satisfaction as well. Unfortunately, few studies of patient satisfaction have been carried out thus far in Palestine. There are, to be sure, studies of patients visiting individual primary care clinics (or sets of clinics) and maternal and child health departments at hospitals but these are far too limited in scope to be of use in making inferences at an aggregate level.

Quality of Healthcare in Palestine

The first planned effort to improve healthcare quality in Palestine was undertaken by the Central Unit for Quality of Healthcare at the Palestine Council of Health in 1994. The objective was to define a plan of action in healthcare quality improvement for the Palestine Health Authority. Thus the strategic Plan

for Quality of Healthcare in Palestine 1994 edition and the Operational Programme were produced. These were reviewed and formalised at the six National Workshops for Advocacy and Promotion for Quality Improvement in May 1995. The workshops involved over 150 policy makers and key health professionals . Other work conducted at the time-emphasised sensitisation for quality. The challenge at the time was to introduce the concept of improvement in healthcare as a national strategy. The Palestinian MOH has designated healthcare quality improvement as one of its priorities. It embarked on a serious effort to establish a special body to pursue healthcare quality improvement on a national scale. $ 1.39M was allocated by the World Bank Education and Health Rehabilitation Project (EHRP) for this purpose. The Quality Improvement Project / Ministry of Health was thus established.

The Quality Improvement Project (QIP) started in April 1996. The initial period was used in developing the Institutional Framework ,defining the staffing requirements and the roles and responsibilities of each staff position A total of eight professional staff and six support staff were recruited. Setting up and equipping the project offices was also achieved. Organisationally, the QIP is a special MOH organ. It is given administrative and financial flexibility to ensure that is not subject to the rules and regulations it is created to change, thereby avoiding the conflict this may have created. Simultaneously, it is directly linked to the MOH and the Deputy Minister of Health, thereby giving it maximum leverage to implement change in the system. The design stressed the formation of one core Palestinian team. The team was recruited from all over the country and located in two sites: one in the West Bank and the other in Gaza. The team as a whole functions all over the country . In recruiting the team,

multidisciplinarity was sought. Among the team recruited the following specialties areas are included: medicine, public health, health policy and management, health promotion, nursing, nursing education, systems analysis, business administration, human resource management, microbiology, education and evaluation of research. With the exception of one member of the team, all the recruited professional staff had practically no knowledge of Total Quality Management (TQM) . The first challenge was to train them as quickly and as effectively possible. The first task the team had to undertake lay in understanding how the previous structure affected the quality of healthcare provided.

Factors Affecting Healthcare Quality in Palestine

Several factors affect the quality of healthcare[53]. These can be categorised into three main groups: First, inputs into healthcare: investment in healthcare, human resources in the healthcare sector, facilities, equipment and supplies. Second, resource allocation: into relatively cost-effective programmes or the contrary. Third, the efficiency of the system of delivery of healthcare: the degree to which there exists, or does not exist, duplication of effort, re-work, unnecessary work and spending, and other different forms of waste in the system.

First, poor investment of inputs into healthcare: In Palestine, there does not appear to be a problem of poor investment of inputs into healthcare. Quite the contrary, inputs are relatively high. If anything, national expenditure on healthcare, are in excess of what would be expected from an economy of such as that of Palestine. Deficiency in inputs cannot be the answer to the poor quality of healthcare in Palestine.

Second, improper allocation of health resources: This is difficult to assess with the available data. However, given the relatively large number of community based practices and their staffing (particularly UNRWA and NGO services) together with the high immunisation coverage as an example, it does not appear that the effective primary care measures are neglected. Any assessment of the health services in Palestine leaves no doubt that there is room for more effective resource allocation. For example, allocating resources for health promotion among the public combined with effective measures directed at reducing injuries from road traffic accidents, which are a relatively high proportion of hospital admissions, can prove to be much more cost-effective than increasing the same investment only on the curative side of this major public health problem. This in turn lead to better health outcomes, and higher quality of healthcare. However, in spite of this, it appears unlikely that ineffective resource allocation is the major contributor to the poor quality of healthcare in Palestine.

Third, efficiency: Efficiency is a measure of the inputs invested in a system to the outputs obtained from that system. It is clearly not possible to quantify this on a national scale. However, the issue of efficiency may be approached in a conceptual sense. One way of doing so is through asking the questions: for the given investment are these the best possible outputs? and, for the given investment what proportion of wasted outputs are possibly avoidable? There appears to be general consensus among health professionals and the public that the answers to these two questions are: "no, and in reality, far from so", and "seemingly a large proportion". The fact that for the given inputs, low outputs are obtained and that the degree of waste in the system of delivery of

healthcare is large, are highly indicative of inefficiency in the system. When health professionals and the public including patients and their families are asked to identify the quality of healthcare problem in Palestine they invariably point to process-related issues.

In the healthcare sector in Palestine, the investment in inputs is higher than what would be expected for the outcomes obtained. Furthermore, given the high percentage of GDP spent on healthcare, increased inputs, per se, cannot possibly be suggested as a solution to improving healthcare quality. Redistribution of resources cannot be expected to bring about the required improvements in the quality of healthcare either.

It is uncommon for either the health professionals or the public to identify quality in relation to outcomes. This appears to be quite rightly so, in the healthcare sector in Palestine, where there is little suffering from killer diseases or mass disability due to specific health related conditions.

In other words, there appears to be an over-investment leading to outcomes, that are normally, obtainable with less investment. The answer to which appears to lie in the process of delivery of healthcare. This forms the basic premise for the assumption that the "quality defect" in the healthcare system in Palestine revolves around an inefficient system of delivery. Inefficiency in the system of delivery seems to dominate the big picture of the issue of quality of healthcare in Palestine

Factors Contributing To Poor Efficiency Many factors in the healthcare system contribute to poor quality. At the top of the list among these factors are the mechanisms of financing and the management of the system[54].

The Mechanisms of Financing: the mechanisms, by which the healthcare provider organisations are financed, appear to be adversely affecting the quality of healthcare. The providers of healthcare may be classified into four sectors: MOH, NGOs, UNRWA, and the private sector. The NGO sector has grown over the past few years and consists of several organisations. The picture gives a deceptive impression of a decentralised system of delivery of healthcare, in which patients have a choice of healthcare provider. Though several healthcare provider organisations are in existence, they do not represent a real diversity of choice of providers for the patients. In reality, each one of the different provider organisations represents a centralised, provider-driven, and supply side regulated system in its own right. The exception is the private sector, which is demand driven, market-priced, and patients' access to it is determined by the ability to afford the market price. This set-up has its implications. From the perspective of the patient and the provider the picture is as follows: a patient who has access to one system of healthcare delivery is eligible for the services and benefits of that system at either substantially reduced prices or no charges at all. However, the services usually can only be obtained at predetermined points of service delivery. The patient either receives whatever services are available there, irrespective of how content he is with the service, or does not receive it in this given system of healthcare delivery. In reality, this means two things: minimal choice of provider for the patient, and little incentive for the provider to satisfy his patient. In addition, if for example a drug is not available, and this is quite often an essential drug that the patient may be taking regularly, there is little that can be done about it. The patient simply does not get it. This is just to give one simple example, the same applies to many other aspects of the

provision of healthcare. In any case, the health providers at that point cannot really be held responsible for the shortage, as they usually have little say in what they have in terms of services, staff, equipment, drugs, and supplies. These are usually centrally decided upon and provided. To make the picture worse, the healthcare professionals are neither rewarded nor penalised for any shortages or poor quality of service. Their earnings are completely unrelated to the quantity or quality of services they provide. In effect, within the same system of healthcare provision, competition is, for all practical purposes, non-existent. The same set-up can be generalised to most provider organisations. The interesting thing is that, in the case where the same patient has access to two provider organisations for example, then he only has a choice between two providers each subject to its own systems constrains. Moreover, since different shortages exist in practically all provider organisations, the phenomenon of doctor hopping or doctor shopping has become widespread. Patients will go to one provider or provider organisation for one aspect of the service and present to another for a different aspect of the service or even to double check. For example, the patient may receive consultation at a place where he perceives the physician to be better, then go to another place to dispense the prescription since the treatment may be available there. The amount of waste created by this duplication and repetition is perceived by many professionals to be great. The net effect of the existing mechanism of financing is not a scenario where the patient will choose the healthcare provider he is most content with and that provider is then rewarded for meeting the demands of that patient, but a culture of worker demotivation, apathy, and patient dissatisfaction[55]. The mechanisms by which the system of delivery of healthcare is financed are acting as

disincentives for quality healthcare. At the core of the financing issue leading to poor quality is the link between financing and provision of health services. The way out of this vicious circle, is some arrangement whereby the same financing mechanism would offer the patient a real choice of providers whilst building into the financing of the system a mechanism whereby providers are rewarded to some degree or another for the extent to which they meet consumer demand.

The Management of the Provider Organisations: Many management factors are affecting the quality of healthcare in Palestine. At the top of the list of these factors are leadership and organizational culture.

Leadership in Health

This is probably the single most important management issue leading to poor quality. It is the exception, not the rule, when healthcare delivery is led by a strong and visionary leader who is fully devoted to leading the organisation and who has the relevant skills and authority to do so. The notion of "what should we be doing, how can we do it best, and how can workers be empowered to exercise their responsibilities to the fullest" is unfortunately not the dominant line of thought. Up-front leadership is probably one of the main management factors that can contribute to improving the quality of healthcare.

Another important management aspect of the system is that concerning regulation of the system. There are few instances where clear regulations are present. Even in such cases, they are not implemented mainly due to lack of executive body to do so.

Senior physician-practitioners overwhelmingly manage the healthcare organisations. Managers are generally chosen on account of being highly

qualified in a clinical field, and proven to be skilfull in clinical practice, combined with a high level of "seniority", which is seen to be an essential credential. Upon taking up such leadership positions, they generally do not undertake any special training in management. In addition, they remain in full time clinical practice. Being the Director of a healthcare organisation is seen as a prestigious reward for the skilled senior clinician. Managing the healthcare organisation usually takes up only a fraction of the Director's time and effort and, in any case, comes second to his clinical practice. Assisting managers are usually administrative assistants, who for a large part are poorly qualified and end up attending to the procedural activities of the daily life of the organisation.

Organisational Culture

Healthcare delivery organisations are generally managed in the customary fashion. Decision-making is usually by best judgment as opposed to being databased. The systems institutionalised in most organisations are mainly command and control systems. There is little alignment of authority with responsibility beneath the level of the top man in the organisation. Loops in decision-making have to go through the top person in the healthcare delivery organisation. There is little worker involvement in the life of the organisation. Information sharing and communications are usually very much at fault. Appointment, promotion and reward is one of the factors which affects quality. The culture of appointments, promotion or reward by connections or as personal favours has grave consequences on quality. Seniority as opposed to professional ability in appointments likewise lowers quality. Unfortunately, this culture exists and is adversely affecting quality.

Human resource development : One of the important issues in the assessment of a system is the development of the human resources in that system over time. This is one of the indicators of how well that system is being managed. It is a widely accepted concept in the healthcare system in Palestine, that professionals start off with much enthusiasm, hard work, and good technical ability when they are new in the system. Over time, adaptation to the organisational environment, occurs and performance starts to decline. Knowledge, skill and competence deteriorate over time. This is a widely seen phenomenon. Unfortunately, as human resources start to get "burnt out", they are recognised by the classical management of most organisations to have understood "the system" and perhaps also to have "matured". This is in exact contradiction with the definition of management: "developing people through work". To manage a system capable of continuous improvement, human resources must develop, not deteriorate, over time.

The blame culture : this is a widespread phenomenon which is quite compatible with the dominant organisational culture in the health sector. The common response to any problem is far from looking at the possibility of a possible failure in the system. The issue of questioning policy, regulation, and practice as perhaps contributing to the problem is practically non-existent. The issue of management being at fault is unheard of. The usual understanding is that someone did not execute something or did so incorrectly. The natural course of events can be summed up in setting up a committee which answers the question: "who did what wrong?". Unfortunately, this neither solves a problem nor prevents its recurrence. Such an organisational culture is hardly supportive

of quality healthcare. For improvement to take place attitudes, and behaviours need to be changed.

How Can Quality Improvement Be Approached?

Quality can be attributed to the interaction of many factors which together have led to the current position. The likely solution appears to lie in a two pronged approach to improving quality: tackling the micro picture of inefficiency at the level of the provider organisations and tackling the macro picture of systems reforms on a national scale.

First, the micro picture of quality, which is manifested primarily by inefficiency in the delivery of healthcare, needs to be addressed. Quality management offers the cutting edge culture and methodology that stands some of the highest chances of tackling the problem of inefficiency. One of the greatest strengths of quality management is inherent in its very nature as a system of continuous quality improvement which becomes part of the culture and life of the provider organisation. Another strength lies in that this is a "top-led, bottom-fed" approach to improving quality. It is fed by the so called "internal and external customers", the workers involved in the delivery of healthcare together with the patients and their families, who are on the receiving side of the equation. Implementing quality improvement in this way leads to higher chances of worker commitment and thus the sustainability of the quality management process over time. In effect, it is a slow but enduring process of change management that minimizes resistance to the required organisational re-structuring and decentralisation. Last, but not least, implementing quality management as the means to improving quality of healthcare, challenges the traditional concepts of improving quality: it tackles quality improvement through increasing the internal

efficiency of the system of delivery of healthcare as opposed to merely increasing the inputs into the healthcare system in the expectation that more inputs will translate into higher quality outputs.

Second, the factors that led to inefficiency in the first instance also need to be addressed. This is essentially a process of health systems reforms which touch upon just about all aspects of the healthcare delivery system in an attempt to gear it towards providing incentives for improving quality and efficiency. There is no ready formula for quality in healthcare. Determinants of good quality in one system may affect another system in an adverse way. For example, introducing elements of market competition in the Palestinian system may bring about improvements to it, which may not necessarily be true for other countries. In addition, what may one day be a determinant of good quality in a system at a certain time and stage of development may well become a determinant of poor quality for the very same system at a different time and stage of development. For example, user charges may reduce unnecessary demand one day, but may act as barriers to access to essential healthcare another. Thus reform must be viewed as a dynamic continuously evolving process directed at enduring gains in effectiveness, efficiency and quality improvement.

In view of the enormous effort required in managing the micro picture of quality, is there a real need to manage the macro picture as well? Systems factors leading to poor quality of healthcare can be seen to act as "killing factors" to improving quality. Though not quality improvement activities in themselves, they are essential inputs into the quality process. The very same quality management improvements can be greatly enhanced if the system reforms are also being conducted in congruence with them. The art lies in setting up a

strategy for improvement that is capable of continuously managing both the micro picture of inefficiency and the macro picture of systems management of quality of healthcare. Despite its importance, the macro picture of quality was not managed. The management of the macro level picture was supposed to be carried out by the Harvard Project. This project was however terminated for political reasons. This does not however, deny the importance of managing this level as well as the micro level.

Conclusion

This chapter reviewed the Palestinian healthcare infrastructure and the effect of this structure on the quality of healthcare provided. It show that the following appear to be the main features of the healthcare infrastructure and financing system; both of which are affecting the quality of healthcare provided. With a per capita income ranging from US$1,320 to US$1,630 , Palestine is a low - middle-income country as per World Bank classifications. Literacy and schooling enrollment generally exceed those in neighbouring countries with the exception of Israel.The health status of Palestinians appears to lie above countries listed as low- middle - income under the World Bank criterian. In many respects mortality data in Palestine more closely resembles the situation in the developed than in the not developing countries. There are four major groups of providers in Palestine: Ministry of Health, United Nations Relief and Works Agency, Non Government Organizations, and the Private Sector.The bulk of secondary care facilities in Palestine are provided for by the MOH and the NGOs. However, a significant quantity of NGO bed capacity is located in Jerusalem which makes it difficult to access during times of closure. The private sector has concentrated mainly on maternity hospitals and beds for

surgical patients. Overall, Palestine has a population - to - bed ratio of 810 per bed . This is higher than in the neighbouring countries and in countries classified by the World Bank as belonging to the middle income group. Ordinarily, the small travel distances in Palestine would render the travel distance to hospitals unimportant. However, the complex rules surrounding authority over areas and roads between the Palestinian Authority and Israel make such an analyses useful, especially in the West Bank. The West Bank is worse-off than Gaza in terms of secondary care beds, once allowance is made for the fact that many of the hospital beds are located in Jerusalem. Tulkarem and Jenin appear to be particularly poorly served in this regard , with population -to-bed ratios of 2,000 to 3,000. Primary health centres are typically not uniform in terms of type and quality of service . Some provide a broad range of preventive and curative services, others are in the nature of village health rooms . This is true across the different providers as well as among facilities operated by a single provider group (MOH, NGOs, UNRWA). There are also a large number of private clinics , possiblly in excess of 1,000, although no reliable estimates are available. The population-to-PHC ratio is much lower in the West Bank (3,700) than in Gaza (13,000). However , this may not imply that the West Bank population is better-off than Gaza in this regard since it may be faced with comparatively larger travel distances, and clinics with a narrower range of services. In comparison to secondary care, the distribution of primary health centres appears to be more balanced across the different West Bank districts. However , variation in services provided may still be a cause for concern.The population-to-doctor ratio in Palestine appears to be lower than in developing countries in general, and than in Egypt. However, it is higher than

for other neighbouring countries such as Jordan, Lebanon, and Saudi Arabia. There is some concern about the variation in the training level of doctors and the lack of a proper system for their accreditation. The population-to-nurses ratio is high as well , although that may be the result of incomplete reporting of data on nurses.

There is a significant bias in the allocation of health personnel by various levels of care. Nearly 54 percent of the doctors and 68 percent of the nurses employed by the MOH, UNRWA, and NGOs are employed in secondary care. However, there are variations by organisation. For example , the bulk of UNRWA's doctors and nurses are involved in primary care activities. The pattern is the opposite in the MOH, where nearly 70 percent of the doctors are employed in hospitals. The primary health centres are heavily utilised . The average number of visits per physician per day in MOH clinics was estimated to range between 70 and 80 in both the West Bank and Gaza . This suggests heavy pressure on doctors resulting in very low patient-physician contact times. A similar pattern is noticeable in UNRWA clinics. In contrast, NGOs appear to be under less pressure. This may point to an inefficiency, although it may also result from the fact that NGO clinics charge a small fee for their services and whilst offering a narrower offer a narrower range of services. Secondary care services are heavily utilised. The occupancy rate in most, but not all, governmental hospitals was 80 percent or higher. Jericho Hospital was one of the hospitals with a low occupancy rate. Days of stay averaged around 3 :1. Occupancy rates in NGOs vary from 40 percent to 80 percent. Bed occupancy rates are especially low in maternity hospitals Occupancy rates in Jerusalem based hospitals in 1996 appear to have been dramatically lower than in earlier

years, wing to the closures. It appears that healthcare expenditure in Palestine amounted to at least NIS915 million in 1996. This constituted about between 7 and 8.5 percent of the GDP in 1996 . Although this proportion is lower than previously reported estimates, it is higher that most countries in the region. This structure for the healthcare sector is affecting the quality of healthcare. Several other factors also affect the quality of healthcare. These can be categorised into three main groups: First, inputs into healthcare: investment in healthcare, human resources in the healthcare sector, facilities, equipment and supplies. Second, resource allocation: into relatively cost-effective programmes or the contrary. Third, the efficiency of the system of delivery of healthcare: the degree to which there exists, or does not exist, duplication of efforts, re-work, unnecessary work and spending, and other different forms of waste in the system. The likely solution appears to lie in a two pronged approach to improving quality: tackling the micro picture of inefficiency at the level of the provider organisations and tackling the macro picture of systems reforms on a national scale.

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CHAPTER FOUR

FORMULATION OF A QUALITY IMPROVEMENT STRATEGY

Introduction:

The previous chapter showed that a fragmented structure and uneven distribution of services and human resources between the various providers characterises the Palestinian healthcare system. These characteristics are causing low quality and high cost healthcare, generating inequities in access to healthcare, causing conflicts among providers and patients, occasioning a disparity of care, and promoting moral and ethical dilemmas. To resolve those issues, the Ministry of Health (MOH) established " The Quality of Healthcare Unit " in 1994. This Unit was one of ten central units created by the MOH to develop plans for the purpose of sustaining and improving the existing healthcare system. During 1994 - 1995, the Quality of Healthcare Unit drafted its strategic and operational plans which were then discussed in six national sensitisation workshops. Recommendations and suggestions were gained from 150 health professionals who actively participated in the workshops. Following that, the MOH established the Quality Improvement Project (QIP). Funding for the QIP was received from the World Bank Education, Health and Research Project (WBEHRP). The professional capacity of the QIP comprises eight professionals who act as managers to six operational programmes. The professional responsibility of this team is to implement the quality improvement strategies developed by the Quality of Healthcare Unit.

Research Approach

In order to analyse the activities of the QIP, a strategic plan framework will be employed. The strategic plan framework will be one derived from Stoner's model which he called "Steps in the formulation and implementation of strategy[1]. Stoner's model draws heavily upon the concepts of Andrews in the " Concepts of Corporate Strategy " as interpreted by Hofer and Schendel in " Strategy Formulation[2]. Hofer and Schendel's model has been modified by Stoner. Diagram 4.1 describes Stoner's model. Stoner's model will be employed in this research but will be adapted to suit the Palestinian situation. The model will be adopted by adding new steps, see diagram 4.2, which are seen as crucial to fit the Palestinian healthcare situation. The adapted model identifies and describes the steps in the strategic planning approach. A strategic planning approach is used because of its growing importance in recent years. Strategic planning, by defining the mission of the organisation in specific terms, helps to give direction and purpose and organisations function better as a result because they become more responsive to a changing environment. This chapter will analyse the activities of the QIP by employing a strategic plan framework which is derived from Stoner's model. This will be done by looking at the goals, objectives, (internal and external), and strategies of the QIP. An environmental analysis will be carried out to identify the ways in which changes in the external environment can indirectly influence the implementation of quality improvement. The strengths and weaknesses of the Palestinian healthcare sector will be presented followed by identifying the strategic opportunities and threats confronting the quality improvement efforts. After

analysing the resources and the environment, a gap analysis aiming at determining the extent to which a strategic change is required will be carried out. A field force analysis will follow aimed at showing that many elements will be moving the efforts of quality improvement either towards or away from the quality improvement goal. To overcome the obstacles many strategic decisions have to be undertaken. These decisions will be developed, evaluated and alternatives will be chosen accordingly.

Diagram 4.1 Stoner's Model: Steps in the Formulation and Implementation of Strategy[3]

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┌──────────────────┐     ┌──────────────────┐     ┌──────────────────┐
│ 1                │     │ 2                │     │ 3                │
│ Goal             │────▶│ Identification   │────▶│ Environmental    │
│ formulation      │     │ of current       │     │ Analysis         │
│                  │     │ objectives       │     │                  │
│                  │     │ and strategy     │     │                  │
└──────────────────┘     └──────────────────┘     └──────────────────┘
                              │        │
                              ▼        ▼
                         ┌──────────────────┐     ┌──────────────────┐
                         │ 4                │     │ 5                │
                         │ Research         │────▶│ Identification   │
                         │ analysis:        │     │ of strategic     │
                         │ Organisational   │     │ opportunities    │
                         │ strength and     │     │ and threats      │
                         │ weakness         │     │                  │
                         └──────────────────┘     └──────────────────┘
                                                          │
                                                          ▼
                         ┌──────────────────┐     ┌──────────────────┐
                         │ 7                │     │ 6                │
                         │ Strategic        │◀────│ Gap Analysis to  │
                         │ decisions        │     │ determine extent │
                         │ making:-         │     │ of change        │
                         │ - Develop        │     │ required in      │
                         │   alternatives   │     │ current strategy │
                         │ - Evaluate       │     │                  │
                         │   alternatives   │     └──────────────────┘
                         │ - Select         │
                         │   alternatives   │
                         └──────────────────┘
                              │
                              ▼
                         ┌──────────────────┐     ┌──────────────────┐
                         │ 8                │     │ 9                │
                         │ Strategy         │────▶│ Measurement      │
                         │ Implementation   │     │ and control      │
                         │                  │     │ progress         │
                         └──────────────────┘     └──────────────────┘
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Diagram 4. 2 Author's Development of Stoner's Model

1 Goal formulation

2 Identification of current objectives and strategy

3 Environmental Analysis

4 Research analysis: Organizational strengths and weaknesses

5 Identification of strategic opportunities and threats

6 Gap Analysis to determine extent of change required in current strategy

7 Field Force Analysis: where we are now and where do we wish to be?

8 Strategic decision making:-
- Develop alternatives
-Evaluate alternatives
-Select alternatives

9 What is Total Quality Management ?

10 Strategy Implementation

11 PDCA Model

12 Measurement & control of progress

13 Feed back

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Goal Formulation

Setting the goals of the organisation is the most essential step in the strategic planning process. The key step in goal formulation is defining the mission of the organisation. This is because before deciding on the objectives of any organisation, its purpose and mission must have been determined. Taking this into consideration, the Quality Improvement Project Team (QIPT) has developed the following mission " We, the Palestinian Healthcare Improvement team under the leadership of the Ministry of Health, believe in the right of the Palestinian citizen to receive the highest possible level of healthcare. We also, believe in the right of the personnel in the health sector to work in the best possible environment within the available resources. As a result of this belief, the Ministry of Health has founded this team to lead, enhance and activate the improvement effort for the benefit of the Palestinian people ".

Following the mission, the QIPT in the MOH has defined its overall goal " Attain the highest possible level of quality of healthcare in Palestine". Achieving this goal encompasses two distinct parts.

- Part One: Health system reforms: " Reform the Palestinian health system in ways that stimulate and facilitate quality improvement". The goal of the health system reform is not of itself to directly impact upon activities designed to improve the quality of healthcare, but relates to the inputs from the MOH which are essential to promote quality improvement in the Palestinian healthcare provision.

- Part Two: The quality of healthcare programme: This relates to the activities necessary to improve the efficiency of the provider organisations. It comprises six functions: Leadership, Institution Building, Training, Social Marketing, Information System, and Productivity:

- Leadership goal: "Develop the "Leadership for quality " model within the Palestinian healthcare System".

- Institution building goal: "Develop the national capacity to manage quality improvement".

- Training goal: " Develop the national training programme in quality improvement ".

- Social marketing goal: " Develop the " quality culture" in the health sector on a national scale".

- Information system goal: " Develop the national quality improvement information system ".

- Productivity goal: " Develop a system to monitor and evaluate the quality improvement effort in Palestine".

Identification of current objectives and strategy

Despite the identification of the quality issue as an important area, no efforts have been made before the foundation of the QIPT to identify certain objectives and strategies for improving the quality of healthcare in Palestine. The QIPT therefore identified the following objectives for improving the quality of healthcare in Palestine. These objectives are related to the overall quality improvement goal and mission and relate to Part Two of the overall goal, the quality of healthcare

programme, as the Harvard Institute for International Development is supposed to tackle Part One of the overall goal, namely, health system reform. Each function or goal of Part Two includes internal and external objectives. The term external applies to the concerns of all health providers and related environmental factors. While the term internal applies to the concerns of the MOH. The following tables present the quality improvement goals, external and internal objectives, and strategies. It is critical to mention that the six functional areas are not completely integrated which makes it even more difficult for their internal and external objectives to be integrated. This lack of holism was to negatively influence the results achieved by implementing TQM in the Palestinian healthcare sector.

Table 4.1 The Health System Reform Goal: "Reform the Palestinian Health System in Ways that Stimulate and Facilitate Quality Improvement".

External Objective	Strategy	Internal Objective	Strategy
"To reform the mechanisms of provision of health services in ways that stimulate quality improvement".	MOH should emphasise diversity in health services provision at all levels MOH should create healthy competition for health services provision at all levels	"To develop policies and plans which foster the infiltration of quality improvement throughout the system	MOH should harmonise the process of planning for the future of the Palestinian healthcare system.
"To reform the mechanisms of financing of health care in ways that stimulate quality improvement".	MOH should emphasise interrupting the link between financier and provider of healthcare services. MOH should exercise the concept of cost-effectiveness in healthcare	"To develop the Palestinian MOH in accordance with the principles of modern management".	MOH should exercise professionalism throughout the Ministry. MOH should develop the management of the MOH with emphasis on alignment of authority with responsibility and accountability at different levels in the MC
"To reform the management system in the health care sector in ways that stimulate quality improvement".	MOH should exercise professionalism throughout the management of the healthcare system. MOH should exercise professionalism in the choice of human resources MOH should develop the management system of the health sector with emphasis on alignment of authority with responsibility and accountability at different levels in the health system. MOH should emphasise the development of the health financial management systems at the level of the provider organisations.		

Table 4. 2 The Leadership Goal: "Develop the "Leadership for Quality" Model within the Quality Improvement Project.

External Objective	Strategy	Internal Objective	Strategy
"To enhance "leadership for quality" in the healthcare sector".	MOH should request formal commitment from top management of provider organisations to enhance "leadership for quality". This entails the following elements: budget & time allocation, training, enabling changes compatible with the culture of quality MOH should request each provider organisation to submit an annual and a long-term plan in which broad quality improvement objectives are established at organisational and departmental levels	"To develop the QIP as the national leader for Quality Improvement".	MOH should legislate the relevant components of the QIP to facilitate its implementation. Quality Improvement Project Team (QIPT should follow-up & continuously develop the QIP. QIPT should translate the QIP into annual operational programmes.
	MOH should lead the health professions and other relevant parties in developing the Patients' Bill of Rights. MOH should work among professionals and policy makers in promoting the significance of optimal resource allocation (positive synergy of inputs) on the quality of healthcare. MOH should work among professionals and the public in general in promoting the concept of quality as a function of improved internal efficiency of the system MOH should work among professionals and the public in general in promoting the concept of quality as a function of improved internal efficiency of system	To enhance leadership for quality in the MOH".	MOH should develop the theme of managing for quality among MOH leaders QIPT should sensitise MOH staff to the importance of the concepts, and application of Quality Improvement methodology. MOH should develop a code of ethical practice for the staff of the MOH. QIPTshould set an example of the required ethical code of practice for the health sector as a whole.

Table 4. 2 The Leadership Goal: "Develop the "Leadership for Quality" Model within the Quality Improvement Project.

External Objective	Strategy	Internal Objective	Strategy
"To develop the leadership role of the QIP to sustain quality of care reforms in the health sector".	The QIPT should establish all the necessary communication channels among professionals in Quality Improvement. The QIPT should lead and develop the programme in training & development of professionals in Quality Improvement. The QIPT should provide professional support & consultations in Quality Improvement as required by the health system.		
"To develop the leadership model in the provider organisations in the health sector in terms of "leader as teacher, facilitator, and team builder".	MOH & top management in provider organisations should identify potential leaders and enhance their development. Provider organisations should promote teamwork in the delivery of healthcare services. Provider organisations should promote intrinsic motivation of the work force.		

Table 4. 2 The Leadership Goal: "Develop the "Leadership for Quality" Model within the Quality Improvement Project.

External Objective	Strategy	Internal Objective	Strategy
"To develop the professional capacity of the provider organisations in quality management	MOH should develop the capacity of the top management in provider organisations in order to manage quality improvement in their organisations. MOH should develop the capacity of the professionals in provider organisations in order to implement quality management.	"To develop the professional capacity of the QIPT necessary to manage the Quality Improvement effort.	• MOH should provide structured training opportunities for QIPT. • MOH should provide for continuos updating through in-service education through the provision of a resource center. • QIPT should learn & develop from its work experiences accompanied with proper guidance & experience from its superiors. • QIPT should assume responsibility for identifying its own knowledge deficiencies, and to assume responsibility for own learning & developmental needs. • MOH should facilitate the participation of QIPT in quality activities, local & international.

Table 4. 3 The Institution Building Goal: "Develop the National Capacity to Manage the Quality Improvement Effort".

External Objective	Strategy	Internal Objective	Strategy
"To foster organisational reforms compatible with the "culture of quality" in the provider organisations".	Provider organisations should improve the work environment (elimination of dissatisfiers and promotion of "hygiene factors") that facilitates the induction of the quality culture. Provider organisations should plan for quality; plans should reflect quality objectives & commitment to quality. Provider organisations should have clearly defined policies for quality laid out in the quality manual and well communicated to workers in their organisations. Provider organisations should enhance the process of decentralisation and alignment of authority with responsibility. Provider organisations should develop the required information systems that will permit database management decision making and continuous monitoring of quality.	"To develop the QIPT in accordance with the expansion of the workload".	• QIPT should develop the required professional staff in different Quality Improvement specialties. • QIPT should recruit the required support staff.

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Table 4. 4 The Training Goal: "Develop the National Training Programme in Quality Improvement".

External Objective	Strategy	Internal Objective	Strategy
"To train & develop "internal customers", from all levels of policy-making & management in the provider organisations, in managing the quality of healthcare. (internal customers include: Policy makers, Top management, and Middle management and Line staff)".	QIPT should consider training and development priorities when designing training programmes Policy makers & top management in the provider organisations should undergo formal education in planning for quality (needs assessment, strategic planning, and programme evaluation). Policy makers, top & middle management in provider organisations should undergo formal education in the theory and concepts of quality management. QIPT and other relevant parties should set and continuously develop academic curricula for education in the theory of quality management and in planning for quality.	To develop skills in policy-making in Quality Improvement on a national scale".	• QIPT should have training in policy-making skills in Quality Improvement.

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Table 4. 4 The Training Goal: "Develop the National Training programme in Quality Improvement".

External Objective	Strategy	Internal Objective	Strategy
"To introduce the concept of "cross-functional teams" (multidisciplinary teams, consisting of the following staff., Nurses, Administrative, Paramedical, and Support staff), and emphasise their central role in improving the quality of healthcare".	MOH should see that team building & communication skills are incorporated in all the academic curricula for the training programme for QIP MOH should coordinate with all relevant health education institutions regarding the incorporation of team building & communication skills into their curricula.	"To develop skills in training in Quality improvement".	QIPT should receive formal training in "training of trainers". QIPT should participate in the national training programme
		"To develop skills in the various disciplines related to Quality Improvement: (these disciplines include: Health management, Quality planning, Quality management, Methods and Tools of TQM, Group process & dynamics).	QIPT should undergo formal education and training in all disciplines relevant to quality Improvement.

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Table 4. 5 The Social Marketing Goal: "Develop the "Quality Culture" in the Health Sector on a National Scale".

External Objective	Strategy	Internal Objective	Strategy
"To increase public awareness in Quality Improvement".	MOH should launch a public awareness campaign directed at inducing the culture of quality in the health sector (including network, bulletin, workshops, lectures, and media).	To develop QIPT understanding of meeting consumer (internal &) demand".	QIPT should have an understanding in methods of eliciting consumer demand.
			QIPT should utilise effective communicati skills when dealing with customer groups.
	MOH should ensure the active participation of top management across all sectors of providers in the public awareness campaign.		QIPT should implement various methodologies aimed at eliciting consume demands (meetings, surveys, questionnaires, and workshops).
	MOH should disseminate experiences of Quality Improvement implementation that make the difference between cost of poor quality Vs better quality as explicit as possible.		MOH should coordinate with the educatio bodies & professional associations involve in clinical disciplines to develop the above concepts in the professions.

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Table 4. 5 The Social Marketing Goal: "Develop the "Quality Culture" in the Health Sector on a National Scale".

External Objective	Strategy	Internal Objective	Strategy
"To embrace health professionals in the "culture of quality".	QIPT should involve all sectors of health providers in Quality improvement activities. Top management should involve all the work force in the health sector in the Quality improvement activities. MOH & top management should involve the work force in the quality management system that incorporates teamwork, cooperation, intrinsic motivation, & joy in work. QIPT should coordinate with the relevant bodies to incorporate the concepts of quality management into the academic curricula of the health professions	"To develop the QIPT capacity in meeting consumer (internal & external) demand, in a professionally sound and cost-effective manner".	• MOH, as a whole, should integrate meeting consumer demand into its planning process in a cost-effective manner. • QIPT should develop plans in accordance with consumer demand in cost-effective manner. • QIPT should guide provider organisations in conducting Quality Improvement activities with meeting consumer's demand in a cost-effective manner.

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Table 4. 6 The Quality Improvement Information System Goal: "Develop the National Quality Improvement Information System".

External Objective	Strategy	Internal Objective	Strategy
"To develop a "General Database of Quality Improvement Indicators" that are of national scale significance as an integral part of the national health information system	• QIPT should define the "Indicators of Quality of Healthcare" that are of significance on a national scale. • QIPT should continuously develop the "Indicators of Quality of Healthcare" that are of significance on a national scale. • QIPT should incorporate the "Indicators of Quality of Healthcare that are of significance on a national scale as an integral part of the National Health Management Information System..	"To develop a database of criteria to monitor the implementation of the national programme in quality improvement".	• QIPT should set measurable criteria t monitor the progress of the QIP.
		"To develop a database of the national quality improvement network".	• QIPT should set the criteria for entry into the database of the quality improvement national network. This includes personnel and organisations • QIPT should update the criteria for entry into the database of the quality improvement national network on a regular basis. • QIPT should develop and update a database of quality improvement training

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Table 4.7 The Productivity Goal: "Develop a System to Evaluate the Quality Improvement Project".

External Objective	Strategy	Internal Objective	Strategy
"To monitor the indicators of quality of healthcare on a continuous basis".	• QIPT should conduct continuous monitoring of the indicators of Quality Improvement on a national scale. • QIPT should conduct continuous analysis of the indicators of quality improvement on a national scale.	"To assess the capability of the QIPT to manage the QIP	• QIPT should conduct periodic assessments of the implementation o the annual operational programmes. • QIPT should conduct periodic performance appraisals of its staff members.
"To conduct periodic evaluations of the indicators of quality of healthcare".	• QIPT should conduct periodic evaluations of the adequacy and significance of the indicators of quality of healthcare. • QIPT should conduct periodic evaluations of the economic effects of implementing quality management in healthcare.		

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Environmental analysis

The purpose of this environmental analysis is to identify the ways in which changes in the external environment can indirectly influence the implementation of the QIP. The external environment has both direct- action and indirect- action elements. Examples of direct- action elements are: competitors, labor supply, financial institutions, and customers. Indirect- action elements include: economic variables, socio-cultural variables, political, legal, and international variables. Indirect- action elements can however move to become direct- action elements.

Direct - Action Aspects of the External Environment

The major direct - action components of the external environment that has a chance to affect the QIP are:

* Competitors: The external competitors for providing health services are Israeli hospitals and those in neighboring Arab countries. The available data shows that better services are being provided by those competitors taking into consideration that those competitors are investing a significantly lesser proportion of their product in healthcare than are the Palestinian people. In other words, the competitors who have similar economic status appear to be investing less in total and a smaller proportion of their national produce into health whilst obtaining comparable or better health outcomes. The Palestinian population has therefore access to other health providers which are providing a quality service at a competitive price. This puts a pressure on the Quality Improvement Project as this project has to build on and learn from the strengths of the competitors.

Furthermore, to be appreciated by the population, this project has to result in a quality service at competitive prices.

* Labor supply: This component of the direct- action environment may prove to have two expected effects. On the one hand, the current high level of unemployment ,especially in the health sector, and the current government policy to recruit as many health personnel as possible, may have a negative impact on implementing the QIP. The current health personnel are suffering from bad working conditions such as lack of job security, lack of job description, low income, and an unstructured working environment. This condition has led to a low level of satisfaction and motivation among health personnel. The Mother and Child Health Study, which is currently undertaken by Gaza Health Services Research Center revealed that more than 90 % of the health personnel interviewed using the focus group technique were not satisfied with their work. When the QIP will be implemented, those health personnel might see it as an unneeded luxury and an unrealistic effort that will therefore be resisted. On the other hand, this over availability of labour supply may have a positive effect on the implementation of the QIP. The current health personnel may see this project as the only way forward and the vehicle which will improve their working conditions and therefore increase the level of their satisfaction and motivation. Furthermore, the newly recruited health personnel will accept the introduction of the QIP easily as they will not have been negatively influenced by the existing system.

* Financial institution: The occupied territories have been for many years a focus for humanitarian aid much of which is directed to the health sector. An active non-

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government health provider sector developed in the 1980s providing services at either nominal charges or none at all. The United Nations Relief and Works Agency provides mostly free of charge services funded by international sources. The availability of such services has had a positive impact on the health sector but has not been without effect on the demand for health services and this in turn has consequence for the quality of service offered. These services drove the demand for services up with little consumer sensitivity for the cost incurred. They also drove downward the efficiency and quality of the services provided. This low efficiency and quality was compounded by the lack of competition in the public sector leading to minimal customer expectations. Since the peace process the situation has changed. Most of the financial institutions have directed their funding to the government sector. An example is the Quality Improvement Project which as mentioned before is funded by the World Bank with the objective of improving the quality of healthcare in the government sector. This change in the external environment means that if the government sector uses this fund effectively and efficiently, the quality of the services provided by this sector will be improved. Furthermore, the current lack of competition for quality and efficiency in the government sector will be replaced by a competitive service provided at competitive prices. This expectation is highly dependent on the stability of funding from these institutions which puts many projects in the MOH including the QIP under pressure and pushes them towards finding alternative ways in the event that such institution stop or limit their financial aid to the health sector.

* Customers: A central tenet of quality improvement is that improvements should be based on the audit of the customer's or user's needs and requirements. The current structure of the health sector, especially its mechanism of financing, calls for quality improvement. The existing four providers of healthcare do in reality represent a centralised, provider- driven and supply side regulated system in its own right, although the private sector provides an exception. This means that a patient with access to one system of healthcare delivery is eligible for the services and benefits of that system but the service can only be obtained at a predetermined point of service delivery. In reality this means minimal choice of provider for the patient. The QIP will therefore need to find a way by which the customers would have a real choice of service providers. This means changing the current financing mechanism which is acting as a disincentives for improvements in the quality of healthcare. This will not be an easy task because it means changing the current centralised system of delivery of health into a decentralised system in which patients have a choice of healthcare provider. Despite the fact that implementing such a decision may go beyond the ability of the QIP to resolve, this issue in the external environment needs to be seriously addressed.

Indirect - Action Aspects of the External Environment

The indirect - action aspects of the external environment can be grouped into broad factors that influence the implementation of quality improvement in the Palestinian health sector. These factors are the economic variables, socio-cultural variables, and political, legal, and international variables.

- Economic variables: The 25 years of occupation has inevitably resulted in significant structural changes in the Palestinian economy. The traditional sector has gradually given way to modern sector, which generally enjoys higher rates of productivity. The agriculture sector has lost its predominant role in terms of its major contribution to total output and employment, largely in favour of services which have gradually emerged as areas linked to the Israeli sector has virtually stagnated under occupation. In fact, the composition and pattern of output of the commodity- producing sectors themselves has slowly undergone changes largely geared to meeting the requirements of the Israeli market. Development in these and other sectors indicates an increasing alignment of the Palestinian economic performance with the economic interests of Israeli rather than the creation of structures for an independent and self - sustaining economy. The economic environment of the Palestinian sector can be defined as a curious combination of individual prosperity and communal stagnation, an auxiliary and subservient sector of the Israeli economy, a source of cheap, unskilled labour and agricultural surpluses. In recent years individual prosperity, resulting mainly from employment in the Israeli sector, has decreased as per capita income has dropped in real terms. The average income per capita in 1990 was estimated at $ US 780 in the Gaza Strip while the Gross National Product (GNP) reached $ US 1738 in 1987[4].

The stagnating or declining levels of income however reflect serious structural imbalances in the Palestinian economy which have emerged over time and which, if not addressed, will seriously handicap future economic prospects. The structural

imbalances and distortions of the Palestinian economy are noticeable in the following areas[5]:

- Heavy dependence on outside sources of employment for the Palestinian labour force. Wage income from Israel as a percentage of the GNP amounted to 28% in 1987 and 24% in 1991. After the Gulf War, many Palestinian skilled workers lost employment in the Gulf countries leading to a significant decline in remittances from abroad which negatively affected economic activity. In addition, a sharp downturn in wage income from Israel occurred as a result of the continuous security closures of Israel to the Palestinian economy.

- A trade structure heavily dominated by trading links with Israel and with a large trade deficit. Palestinian exports as a percentage of the GNP has declined from 23% in 1980 to 10 % in 1991 while imports continue to run at 40% of the GNP.

- Inadequacies in the provision of public infrastructure and other public services. The Palestinian economy is at present characterised by a degree of fragmentation reflecting increasing distortion in the structure of output and income. A widening gap between domestic and national output and a high rate of unemployment is leading to a lack of internal cohesion of the economy as a whole and its increasing subservience to the Israeli economy.

*Socio- cultural variables: The values and customers of the Palestinian society establish guidelines that determine how the QIP will operate. Mahal argues that at the present time the Palestinian society is not satisfied with the current health services and that there is a great demand to improve the quality of healthcare[6]. This lack of societal satisfaction is accompanied by lack of faith on the part of

many health professionals in the possibility of improving the quality of healthcare. This lack of faith is due to inadequate legislation, lack of public awareness of quality improvement and chronic wrong practices. This means that cultural transformation will be essential to the success of any quality improvement efforts. At the present time, healthcare institutions are managed in a traditonal fashion where systems institutionalised in most organisations are mainly command and control systems. There is little alignment of authority with responsibility beneath the level of the top manager in the institution. There is little worker involvement and information sharing and communication are usually much underdeveloped . Promotion and appointment result from personal connections which is having a great negative impact on quality. The blame culture is a widespread phenomenon which is quite compatible with the dominant culture. The common response to any problem is not to look at the possibility of a passive failure in the system. The issue of questioning policy, regulation and practice as perhaps contributing to the problem is practically non- existent. Management being at fault is unheard of. The usual understanding is that someone did not do something or did so incorrectly. Such a culture is hardly supportive of quality healthcare. For improvement to take place, current attitudes and behaviours need to be addressed and changed.

* Political, legal, and international variables: The success or failure of any quality improvement effort depends largely on the political and legal climate in the country as a whole and in the MOH in particluar. This political and legal environment is largely linked with the existence or non- existence of international support to the Palestinian Authority. The signing of the Declaration of Principles by

the Palestine Liberation Organisation and Israel in September 1993 marked the creation of a Palestine Authority in the Palestinian Territories. This new Palestinian Authority is facing a difficult situation where the Palestinians are experiencing several transitions. The majority of which have implications for health. The country is in a transition period with frequent border closures hampering access to health resources and work. A high number of women and children needing healthcare geared to their needs and at the same time there is a growing number of elderly people needing costly care for life style illnesses. The development of the health sector in the Palestinian Territories as a result of the occupation has been fragmented and uncoordinated. The MOH has therefore to embark on a comprehensive task of establishing a coherent healthcare system through work related to planning; co- ordination, manpower development, regulation and re–securing of a minimum number of services of adequate quality which are fairly distributed. The QIP was therefore founded and funded to secure this quality of service. The sustainability of the MOH's effort depends largely on the stability of the political and legal environment. International donors' support to the Palestinian health sector is presently weak and fragmented and donor are reducing their support to the sector. As a consequence of this change in donor response, which is often away from the health sector, many providers, especially voluntary providers, are experiencing severe economic constraints and in some primary healthcare areas there is a fear of service reduction below a critical level. These continuous changes and shifts in the political environment will continue to affect the implementation of the QIP since this project is funded by an international

body (World Bank); which means that if the donor shifts its interest to another area, the project will experience severe financial constraints especially in a period when the MOH is not able to finance this project.

Resource Analysis: Strengths and Weaknesses

The previous goals and strategies for quality improvement in Palestine provide a framework for analysing the health sectors resources. This analysis is necessary to identify the strengths and weaknesses of the governmental healthcare sector relative to its present and likely future competitors. It should be stated that the strengths and weaknesses of the governmental healthcare sector are internally derived factors.

Strengths

- Quality Improvement effort is led by a qualified and determined quality improvement team. This team intends to implement a well-planned quality improvement programme that in a period of three years will make qualified local human resources available.

- Quality improvement efforts are financially covered through a grant from the World Bank, which will cover the project for three years, after which the MOH intends to finance this effort. During the three years, the expenses are controllable. The programme will invest (medium - term) mainly in training leaders and in institution building.

- The technical assistance that might be needed to implement quality improvement effort is adequate and available at a high standard. This assistance can be obtained from many sources like Harvard Institute for

International Development, which considers quality improvement to be one of its seven areas of interest. The quality improvement effort in Palestine is unique and expected to attract international expertise.

- The new Palestinian MOH is a new leader with nationally stated commitment to improve the quality of healthcare. This commitment to quality is evident from the inclusion of quality improvement as one of the ten guiding principles in the National Health Plan.

- The current state of health infrastructure supports the quality improvement effort. The health infrastructure is in a phase of structural redesign which makes the quality improvement effort easier to accept as part of the overall change in the national health system.

- The current state of tension in service provider organisations arising from the changing environment provides an opportunity for the quality improvement effort. This opportunity lies in proper management of this tension, and in channeling it in a positive direction.

Weaknesses.

- Quality improvement effort is led by a small group of professionals who have unique skills. This small group faces, and will continue to face many difficulties in the implementation phase where it is planned that only one hospital will be used as a pilot site in the West Bank but two hospitals will be chosen as pilot sites in Gaza. This inequity of distribution of human resources could prove to be a weakness that should be always remembered and monitored.

- The financial support for quality improvement efforts in the Palestinian health sector may be unstable. The current fund is only for 3 years after which the Ministry is promising to finance this effort. This promise will be of no value if after 3 years a new Ministry of Health with a different vision has emerged. This instability is compounded by other financial difficulties for the QIP is not going to generate revenue. On the contrary, the first stages of the QIP will require some investment. Furthermore, it is difficult at this stage to estimate the value and magnitude of any savings that will result from this project.

- The technical assistance that is of great value to this project is not stable. This instability is mainly due to political reasons, whereby political interests or changes permit or forbid using such assistance.

- The emergent MOH is young and inexperienced organisation. There exists the need to develop the interest of its leadership in the quality improvement effort. Furthermore, this Ministry has a fragmented structure, which means that the quality improvement effort will need to tackle chronic operational problems inherited from the past on a daily basis.

- The current state of the health infrastructure does not seem to provide a support structure to monitor and implement quality improvement activities. This structure is being redesigned with all of the inefficiencies associated with such change.

- Tension in service provider organisations generated by the changing environment is leading to anxiety and insecurity.

Identification of Strategic Opportunities & Threats

Identifying strategy, analysing the environment and analysing the organsation's resource come together in determining the opportunities available to the QIP and the threats it faces. These opportunities and threats are externally derived factors.

Opportunities:

- The contribution of international and national agencies to the MOH is an opportunity that QIPT needs to cease to implement the QIP

- The Palestinian public has high expectations at this period of change. The quality of healthcare is a major area where the public is expecting to witness rapid improvement. This is a favourable opportunity offering the prospect and utilising public goodwill and enthusiasm that the QIPT should take.

- The present cultures both the general Palestinian culture and the specific health sector culture are in favour of implementing quality improvement. The Palestinian public and the health professionals are not satisfied with the present health service. There is a great demand to improve the quality of healthcare combined with a great public and professional enthusiasm for positive change. Furthermore, QIPT needs to seize this opportunity to develop awareness of quality issues.

- The present instability in the existing health system represents a greater opportunity for the implementation of quality improvement than would have been the case if the same level of quality were present in a stable system. This opportunity needs to be seized before stabilisation proceeds too far.

- The QIP is a planned and proactive effort to improve quality of healthcare. This will make change easier if this project is carefully managed and gradually introduced.

- An opportunity exists to develop local trainers because the QIP emphasises the importance of continuous training. Furthermore, the project will utilise all local training opportunities and consultants will be used to design and develop the training curricula.

- The present economic situation highlights the need to secure maximal utilisation of the existing resources to improve the quality of healthcare. Implementing the QIP will lead to reduction in waste in the health system.

Threats.

- The instability of the political environment affects the sustainability of the national and international contributions to the MOH. This is due to the fact that an independent financing body, which may change its policy towards the MOH for political reasons, controls both national and international agencies.

- The ability of the MOH to enforce regulations. This ability is vital if improving the quality of healthcare is to be brought to fruition. It will entail the MOH intervening with the active implementation of a national project in quality of healthcare. Furthermore, the "Patient's Bill of Rights " and "Codes of Ethical Practice in Healthcare " will need to be developed. Implementing the two documents depends on the Ministry's ability to enforce regulations.

- The current MOH is supporting the quality improvement effort and considers this area as a priority. Any changes in the current Ministry represent a threat to the quality improvement effort.

- The demand of a vociferous public to improve the quality of healthcare lacks awareness of issues relating to quality. This lack of awareness may threaten the quality improvement effort if a focus is selected on issues that do not interest the public simply because it is unaware of its relative importance.

- The instability of the existing health system threats the quality improvement effort as it lacks a systematic assessment of quality improvement; it has both a poor information system and a poor management system.

- The availability and adequacy of trainers could prove to be a serious threat to the quality improvement effort. Local trainers are not available and developing them will need time (1-2 years). International trainers are expensive. The quality improvement effort will partially depend on external consultants whose services may not be available except on a sporadic basis.

- The present poor economic situation (instability and low income) threatens the implementation of the QIP and result in other projects receiving priority.

Gap Analysis

After analysing the resources and the environment, it is possible to carry out a gap analysis, which aims at determining the extent to which a strategic change is required. This strategic change, if required will be a result of differences between

the current MOH's strategy and the new proposed quality improvement goals and objectives.

Ministry of Health's Strategy:

The Palestinian National Health Plan stated that the MOH has the following strategies concerning the quality of healthcare[7]:

Health system development and management

Health system development and management is a top priority for all Palestinians. Fragmentation of health providers and the absence of a national health authority due to the occupation are believed to have had a negative impact on the availability, accessibility, cost and quality of healthcare. A national health authority capable of managing the health system efficiently and effectively is urgently needed. It should be capable of performing the following functions:

a. Planning and policy making.

b. Management and information.

c. Health protection.

d. Regulation and coordination of healthcare provision

e. Promoting intersectional coordination between the health and education, environment and other sectors.

Development of human resources for health:

The increased availability and quality of healthcare human resources - the most precious and important of all resources - is vital to the achievement of "Health For All" (HFA). Health development strategies must include increased investments in

human resources including planning, education and training as well as improved management and better utilisation of health personnel.

This implies the need for capacity building of the national health authority and institutions for the organisation of human resource development. A coordinated and comprehensive approach should be followed to achieve human resource development.

Furthermore, the following priorities concerning the quality of healthcare have been identified by the Palestinian Red Crescent Society at the Rome Conference in January 1994[8]:

- The current health system should be rehabilitated without disruption. The process of rehabilitation must be a slow and systematic one.

- Rehabilitation of the health system has to be a joint and collaborative effort between the MOH, UNRWA , NGO's and the community. The team approach should be utilised at all policy and service levels.

- Quality of care will be stressed at all levels. The quality of services can not be over - emphasised; the increasing numbers of clinics and programmes at the expense of quality must be controlled.

- Regulations and standards should govern the delivery of all aspects of care. Setting national policies and standards for personnel facilities and material is a top priority.

- Human resource development must proceed carefully with national parallel programmes aimed at the establishment of national standards and proficiency testing; stressing quality and continuing health education.

If a comparison is to be made between the MOH's strategy on quality of healthcare and the new proposed quality improvement goals and objectives, much similarity will be found between the two leading to a small gap. Both focus on the following issues concerning the quality of healthcare in Palestine:

1. The QIP overall goal is to " attain the highest possible level of quality of healthcare in Palestine ". This overall goal strongly matches that which was stressed at the Rome Conference where it was clearly stated that " quality of care will be stressed at all levels and the quality of services cannot be over - emphasised"[9].

2. Achieving the overall goal of the QIP encompasses two distinct parts; one of them is health system reform. The health system reform goal does not imply direct quality of healthcare activities but requires essential inputs from the MOH to promote quality improvement in Palestine. In addition, the Palestinian National Health Plan expresses concerns about health system development and management; at the Rome Conference the need for the rehabilitation of the health system was stressed. There is an agreement that the current fragmentation in the healthcare system is having a negative impact on the provision of healthcare in terms of availability, accessibility, cost and quality.

3. The National Health Plan stressed the need for developing human resources for health which requires investment in planning, education, and training. At the Rome conference, it was explicitly stated that human resource development must proceed carefully with national parallel programmes aimed at the establishment of national standards and proficiency testing, stressing quality

and continuing education. As stated earlier, achieving the overall goal of the QIP encompasses two distinct parts, the second part is the quality of health care programme. This relates to the required activities necessary to improve the efficiency of the healthcare providers by developing health human resources. This development concentrates on general disciplines such as policy making, health management, quality planning, group process and dynamics and so on, and quality related disciplines such as developing a national programme in quality improvement, developing a quality culture in the provider organisation, developing a national managerial capacity in quality improvement, and developing a quality improvement monitoring and evaluation system. It is clear that developing health human resources is a top priority for all.

The above gap analysis shows that there is not much of a gap between the MOH's current strategy on quality of healthcare and the QIP goals and objectives. The MOH has not been able to achieve results for many reasons such as: lack of human resources qualified in the area of quality improvement, lack of financial resources, lack of time as the Ministry is newly established and the attention during the current period is on building an infrastructure capable of overcoming the weaknesses in the health system that was inherited from Israel during the period of military occupation. When the MOH had the opportunity to initiate quality improvement efforts in Palestine, strong support and commitment was forthcoming for the establishment of the Quality of Health Care Unit in 1994, and the

establishment of the QIP in 1996. In conclusion, the QIP is going to work with the MOH to achieve shared quality improvement objectives.

Field Force Analysis

The previous gap analysis revealed that there is not an actual gap between the MOH strategy on quality improvement and the QIP goals and objectives. Despite this, a field force analysis is needed aimed at showing that in the journey from where we are now in terms of the status of quality of healthcare to where we want to be in terms of achieving the QIP's overall goal, many elements will be moving the efforts either towards or away from the identified goal " to attain the highest possible level of quality of healthcare in Palestine". Diagram 4.3 summarises the field force analysis. It should be noticed that in an ideal field force analysis different quantitative weighting is given to each factor. The author of this thesis is not in a position to do that nor does believe that it is essential for this thesis. At the present time there is a general agreement among healthcare professionals and patients that healthcare quality in Palestine is poor, with dissatisfaction from both patients and health workers alike. Health outcomes are comparable to those of other countries of middle income economies and similar socio- cultural settings. The issue of quality of healthcare in Palestine seems to centre around inefficiency and includes the strong provider- financier link which exists in the governmental, UNRWA and each of the major NGOs. This is both limiting the choice of provider for the patient and creating disincentives for meeting patient demand from the provider side. Other major factors include the management of the system and the prevalent organisational culture. The Palestinian MOH is aiming to improve this

situation, hence, the creation of the QIP. This project is concerned to improve the quality of healthcare within the existing resources. Quality improvement is seen as a function of increased efficiency, reduced waste and system complexity. It relies on the belief that a middle income economy, such as that of Palestine, is unlikely to be able to afford investment beyond what it is currently being paid for healthcare. Therefore, quality improvement cannot be pursued through increased investment in healthcare. It also relies on the belief that irrespective of any further investment in resources, much improvement can be obtained from improving the efficiency of the system of delivery of healthcare. The QIP is not methodology bound. Knowledge of modern quality improvement methodology points to the fact that to reach where we want to be, we need to: tackle the micro picture of inefficiency at the level of the provider organisations by implementing Total Quality Management (TQM), and tackle the macro picture of systems reform on a national scale. TQM will be used because it tackles improvement at the level of individual processes. Work is viewed as a multitude of processes all interacting together to shape the total system. TQM is a customer-oriented approach to quality. Aims for improvement are defined from the point of view of the customers. These are defined as internal (health workers) and external (patients and their families) customers. TQM takes one process at a time, and organises a team that knows this process. This team comprises representatives of the functions involved in the process. It utilises scientific methodology to make the improvement. This is the PDCA cycle " Plan- Do-Check-Act". It starts by understanding the existing process, quantifying the indicators of the quality for this process, re-engineering the

process, re-quantifying the indicators of quality after the changes have been made in order to check that the change has led to an improvement. Following which, positive changes are maintained as part of the new system and further opportunities are sought for further changes, thereby repeating the cycle.

The implementation of this quality improvement methodology in order to reach where we want to be is not going to be an easy task. Many elements will be driving the effort towards the stated goal but others will hold back that effort . The SWOT analysis revealed many of these factors. The major driving forces are:

the present poor economic situation combined with high expenditures on healthcare is a strong driving force towards trying to achieve the stated quality goal. There is a great chance to minimise these expenditures and improve the quality of healthcare if the issues of poor efficiency, poor investment of inputs in healthcare and improper allocation of health resources is resolved. The availability of the financial coverage, and the technical assistance to implement the QIP is a another driving force. This is further facilitated by the availability of a Palestinian QIPT. This team is recruited from all over the country to carry out the QIP. It is located in two sites: one is in the West Bank and the other in Gaza. The team as a whole will be functioning all over the country. Among the team recruited the following specialist competencies are present: medicine, public health, health policy and management, health promotion, nursing, nursing education, village health work, systems analysis, business administration, human resource management, microbiology, education and evaluation of research. The current stage of change in the MOH's leadership and change in the structure of the

healthcare system are other driving forces towards implementing the stated quality goal. The current leadership in the MOH is a great supporter of the quality improvement efforts. This support is manifested in the formation of the QIP. This project was established as a special MOH organ. It was given administrative and financial flexibility through its unique position and role. This also insures that the QIP is not subject to the rules and regulations it is created to change. Simultaneously, it is linked directly to the Minister of Health and the Deputy Minister of Health, thereby given it maximum leverage to implement change in the system.

On the other hand, the following constraining elements in the current healthcare system stand in the way of achieving the quality goal and developing the Palestinian healthcare system:

- The overall health situation is very poor by international standards. Life expectancy is low (62) years, and the infant mortality rate is high (40-50) per 1000 births.

- Selective rather than comprehensive services are provided which translates into inequality in the distribution of healthcare services.

- The cost of healthcare services to consumers is high.

- Lack of coordination among major health providers impedes the process of developing efficient health services capable of rapidly satisfying the needs of the Palestinians.

- Lack of integration between health and social services and within the health sector, between primary healthcare and hospital care is apparent.

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- The patient's choice of facilities is limited.

- There are insufficient incentives for health personnel to improve their productivity and efficiency.

- Public awareness of health hazards, disease protection, health facilities and methods for an effective use of available health services is low.

- There is a lack of reliable and proper data on health and health related conditions.

- Poor management of existing facilities is leading to low efficiency as well as low quality of care and patient satisfaction.

Diagram 3.4 : Field force Analysis

Where We Are Now: Poor quality of Healthcare	Driving Forces	Constraining Elements	Where We want To Be
*Poor investment of inputs in healthcare. * Poor efficiency. *Mechanism of financing *Management of the provider organisations *Inexperienced leadership.	*Availability of financial coverage. * Availability of technical assistance. * Availability of qualified staff. * National and international contribution. * New leadership. * Phase of structural redesign. * Supportive culture. * Supportive economic situation.	*Lack of coordination and integration. * Lack of public awareness. * Lack of reliable data. *Unstable financial coverage. *Unstable technical assistance. *Unstable health system. *Changing environment. *Non-availability of trainers.	*Attain the highest possible level of quality of healthcare in Palestine. * This will be achieved by: Health system reform and implementing the quality of healthcare programme.

Strategic Decision-Making

The previous analysis showed that despite the chances of success, achieving the quality goal is going to face many obstacles. To overcome these obstacles, many strategic decisions have to be considered and evaluated. The answers to these questions will determine the manner in which the quality improvement will be implemented. This chapter develops these strategic decisions, evaluates them, and selects the alternatives accordingly.

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Strategic decision 1 :Should the Quality Improvement Project be implemented in the first place?

The range of available answers are: First, to say no and view the problem of poor quality of healthcare as "practically impossible" to resolve and, hence, to decide to do nothing. This will not yield progress, if anything, the danger of further deterioration becomes much more realistic. Second, to say "yes" and try to improve the quality of healthcare by dismissing the existing system of healthcare delivery and consider setting up an alternative system starting from scratch. This is practically a non-viable option and the costs of doing so would probably be prohibitive. In any case, the success of a new system will be highly dependant on its ability to overcome the problems of the previous one, which will necessitate the implementation of more or less the same quality improvement in the new system anyway. Third, to take the existing system and pursue a plan of action directed at improving it. The QIP is working towards this option. It is readily acknowledged that the task involved in doing so is, beyond any doubt, an enormous one. However, the attainment of good quality healthcare is not an impossible goal to aim for and to achieve.

Strategic decision 2: If the answer to the previous question is " the third option ", should the Quality Improvement project be implemented nationally or be piloted in a local healthcare facility?

The second strategic decision facing implementing the QIP is whether to go nationally or to pilot the project first in a healthcare facility. A national implementation means large financial and human resources that are not available at this stage. Furthermore, the philosophy and methodology of quality improvement has never been addressed before in either the Palestinian health sector or other areas of the public sector. This situation calls for a pilot implementation of the QIP aimed at the following objectives:

- To obtain the commitment of top management in the provider pilot organisations to quality improvement.

- To improve the quality of healthcare through teams that are created to identify, analyse, and solve specific chronic quality problems.

- To conduct "on time training" for teams working on quality improvement projects.

- To review the reward system in the pilot organisations to include recognition of team work.

- To develop the quality improvement information system in the pilot organisations.

- To evaluate the quality improvement pilot and integrate the lessons learnt into the QIP.

- To measure the basic set of quality improvement indicators before and after the implementation of the pilot.

At the end of the pilot, certain outputs should be accomplished

- The QIP should maintain effective communication channels with senior managers in the pilot organisations. This should be accomplished by forming a joint committee made up of top management in the pilot organisations, the QIPT, and consultants if needed. The meetings of this committee should concentrate on enhancing leadership for quality.

- Pilot organisations work in a way that meets consumer demand, which means, " on time training" for teams working in the quality improvement projects will be implemented.

- The entire workforce is involved in the quality improvement activities which necessitate conducting a sensitisation workshop for the pilot organisations' workforces.

- Pilot organisations formulate their mission statements. This calls for implementing training for top management in "Planning".

- Teamwork is valued and rewarded. This means that top management will need a training course in " reward and recognition ' and " inherent variation ". Furthermore, senior management will be asked to review its reward system and to add recognition for successful teamwork.

- Top management initiate development programme for all employees. This can be achieved by discussing with top management the importance of training in clinical and non-clinical procedures to improve quality.

- Provider organisations develop a quality improvement information system. Developing such a system means that indicators of quality of healthcare should be measured and analysed before and after any quality improvement effort. This also means that the process of data collection and formation of process specific databases needs to be undertaken.

- Finally the pilot programme will be evaluated and the lessons learned will be taken into consideration before any generalisation is countenanced by the QIPT.

Strategic decision 3: Should the Quality Improvement Project be piloted at the primary or secondary healthcare level?

Another strategic decision is whether to initiate the quality improvement efforts in the primary or in the secondary healthcare organisations. The primary healthcare sector in Palestine has a complicated structure. The choice of the pilot organisations in the secondary healthcare has to be carried out. This choice is affected to a large extent by the local demands and the political circumstances of the country. The MOH recommended one pilot site in the Gaza Strip and one pilot site in the West Bank.The QIPT discussed the issue of choosing the site with the MOH and it was agreed that the site should present a typical Palestinian health organisation where a quality improvement intervention is needed.

Strategic decision 4: What areas of improvement should be tackled first?

This strategic decision was guided by one clear principle of quality improvement, i.e. "customer focus". This meant carrying out a need assessment survey or an aim survey in the pilot sites. The objective of this survey was to find out from the hospitals' customers point of view (both internal and external customers) the most important areas (clinical and non-clinical) for improvement. The survey consisted of two forms; one to be completed by the health personnel. (internal customers from different ranks, doctors, nurses, administrators, technicians, and clerical staff) and the other is to be completed by the patients and their families (external customers). The results of this survey are discussed later in the research.

Strategic decision 5:Whether to emphasise improvements in selected processes or to induce cultural change for improvement?

A major challenge is whether to emphasise improvements in selected processes or alternatively to induce a cultural change for improvement. The former requires the implementation of rapid process improvements but the latter requires heavier

investment in training and motivation at the provider level. This is naturally slower and runs the risk of not demonstrating short- term benefits from pursuing quality improvements. A middle of the way compromise to this challenge is adopted as will be shown throughout this study

Strategic decision 6: Which Quality Improvement methodology should be used?

The QIP has set out not to be methodology bound. It is, therefore, open to the use of any methodology which may serve this purpose. Knowledge of modern quality improvement methodology is pointing to the need to firstly pursue system reforms aimed at creating incentives for quality and efficiency in the system. Secondly, to implement TQM in order to improve the quality and efficiency at the level of the processes in healthcare delivery. It is believed that this two pronged approach to improving healthcare quality in Palestine addresses the quality improvement needs of the Palestinian healthcare system.

CONCLUSION

The QIP in the MOH has defined its overall goal as being "to attain the highest possible level of quality of healthcare in Palestine ". Achieving this goal encompasses two distinct parts. Part one is the health system reforms which are aimed at reforming the Palestinian health system in ways that stimulate and facilitate quality improvement and part two is the quality of healthcare programme which relates to the required activities necessary to improve the efficiency of the provider organisations. It comprises of six functions: leadership, institution building, training, social marketing, information system, and productivity. Despite

the identification of the quality issue as an important area, no efforts had been made before the foundation of the QIPT to identify objectives and strategies for improving the quality of healthcare in Palestine, The QIPT has, therefore, identified those objectives and strategie. The most important conclusion concerning these objectives (internal and external) and strategies is the fact that they are not integrated. This is a serious issue to notice as it is expected to negatively influence the implementation and the results of quality improvement. This expectation is based on the fact that TQM is supposed to be holistic. The lack of holism in the QIPT's objectives and strategies is therefore expected to influence the results of its work. This chapter also looked at the changes in the external environment that can indirectly influence the implementation of quality improvement. It first looked at the direct action elements of the external environment such as competitors, customers, labour supply, and financial institutions. It also looked at the indirect action elements of the external environment such as economic, socio - cultural, political - legal, and the international variables. Following that a resource analysis was carried out showing the strengths and weaknesses of the Palestinian healthcare sector The most important strengths are the availability of the financial coverage to implement quality management, quality improvement effort led by a qualified and determined staff, the availability of technical assistance, a new and supportive leadership in the MOH, and the current state of infrastructure and tension in the provider organisation. The most important weaknesses are the limited number of professionals who are engaged in quality improvement, the instability of the

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financial support and technical assistance, and the current structure which does not seem to support the monitoring and implementation of quality improvement. This chapter also presented the opportunities available to the QIP and the threats it faces. Among the opportunities are the high expectations of the Palestinian public, the present Palestinian culture, the instability in the existing health system, the opportunity to develop local trainees, and the present economic situation which highlights the needs of quality improvement. Among the threats are instability of the political environment, the degree to which the MOH is able to enforce regulations, the dissatisfied and demanding public , the instability of the current health system, and the degree to which trainers are available and adequate. After analysing the resources and the environment, a gap analysis was carried out aiming at determining the extent to which a strategic change is required. It could be concluded that there is not much of a gap between the MOH quality improvement objectives and the QIP's objectives. Both concentrate on similar goals and talks about health system development and management. Furthermore, both of them highlight the need for developing human resources, which requires investment in planning, education and training. This chapter also presents a field force analysis aimed at showing that in the journey from where we are now in terms of the status of quality of healthcare to where we want to be in terms of achieving the QIP's overall goal, many elements will be moving the efforts either towards or away from the identified goal. The most important driving forces are the availability of financial coverage, of technical assistance, of qualified staff, of national and international contributions, of a new leadership, of recognition of

the need for structural redesign, and of a supportive culture. The most important restraining forces are a lack of coordination and integration, lack of public awareness, lack of reliable data, unstable financial coverage and technical assistance, changing environment and non-availability of trainers. Finally, this chapter developed, evaluated, and selected the strategic decisions facing the QIPT. The most important decisions were should the quality improvement project be implemented in the first place? Should the quality improvement project be implemented nationally or piloted in a healthcare facility? Should the quality improvement project be piloted at the primary or secondary healthcare level? What areas of improvement should be tackled first? Whether to emphasise improvements in selected processes or to induce cultural change for improvement? And what quality improvement methodology should be used?

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CHAPTER FIVE

WHAT IS TOTAL QUALITY MANAGEMENT?

Introduction:

This chapter provides an overview of the meaning of quality and Total Quality Management (TQM). A literature review is undertaken as to the meaning of quality and whether it can be measured in the context of healthcare. Furthermore, a historical account of the evolution of TQM is offered. Furthermore the principles of quality management as provided by many quality gurus are offered.

The Meaning of Quality

Juran offered two definitions for quality: " Fitness for use" and " customer satisfaction"[1] .The latter definition uses the word "Customer", Juran identified three categories of customers.

1. External customers: These are impacted by the product or service but are not members of the company that produces the product or delivers the service to the public.

2. Internal customers: They are impacted by the product or service and are also members of the company that produces the product or delivers the service.

3. Suppliers: Suppliers are viewed as extensions of the internal customers. Their needs must be understood and addressed during the planning for quality .

Almaraz believes that many organisational behaviour researchers are still sceptical of the value of research in the quality arena[2]. One factor inhibiting research on quality is the fact that the implementation of quality programmes at an

organisational level represents a paradigmatic shift from the traditional form of management . This shift is not incremental but rather a framebreaking change in functioning and organising, making it both difficult to implement and difficult to study. Another issue responsible for inhibiting research on quality is the multi - faceted nature of the quality construct. Garvin identifies five separate definitions of quality[3]. The first two are cognitive, based on the perceptions of individuals assessing the quality of a product or service. The remaining three are concrete in terms of operationalising the meaning of quality and the ease of comparison with other organisations. The first two definitions include the transcendent view of quality, i.e. an abstract property that is recognized through experience (I know it when I see it) .The value based definition of quality is viewed from the perspective of utility theory in economics and is defined in terms of costs and prices - the provision of product or service at acceptable cost or price. The determination of value is a subjective judgment on the part of the customer. This is the anchor of the majority of research in the service sector, exploring the gaps between expected value and actual value.

The remaining three definitions of quality are most heavily utilised in the literature of operations management and the quality " gurus"[4]

1. User - based definition : Quality is measured by the degree to which the wants and needs of customers are satisfied.

2. Product - based definition: Quality is measured by the presence of desired attributes contained in the product.

3. Manufacturing - based definition: Quality is measured by the percentage of
   scrap or rework required during the production process .

   Black (1993), cited in Nwabueze, argues that most TQM writers failed to provide

   an dequate definition of quality that can be easily related to the philosophy of

   TQM. He argues that none of the quality definitions given by Deming, Juran, or

   Crosby addresses the management of quality which encompasses the

   optimisation of processes that occur both within the organisation and beyond.

   According to Black, the meaning of quality should be as relevent to a typing

   process as it is to manufacturing, order processing or the performance of a

   service[5].

Given this variety of definitions, the capacity to generalise on the research findings

in the area of quality is very low. Leonard and Sasser discuss the need to improve

the overall level of quality in organisations, referring to both product and process

quality[6]. Hauser et al define quality according to how the needs of the customers

are translated and implemented by those on the manufacturing floor. Such variety

has added to the confusion in quality research as various authors discuss different

aspects of quality[7] . Collard notes that quality is about attitudes, culture and

commitment within an organisation whether it be in the manufacturing, service or

public sectors. Quality should therefore be all- pervasive, covering not only the

design, performance and reliability of a product or service but the constant

improvement of what is on offer[8]. Holpp argues that quality nowadays means

making sure that customers needs are identified early in the process of designing

and producing a product or service. Total quality means redesigning the

organisation itself to keep it responsive to those needs as the product goes from one department to another[9]. Pitt argues that in healthcare, quality can be an illusive issue difficult to define but essential for the satisfaction and well being of customers and suppliers alike[10] . Morris defines quality as the degree of fitness for purpose or function indicating that quality is a measure of the satisfaction of customer needs[11]. Garvin notes that there is a fundamental need for different definitions of quality because customer perspectives change overtime. The diversity of quality definitions can be understood if reference is made back to Garvin's eight principal quality dimension[12]

1. Performance: A product's primary operating characteristics.

2. Features: The bells and whistles of a product.

3. Reliability: The probability of a product surviving over a specified period of time under stated conditions of use.

4. Conformance: The degree to which physical and performance characteristics of a product match pre- established standards.

5. Durability: The amount of use gained from a product before it physically detoriates or until replacement is preferable.

6. Serviceability: The speed, courtesy and competence of repair

7. Aesthetic: How a product looks, feels, sounds, tastes, or smells.

8. Perceived quality: Subjective assessment resulting from image, advertising as brand names.

Shani et al argue that quality has a strategic meaning[13]. Schonberger has noted that the decision to address quality improvement efforts is a strategic choice which

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takes place within changing markets , economic and organisational contexts[14] . Furthermore Belohlav believes that quality efforts represent a competitive challenge that requires not only the assessment of companies' basic operations but also of their overall business strategy[15].

Brooks argues that quality means redefining corporate culture so that everyone from manager to worker to supervisor is equally committed to producing and delivering grade A products and services, satisfying customers, never being satisfied with the current level of quality and constantly seeking innovation .Quality is not hard to define ; putting it into practice, that is the rub. Some experts maintain that quality is something that 10% of people understand , 80% are learning and the other 10% will never learn[16] . Berry argues that quality has nothing to do with how shiny or bright something is , or with how much it costs, or with how many features and gizmos it has . A customer who buys a product or experiences a service has certain needs and expectations in mind . If the product or service meets or exceeds those expectations time and time again, then , in the mind of that customer, it is a quality product or service[17]. Customers compare the actual performance of the product, or the total service experience, to their own set of expectations and reach a judgment that is rarely neutral. The product or services either passes or fails. The basic definition of *quality* , then , is meeting customers' needs and expectations on the first and all subsequent occasions.

So, the enhanced definition of quality is meeting customers needs and reasonable expectations[18]. McAlister notes that, stated in very general terms, quality may be viewed as the ability to achieve desirable objectives using legitimate means. In the

context of healthcare, the specified objective is usually that of improved health status, narrowly defined in terms of improvements in physical or physiological function, or more broadly, in terms of improvements in the quality of life. The definition of quality chosen depends on the perspective of the definer and will influence the level at which the assessment of quality is being made. For example, an evaluation of the process of care, using patient records, may be the most appropriate level if quality is defined in terms of the technical proficiency of services provided by health professionals. By contrast, if the definition of quality focuses on the impact of care on a community, which might be the case if the staff from a public health department were doing the defining, an outcome-oriented assessment would be called for . The level at which the assessment of quality is being made is important but does not, in itself, signify merit or demerit. What is important is to relate the chosen level to the context of the assessment being made . As the level becomes progressively more comprehensive, moving outward from the performance of practitioners, to the care received by patients, and to the care received by communities, the view of quality undergoes a systematic transformation. McAlister discourages any attempt at a "watertight definition of quality on the grounds that it is 'too elusive to merit the time of practical people[19]. However, many National Health Service managers and professionals in the United Kingdom begin by considering the definitions of service quality offered by those who have studied quality management elsewhere[20]. One definition which is often regarded as acceptable is that of the British Standards Institute, which defines product or service quality as the totality of features or characteristics of a product

or service that bear on its ability to satisfy a given need. Healthcare, however, has many characteristics that differentiate it from other products or services. In common with other types of goods and services the consumer, the patient, relies on the supplier, the doctor, for information on service quality. But the informational asymmetry in healthcare takes a special form. Consumers of healthcare find it difficult to judge quality both *ex ante* and *ex post*. Unlike many other goods and services , the consumer of healthcare cannot determine its characteristics with certainty prior to purchase, nor can the consumer necessarily determine its characteristics after purchase, Quality may remain uncertain because the individual consumer has difficulty recognising the causality between the consumption of healthcare and its effects. The distinction depends on how effectively consumers can learn about quality through consumption. The effectiveness of the information gathering strategy generally depends on the variance in the quality of units of a good (heterogeneity), and the frequency with which consumers make purchases. Health status is uncertain in the sense that it is unpredictable. As a consequence, it is consumed irregularly. It is also heterogeneous.Thus the patient relies on information from the doctor concerning both the nature and the outcome of the consumption process, and then for the provision of treatment itself. The patient, however, derives satisfaction or utility from health *per se*, not healthcare. He is willing to undergo, for example, surgery , not because he enjoys it, but because he hopes that by so doing he will attain a higher level of health, which itself is desired for the full enjoyment of the other production and consumption activities . The demand for healthcare is thus a

derived demand, derived from the demand for health, insofar as the healthcare system can, as it is perceived, promote that health . This is important since it adds weight to the claim that it is the health outcome and not healthcare that should form the basis for the evaluation of quality. Donabedian, Looking at quality specifically in a healthcare context, states that the concept of quality is itself in large measure a social construct: " It represents our conception and valuations of health, our expectations of the client provider relationship, and our views of the legitimate roles of the health care enterprise ". He describes three approaches to the assessment of quality: structure, process, and outcome, which form a hierarchically - related model from which to study the quality of care[21]. Structure refers to the relatively stable characteristics of the providers of care, their resources, and the physical and organisational settings in which they work. The actual process of care is the primary object of assessment, but the judgment of quality is based on what is known about the relationship between process and the consequences of the process for the health and welfare of individuals and society. The quality of the process of care is defined in terms of the norms of scientific medicine and the ethics and values of society. Outcome refers to a change in a patient's current and future health that can be attributed to antecedent healthcare. Structure, process, and outcome, under this analysis, are seen as three different avenues to a judgment on quality, not as the three dimensions or attributes of quality itself.

McAlister argues that definitions of quality are not all necessarily congruent with one another. Some definitions take a very narrow perspective of what

attributes of care determine its quality, whereas others adopt a broad perspective[22]. Wyszewianski argues that few would disagree with Donabedian's conclusion that the balance of health benefits and harms is the essential core of a definition of quality and that achieving and producing health and satisfaction as defined by individual members of a particular society or subculture is the ultimate indicator of the quality of care[23].

The definition of quality depends not only on values but also on the purpose of the review . Is the purpose of the review to contain costs, or is it to obtain information that will be useful in making decisions about improvement of care, or both ? The definition of quality must address[24]

1. Quality from whose perspective ?

2. Based on what values?

3. For what purpose ?

The challenge is to develop approaches to the conceptualisation and measurement of quality that are both clinically relevant and meaningful for policy makers, patients and managers. Brooks argues that in attempting to assess the appropriateness of a TQM approach to the health sector, it is important to define quality in a way which is relevant to the service : quality is continually meeting people's defined healthcare requirements. The key word here is "defined" , which is intended to describe the process of negotiation and agreement which must take place between the provider and customer to achieve a deliverable level of service[25]. Gebhardt et al argue that the entire organisation needs to have a

vocabulary when it comes to quality. Gebbardt et al note that quality can be defined by looking at the following issues[26]

- **Quality** : the result of having both quality in fact and quality in perception .

- **Quality in Fact** : achieved when an individual or unit meets corporate specification .

- **Quality in Perception** : achieved when customers believe that their expectations are met .

- **Customer** : any recipient of product , service, or information .

- **Quality of target values and features** : are you doing the right things ? Are you delighting customers ? Are customers getting exactly the products or services they need precisely when and how they need them? Only the customers can answer these questions. A company can make a high -grade product or offer a superior service, but all that effort is wasted if it is not what the customer wants. A goal of high quality means choosing target features based on the needs, wants, and expectations of intended customers .

- **Quality of execution**

Are you doing things right ? How efficient are the processes used to design . manufacture, deliver, and provide maintenance for your products ? How well do you plan and provide services to your customers ? The final things to remember about quality is that, as Deming says, the responsibility for quality ultimately rests with management. Only it can establish the organisation's commitment to quality. Only it can provide employees with the support needed to deliver quality products and services to customers.

To sum up , quality in health services may be defined as "meeting customer requirements at the lowest cost " and as involving three elements :

1. Customer quality : Which is whether the service gives customers what they want, as measured by customer satisfaction and complaints .

2. Professional quality : which is whether the service meets customer needs as defined by professionals , and whether the professional procedures and standards which are believed to produce the required outcomes are present

3. Process quality : which is the design and operation of the service process to use resources in the most efficient way to meet customer requirements .

Only once processes and customers are understood is it possible to appreciate the meaning of quality in the new business world. If customers are the people who receive your work, only they can determine what is quality. Only they can tell you what they want how they want it. That is why a popular slogan of the quality movement is " quality begins with the customer ".

It is not possible to focus solely on a product coming off the line or a person delivering a service and still be able to deliver quality to customers. The quality of what comes out of a process is determined by the quality of what goes in and what happens at every step along the way. Therefore, quality should be built up into every step, process, and system in an organisation.

TOTAL QUALITY MANAGEMENT (TQM)

The existing literature on TQM is very largely concerned with the alleged virtues of the approach and the leading components and techniques embodied in the concept. As a result the outline history and evolution of TQM are reasonably well

known . Mckaughlin defines TQM as a conceptual approach different from quality assurance and quality inspection that runs counter to many underlying assumptions held by professional bureaucracies. It calls for constant improvement in the total process that provides care, not simply in the improved actions of individual professionals. Improvement is thus based upon both outcome and process[27]. Harari argues that TQM is not synonymous with quality. Quality is essential for organisational success and competitive advantage. TQM is only one of many possible means to attain quality . In other words , quality is sacred , TQM is not . Quality is about an unbending focus, passion, iron discipline and a way of life for all hands. TQM is about statistics, jargon, committees and quality departments[28]. Foster et al define quality management as a strategy for ensuring a process of planned organisational change which arms to anticipate and meet internal and external customer/ patient requirements as efficiently and effectively as possible. This definition, in their view, also subsumes other commonly used terms e.g. TQM, Quality Assurance etc[29]. Foster et al note that TQM is widely recognised as an effective approach for improving managerial and organisational performance both in the short and long term. In TQM performance is defined as the quality of service delivered to customers. TQM aims to continuously improve the quality of service by[30]

- Setting standards to meet and then surpass service requirements ,
- Measuring the standards of service offered .
- Improving accountability and control .
- Lowering operating costs .

TQM has no single theoretical formulation, nor any definitive shortlist of practices that are associated with it[31]. Zabadi et al reported some definitions from the literature[32].

- TQM is a totally integrated effort to gain competitive advantage by continuous improvement of every fact of organisational culture.

- TQM is total (every person in the firm is involved, and where possible its customers and suppliers) quality (customers' requirements are met exactly) management (senior executives are fully committed) .

- TQM is total quality control's organisation-wide impact.

- For the USA Department of Defense, TQM is both a philosophy and a set of guiding principles that are the foundation of a continuously improving organisation. TQM is the application of quantitative methods and human resources to improve the material services supplied to an organisation, all the process within the organisation and the degree to which the needs of its customers are met, now and in the future.

- TQM integrates fundamental management techniques, existing improvement efforts and technical tools in a disciplined approach focused on continuous improvement.

Hagan argues that TQM involves both the need for sufficient cultural changes and the need to carry this concept beyond traditional quality assurance applications into work processes. He further argues that TQM involves the management of four basic pillars of business[33]

1. Continuous improvement.

2. Quality measurement.

3. Customer is king.

4. Everyone participates

Nwabueze argues that a fifth element should be added which is " aligned corporate systems ". Together the five elements will work in unison for a quality transformation to take place[34]. Macdonald et al argue that quality management is a revolutionary management philosophy characterised by the following goals[35]

- seek quality before profits.

- develop employees' infinite potential through education, delegation, and positive support.

- build a long- term consumer orientation both outside and inside the organisation

- communicate throughout the organisation with facts and statistical data and use management as motivation

- develop a company- wide system focusing all employees on the quality related implications of every decision and action at all stages of the development of the product or service, from design to sales.

Boje argues that TQM is an extension of the deregulation mentality into the workplace such as government agency regulations, union work rules removal of employee rights with out any resource to improving the employees' welfare[36]. Furthermore, Steingard et al argue that TQM is not about changing the ways things get done but about the repackaging of a Taylorist agenda which exists as a conspiracy to de- humanise the worker using self pretentious principles such as teamworking, empowerment, and motivation[37]. Lemmermeger notes that TQM is a

holistic concept that requires the motivation of all the people within the organisation towards a common goal. For him, people are the key to TQM and quality should be in the mind, influencing all activities rather than starting and ending at a prescribed point[38]. Jackson notes that the gurus of TQM largely absorbed and synthesised each other's ideas[39]. The gurus can broadly be split into two camps, those who concentrate on technical process , and those who concentrate on management . The confusion lies in the question of just how wise it is of companies wishing to introduce the total quality principle to follow the teaching of one particular guru.

The British Quality Association has put forward three definitions of TQM. The first focuses on the so-called " qualitative characteristics"[40] . This includes customer orientation, culture of excellence, removal of performance barriers, teamwork, training, and employee participation. From this perspective, TQM is seen as consistent with open management styles, delegated responsibility and increased autonomy to staff. The second definition places emphasis on the production aspects such as a systematic requirement for the control of work, setting standards of performance and using statistical procedures to assess quality .This is the hard production/operations type of view which arguably leads to less dissection for employees[41].The third definition is a mixture of hard and soft. There is no single theoretical normalisation of total quality, but the work of the American quality gurus, Deming and Juran, and the Japanese writer Ishikawa provide a set of core assumptions and specific principles of management which can be synthesised into a coherent framework. Hill believes that TQM can be seen as a

business discipline and philosophy of management which institutionalises planned and continuous business improvement. Quality is much the same as " excellence " in the recent management jargon, and the test of quality management is its ability to satisfy customers. TQM assumes that quality is the outcome of all the activities that take place within an organisation ,that all functions and all employees have to participate in the improvement process, that organisations need both quality systems and a quality culture. The following principles of quality management have been identified[42]

- Top management is the main driver for quality.

- Cross-functional management.

- The crucial role of business environment lies with management. Most quality problems are caused by systems controlled by managers rather than being worker related, and they in turn have the power to resolve them.

- There are rigorous systematic techniques of issue identification and problem - solving which every employee should be trained to use.

- The improvement process both creates and depends on cultural change within organisations.

Berwick believes that there has lately arrived a newcomer to healthcare, a collection of managerial disciplines developed and widely adopted in other industries and able in those settings to yield products and services of unprecedented quality, value, and reliability the methods go under many different

names, one of them is TQM. Berwick believes that no matter what the approach is called it consists at a minimum of three essential elements[43]

- Efforts to know the customers even more deeply and to link that knowledge even more closely to the day-to-day activities of the organisation .

- Efforts to mold the culture of the organisation largely through the deeds of the leaders to foster pride, joy, collaboration and scientific thinking.

- Finally, efforts to continuously increase knowledge of, and control over, variation in the process of work through the widespread use of scientific methods of collection, analysis , and action upon data.

Leebor et al argue that In healthcare, continuous quality improvement represents a shift when compared to traditional quality assurance (QA). Although healthcare professionals have always cared about delivering high - quality patient care and have been intrinsically motivated to achieve it, QA functions have been largely influenced and shaped by accreditation requirements dictated by regulators. Healthcare organisations focusing on continuous quality improvement are motivated to meet regulatory expectations, but they are also driven to meet the expectation and requirements of all their customers. Their goal is to advance quality in order to provide high-quality patient care as well as to compete effectively and to excel; not just to meet regulatory expectations.

In other words, the traditional QA function appears to be defensive and reactive, whereas the continuous quality improvement approach is proactive and deliberate[44]. Snap et al argue that many proponents of TQM define quality in

terms of customer requirements or "fitness for use", and the "TQM organisation" as being committed to continuously improving customer satisfaction[45]. Those employees without direct contact with external customers are encouraged to view their colleagues as customers, linked via a chain of internal customer relationships to the final external customer. Organisations are urged to move away from supervisory approaches to quality control, and all employees are encouraged and trained to develop a commitment to continuous improvement as an integral part of their daily work[46] .The problem is that the prescriptive literature on TQM says little about how to achieve this. Milakovich believes that a typical TQM system has these key elements[47]

- Customer satisfaction is the primary goal and ultimate aim of quality in any public service organisation.

- The definition of customer is broadened to include both those internal to the organisation (for example, employees in other departments) and those external to the organisation (vendors, taxpayers, regulators, suppliers).

- Everyone must share a common vision of the mission of the organisation based or extended customer requirements.

- Senior elected and appointed leaders must communicate a long-term commitment to all customers , reward teamwork and encourage process improvement efforts at all levels .

- Expanded training and self - improvement opportunities in leadership skills must be offered to meet or exceed customers' valid requirements .

- Establishing process improvement teams must ensure individual involvement .

- Employee loyalty, and team participation, must be recognised, supported and acknowledged.

- Fear of change must be eliminated and other barriers to the development of pride in service must be removed.

Longenecker argues that to institutionalise necessary quality practices , the organisation as a whole needs to break old habits and adopt new habits particularly in the management rank[48]. Grant et al argue that major interest in quality practice has yet to see its match in robust quality theory, which might be explained by the fact that quality is a rather vague phenomenon[49]. Jackson believes that TQM takes on different shades of meaning according to the organisation in which it is implemented. If quality is conforming to specification at lowest cost, TQM involves all employees in improving their work process[50]. Holt argues that TQM is a way of managing which seeks to equip and enable the whole organisation, through training and development, to operate by focusing on quality and to address continuous quality improvement through involving people in the management of processes horizontally across the organisation[51]. Burdett notes that regardless of how it is named, TQM invariably encompasses the following critical building - blooks: a focus on process, training in statistical techniques, problem solving, customer feedback, benchmarking, and some form of teamwork. The difficulty in defining TQM is that it has become something of a catch- all[52]. Schofield argues that the principal elements of TQM can be highlighted as[53]

- The need to understand customers' needs and other requirements when designing and delivering service.

- The careful planning of processes in order that they address these needs with the minimum of waste and error.

- The creation of an environment within the organisation which generates the ownership of these values by everyone

- The need, routinely, to evaluate the performance of the organisation and review its objectives in order to ensure continuous improvement.

Sashkin et al state that TQM means that the organisation's culture is defined by, and supports, the constant attainment of customer satisfaction through an integrated system of tools, techniques, and training . This involves the continuous improvement of organisational processes, resulting in high quality products and services[54].

The criteria selected to assess the quality of care implicitly defines that which was selected a priori to define quality. The following examples of healthcare definitions illustrate the evolution of the thinking over the past sixty years. Good medical care is the kind of medical practice taught by the recognised leaders of the medical profession at a given time or period of social, cultural, and professional development in a community or population group[55]. Standards of quality of care should be based on the degree to which care is available , acceptable , comprehensive, continuous, and documented, as well as to the extent to which adequate therapy is based on an accurate diagnosis and on symptomatology[56]. Quality of care is the degree to which health services for

individuals and populations increase the likelihood of desired outcome and is consistent with current professional knowledge[57]. TQM is a process of continuously striving to exceed customer expectations[58]. From these examples of definitions of the quality of care , it should be clear that it is extremely difficult to arrive at a consensus as to definition . Medical care or healthcare are not unitary concepts and their multidimensionality partly explains the existence of the many definitions and the several approaches to measurement. Sidestepping a conceptual definition of quality through a focus on its functional roles, does not, however absolve us from addressing the measurability issue. Some aspects of the science of medicine are directly measurable , e.g. , the efficiency and effectiveness of a specific technology , the efficacy of a drug , the specificity of a diagnostic test , the processing of surgical procedure. Other aspects, such as the decision to use a specific procedure are only indirectly measurable , e.g. the use of medical versus surgical treatment of certain cardiovascular conditions. Serious methodological problems exit in the measurement of medical practice. The management of chronic and degenerative illness (heart disease , diabetes , cancer , hypertension, arthritis , Parkinson's , etc.) requires mostly supportive and palliative care . How does one quantify and measure the spirit, empathy, trust and feeling of the physician- patient relationship? It has been estimated that between 50 and 75 percent of non- surgical care belongs in the realm of art rather than the science of medicine. In practice, however, art and science combine to improve the quality of healthcare.

In sum, the response to the question " Is health care measurable?" cannot be a simple "yes" or "no". It requires identification and grouping of elements of care in terms of their degree of measurability . Important variables that impact on health status are public policy, genetics, environment, behaviour, the individual health practitioner, the hospital and the healthcare system. Measurability is most difficult in the personal health services and direct patient contact.

TQM is a systemic approach where mistakes are assumed to be made by the system because problems are built into the system. Thus "real improvement in quality depends on understanding and revising the production processes on the basis of data about the processes themselves[59]. The data would indicate variations and the elimination of the sources of variation. Tools for understanding processes and for discovering causes of flaws and variations are borrowed from industrial quality control and applied to healthcare quality improvement such as process flow diagrams, cause-and-effect diagrams, histograms, control charts. Pareto diagrams, and scatter plots.

TQM GURUS

The existing theoretical body of knowledge with regard to TQM and continuous improvement processes has been shaped over the past decades by a variety of gurus who have developed a distinctive philosophies on how to manage and improve quality.

W.E.Deming

Deming sees organisations as systems designed to serve customers. Processes and tasks are linked together and affect one another . To excel at meeting

customer needs, an organisation must constantly improve these systems. Over the years, Deming has developed 14 points that describe what is necessary for a business to survive and be competitive today. Deming occasionally modified the wording of these point and he gained new insight[60]

- Create constancy of purpose to improve product and service

- Adopt the new philosophy for new economic age by management learning responsibilities and taking leadership for change

- Cease dependence on inspection to achieve quality and eliminate the need for mass inspection by building quality into the product

- End awarding business on price; instead minimise total cost and move towards single suppliers for items

- Improve constantly and forever the system of production and service to improve quality and productivity and to decrease costs

- Institute training on the job

- Institute leadership; supervision should be to help do a better job

- Drive out fear

- Break down the barriers between departments; encourage two way communication in order to foresee problems and anticipate opportunities

- Eliminate slogans, exhortations and numerical targets. Most problems lie within the system rest with management to solve

- Eliminate quotas or work standards, and management by objectives or numerical goals; substitute leadership

- Remove barriers that rob people of their right to pride of workmanship

- Institute a vigorous education and self improvement programme

- Put everyone in the company to work to accomplish the transformation

The Deming philosophy challenged traditional business philosophy, which focused on the efficient use of inputs and implied that quality adds to costs. According to his philosophy, understanding the causes of variance in the manufacturing process was the key to achieving quality in production[61]. If the causes of variance were identified and located, they could then be eradicated. This is in turn would produce greater consistency and an enhanced product reputation. Deming developed a Quality Centred Model to enable the creation of a process of continuous improvement and provided a comparison between the traditional and the quality model. The following table illustrates this comparison:

Table 5.1 A comparison of the Traditional Model and Quality Model[62]

The Traditional Model	Deming's Quality Centred Model
Reduce input costs ↓ Lower unit costs ↓ Increase profits ↓ Improve return on investment ↓ Stay in business	Improve quality ↓ Productivity Up ↓ Costs Down ↓ Prices Down ↓ Markets Increase ↓ Stay in Business ↓ More Jobs and better return on investment

Deming distinguished between two types of variation; common causes and special causes. He believed that special causes were those which prevented a process from remaining statistically constant and whose causes are easily assignable. Common causes on the other hand were inherited in a process and were caused by the design of the process or operation. Deming believes that it is management's responsibility to distinguish between the two types of variance and to recognise that without management action or support, opportunities for improvement are limited. Deming's philosophy can be explained by the use of the Joiner Triangle in the following diagram:

Diagram 5.1 Deming Philosophy – The Joiner Triangle[63]

Obsession
With Quality

All One Team   Scientific Approach
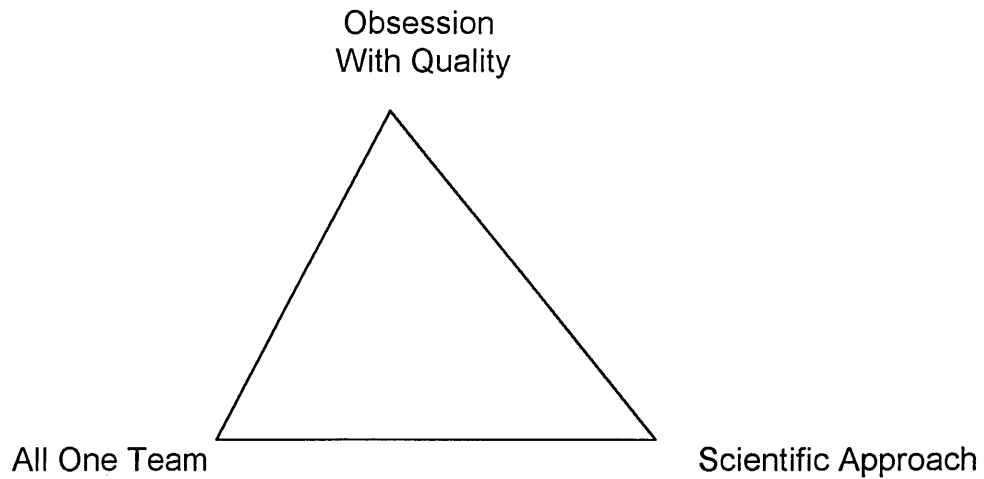
Deming also encouraged the systematic approach to problem solving where he

employed what he termed the Shewhart Cycle although it is often referred to as

the PDCA (Plan, Do, Check, Action) and later the PDSA (Plan, Do, Study, Act)

Cycle. The following diagram shows the PDSA Cycle:

Diagram 5.2 The PDSA Cycle[64]

Study the results
What did we learn?
What can we predict?

A   P

S   D

Decide team purposes
Decide desirable changes
What data are available
Plan use of data

Observe effects of change
Or test

carry out small
change or test
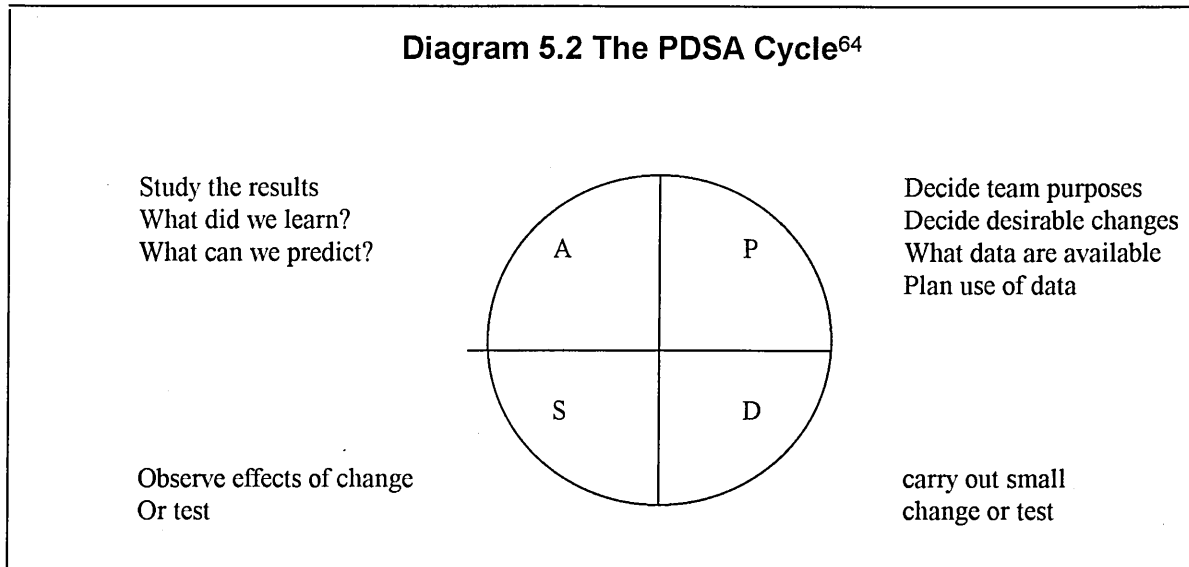
However, Flood has identified three main weaknesses in Deming's philosophy[65]

- The action plan and methodological principles are too vague, implying that there is no clear Deming method. Nwabueze agrees with this point and states that Deming failed to accurately contextualise, in explicit format, the implementation process of TQM[66].

- Deming failed to show how leadership and motivation could drive and sustain the TQM programme. He failed to draw on the wider literature available on leadership and motivation.

- The Deming philosophy is silent about interventions in environments that are political and coercive.

Nwabueze also believes that the Deming philosophy has no place in the implementation of TQM as his 14 points fail short of being an implementation model for TQM and he failed to show the interrelatedness of the 14 points and how to operationalise his concepts within an organisational context[67].

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Watkinson argues that many of Deming principles are broad in nature and cannot be readily implemented[68]. This is because Deming did not draw upon established theories and literature relating to human motivation or leadership such as Maslow's theories and Herzberg's theories. The complexities of human motivation appear far greater than Deming appreciated and similarly, the political nature of organisations, with its associated conflict and power struggles, is not sufficiently addressed. McDonell argues that the Deming system of TQM is simple in its exposition but extraordinarily difficult to implement. It requires management and workers to stretch themselves to great lengths to improve their productivity[69]. Parsons argues that focusing on internal customers and developing a "people first" approach to quality is an optimal way to establish a successful, complete path to quality performance and excellence. Satisfying external customer needs should be the well - defined goal or the end result but satisfying internal customers' needs is the means that organisations must take to reach that defined goal in "Driving Fear Out of the Workplace"[70]. Ryan et al state that people are not objective about their jobs, they take their work very personally. Their feelings cannot be separated from their productivity and the quality of their work[71]. While companies march on with the quality implementation parade, employees often are, or feel they are :

- Left in the dark on matters that may concern them;

- Of the belief that they are not treated consistently or fairly;

- Not provided with reasonable and sufficient information about the business, strategies, and decisions in a uniform or timely manner;

- Left to feel unimportant or devalued;

- Unsure how their job fits in the larger business scheme;

- Of the belief that developmental opportunities and plans, for the most part, exclude them;

- Concerned about downsizing restructuring and job security issues;

- Unclear on the guiding principles (ethics) of the business;

- Lacking a clear understanding of the business environment and marketplace;

- Finding it difficult to sort out policies that relate to them;

- Finding that their work environment lacks an atmosphere of trust, cooperation, and one which promotes open communications;

- Left with the perception that work demands are high and personal support is low;

- Not clear about the risks of the business and their job;

- Not provided with adequate information when business needs change;

- Left to feel that they are not an equal member of the " team ".

- Not feeling or performing like an empowered contributor; and perhaps angry that quality implementation focuses solely on customer satisfaction with little consideration for employee (internal customer) satisfaction and needs.

A framework is needed to clear up these type of negative concerns and quality performance barriers. The ever - growing quality challenge is to transform employee skepticism and pessimism to enthusiasm and enlightenment. This framework involves transforming the organisation into a quality organisation which in the view of Ryan et al[72]

- Produces high-quality goods and services that more than meet the needs of loyal , satisfied customers,

- Is a great place to work, employees at all levels feel proud of their work and their organisation.

- Respects employees for their competence , perspectives and contributions.

- Encourages and supports leadership at all levels.

- Is characterised by openness , competence, and high ethical standards.

- Celebrates a shared purpose and appreciates the interdependence between levels and functions.

- Furthermore, the quality organisation should have " Individual Quality Management" as an added dimension to ensure that the employees champion the cause. "Individual Quality Management" means developing and implementing a new total quality strategy and culture through a partnership - empowerment model. The cultural revolution demanded by TQM can only actively demonstrate the dynamics of quality to employees. Deming sees organisations as systems designed to serve customers. Processes and tasks are linked together and affect one another . To excel at meeting customer needs, an organisation must constantly improve these systems.

Philip B.Crosby

In addition to Deming's work, Crosby, who is recognised as a "guru of excellence", has advanced some of the most profound and revolutionary ideas about quality. His philosophy of quality management is articulated in the titles of his books, "Quality is Free ", and " Quality Without Tears ".

Crosby believes that his methods will work whether the product is manufacturing or service oriented. He lists four key principles of quality management[73]

- Quality denotes conformance to requirements.

- Defect prevention , rather than inspection , is the way to attain quality.

- A standard of zero defects is the only acceptable quality standard.

- The cost of poor quality can amount to 40% of operating costs in a service agency.

Crosby proposes a quality improvement programme which consists of 14 steps that would serve as a "how to " approach to advance through the stages of the quality journey. These steps are[74]

- Management Commitment.

- Quality Improvement Team.

- Quality Measurement.

- Cost of Quality Evaluation.

- Quality Awareness.

- Corrective Action.

- Establish and Ad Hoc Committee for the Zero Defects Program.

- Supervisor Training.

- Zero Defects Day.

- Goal Setting.

- Error Cause Removal.

- Recognition.

- Quality Councils.

- Do It Over Again.

In addition, Crosby offered a set of traditional tools to compliment the 14 steps. These included the " Quality Maturity Grid ", the " Make Certain Program ", the " Management Style Evaluation " and the " Quality Vaccine ". Jackson argues that Crosby's view of implementing quality management demands perfection and neglects human factors and possible failures[75]. Crosby's model was seen as an overlong and complicated process designed to achieve relatively simple ends[76]. In addition, Crosby's approach provides relatively few details about how firms should address the finer points of quality management[77]. The focus is on managerial thinking rather than on organisational systems. Flood states that Crosby's philosophy has the following weaknesses[78]

- The philosophy implies that workers are to blame for quality problems.

- The ideas are based on slogans and platitudes, raising insufficient awareness of genuine difficulties that will be encountered in implementing TQM.

- The 14 points are strongly management and goal oriented.

- A misconception about zero defects on the part of the workforce.

- An assumption based on a conciliatory workforce which would not be effective in a political or coercive context.

Furthermore, Nwabueze has the following observations concerning Crosby's philosophy[79]

- Crosby's programme is primarily behavioural that does not use statistical techniques for changing culture and attitude. "Crosby's model is an overlong and complicated process designed to achieve relatively simple ends".

- Crosby's approach focuses on managerial thinking rather than on organisational systems.

Joseph M. Juran

Balestracci et al state that Joseph Juran took part in post-war Japanese industrial education. Juran was an electrical engineer who also obtained a law degree and established an internationally known quality-consulting corporation - The Juran Institute . Balestracci et al argue that Juran approach is heavily based in projects, planning, tools , and implementation that minimise disruption to current structures. In deference to an organisation's existing management structure and a relatively formal approach to identifying, solving, and implementing improvement efforts. It is an empirically - derived strategy developed from judicious, keen observation of work cultures for over 50 years. Juran's philosophy provides enormous help in understanding the human psychology of a work environment. Juran always reminds those having difficulty with implementing "textbook quality improvement ", to ask, "Yes, it didn't work; but did you think about ...?"[80]. Nwabueze (1995) argues that Juran's philosophy focuses on three major quality processes, the Juran Trilogy[81]:

- Quality planning- the process of preparing to meet goals.

- Quality control - the process of meeting quality goals during operations.

- Quality improvement- the process of breaking through to unprecedented levels of performance.

Juran's Trilogy is a concept that is derived from financial management. Table 5.2 describes Juran's trilogy in comparison with financial processes. Juran argued that those organisations which followed the Trilogy would outperform those which did not, in the same way that those which have used the financial approach had outperform those that have not.

Furthermore, Juran was more controversial in his belief that there was an economically optimum point for quality. Juran argued that most organisations are operating at below the optimal quality level, whilst implying that a trade off exists between costs and quality[82].

Table 5.2 Quality and Finance Parallels[83]

Trilogy processes	Financial Processes
Quality Planning	Budgeting
Quality Control	Cost and expense control
Quality Improvement	Cost reduction and profit improvement

Juran's writings demonstrate the wisdom of someone who has "been around the block ". He considers the approach to improvement to be two separate journeys: a **Diagnostic Journey** from symptom to cause, followed by a **Remedial Journey** from cause to remedy (see diagram 5.3)

Diagram (5.3) Diagnostic and Remedial Journeys[84]

Symptom ——► Cause ——► Remedy

Diagnostic   Remedial
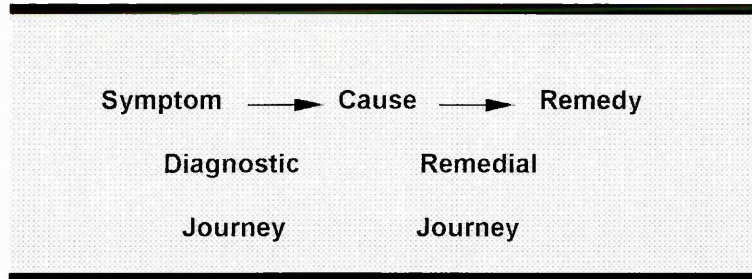
Journey   Journey

In the Diagnostic Journey, improvement efforts result when reactive measures are undertaken to deal with variation , i.e., a result different from that which is expected . Variation indicates an underlying problem or opportunity. To find root problem causes, the Diagnostic Journey requires asking many different questions to understand the variation. A team formed of diverse staff with varying experiences and skills is necessary. Data collection within the context of the Diagnostic Journey is required to identify the significant improvement opportunities within the observed process. This requires theories about the root causes, study of work - in - progress, analysis, and resulting action. The Diagnostic Journey includes a lot of uncertainty and depends largely on technical expertise about the process to identify a root problem cause . Next, a potentially viable solution is developed. This solution is usually tested and evaluated on a pilot scale. If deemed infeasible, the solution is discarded or revised and the QI process begins again. After obtaining a viable solution, the remedial journey begins. There are not as many technical unknowns and questions in this journey as in the diagnostic journey. The solution is now known and the appropriate areas can be targeted for change.

The Remedial Journey's focus is more specific. The issues surrounding the Remedial Journey involve more psychology than technology. The new solution must overcome people's natural resistance to change. Once the change is made, the QI process requires standardisation of the new work process and proof that the envisaged gains are made and held.

The Diagnostic and Remedial Journeys are different in purpose, skills, and people involved. Juran deems their sequence a universal, natural progression for proper quality improvement. It is useful to look at process improvement as this natural progression for two reasons. First, there can be a tendency to jump from " symptom " directly to "remedy". This could add complexity to a process if the remedy does not address the true root causes. Second, most project teams underestimate, if not totally ignore, the implications of the Remedial Journey. Planning the Remedial Journey is not trivial, but often minimal consideration is given to its key aspects. A solution's impact on the work culture should always be evaluated *prior* to its implementation. Data from a well designed pilot is a start for providing objective proof, but does not necessarily address the sometimes mysterious reasons for resistance nor does it confront and political issues. Furthermore, Nwabueze argues that to succeed with TQM, organisations need to make a conscious effort to realign their culture to adhere to the new investigative and analytical ethos[85]. Flood cited in Nwabueze, noted three key weaknesses to the Juran philosophy[86]:

- The emphasis on management's responsibility for quality fails to get to grips with the extensive literature on motivation, leadership and culture change.

- Juran undervalues the contribution a liberated worker can make; thus rejecting in principle bottom - up initiatives.

- Juran's methods are mainly traditional and old-fashioned, failing to deal adequately with the human dimension of organisational life; particularly cultural.

Armand V. Feigenbaum

Nwabueze states that Feigenbaum is known for three primary contributions to quality: his international promotion of the quality ethic, his development of the concept of total quality control, and his development of the quality cost classification[87]. Feigenbaum states that "quality is in its essence a way of managing the organisation"[88] and that there should be an emphasis throughout the organisation on quality leadership and top to bottom human commitment to quality and productivity. Feigenbaum was also the first to advocate using the cost of quality as a strategic tool to drive the improvement process with the intention of minimising the total cost of quality. Feigenbaum says that the quality of products and services is directly influenced by nine basic factors, or what he calls the nine M's:[89]

- Markets

- Money

- Management

- Men

- Motivation

- Materials

- Machines and Mechanization

- Modern Information Methods

- Mounting product requirements

In summary, Feigenbaum was dismissive of piecemeal quality management and placed an emphasis on the total approach where the role of management was highlighted and participation encouraged. This approach was supported by Kanter who believed that change programmes will be more successful if a holistic approach is used rather than a fragmented approach.

Kaoru Ishikawa

Ishikawa extended Feigenbaum's view of TQM by emphasising the role of all employees in the organisation. He believed that TQM can be achieved only if people work in teams rather than individually. Ishikawa stressed the need to find the root causes of problems which led him to suggest the seven statistical tools of quality and in particular the fishbone diagram. Table 5.4 describes Feigenbaum's Seven Basic Tools Of Quality Management. Feigenbaum's approach was faced with many criticisms. Watkinson argues that the tools, whilst being useful in a problem saving capacity, did not identify interrelationships between causal factors. They did not explicitly show how cause and effect can feed back on one another in an interactive system. The systems view of organisations demonstrated the importance of understanding the complex inter-relationships which exists within and between the varous sub-systems. This appeared to be an omission on the part of Ishikawa. In addition the tools were designed with manufacturing processes in mind with little indication of how they might be adapted for service operations[90].

Table 5.4 The Seven Basic Tools Of Quality Management[91]

1. Process flow charting	What is done
2. Tally charts	How often it is done
3. Histograms	Pictorial view of variation
4. Pareto analysis	Rating of problems
5. Cause and effect diagram	What causes problems
6. Scatter diagram	Defining relationships
7. Control charts	Measuring and controlling variation

Bill Conway

Conway incorporates quality into a brief description of Quality Management ,

" Developments of manufacture, administration and distribution of consistent low cost products and services that consumers want and/or need"[92]. Conway advocates the use of statistical methods to achieve waste reduction. He identifies six tools for quality improvement[93]

- Human Relation Skills.

- Statistical Surveys.

- Simple Statistical Techniques.

- Statistical Process Control.

- Imagining.

- Industrial Engineering.

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Donald Berwick

Taking a more specific focus upon quality in healthcare, Berwick believes that implementing TQM without the active help of physicians is a formula for waste. This is because almost all important healthcare processes touch physicians, for every significant process, it seems that physicians are either customers, suppliers, or processors Berwich believes that although no systematic, experimental evidence yet exists about methods to help get physicians involved, the following methods have shown promise in at least a few organisations tackling the challenge[94]

- Reallocate committee and meeting time.

- Invite volunteers to help.

- Formalise the involvement role.

- Use data.

- Watch for interested specialists.

- Include physician leaders from square one.

- Define involvement specifically.

- Connect quality management to guidelines and critical paths

Berwick believes that TQM should be driven from the top of the healthcare institutions, or it will not arrive at all. In moving healthcare to a new level of performance, we are talking about nothing less than a transformation of the organisations we care about; a transformation planned and managed by leaders. The scope of the needed changes mirrors the scope of the problems and those changes will require total organisation commitments[95].

Conclusion

TQM is widely regarded as a major innovation in today's management practice. Although many writers see it as merely the latest in a long line of management fashions, Oakland believes it to be much more fundamental . He argues that after the industrial revolution of the 19th century, and the computing revolution of the early 1980s "We are now without doubt, in the midst of the quality revolution[96]. The origins of TQM is usually ascribed to Japan's search for quality improvement in the 1950s and its success in molding ideas on quality into a coherent operating philosophy . By the 1960s, the challenge to western markets led to the adoption of Japanese methods of production within the USA. In the 1980s, many American and worldwide companies including Ford, Hewlett Packard and IBM, ICI, Xerox, Canon and ICL had taken up TQM. One of the problems in the discussion of TQM is the apparent lack of a generally accepted description of what it actually is. There is confusion as to what different writers mean when they discuss TQM. Wilkinson et al argue that some of the buzzwords are now prominent in the management vocabulary, for example TQM means right first time, Zero defects, Plan Do Check Act[97].

These different definitions might not be important if Oakland's view, that while the quality gurus seem to present different solutions in reality this reflects differences in dialect rather than the language, is accepted.

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CHAPTER SIX

IMPLEMENTING TOTAL QUALITY MANAGEMENT

Introduction:

This chapter provides a description of the implementation of Total Quality Management (TQM) as given by different writers. An extensive review of the literature is undertaken into TQM models. This chapter shows that the availability of these different models indicates that TQM is not a homogeneous entity.

IMPLEMENTING TOTAL QUALITY MANAGEMENT

Kanji et al (1990) believe that the process of implementing TQM in an organisation can be developed in the following four stages[1]

1. Identification and preparation.

2. Management understanding and commitment.

3. Scheme for improvement.

4. Critical analysis.

Kanji et al (1990) also believe that about 85% of the common problems of most organisations are related to the management and systems and only 15 % are specific to the operation and connected with technology. It is therefore believed that the best way of overcoming these problems is through the principle and practice of a TQM approach The implementation of TQM methods is one of the most complex projects an organisation can possibly undertake. This complexity is due to the requirement of cultural change affecting all the evmployees of the organisation including the top management. Changing things is much easier than changing people. It is therefore advisable in Kanji et al's view, to concentrate on

the approach of effective problem solving at the early stage of a TQM programme in order to understand the strengths and weaknesses of the organisation. In many ways, the problem solving approach is the easiest, and the cultural change is by far the most difficult, aspect of the TQM process. In recent years, healthcare organisations have actively implemented modern approaches to the management of quality adapted from industrial practice.

Most of these efforts to improve quality have focused on incremental improvement of existing processes or on the measurement and control of quality relative to standards. Relatively less effort has been put into the fundamental redesign of the processes of healthcare. The application of TQM in healthcare settings can cover the whole range of the healthcare delivery spectrum. This can apply to primary, secondary, and tertiary healthcare delivery institutions; to the service delivery part or the administrative superstructure; to the managerial functions including the ancillary services; and to the clinical services including the whole spectrum from physician diagnoses and patient management to laboratory test results. In other words the range of application is practically limitless. This is quite understandable since the essence of TQM is a new culture of managing in order to continuously improve processes. However, irrespective of the type of healthcare organisation, or place in the organisation where the implementation is to take place, the concepts, methods, and tools are one and the same. So are the risks and concerns involved in this implementation. This is because:

- Doesn't quality management apply only when there is a standard, uniform product?

- How can it help in medical care where every patient is different?

- Where is the assembly line in healthcare? Isn't quality mainly a matter of the

doctor making the correct decision?

- Quality management certainly helped under the cultural rules in Japan, but how can it work in different cultures?

- Doctors do not tend to see themselves as team players in an organisation. How can quality management work with physicians?

- Quality management requires that quality be measured. How it is possible to define and measure something as subtle as "quality" in healthcare?

- Isn't cost, not quality, the real problem? The trouble is that doctors and patients want to use every technology available, while the public and industry are unwilling to pay for it. Doesn't higher quality inevitably mean higher costs?

Furthermore, Fried (1992) argues that an agreed meaning of quality in healthcare must be reached in order for TQM to succeed. The problem is that in healthcare it is not clear if the system should provide patients/ customers with what they want or with what they need. Fried further suggests that for TQM to succeed, its language needs to be modified. Words like " customer " create problems for health professionals. Thus substituting " Total Patient Care " for " Meeting Customer Requirements " is a small but significant change[2].

Hunter et al observe that much of the existing TQM literature is highly descriptive in nature. First, many TQM programmes have evolved out of a prior organisational

experience with Quality Circles; the general belief being that TQM holds the prospect of longer term gains than may be secured through Quality Circles. Secondly, there is increasing consensus around the proposition that TQM needs to be phased in rather than introduced as a discrete, self-contained package at a single point in time. Thirdly, there is growing evidence to the effect that the introduction and operation of TQM will generate important externality or knock on effects in other parts of the organisation, particularly as regards many existing HRM practices[3].

Many people talk about organisational culture and understand its importance in promoting total quality. Culture sums up the way organisations function and it reflects the underlying assumptions about the way work is performed. Culture reflects what is acceptable and not acceptable - what behaviour and actions are encouraged and discouraged.

Every organisation has a culture, or a multiplicity of cultures, with an inherent value system, whether it was designed for a purpose or grew through accident, neglect or omission. If senior officers want to provide TQM, they have to go some way towards promoting a shared or homogenised culture where people feel their involvement in problem-solving and decision making is the norm.

Foster et al (1990) argue that the challenge is to translate the espoused values into a taken- for- granted set of assumptions shared by everyone. This requires a shift in the focus of change; from the manipulation of systems, structures and overt behaviour to a fundamental share-out in managerial thinking[4]. Atkinson notes that TQM is about culture change[5]. Nwabueze disagrees with this and argues that

culture change is as a consequence of an effective implementation of TQM and not the " be all and end all " of TQM. He further argues that any TQM initiative which adopts culture change as the first priority in its implementation process will falter. The process of change which TQM encourages requires first and foremost active leadership and commitment from top management. This would ensure that TQM becomes the way the organisation operates, regardless of the nature of the cultural change process[6]. David argues that culture can be changed and there are many techniques to do that[7]. These techniques in Sinclair's view are prescriptive and use unitarist and highly contextual approaches to the understanding of the cultures which exist in an organisation and the ways in which it can be adopted[8].

Culture change means seeing things differently. The task facing managers pursuing TQM is to learn to see their world from their customers' perspectives and affect changes that meet the requirements of these perspectives. The basic motive for implementing TQM is to gain competitive advantage. If successful TQM implementation calls for a cultural shift as culture becomes an instrument of competitive advantage. This argument fits well with the corporate culture concept which maintains that strengthening corporate culture enhances organisational performance by securing greater commitment and flexibility from employees[9].

The corporate culture concept argues that improvements in productivity and quality flow from a corporate culture that systematically recognises and rewards individuals, symbolically and materially, for identifying their sense of purpose with the values that are designed into the organisation. The basic concern of this concept is to win the hearts and mind of employees, to define their purposes by

managing what they think and feel, and not just how they behave. The link between TQM and corporate culture is very clear in that in the installation of corporate cultural TQM programmes, every conceivable opportunity is taken to imprint the core values of the organisation upon its employees. Johnson and Gill argue that in this phase of corporate culture, strong cultures are considered to lead to a love of the organisation by its employees which again is assumed to create improved productivity[10]. This emphasis on cultures as a form of organisational control is becoming subject to criticism, particularly its capacity for useful, practical applications. For example, the success of this mission will, in Willmot's terms, result in corporate culturism becoming a medium of nascent totalitarianism[11].

This is not surprising since the corporate culture concept, in emphasising its capacity to raise the commitment and flexibility of individual employees, repeats and embellishes prescriptions advocated by earlier theorists; in particular the human-relations assumptions[12]. Human relations assumptions have been criticised for their unitary view of the organisation and the contention that any conflict harmful. These limitations were compounded by the school's social-engineering priorities, which were soon identified as a subtle type of manipulation and exploitation that ignored employee's legitimate economic interests[13].

In order to implement TQM in any organisation, a process of cultural change is mandatory. This involves identifying the human behavioural forces in action, the study of how these forces hinder or promote the attainment of high quality, and the setting out of managerial processes that are needed to guide these behavioural

forces in constructive directions. The central issue involved in cultural change is motivation. The implementation of total quality improvement is not only based on the premise that workers are by nature highly motivated, but also addresses the motivation of all personnel at all levels of the hierarchy as a prerequisite. This issue is deeply rooted in the psychology of the work processes involving human resources.

There are obstacles to overcoming the cultural change required for the implementation of TQM; lack of awareness by the people involved in the process that the processes are creating quality problems; competition in priorities makes other goals supersede the goal of quality improvement ; sub optimisation in the local quality improvement needs may fragment the process and get in the way of achieving overall quality; cultural myths, which result in people holding sincere beliefs that are related to quality but are not based on facts. In most organisations, such obstacles have their origin in prior managerial practices. It is therefore important to avoid any atmosphere of blame. The emphasis should be on what to do differently, and the methods for making the necessary changes.

Latif argues that most of the writers have not established why TQM is about culture change or how their recipes are to be implemented. He further argues that the sustainable transformation of an organisation to a TQM culture requires a balance between organisational systems, skills, and techniques (the way) and values and employees (the will). He further argues that the will can only be generated if TQM [14]

- Is adopted as a strategic focus for the organisation.

- Is supported by committed and aware leadership.

- Is accompanied by a plan to ensure that the behaviours encouraged are aligned with those required.

- generates synergy as a result of the alignment of the TQM concepts and philosophies with the organisation's systems and policies.

There are several actions needed to overcome the obstacles to cultural change. They are all geared towards motivation. This is the crucial human issue addressed by all the actions taken for this purpose. The actions themselves are varied and include[15]

- The provision of feedback to prior steps.

- The combining of previously separated steps.

- The revision of sequences.

- Increasing worker awareness through increasing his visibility and establishing self-interest.

Culture is an important issue for any organisation embarking on quality improvement. Juran believes that any such organisation two courses of actions must be pursued[16]

1. Develop technologies to create product and processes which meet customer needs.

2. Stimulate a " culture " throughout the organisation that continually views quality as a primary goal. Culture is not a technocratic issue. There are, however, approaches that provide a path toward a quality culture.

Juran defined culture as the pattern of human habits, beliefs, and behavior concerning quality. Technology touches the head, culture touches the heart[17]. A discussion of culture quickly moves into an examination of the actions necessary for change. Kilman, quoted in Juran, suggests that there are five tracks necessary for change: culture, management skills, team building, strategy- structure, and the reward system[18]. Differences in quality culture can have extreme implications both negative and positive. Juran had identified two examples[19]

* Negative quality culture (" hide the scrap scenario "): the culture in this scenario is where the reporting of any results that do not meet the specifications will be avoided.

* Positive quality culture (" climb the ladder to delight the customer "):The culture in this scenario is where the organisation takes extraordinary steps to please its customers.

Culture can be managed. We need to provide awareness of quality, evidence of upper management leadership, self-development and empowerment, participation, recognition and rewards. These paths must be integrated with the theory and structure of quality. Changing the culture, however, takes years not months. Juran quoted Fredrick Taylor's words commenting on changing to a system of scientific management the really great problem involved in a change consists in a complete revolution in the mental attitude and the habits of all those engaged in the management, as well as the workmen[20]. The previous words are warnings to those who contemplate making cultural change in a short space of time. To change corporate culture requires years, not months, to change quality require trust, not

techniques. Williams et al suggest that five main methods are commonly used by management in attempts to bring about cultural change[21]

1. Changing the people in the organisation through selective recruitment and redundancy programmes with greater emphasis on selecting people with the desired attitudes as well as technical skills and experience.

2. Moving people into new jobs to break up old sub-cultures.

3. Providing employees with training and management role models appropriate to the desired culture.

4. Training employees in new jobs, thus influencing their job attitude.

5. Changing the work environment, human resource policies and management style generally.

Much of the academic literature emphasises the difficulties in changing organisational culture and recent years have seen a debate on whether or not culture can be managed. Meyerson et al, pointed to the existence of subcultures and competing occupational cultures, influenced by factors both internal and external to the organisation; questioning the notion of a single shared culture which is easily mainipuble by management. Even to the extent that it is useful to refer to a single organisational culture, there may be problems for the culture management view, in that the existing culture may be resistant to change and thus act as a barrier to the successful implementation of TQM. At the very least accounts of TQM implementation need to address the issue of resistance to change and avoid an overly- simplistic view of the possibility of managing culture[22]. Stern states that it has become apparent to all that even if cultural

change has been brought about, and even if continuous quality improvement has been assimilated into the organisation, it will still require the perpetual commitment of the management and continual change in the approach of the physicians and their persistent participation in the process. How can these be maintained and the burnt - out syndrome be avoided over the long and demanding course of procedures? Even financial rewards prizes for excellence and other common incentives lose their enticement value in the long run and, above all, quality improvement become stigmatised as essentially concerned with organisational and administrative functions since the method has not yet been applied to the sheer scope of clinical medicine as such[23].

The previous observations about difficulties in implementing quality improvement were criticised by Nerenz who believes that there is a reason to be optimistic about the impact and the staying power of quality improvement in healthcare. Nerenz believes that two significant aspects of quality improvement will serve to overcome the difficulties in implementing and sustaining quality improvement in the health setting observed by Stern. These two aspects are[24]

1. Quality improvement as an organisational philosophy or culture.

2. The applicability of quality improvement to clinical process.

Stern's concerns are not justified as they come from a personal experience with a "Programme" of quality improvement instituted on a limited basis, as a " short term pilot project" as opposed to an organisation that makes a formal commitment to quality improvements a fundamental organisational philosophy. Furthermore his concern that quality improvement will be stigmatised as essentially concerned with

organisational and administrative functions, since the method has not been applied to the sphere of clinical medicine as such, is misplaced because the premise is not true. Quality improvement has been applied frequently to clinical issues in a large number of organisations with noticeable success. Indeed one of the strongest features of quality improvement is the ability to transcend the unique concerns of specific departments or types of work in the healthcare organisations and become a " common culture" and a "common language" that knits those diverse parts together[25]. Snap et al argue that the development of a quality culture is likely to be a difficult and lengthy process. Organisational cultures may be resistant to change with some commentators questioning whether it is meaningful to talk about the management of culture at all[26]. Tuttle argues that the concepts of TQM are readily adaptable in Japan because of Kaizen, a traditional Japanese philosophy that identifies the goal of work as an ongoing improvement involving everyone[27]

It is, therefore, a process- focused rather than problem- focused, concept of thinking. This requires workplace strategies that support continuous improvement and is dependent on the interaction of employees and management. Traditional working practices and management styles may be inconsistent with TQM and resistance to its implementation may be encountered not only at shop floor level but also among professionals, supervisory and managerial staff.

Human resource policies and practices have an important role to play in facilitating the implementation of TQM. However, while the TQM literature recognises the importance of human resource management issues, the discussion is often

superficial with little on how exactly the quality culture is to be created. Snap et al argue that the quality-enhancement strategy associated with TQM is likely to require a particular approach to human resource management; involving an emphasis on winning employee commitment to organisational goals, rather than securing simple compliance through direct supervision and crude incentive schemes. Human resource policies and employee involvement schemes demonstrate the range of potential measures available to management in developing quality culture; with changes in human resource policies and practices and increased employee involvement being an integral part of the implementation of TQM[28].

Bertram believes that a lack of top level commitment is the main reason for the upward of 80% failure rate on TQM programmes. Senior management must lead positively and show continually by example its commitment, responsibility, trust, flexibility, and persistent determination to promote and encourage change[29]. Oakland et al, on the other hand, argue that management commitment is of course essential for the introduction of TQM, but it may not be enough to generate success in the organisation. Many failures in TQM implementation have been attributed to factors such as[30]

1. The executive promotional ladder.

2. Executive bonuses and the interest in short- term results.

3. Shareholder pressures.

TQM is based on an open management style, which actively promotes and encourages the involvement of every employee in a programme of continuous

improvement. It is a very time demanding process where long established barriers need to be removed, the them and us attitude broken down, and bridges of trust built in order to orient every aspect of the organisation's activity towards a customer- oriented, quality- driven, right first time approach. Only in this way can it be hoped to prevent failure. This approach replaces the all too familiar " get stuck in ", "'macho ", style management at each level with a more planned, coordinated teamwork approach, which is agreed and not imposed. In summary, meeting the organisation's quality objectives requires a fully committed, well-trained, and involved work force. Reward and recognition systems need to reinforce full participation in organisational quality objectives. Employees need education and training in quality skills related to performing their work and to understand and solving quality related problems. Training should be reinforced through on- the-job application of learning, involvement, and empowerment. All those concerns are the core of human resource management which means that the implementation of TQM strategy cannot happen without human resource management support.

Bertram argues that success of TQM is so dependent on cultural changes affecting everyone. That it can neither be imposed nor implemented by full- time specialists. TQM is all about the development of a new way of everyday working together by everyone and must, therefore, be developed through every employee. Full-time staff with an exclusive " quality " role should, therefore, be kept to an absolute minimum and the work of facilitating change progressed through those who emerge as " champions "[31].

Milakovich believes that successful transformation to TQM culture requires a vision of continuous process improvement that focuses on meeting valid internal and external customer needs and that organisational performance must be evaluated in terms of satisfying those need[32]. Scholtes et al offer the following basic guidlines for implementing TQM[33]

1. Quality begins with delighting the customers.

2. The quality organisation leads customers to the future.

3. The quality organisation must learn how to listen to customers and help customers identify and articulate their needs.

4. Flawless, customer- pleasing products and services result from well-planned systems and processes that function flawlessly.

5. In a quality organisation, the vision, values, systems and processes must be consistent with each other and complementary to each other.

6. Every one in the quality organisation must work in concert in order for all systems to work in a consistent, co-ordinated, complementary manner; a spirit of teamwork must pervade the organisation.

7. Teamwork in a quality organisation must be based on a commitment to customers and to constant improvement.

8. In a quality organisation, everyone must know his or her job.

9. Use data and a scientific approach to plan, work, and solve problems.

10. Develop a working partnership with suppliers.

11. The culture supports and nourishes the improvement efforts of every group and individual in the organisation.

Longenecker et al argue that implementing TQM requires[34]

1. Clearly defining what quality is and developing standards.

2. Conducting quality training for the entire organisation.

3. Developing meaningful measurements of quality for both work processes and for each member of the organisation.

4. Establishing a system to take corrective action when product quality problems emerge.

5. Developing an organisational culture and reward system which instills the belief that quality should be everyone's primary concern.

Masters et al argue that it is clear that within the last few years, several healthcare organisations have implemented TQM. These organisations have noted varying degrees of success. However, it is interesting to note that there is only minimal reporting in the literature about the details of systematic approaches used to actually implement TQM initiatives[35]. Glover argues that a successful transformation to TQM requires organisational culture change. The following table illustrates many of the critical cultural features, which are involved in these changes.

Table 6.1 Critical Cultural Features Involved In Organisational Culture Change [36]

1. The meaning and order of things	Work managers manage	Shared responsibility and co-operation
2. Organisational structure	Hierarchy, much emphasis on authority related to one's place in the structure.	Less social distance between managers and workers
3. Use of power with workers	Coercion, "do it because I'm the boss"	Peer management, empowered
4. Decision making	Unilateral, autocratic, not always objective	Consensus, group participation based on facts
5. Responsiveness to changes in markets, community, and environment	Closed, reactive, and constrictive	Open, proactive, and adaptive.
6. Internal relationships	Conflict ridden, labour and management are adversaries	Harmony, balance, teams are priorities
7. Values in the workplace	Incongruent, not shared by all; often fear alienation are predominant	Congruent and shared throughout the organisation; trust, belonging are predominant
8. Communications	Top down, vertical	Multi – directional
9. Use of time, resources, and priorities	Not always related to overall goals, "looking good" and other games are played	Focused on goals, prevention is focus; "games" are minimised.
10. Productivity	Quantity, efficiency is top priority, often at the expense of effectiveness	Quality, effectiveness is given some priority as efficiency
11. External relations	Attempts to " force" relations with market, communities, and ecosystems.	"Fit" is sought.
12. Performance evaluation	P/Ls, etc. serve as anxiety-reducing rituals which seek to "justify" existing paradigm, myopic bottom line	Information from consumers and employees are given equal focus with P/Ls, market share and demand are stressed; "true" bottom line/
13. Performance evaluation	Focus on results (ends), individual recognition.	Focus on processes (means), group recognition
14. Motivation concepts	Individual is responsible for his/her well-being "carrots" and threats are used simultaneously, goals of individuals not always those of the organisation	Group orientation, self-directed teams, and "ownership" by all levels in the goals of the organisation.
15. Control	External to individual	Internalised
16. Growth	"Predator" type, one constituency often benefits at expense of another	Mutually beneficial to all constituents, balance

Glover noted that the following steps are typical in TQM implementation [37]

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┌────────────────────────────────────────────────────────────────────────────────┐
│  ┌──────────────┐                                                                │
│  │ Awareness    │                                                                │
│  │              │                                                                │
│  └──────────────┘                                                                │
│  • Leadership                                                                    │
│                                                                                  │
│  • Review of    ┌──────────────┐                                                 │
│    options      │ Education    │                                                 │
│  • Seminars,    └──────────────┘                                                 │
│    Books         • Leaders                                                       │
│  • Planning      • Middle      ┌──────────────────┐                              │
│    session         managers    │ Structural change│                             │
│  • Selection of  • Supervisors └──────────────────┘                             │
│    change agent                 • TQM design                                     │
│  • Readiness     • Employees    • Steering       ┌──────────────────┐           │
│    survey                         committee      │ Necessary Activities│        │
│  • Involvement   • Facilitators • Quality teas   └──────────────────┘           │
│    of union                                       • Empowerment                  │
│                  • QT leaders   • Revised         • Participation ┌──────────────┐│
│                                   information                     │ Expected     ││
│                                   system                         │ improvement  ││
│                                 • Facilitation    • Consensus     └──────────────┘│
│                                   process                         • Employee      │
│                                                   • Harmony         ownership and  │
│                                                                   • Productivity   │
│                                                   • Measurement     Quality        │
│                                                                   • Consumer       │
│                                                                     satisfaction and│
│                                                   • Fact-based     • Market share   │
│                                                     problem solving  demand         │
│                                                   • continuous     • Improved goals │
│                                                     improvements     and financial  │
│                                                                     performance     │
└────────────────────────────────────────────────────────────────────────────────┘
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Batalden et al outline what the health leadership must learn to implement TQM successfully[38]

• Management must learn the meaning of quality, including an understanding of the importance of the customer, and that there are multiple customers in the production process.

• Top management must sponsor and encourage the continuous improvement of quality, including the wise use of teams that can work together effectively to

improve systems and of other processes, including group processes and organisation and system change skills.

- Management must learn the meaning of statistical thinking: how to speak with data and manage with facts; how to take the guesswork out of decision making; how to reduce variation and unnecessary complexity through the use of the seven standard tools of data analysis and display (cause - and - effect diagram, Pareto chart, histogram, scatter diagram, flow chart, run or trend chart, and control chart); and how to link the results of the use of these tools with appropriate management action.

Schaffer argues that a successful implementation of company-wide continuous improvement is not simply a process of induction training, setting up employee problem solving teams and waiting for the results to come rolling in. Nor can it be distilled down to a one size fits all ten, twelve or fourteen point formula. It must instead be based upon a careful analysis of a company's external business environment and tailored to achieve clearly defined business goals. It must be planned and managed with the same discipline and thoroughness that would be applied to any important initiative undertaken by company management. And it simply cannot be delegated. Success requires the personal involvement of executive management at each step of the process and a willingness to persist for years and perhaps decades[39].

Yet even this level of commitment is not enough. A company must be willing to literally redesign itself in order to eliminate systemic barriers to change and to create new systems that support and provide incentives for the creation of a

fundamental capability for continuous improvement of the corporation's performance. In other words, continuous improvement must become part of the day - to - day job. The experience of the Japanese suggests that companies which are willing to take on this kind of challenge, and have the ability to persist over long periods of time, will ultimately become successful players on the world stage. Companies that cannot live up to this challenge will be marginal players, at best, or may not survive to play the game at all. McLaughlin notes that the implementation of TQM requires that administrative and medical managers mediate areas of conflict. How well management functions during the transition will depend on its ability to follow the following action guidelines[40]

1. Redefine the role of the professional.

2. Redefine the corporate culture.

3. Redefine the role of management.

4. Empower the staff to analyse and solve problems.

5. Change organisational objectives.

6. Develop monitoring capacity.

7. Drive the benchmarking process from the top.

8. Modify the reward system.

9. Go outside the health industry for models.

10. Set realistic time expectations.

11. Make the TQM programme a model for continuous improvement.

Oberle argues that the fundamental message of all the three gurus (Deming, Juran, and Crosby) is basically the same[41] commitment to quality improvement

throughout the entire organisation; attack the system rather than the employees ; strip down the work process - whether it be the manufacturing of a product or customer service to find and eliminate problems that prevent quality; identify your customers, internal or external; satisfy that customer's requirements in the work process or the finished product; eliminate waste; instill pride and teamwork; and create an atmosphere of innovation for continued and permanent quality improvement. None of these experts offer a quick fix to heal years of mismanagement. Their approaches require continuous commitment rather than a "Programme - of - the - day " outlook. Some of the differences between these gurus are clear. Crosby calls for zero defects while Deming's 10th point is to "eliminate slogans, exhortations and targets for the workforce by asking for zero defects and new levels of productivity " Deming's fourth point warns managers to "drive out fear " while Juran says, "Fear can bring out the best in people". The second point of Juran's " break-through sequence" calls for problem analysis to " distinguish the vital few projects from the trivial many and set priorities based on problem frequency". This differs from Crosby's 11th point on error-cause removal, which encourages employees " to inform management of any problems that prevent them from performing error – free work ". All three experts call for the use of statistical tools in process measurement but Deming and Juran place more emphasis on them than Crosby. They all stress total company commitment but Deming starts at the top and works down. Juran says the process can begin with middle management and work up and down the ranks, whilst Crosby by focusing on conformance to requirements and product

defects, appears to put more responsibility on operations. The author supports Berwick's view that people should look for the similarities in the things they hear from all the gurus, because there is a certain core set of concepts that make up an irreducible set. If those concepts are not being followed, quality improvement is not being embarked upon.

Choosing among the three gurus depends on the needs of a particular organisation and how it prefers to adapt a quality philosophy to fit those needs[42]. Eskildson argues that it is inappropriate to expect all organisations to follow the same path to improvement, while it is likely that most organisations will require a culture change to reach and sustain the performance levels of a champion. He provided the following four-step process for getting started[43]

- Establish demanding, customer-focused improvement goals.

- Involve everyone in accomplishing the goals.

- Establish an aggressive transformation profit - and - loss plan that summarises the intended costs and economic benefits associated with substantially improving organisational outcomes.

- Restructure if appropriate.

Hacquebord argues that the theory for quality improvement is universal, irrespective of the organisation. He outlines the following principles, which he thinks are widely applicable to all types of healthcare organisations[44]

- Improving quality includes customer education.

- Improving quality needs the ability to predict quality. This requires continually updated theories and proper use of data: improving quality is not just looking at

Peters suggests the following implementational requirements[46]

1. Management obsessed with quality.

2. Guiding systems or ideology.

3. Quality is measured.

4. Everyone is trained in techniques for assessing quality.

5. Quality is rewarded.

6. Teams, involving multiple functions/systems, are used: it is vital to engage in multi- function problem solving and to target business systems that cross several functional boundaries.

7. Small is beauiful.

8. Constant stimulation.

9. Create a parallel organisation structure devoted to quality improvement.

10. Everyone plays.

11. When quality goes up, costs go down.

12. Quality improvement is a never-ending journey.

This model is criticised by Nwabueze who argues that it does not represent a coherent or integrative framework that enable managers to start or end a programme[47]. Pryor et al argue that organisations are failing with their TQM initiatives because they have failed to adopt a strategic approach to the implementation of TQM and it is that strategic approach which represents a solution to the failure of orthodox models of TQM[48]

past or present events. Rather it involves predicting what action will lead to a better future. Such prediction is effective only when the theory of medicine is combined with the analysis of data that has been conducted in the light of an appropriate theory of variation. Clinical practice and healthcare management should not be a guesswork, trial and error, rather, it should be prediction based on theory.

- Improvement of quality includes staying ahead of the customers: to improve the quality of healthcare, it is imperative to anticipate patient needs for care, information, and assistance from staff.

A supervisor's job is to help subordinate improve; by understanding variation, supervisors can know how to help to improve the performance of their subordinates. Management must be concerned with optimising the whole system because optimisation of the parts of a system will ordinarily lead to sub-optimisation of the whole system. Cullen et al suggest the following steps in implementing TQM[45]

1. Understanding: compare your organisation to the British Standard (BS5750).

2. Top management commitment.

3. Company wide awareness: explain TQM throughout the organisatio using a top-to -bottom briefing exercise.

4. Planning: identify a series of projects, this should cover education/training

5. Implementation: each functional manager should set annual quality objectives.

6. Review: every project reaching completion must be reviewed to determine if its objectives have been met.

Step 1: Environmental analysis

Internal

External

Step 2: Establishing organisational direction

Mission

Objectives

Step 3: Quality formulation.

Step 4: Quality implementation.

Step 5: Quality control.

Silversin argues that those implementing quality management need to develop the level of physician commitment by supporting each group member to understand that his / her personal financial success depends on the group's reputation for service. When physicians fully appreciate that some current traditions reduce the group's competitive edge and their own financial security, they will begin to challenge and change norms that foster and support the status quo[49].

Filippis argues that there are three increasingly complex stages that management team must go through to be successful in implementing TQM[50]

- Stage one - Focus on result.

- Stage two - Assist managers to find out if they really want to be managers, and then help them find the right job to fit for their preferences.

- Stage three - Focus on the process.

Stewart believes that the management of change literature is full of evidence of the difficulty of introducing organisational change successfully, together with

advice about how to be better at doing so. It is really very difficult to change large organisations, but looking around one can see that it can be done. Stewart provided two guidelines for success in doing so[51]

1. Create a felt need for change.

2. Give individuals areas of responsibility where they feel they are sufficiently in control to be able to influence, preferably to determine, what happens.

Koch argues that the main way that organisations are introducing TQM is by developing their own " map " of how TQM can best fit the prevailing culture of the organisation[52]. Spitzer argues that the lead-time in implementing the TQM strategy is relatively long because most companies have voiced a commitment to quality for marketing purposes. Therefore, a proclamation of commitment to TQM will likely falls on deaf ears and raise minimal response from competitors. Acknowledgment and response are not likely to occur until the effects of this commitment have become painfully obvious - which can be as long as 10 to 20 years, as evidenced by the auto industry. Implementing TQM is, therefore, a difficult process, and the complexity of organisational and competitive issues facing the implementers grows geometrically with the number of industries in which the implementers compete[53]. Gains argues that method that can help us succeed in a true implementation, support the required changes, and drive total quality throughout the organisation is policy deployment. TQM is a strategic game and policy deployment is the means to execute the strategy. The key success factors for policy deployment are[54]

- All managers participate in developing the vision and associated plans that are based on specific objectives or actions and not desired numerical or profit goals.

- At each level of the planning process, the individual manager takes the initiative and responsibility to plan actions that support the level above. This is different from the boss setting the goal, and different from joint agreement on goals. Once each individual has their own actionable targets, they get together with others in the organisation to align the targets.

- The quality tools and techniques become a "common language " for the process and enable each manager to break down targets to monthly actions that can be assigned to employees and then measured and evaluated. The focus is on solving the root causes of problems cross-functionally versus treating symptoms. This is very different than focusing on monthly profit or revenue goals only.

- The focus is on the process and assessment of what worked and what did not and why. Numerical goals are set but they are different in that they are the numbers that will result in the desired profitability. For example, if I produce X number of quality widgets with no scrap or rework, I will net X number of service projects to the customer's satisfaction then it will result in X $'s of revenue.

- One of the key factors is that the policy deployment process and planning are not linked to the performance review or appraisal process. Policy deployment is process management and, therefore, does not include an evaluation of

personnel performance. This factor implies considerable thought in order to present a unified message to the organisation. It requires the reward; recognition, compensation and performance appraisal systems must be linked to a strategy of quality, customer needs and teamwork.

Policy deployment focuses on quality and customer satisfaction first. Policy deployment puts PDCA into the planning process and into action. Sound profit results become a regular by - product of this philosophy. Mclaughhlin et al (1992) argue that for TQM to succeed in healthcare, the model of TQM (which does not respect professional standards) and the model of professional bureaucracy (where professionals view quality as a process of evaluating and regulating themselves to gain and protect their professional domains and autonomy) must be accommodated[55]. The following eleven actions are suggested for management to function well in a TQM environment[56]

1. Redefine the role of professionals.

2. Redefine the corporate culture.

3. Redefine the role of management.

4. Empower the staff to analyse and solve problems.

5. Change organisational objectives.

6. Develop mentoring capacity.

7. Drive the benchmarking process from the top.

8. Modify the reward system.

9. Go outside the health industry for model.

10. Set realistic time expectations.

11.Make the TQM programme a model for continuous improvement.

The author is in agreement with Nwabueze's argument that such a prescriptive package is full of theory but it does not provide the organisation with "how to do it". It should be clear that having a strategic dimension to the quality improvement might prove to be difficult in the healthcare sector because it involves transforming the existing managers into strategists and guiding them to think in accordance with prescription; changes which may not be feasible. Madu outlines the following differences between TQM and Strategic Total Quality Management[57]

Table 6.2 Differences Between TQM and Strategic Total Quality Management

Principles of Quality	TQM	STQM
Definition	Customer driven	Customer and environment driven
Priorities	Emphasis is on outcome and quality is the means	Organisational focus and vision is driven by overall quality
Decisions	Short-term and long term goals are emphasised	Short-term and long term goals that are environmentally sound and sensitive are emphasised
Objective	Prevent errors	Prevent errors in products and services and maintain socially responsible decisions that are environmentally sound and sensitive.
Costs	Quality reduces costs and improves productivity	Quality reduces costs, improves productivity, and corporate image.
Errors due to	Common causes, which result from failure of, top management to manage effectively.	Special and common cause as well as irresponsible management decisions.
Responsibility for quality	Involves every member, improvement is emphasised and teamwork is the approach.	Involves every member of the organization but requires top management to take the lead to ensure that socially responsible decisions are made and effectively implemented, philosophy of continuos improvement is emphasised.
Organisational structure and information flow	Horizontal approach provides real time information, flexible	Horizontal / vertical approach, allows active participation of important stakeholder group in making quality decisions.
Decision making	Team approach is used with team members comprising of employees	Team approach with team members comprising of employees and important stakeholder group.

TQM MODELS

The application of TQM philosophy to organisations is widely available. A number of operational models have been adapted from industry and applied to the healthcare setting. These models are usually presented as steps to quality or phases of quality improvement. As an illustration, five different models deserve attention. They are labeled by their institutional affiliation for simplicity purposes:

- *The NKG model.* This model, developed by NKG Inc., the winner of the First Annual Healthcare Forum Witt Award, describes the 10 steps to quality it took in the absence of a model[58]. Since then, more sophisticated models have been described in the healthcare literature. One needs, however, to keep in mind that this healthcare institution was one of the first to actually apply TQM to the hospital setting and that Total Quality processes are still very new to healthcare.

- *The Hospital Corporation of America Model.* The Hospital Corporation of America has been using the Deming philosophy, and adapted the well-known 14 Deming points and a strategy called FOCUS-PDCA in the healthcare setting.

- *The Harvard Community Health Plan Model.* The model developed and professed by the HCHP describes four phases of quality improvement (start-up, test, scale-up, institutionalize) and 12 specific steps for the quality improvement process[59,60]. The model has been tested quite extensively through the various phases of the National Demonstration Projects in Palestine.

- *The American Hospital Association Model.* This model describes three major steps (prepare to improve, implement, innovate) for achieving high quality and appropriate cost reduction, and develops an operational model for quality in healthcare based on the four different dimensions of quality (quality of organization / management, quality of evaluation, quality of service, value of care) .

- *The University of Michigan Medical Center Model.* The University of Michigan Medical Center (UMMC) was a participant in the National Demonstration Project and winner of the Second Annual Healthcare Forum Witt award. Its total quality process includes a number of phases (create awareness, top leadership training, development of internal resources, mid-level training, introduction of quality improvement teams, employee and clinical training) and is conceived as a 5-year process (from awareness to maturity)

TQM is not a homogeneous entity, as a number of different models have been identified for implementing the basic technique and measures. Puri notes two basic approaches for developing a service TQM model including[61]

Approach 1: Service TQM model based on ISO 9004-2. The basic steps in this approach are :

- Defining and identifying service quality characteristics and a service delivery mechanism.

- Establishing management responsibilities and infrastructure.

- Identifying requisite personnel and material resources.

- Establishing management responsibilities and infrastructure.

- Identifying requisite personnel and material resources.

- Establishing a quality system structure.

- Planning and developing operational procedures.

- Establishing service performance evaluation procedures.

- Developing improvement strategies.

Approach 2: Self-Developed / Self - Directed Service TQM Model.This approach requires the following seven basic steps :

- Customer needs

- Management responsibility.

- Service processes.

- Improvement projects.

- Continuous improvement.

- Evaluation.

- -Review / Revision.

Preston argues that there are many descriptive models for TQM but all may be considered as elaborations of the Joiner Triangle. The S-P model of TQM, for example, describes theoretically the components and logical linkages necessary to achieve these benefits through TQM. The main features of the model are outlined in the following diagram[62]

Diagram 6.1 The S-P Model

1) Basics of TQM

| Team Process | Internal Customer focus | Use of Data | Common Understanding of Quality |

2) Prerequisites for improvement

| Quality improvement skills | Understanding of processes | Supplier Partnership | Understanding Customer Needs |

3) Ability to Improve

Ability to control and improve processes and products

4) Outcomes

| Reduced Waste | Less Variation | Better Quality |

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The model's central thesis that the key to realising the benefits of TQM is the development of an organisation's ability to satisfy customer's needs, to improve productivity and to maintain the value of the organisation and remain in business, thus satisfying the needs of all stockholders.

The model makes it clear that the leader has a role in integrating and managing the internal and external organisational environment during the process of TQM implementation. That is to say, in achieving each of the requisites of successful TQM implementation, the leaders have to manage variables not just internal to organisation, but also manage the interaction of those variables with other variables in the external environment of an organisations. At the moment, too little is known of this type of interaction and this ignorance has probably led to the unsuccessful implementation of TQM and subsequent criticisms of it. The S-P model, therefore, offers a framework for the analysis of external variables interacting through the leadership of TQM.

Berry explains a unit level quality model which is popularly known as the Deming wheel or Shewhart diagram. This model is illustrated in the following diagram[63].

Diagram 6.2 Deming Wheel

PDCA

ACT | PLAN

CHECK | DO
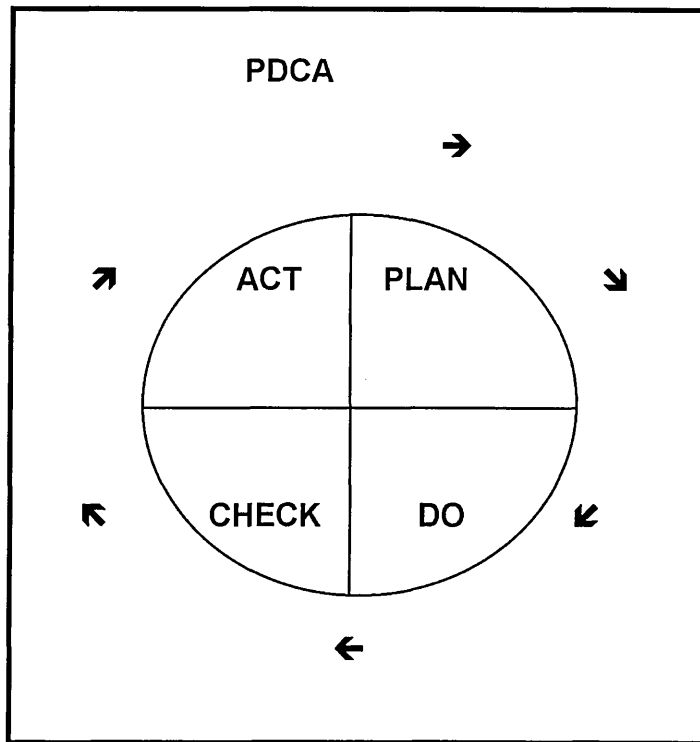
This model allows the methods for improvement to be tailored to the situation. If there are changes readily available that people believe would result in improvement, they can be tested without further study. If there is a need to gain more knowledge before developing a change, the model also accommodates those situations. By providing this flexibility, the model alleviates some dependency on experts and relieves some frustration associated with overly complex approaches to improvement.

In order to have a quality focus, PDCA suggests that all activity follows a cycle as follows:

1. Plan: What you are going to do?

- Define the unit's mission.

- Identify unit output.

- Prioritise products and services.

- Identify customers of priority products.

- Identify customers' needs in customers' language.

- Translate customers' needs to department language.

- Set quality indicators.

- Set a plan to meet customers' needs

2. Do: execute the plan

3. Check on the results of the execution / action.

4. Act to modify has been done do to better ensure the most positive quality result.

Nolan and colleagues have devised a simple and elegant model for achieving changes that are improvements. Nolan's model comprises three basic questions and a fourth element that describes a cycle for testing innovations[64]

1. What are we trying to accomplish?: Improvements must be intended, and specific aims are crucial

2. How will I know if the change leads to an improvement?: Measurement is only a handmaiden to improvements, but improvements cannot act without it. Measurement here does not happen for the purpose of judgment, but for the purpose of learning.

3. What changes could we make that we think will result in improvement?: This question addresses the central law of improvement. Since new aims require

changes of systems, it is important to be able to identify promising changes and to avoid useless ones.

4. The Plan- Do- Study- Act (PDSA) cycle: This cycle describes in essence inductive learning ie the growth of knowledge through making change and then reflecting on the consequences of those changes. Such inductive learning is familiar to scientists but unusual in daily work.

Diagram 6.3 Model for improvement[65]

1. What are we trying to accomplish?
2. How will I know if the change leads to an improvement?
3. What changes could we make that we think will result in improvement?

Plan | Do

Act | study
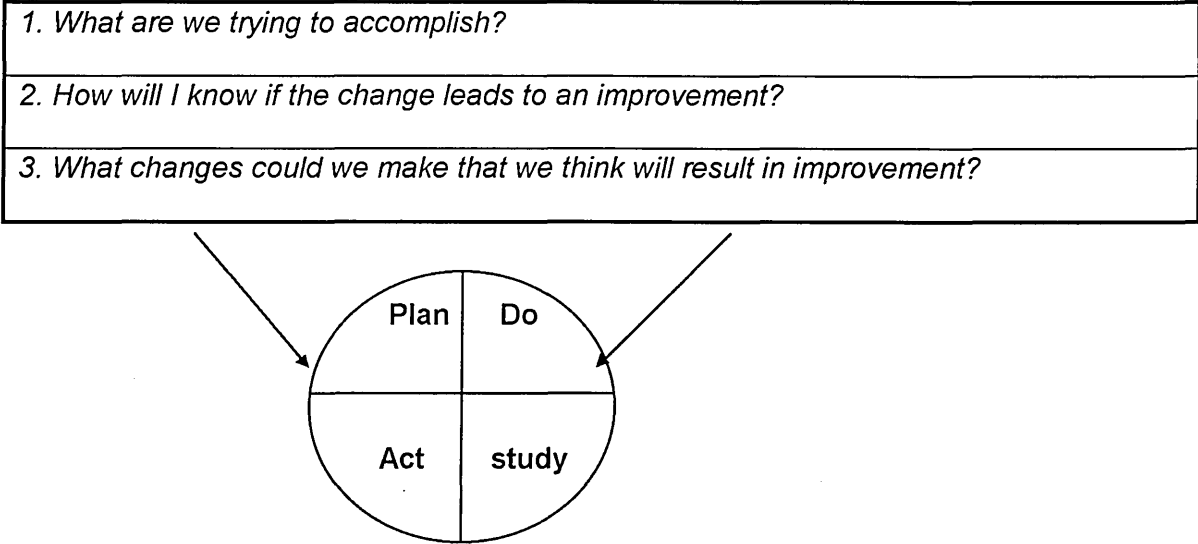
Nwabueze argues that a comprehensive and holistic approach to the implementation of TQM is needed[66]. He developed a five phased implementation model" What to do approach", based on the commonly prescribed activities which underpin the implementation of TQM as espoused by the leading proponents of the quality movement. Nwabueze believes that his model represents the quality infrastucture needed for sustaining the implementation of TQM. The following table describes Nwabueze's model

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Table (6.3) " What- to – Do" Approach to TQM[67]

	Prescribed Activities	
Pre Set-up	*	Organisational assessment
Set-up	*	Develop infrastucture and specify roles, relationships and responsibilities of: One) Quality Council Two) Facilitators Three) QI teams
	*	Train top management
	*	Train facilitators (limit numbers)
	*	Train QI teams (limit numbers)
Get – up	*	Identify customers: external to the organisation
	*	Identify critical work processes
	*	Identify key issues affecting delivery of quality services
	*	Identify pilot QI projects
	*	Nomination and selection of pilot QI projects
	*	Establish strong links between elements of infrastucture
Stay-up	*	Team maintenance activities to ensure continuity
	*	Integrate QI projects
	*	Consolidate lessons learnt from pilot QI projects into training
Move-up	*	Increase the number and scope of QI Projects
	*	Training and retraining at all levels
	*	Integration of QI projects into business plan.

Conclusion

Watkinson argues that in the context of a still unfolding philosophy, the literature

identifies a growing realisation that a rigid adherence to the work of one particular

guru is not appropriate[68]. Watkinson's view was supported by Bendell who suggests that as each guru had a unique message, and contradictions exist between the gurus' models, the approach taken needs to be made specific to the organisational context[69]. There is evidence in the literature that Crosby's approach had served as a model which organisations have tended to favour, at least in the initial stages of implementation. However, there are also indications that organisations only progressed so far by exclusively adhering to Crosby's prescriptions.

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CHAPTER SEVEN

CONTRADICTIONS WITHIN TQM: A CRITICAL REVIEW

Introduction :

This chapter will provide an extensive review of the difficulties faced in the implementation of Total Quality Management (TQM) as posited in the literature. This covers difficulties in health and non- healthcare sectors.

CONTRADICTIONS WITHIN TQM: A CRITICAL REVIEW

The leading proponents of TQM come from the operations management field and they do pay lip service to the importance of human resources and they vary in their views of what employees can and should contribute. Crosby sees the need for quality awareness and communication by employees to management of the obstacles facing them in their jobs but little more[1]. A greater emphasis on employees is present in the work of Deming and Feigenbaum who note that everyone in the organisation from top to bottom, from office to technical service, from headquarters to local sites must be involved. People are the source of ideas and innovation and their expertise, experience, knowledge and operation have to be harnessed to get those ideas implemented[2]. In practice, it is apparent that there is both a potential contradiction as well as complementarity between TQM and employee involvement. On the one hand employee involvement is inherent in TQM ideas in terms of an educational process and more direct involvement in quality and how it relates to the job. As Wilkinson et al note that it is a form of involvement said to be dictated by customer requirements. employees are immersed in the logic of the market and are thus more likely to be convinced of the

legitimacy of company decisions[3]. On the other hand, there is a considerable degree of ambiguity about TQM in practice - while the language is about increased involvement, there is also strong emphasis on reinforcing management control through culture management. TQM shifts the focus of responsibility for quality to the people who actually do the work and makes extensive use of teams. Thus, it could represent a transformation from traditional authoritarian top-down decision-making to task-orientated ideals. It is shift away from the ideas of scientific management , sometimes called Taylorism, which reduces the need for formal written organisational rule[4]. It can be seen as a move from direct control to responsible autonomy with the attempt to harness the adaptability of labour power by encouraging it to adopt to changing situations in a manner beneficial to the firm[5]. However, in the sense that quality methods of working emphasise monitoring and control, TQM ideas can be used to reinforce a management style rooted in what to do with the bottom of the organisational hierarchy, whilst also appearing to rank-and-file workers as a way of getting the bottom to take responsibility. Some companies may be doing no more than adding quality to the list of requirements which already exist, rather than reexamining the quality procedures. The concept of zero defects will, therefore, become simply a further device for controlling and motivating the workforce. Furthermore, what is seen by TQM writers as having an unambiguously positive impact on employees may be seen by others as increasing pressure on employees by getting them to take on more responsibility. TQM's leading proponents also tend to have rather a unitary view of the firm and hence some barriers to change are underplayed. There is little acknowledgment

that there may well be tensions between the production orientated ' hard' aspects of TQM which seek to emphasise working within prescribed procedures and the 'soft' aspects which emphasise employee involvement and commitment[6] While there is an implicit need in TQM for double-loop learning, Morgan argues that some aspects of TQM many prevent double-loop learning is often associated with the principle of bureaucratic accountability. To the extent that employees are held responsible for their performance within a system that rewards success and punishes failure, they have an incentive to engage in various forms of deception to protect themselves[7]. Thus employees often tend to find ways of obscuring issues and problems that will place them in a bad light. They find way of deflecting attention and of covering up, as well as of engaging in forms of impression management that makes the situation for which they are responsible to look better than it actually is. In addition, there is often a temptation to tell managers exactly what one thinks they want to hear. The results of these modes of behaviour may be that people are unable to cope with uncertainty and ambiguity. People thereby cannot challenge the continuing relevance of a particular objective and those who are prepared to do so will endanger their survival within an organisation. Secondly, TQM has a unitary view of the organisation, which mean that TQM has an integrationist approach to organisation culture. This integrative approach regards culture as an integrating mechanism with an emphasis on harmony, homogenisation and consensus. This approach does not appreciate that the external or even the internal environment, which could be sometimes uncertain. TQM's emphasis on cultural homogenisation does not, therefore, encourage or

facilitate double-loop learning. This is because encouraging people to accept the problematic nature of the uncertain situation they confront and creatively challenge the status quo may facilitate double -loop learning further. Terms this allows people to write off legitimate error against experience and enable people to approach issues and problems from as many perspectives as possible.

TQM also calls for employee participation and involvement in objective setting and decision-making. The literature suggests that such participation will result in higher motivation and job satisfaction. This theoretical assumption is hard to implement in practice. Johnson and Gill argue that It is naive to assume that the opportunity to participate in objective-setting will automatically result in the controlled becoming highly motivated to achieve the resulting objectives[8]. This is because in some circumstances, a participative approach to objective setting can produce higher motivation and job satisfaction but this might be through building slack into these objectives and thus result in lower performance.

For TQM implementation to be successful, many writers call for a cultural shift in the organisation with a change in values, organisational structure, the way people work together and the way people feel about participation and involvement. TQM is, therefore, a radical change strategy, which is geared to changing the culture in the long term. Atkinson notes that cultural change is the secret to implementing TQM[9]. Smith notes that TQM seems to require wholesale organisational improvement towards a stated goal-total quickly; in other words culture change[10]. Wilkinson et al also note that TQM seems to require wholesale organisational change and a re-examination of production methods working practices and

industrial relation[11]. The question at this stage is "is it possible to create changes in organisational culture? " Johnson et al argue that there is some firm evidence that creating changes in organisational culture is difficult. Much of the recent spate of anecdotal material claiming the efficacy of cultural change in improving organisational effectiveness is short on evidence[12.] Fingleton suggests that culture is a crucial factor for the success of TQM. Deming was able to achieve success in Japan because the values and culture of the Japanese were compatible with quality initiatives[13]. Gant et al note that when compared to the Japanese, the same level of success cannot be expected, as the cultures in the West are unpredictable[14]. Liberatore argues that corporate culture must change in order for new ways of thinking and doing business to evolve[15]. Furthermore, he argues that "TQM fails because in many cases, the organisational culture is so ingrained, it resists change and attempting to change the established culture will not work unless it is disabled[16]. This way, little is done by most organisations to realign the existing culture to integrate the principles of TQM. Alloway argues that quality efforts may face the following problems[17.]

- Organisations jumping right into a programme without first preparing the ground work.

- Trying to treat symptoms rather than causes.

- Never having enough time to do a job right first time but always enough time to do it over again.

- Judging performance by isolated incidents.

- Copying tools and programmes from others.

- Blaming others when it goes wrong

- Believing that islands of success will spread without proper preparation rather than realising that unsuccessful ones will overcome a successful operation if left unattended.

- Drifting from one programme to another, hoping for a solution.

The current literature on TQM and HRM claims that HRM could be seen as necessary to move away from bureaucratic modes of control towards forms of control that instill personal commitment and provide greater "flexibility" in the management of human, financial and material resources and costs. The literature claims that this is similar in TQM which is seen as the answer to the problem of rigid hierarchies which isolate top management, confine middle management to administrative roles and frustrate operational and supervisory management in their decision making.

Flexibility involves the break up of the orthodox hierarchical structure of the firm in such a way that radically different employment policies can be pursued for different groups of workers. The new divisions are much less likely to be based on blue or white-collar distinctions, but rather on the separation of jobs, which are specific to a particular firm from those, involving only general skills.

Flexibility also involves the break-up of the labour force into increasingly peripheral, and therefore, numerically flexible groups of workers, clustered about a numerically stable core group which will conduct the organisation's key, firm-specific activities . At the core, the emphasis is on functional flexibility, shifting to the periphery, numerical flexibility becomes increasingly important.

Workers in the core group are full-time, permanent, career employees. Their employment security is won at the cost of accepting functional flexibility in the short and long terms. Terms and conditions of employment are designed to promote functional flexibility. This often involves single status conditions and the introduction of performance assessment. First peripheral group workers, on the other hand, are also full-time employees but enjoy a lower level of job security and have less access to career opportunities. Functional flexibility is not sought here and, because these jobs tend to be less skilled, little training or retraining is needed. A lack of career prospect, systematisation of job content around a narrow range of tasks, and a recruitment strategy directed particularly at women, all tend to encourage a relatively high level of labour turnover; which itself facilitates easy and rapid numerical adjustment to product market uncertainty.

Flexibility has three major negative impacts on the workforce. Firstly, within the core group, employees will increasingly enjoy security of employment provided they are both capable and willing to stay. Outside it, employment security is reduced because secondary workers are likely to become more job specific and the workers in the external group, especially the self-employed sub-contractors, may find themselves without job or employment security and with the entire responsibility for providing business support and training for themselves. Secondly, in the core group promotion prospects are generally available; although career development will increasingly involve mastering new skills. Career movement for secondary workers will involve changing employers and will therefore be restricted. Thirdly, the relationship between pay and time worked is

likely to change for all groups. For core workers, pay will often be increasingly determined by individual performance whilst for the peripheral groups, pay is likely to vary more explicitly with hours worked. An across – the - board approach to rates is, therefore, likely to become more difficult to sustain.

The three previous negative impacts of flexibility on the workforce contradicts completely with TQM's claims that introducing such a concept is the answer or cure to the problem of rigid hierarchies which isolate top management from the rest of the workforce. In the researcher's view TQM's search for flexibility reinforces these rigid hierarchies by creating a greater difference between the employees in terms of their pay, promotion/ career development and job security. Olkland paints a hard- edged picture of TQM. Although he talks about the importance of management commitment, he focuses on process control tools to the extent that communication is via statistics, charts, and diagrams. Despite his claim that teamwork is an essential component of TQM, there is virtually no discussion of human relationships. Olkland does not consider that by focusing on the inputs to a process, the end product is relatively neglected. The assumption is that getting the process right will ensure a quality out- put. In this way, Oakland, like Juran, fails to address the role of the individual in the work process; seeing human resource issues as being peripheral to those of process control, tools and techniques .He does not consider the human factors which are part of the work process, or their effects on the end product[18]. Wilkinson et al observe that there is very little discussion in the literature of the atmosphere required for TQM to work. There is no debate concerning the chasm between a company's awareness of the

need for quality and the translation of this into new attitudes. They note that this, together with the unchallenged assumption prevalent in the TQM literature that all employees work with one purpose, gives the impression that implementation is relatively unproblematic[19]. Successful implementation then is seen as being dependent on motivation, and this can be assured by providing training. In the absence of guidance to the contrary, human resource concerns become subsumed beneath heavy-handed objective rules, procedures and documentation. Soft humanistic issues have been raised in the quality literature but they have not been handled in any depth. In traditional and hierarchical organisations, employees are treated as being objectively measurable and in turn they give of their bodies without giving of themselves. Lessem notes that there is no quality to be seen anywhere[20]. Holpp believes that there are saboteurs that can way-lay quality improvement. Alone they are irritants. In concrete they are[21].

- Un-corrected vision: a vision statement must be closely coupled with behaviours that can be picked out, reinforced and practiced by employees.

- Poor objectives : a successful system should meet the following criteria :

  * Projects are visible and well represented.

  * Management is involved.

  * The policy deployment process uses targets and indicators that are easily interpreted.

* Those responsible for projects see them as important daily activities not as extra work.

- Loose cannons: Two kinds of loose cannons are likely to clatter across the decks during a total quality campaign. The first are people who use quality as an excuse to establish fiefdoms. The second are people who remain powerful position but who are not included within the quality initiative. Both types are dangerous. Empire builders endanger the positive thrust of quality management, foot - draggers lower the morale of their people.

- Wandering teams and lost supervisors: To some cross-functional teams that have no clear charter, quality management must seem like a bizarre management dream. Furthermore, many supervisors and middle managers get lost in the shuffle. The momentum of quality improvement has swept by them. Their subordinates are working on foreign - sounding problems with tools and techniques that remain mysterious. Their traditional role of authority has declined as functional groups approach greater levels of autonomy. They have been disenfranchised.

- Non-Statistical thinking: Statistical thinking is more than numbers. It is a way of looking at the world of managing people and of deciding the root causes of problems. Few senior managers have any training in statistics. They cannot be expected to look at the problem in teams of data rather than gut feeling. Only extensive training can change this view.

- New programme syndrome: Where management falls victim to a host of scams designed to motivate workers. Workers in turn have been subjected to successive new programmes launched with posters' free launches, and pins. Today, managers and workers alike eye such ambitious new initiatives with suspicion. Employees sneer at the word "programme", middle managers and supervisors cringe when executives retreat to a conference centre with some productivity guru.

- What, more training? : Unquestionably, training is the glue that birds quality management efforts as the skills and knowledge needed in quality management are not readily available in the work force. Increasingly, training must be: delivered on the job, delivered "Just - in- Time", provided to employees at all levels, skill - based with measurable, observable, and attainable outcomes, and reinforced by performance measures.

- Electronic management: Too often senior executives appear only on television screens in cafeterias or in front of large audiences at big meetings. In this case, the employees will feel that if the message was really important, senior management would be there to reinforce it in the flesh.

- Change: It is naive to expect employees to abandon long - held values and behaviorus in favour of new ones simply because we want them to. Change is a gradual process that must be managed with compassion.

Wilkinson et at argue that the essence of TQM is that it is a holistic concept. In practice, to achieve the holism required by TQM is difficult for the following reasons[22.]

1. TQM advocates have a quality management and operations background which leads them to ignore broader organisational issues in their search for quality improvement.

2. Consultants who oversee the implementation of TQM tend to follow a partial and cut-price approach neglecting organisational politics and functional relationships.

3. The failure to see TQM as an integrated approach for the whole organisation.

Schaffer et al identify the following reasons for the failure of TQM which indicates the need for a more results oriented approach to accomplish measurable gains in TQM[23.]

1. not keyed to specific results- the TQM methodology fails to specify explicitly how it's espoused activities, empowerment, training, awareness of customer requirements, are supposed to lead to results.

2. too large scale and diffused

3. delusional measurements

4. staff and consultant driven

5. bias to orthodoxy, not empiricism

Brown claims that total quality can and does work but only if it is properly implemented. Most organisations that have failed in their implementation of total quality have not followed some of the basic rules outlined in Deming's 14 points or any of the other quality experts, guidelines on what it takes to implement this approach. Brown offered ten reasons why two thirds of the companies in America have failed in their implementation of total quality[24.]

1.   Disguising cost control as total quality: Concentrating on financial results and cost cutting are short term strategies that by themselves will not ensure long term success. The answer is not to do one or the other, but to do both. Most companies are already very good at concentrating on short-term financial results.

2.   Measuring too many of the wrong things : Companies often fail with total quality because they try to measure and control too many variables, or the wrong variables. Organisations should select measures that really predict success and concentrate on strategies to improve performance.

3.   Lack of support from the top: Many executives are truly committed to total quality in their hearts. However, employees do not judge them by what is in their hearts, they judge them by their action and behaviour Every organisation with a successful implementation of total quality

has a commitment from top management that is demonstrated in actions, not just in words.

4. Too much too soon: The best approach for implementing total quality is to conduct a self - assessment to identify areas of weakness, and select a major initiative or theme to concentrate on each year. The next year, the theme might be measurement, focusing on collecting and analysing the right data. The key is to keep efforts simple and focused on what can really be accomplished each year.

5. Too little too late : Many organisations wait too long to get started with their quality management effort, and commit far too few resources to make the necessary changes,

6. Dual Structures: Quality is not a separate set of tasks that an organisation performs, it needs to be integrated into the way it runs its business on a day - to day basis. Creating a dual organisational structure makes it likely that total quality will be a programme that is worked on for a while before the committees are dissolved and eventually there is return to business as usual.

7. Focus on activities

The logic behind total quality is that if all the right things are done, results will take care of themselves. If customer requirements are

defined, quality measured and everyone trained to work in teams to improve quality, the sales and profits will come rolling in. It is not quite

so simple. All quality improvement efforts should start with results. Organisations should identify the measures of performance that need improving, define the process involved in controlling those measures of performance, and control those processes. Organisations should not adopt activity measures, because the Baldrige Criteria for example or ISO Standards tell them they are important, unless the impact of those measures can be demonstrated upon key organisational results.

8.   Can't get out of phase one: Total quality is something that is often implemented in three phases:

*   Phase 1   :   Training and teams

*   Phase 2   :   Changing the organisational system

*   Phase 3   :   Integration.

Most major systems in the organisation need to be examined and often changed when quality management is implemented. This is a great deal of work and requires both time and resources. Because of this, organisations are often reluctant to move out of Phase 1. The end result is that the environment and culture of the company fails to change and the company never advances. Not only that, but the teams

started three years ago in Phase 1 have begun to drop off as well. Teams are failing to achieve the results they made during the first few years because the easy projects and major process improvements have already been completed.

9. No one gets rewarded for quality and customer satisfaction : In most organisations, no one's pay is based upon quality or customers satisfaction. Rather than pay people for quality, many organisations have installed recognition programmes in an attempt to reward quality. Those programmes usually involves awarding certificates, coffee cups, pens, T-Shirts or other similar items to a small number of employees. Employees are sometimes insulted by these rewards seeing them as just another way for management to get them to work harder without the employee getting much in return.

10. Total quality as a fad: The vast majority of companies currently working on total quality try it for a year or two, and then let the effort die because it is too hard, too expensive, or because it has failed to produce the expected results quickly enough. In reality, quality management should be seen as a fad that produces amazing results if organisations stick with it for the long haul. The trick is to avoid quick fixes because the results will be disappointing. Like many things in life, if you stay with it, and work, lasting positive changes are secured.

Zairi et al argue that nearly all the published literature on TQM, and the models of implementation, consider the need for management commitment. Management commitment, however, while very instrumental in the whole process of introducing TQM, may not be enough to generate success in the market place. Many failures in TQM implementation have been attributed to factors such as[25]

- The executive promotional ladder.

- Executive bonuses and the resultant interest in short - term results.

- Shareholder pressures.

- Lack of constancy of purpose to plan products and services that will have a market, keep the company in business, and provide jobs.

- Emphasis on short - term profits: short-term thinking (just the opposite from constancy of purpose to stay in business), fed by fear of an unfriendly takeover, and by a push from bankers and owners for dividends.

- Mobility of management: job-hopping.

- Use of visible figures only for management with little or no consideration of figures that are unknown or unknowable.

- Excessive medical costs. Excessive costs of liability, fueled by lawyers who work on contingency fees.

Silversin et al believe that the following traditions may stand in the way of successful TQM implementation[26]

- Bias towards defining quality in professional terms.

- Compensation systems reward little other than productivity.

- A short - term orientation: success today inhibits change.

- Physician autonomy is highly valued ... accountability resisted.

- Hierarchy and a lack of team work are often the norm

Wilkinson et al argue that the main difficulties encountered in the management of quality are[27]

- Emphasis on short-term goals.

- Cost constrains.

- Quality is seen to relate only to production operations.

- Measuring quality

- Clash with other initiatives.

- Communication.

- Quality of management.

- Quality of employees.

- Lack of training.

- Lack of quality infrastructure.

Grant et al argue that TQM's origins and dissemination pattern are quite different from those of almost every other management innovation of the past half - century, and it has bypassed the leading business schools and management consulting companies. As a result, many companies have misunderstood and misapplied it, and it has not received the careful academic scrutiny that has sared to give credence and authority to other innovations in organisation and management. TQM calls for systemic changes in management practice, including the redesign of work, the redefinition of managerial roles, the redesign of organisational structures, and the learning of new skills by employees at all levels[28.]

Implementing TQM , therefore, provides challenges similar to those involved in the management of other revolutionary transitions. The management problem with TQM is analogous to the problems associated with introducing representative democracy into former autocracies and introducing equal rights into racially segregated societies. Once such changes begin, how are they managed ? When the upper echelons of management relinquish their traditional rights and powers, can the process be arrested or reversed? The long TQM road takes companies into a new landscape where authority, decisions, and innovation are much more widely shaved. Once a company enters this new territory, it is hard for top management to respond to circumstances that seem to demand sudden strategic shifts. Rosenberg believes that quality

improvement initiatives that are based on the principle of customer satisfaction are usually doomed. This is because organizations have some common misconceptions about customer satisfaction[29]

- Myth 1   :   Customer satisfaction is objective.

- Myth 2   :   Customer satisfaction is easily measured

- Myth 3   :   Customer satisfaction is accurately measured.

- Myth 4   :   Customer satisfaction is quickly and easily changed.

- Myth 5   :   It is obvious who the customer is.

Customer satisfaction is, therefore, a subtle, complex attitude shaped gradually by repeated experiences with a company's products and services. The most direct effect on it comes when a company involves the customer at all levels of operations and it is that process of involvement that drives customer satisfaction.

Discussion about quality in health services tends to focus on quality as providing customer satisfaction and choice, or on professional standards and clinical audit. Such limited discussion fails to consider the cost of poor quality in organisational processes and operations, or the quality techniques and philosophies which have enabled commercial organisations to improve customer satisfaction and reduce costs at the same time.

Milakovich argues that the following are potential barriers facing managers in their efforts to promote quality management within organisations[30]

1. *Performance appraisal.* Systems currently used to set pay and bonuses in the public sector encourage destructive competition (i.e., I Win - You Lose), destroy morale, perpetuate fear, and inhibit motivation and creativity among employees. Some are rewarded and others punished without examining the underlying causes of system variation. Exceptional employees are not rewarded for quality of services provided, because performance appraisal and merit - selection processes (if examined at all) emphasise results rather than process improvements. They assume, without statistical verification, a prior relationship between greater productivity and higher quality. To improve service quality, a complete restructuring of the entire system must be undertaken, emphasising process visibility, teamwork and rewarding employees for uncovering and eliminating the special causes of agency-wide problems.

2. *Hierarchical, "top-down" management.* Despite persistent calls ' for greater employee participation and organisational decentralisation, a "chain of command" hierarchy still predominates in the public sector. This management system was based on religious doctrine and developed at the beginning of the Industrial Revolution to discipline and control an illiterate work force. Despite the fact that most other advanced industrialised nations have abandoned the practice, it is still the management method taught in most American business and pubic administration courses. Not surprisingly, it discourages employee

participation in problem solving, inhibits teamwork, and rewards individual over group effort. One costly symptom of its perpetuation is divisive American labour-management relations.

3. *Over specialisation*. To some extent, fragmentation and compartmentalisation characterise any bureaucracy. So long as personnel and hiring rules require specialised skills in job descriptions it will remain difficult to promote teamwork and break down barriers to cooperation. Without an understanding of the importance of vertically and horizontally integrated cross-functional management, specialisation can be used as a barrier by appointed officials who act as technical "experts" in dealing with elected non-specialised policy makers. Like other subjects in a public administration curriculum, TQM can be taught in order to break down barriers, eliminate the causes of poor service delivery, and raise productivity.

4. *Management By Objectives (MBO)*. Despite the fact that study after study reiterates its failure in both goal attainment and internal process improvement. MBO continues to dominate public and private management education in theory ,as well as in practice. In order to achieve strategic quality improvement, management by control must be reexamined and replaced by total quality leadership and other techniques such as gainsharing, quality function deployment, and benchmarking.

5. *Ineffective public productivity techniques*. The failure of managers to keep pace with changes affecting the work place and the lack of " integrative "

mechanisms within organisations to encourage flexibility, sharing of information, and creation of new ideas, have been identified as key inhibitors of change. The continued use of current productivity measurement techniques in most public, and many private, organisations also presents obstacles to TQM implementation. The prevailing myth that productivity declines as quality increases has kept TQM concepts in the background. Too many leaders of public organisations fear that the use of TQM techniques would render obsolete 1) bonuses, 2) merit procedures, 3) step increases, and 4) other, more punitive productivity tools. They continue to practice traditional methods and techniques, ignoring the reality that those same concepts may be outmoded.

6. *Fear of change*.   Fear of acquiring new knowledge, which challenges that previously learned, remains one of the prime obstacles to state and local quality improvement. The thought of implementing new approaches paralyses many senior public officials who are either incapable or unwilling to shift their management practices.   At the very least, disciplined exposure to TQM principles causes many to question the conventional wisdom about how to best achieve quality and productivity improvement. When senior managers admit that they too may be in need of additional training, positive change is more likely to occur.

7. *Annual budgeting*. The annual budgeting systems used by most governments discourage individual departments from improving the process as a whole. Rather than implementing cooperative, cost effective, and process - oriented

improvements leading to higher levels of service quality, agencies instead engage in a practice of resource acquisition and expansion. Those who control the budgeting, accounting and financial processes have failed to provide alternative measures which, in turn, could improve the quality of service at reduced costs. Such "incremental" budgeting fosters protectionism and game playing, and encourages individual program directors to build their own power bases at the expense of the entire enterprise.

Grant et al (1994) argue that difficulties may arise in implementing TQM because of its distinctive features[31]

- **Intellectual Origins.** Most contributions to modern management theory and technique originated in the social sciences. Microeconomics is the basis for most financial management techniques (e.g., discounted cash flow analysis, security valuation, and accounting principles; psychology has guided the development of decision support systems: and sociology provides the conceptual basis for much of organisational design. The theoretical basis of TQM, however, is statistics. At the core of TQM is statistical process control (SPC), which is based on sampling and variance analysis.

- **Sources of Innovation.** The Research and Development centre for most modern management ideas and techniques has been the leading business schools and management consulting companies. In contrast, the pioneers of TQM - Deming, Shewart, Juran, and Feigenbaum - worked primarily within industry and government rather than in universities. Their backgrounds were

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mainly industrial engineering and physics, and they had few links either to business schools or to consulting companies. Consequently, business schools have not been in the vanguard of the quality movement, and business school members have been students of TQM rather than its teachers. In fact, Motorola and Milliken opened their quality training programmes to university professors in 1991.

- **National origins**. TQM's development pattern is also atypical. Most concepts and techniques in financial management, marketing, strategic management, and organisational design have emerged in the United States and subsequently diffused internationally. TQM, by contrast, represents one of the first truly global management techniques. It began in the United States, was developed mostly in Japan and, during the 1980s, developed further as it diffused throughout North America and Europe. TQM thus integrates American technical and analytic skills, Japanese implementation and organisational expertise, and European and Asian traditions of craftsmanship and integrity.

- **Dissemination Process**. The dissemination of most modern management innovations has been hierarchical. Typically, the pioneers are leading industrial corporations such as General Electric, IBM, and General Motors. Within companies, dissemination has been a top-down process from chief executive officers to divisional heads and down through the managerial ranks. The quality movement, by contrast, has been a populist one. Smaller companies were the original leaders in TQM.

Laza et al argue that the road to TQM is not without its dangers. Creating a culture of continuous improvement offers many opportunities to go astray. Some of those pitfalls include[32]

- Oversimplification and underestimation of the difficulty of bringing about cultural change.

- Failure to recognise that every company, and every environment, is different.

- Lack of project management and/or the management of TQM implementation as a project.

- Conducting mass training before establishing support systems for TQM.

- Overemphasising technical tools at the expense of leadership and management issues.

- Applying tools before needs are determined and direction is established.

- Failure to provide the structure to move the programme to supplier or subcontractor organisations.

Glover suggests three reasons for TQM failures. First, is the conceptual weaknesses of leaders of unsuccessful change which lies in the fact that their conceptual approach to TQM bears little resemblance to what it should be. In many cases, the leaders pay mere lip service to quality and only superficial attempts at organisational change are realised. Second, are the design failures where, sometimes, the concept of TQM is valid but the design and /or the implementation is inappropriate or not advised. Many well - intended TQM efforts

have failed because those initiating the change did not adequately " fit " the TQM system to its intended recipients and their operating environments. Third, is the implementation failure where implementation approaches to TQM are perhaps the most frequent reason for failure. This is the case when the concept and design are valid, but the change agent / leader of the organisation does not understand the complexity of organisational change and innovation. Another type of implementation failure is when the change agent fails to redirect and channel information systems to support a more balanced accounting system in the organisation[33].

Clemmer et al argue that quality efforts fail because managers and senior executives neglect to "Walk the Talk" [34.] This argument means that management's actions are not consistent with what is preached. This argument is consistent with Joss et al's argument which states that in the British National Health Service, the government initiated the implementation of TQM within 23 TQM hospital sites and then introduced other, competing compulsory initiatives such as the Patient Charter[35]. Zangwill has identified several mistakes that many corporate executive officers make that might prevent their companies from developing excellent quality programs such as[36]

- Failing to lead.

- Thinking that planning devolves from financial and marketing goals.

- Believing that quality means inspection

- Believing that quality improvement is too expensive.

- Managing by innovation and not by fact.

- Using misguided incentives and developing a distorted culture.

- Changing targets each year.

Chatterjee et al argue that the path to quality can seem to be confusing because the various prescriptions or models are not always congruent. Worse yet, they are often directly contradictory[37]. The evidence of contradictory advice abounds. Juran for example advocates setting quality objectives and managing the quality plan according to those objectives. On the other hand, Deming is strongly opposed to management by objectives as well as the use of merit ratings and slogans to achieve objectives. Crosby is against material rewards but recommends recognising contributions towards the quality effort. He also recommends zero defects as a quality objective, whereas Juran and Deming are against this because the inherent variability in all processes renders such objectives unrealistic. Furthermore, there are some misconceptions and oversimplifications that are frequently assumed in TQM[38]

- Quality is conformance to requirements: This statement is false, there is much more to quality than conformance to design requirements.

- Quality is free: This would be true if the cost of quality were simply the expense of doing things wrong. There are two kinds of costs related to conformance,

one arises from nonconformance and the other represents resources devoted to quality assurance including the cost of prevention and appraisal.

- Quality improves the bottom line: This is not necessarily true in the short run, but it enhances the prospects for profitability in the long run. A search for a direct causal association between quality and profitability in the short run is futile. Quality contributes to profitability only in conjunction with other critical factors. In other words, quality is a necessary condition for long term profitability but it is not of itself sufficient.

Difficulties in TQM Implementation in Healthcare.

Reeves et al report that the greatest barrier to TQM in healthcare is "territorialism " which produces dysfunctional consequences for both individuals and the organisation. The following barriers have been identified[39]

- Lack of consistent support from executive

- Fear/ resistance to change

- Failure to implement solutions in a timely manner

- Inadequate planning for TQM

- Ineffective communication

- Faulty group process

- Sabotage / lack of commitment from both middle / top management

- Politics / turf battles.

- Turnover / changes in key personnel

Shortell states that the major barriers to TQM implementation in the healthcare are[40]

- The inability to overcome the hospital paradigm

- The inability to convince the 'cashcow' to accept a systems strategy

- The inability of board members to understand the new healthcare environment and their responsibilities

- Ambiguous roles and responsibility throughout the system

- The inability to 'manage' managed care.

- The lack of strategic alignment of the quality initiative into corporate planning.

- Inadequate planning for TQM.

- Ineffective communication.

Silversin argues that while quality improvement tools and philosophy offer enormous potential to medical organisations, many current efforts are likely to share the fate of quality circles and guest relations training which after having their moment in the sun, have all but faded from view. This is because mistrust and fear are the enemies of quality improvement in any medical group. This can

be overcomed by the willingness of each individual and the organisation as a whole to learn. Without the willingness of all physicians and staff to ask, " How can we do better "? in essence, to learn, quality improvement does not stand a chance of long term success. Unfortunately, learning is no simple matter[41.] Godfrey et al note that committed healthcare leaders report a common set of bottlenecks that decelerate their progression to mature quality management[42]

- Insufficient facilitation: either too few facilitators or too little progress in facilitation management.

- Insufficient board involvement and education.

- Rapid turnover of medical staff leadership confounds the constancy of purpose that TQM demands.

- Mergers and restructuring are the playground of the devil when it comes to TQM.

- Excessive word crafting of mission statements or guiding principles.

- Executive turnover is a potentially lethal factor for organisational TQM.

Leaders who wish to assist the transition of physicians from resistance to acceptance and support TQM must pay heed to the above four essential needs and would be wise to structure projects around the dual goals of improving patient care quality and appropriately empowering physician participants.

Koch argues that experience from several TQM demonstration sites in most hospital and community services which are implementing major quality projects, indicates several difficulties in introducing TQM; all of which can be overcome by skill and perseverance[43]

Lack of Top Management Commitment and Vision

The difficulty here is to ensure that there is a clear understanding of what quality of care and service already exists and how quality management can be implemented in the future. If there is a clear strategy, the next issue is to ensure that senior managers are committed, really committed, to the basic concepts of TQM.

Hospital /Community Service Culture and Management Style

Each service has developed its own culture and style. TQM fits well with a corporate style based on effective, efficient communication and a high performance ethic, linked to staff motivation. However, many provider units do not display this culture and style and will either adopt TQM concepts at an intellectual level only or implement it half-heatedly.

Poor Appreciation of TQM Concepts, Principles and Practices.

The introduction of TQM has invited managers and clinicians to rapidly learn TQM ideas and practices. Some provider units have accepted that invitations to acquire the required information and skills, whereas others are still implementing very

worthwhile quality assurance projects which do not get near the prerequisites of TQM and do not predict the attainment of optimal benefits in quality improvement.

Lack of Structure for TQM Activities.

Such is the huge potential offered by implementing TQM that there is a need to have a sound organisational framework. Unfortunately, this framework or structure is difficult to establish in many hospital units, especially if the next obstacle exists.

Ineffective Leadership

It has been said by some that healthcare facilities do not require energetic and charismatic leaders. However, when a unit is attempting to establish a culture and set of practices based on TQM which pervade the whole unit, this ambitious strategy must be led by one or more senior people, who are effective and "high quality" leaders.

Harari has identified the following reasons why TQM programmes often do not work even in organisational environments that desperately cry out for quality improvements[44]

- TQM focuses people's attention of internal processes rather than on external results.

- TQM focuses on minimum standards.

- TQM develops its own cumbersome bureaucracy.

- TQM delegates quality to quality czars and "experts" rather than to "real " people.

- TQM does not demand radical organisational reform.

- TQM does not demand changes in management compensation.

- TQM does not demand entirely new relationships with outside partners.

- TQM appeals to faddism, egotism and quick - fixes.

- TQM drains enterpreneurship and innovation from corporate culture.

- TQM has no place for love.

Zabada et al argue that in reviewing the literature, the following obstacles are found to be to the application of TQM in healthcare organisations[45]

- Physicians in most health organisations do not feel concerned by TQM activities. They feel that TQM is not applicable to their jobs.This point is crucial for the success of TQM in any organisational setting irrespective whether it is the manufacturing or service sector.

- The under- involvement of physicians in TQM efforts. This includes the unavailability of time, physicians eliefs that they are already doing quality work, physicians' relative inexperience and unwillingness to work as members of teams and physicians' perceptions that TQM is primarily a cost- control mechanism.

- Many healthcare providers strongly oppose consumer involvement in the healthcare system. Some of the reasons they advance are: (a) healthcare is too esoteric for the consumer to understand, (b) there is such a wide variety of consumer opinion about how to change the healthcare system that there is no one who can speak for consumers in general; (c) patient involvement in the healthcare delivery process will hamper the smooth operation of some programmes.

- Rigid hierachical and authoritative structures do not allow peer workers to make suggestions for change. For example, Nurses and other healthcare providers who are sympathetic to consumer causes are vulnerable to harassment. Some who have spoken out or acted too strongly for change have been fired or have lost their license to practice their profession.

- The healthcare consumer is powerless to alter healthcare providers' behaviour through market transactions. The healthcare market meets very few of the basic free market condition. Until recently there have been few independent and neutral sources of information available to consumers of healthcare.

Justifying the Use of TQM in the Healthcare: An Analytical Review

The previous section provides many contradictions within TQM. The literature also provides valuable data concerning the theory and practice of TQM. An analytical view of this literature teaches those embarking on quality improvement the following lessons[46]

- Quality improvement tools can work in healthcare: There are few reports that confirm any fundamental differences between healthcare and other systems of production in its susceptibility to process improvement methods. The healthcare teams are neither wiser nor less able than teams in other industries. Once they are taught how, they are able to gather data to make their system better. Quality improvement in health can proceed in much the same way as it does in industry.

- Cross-functional teams are valuable in improving healthcare processes: Modern quality theory emphasises the interdependencies that determine how well processes function. Internal customer - supplier relationships set the tone for external ones. Every major theorist in industrial quality control recommends the frequent use of some form of cross - functional team for the analysis and improvement of processes. Cross functional teams help an organisation understand the interdependencies among processes and how multiple simultaneous changes may be required to achieve the desired improvement.

- Data useful for quality improvement abound in healthcare: Few teams in health need to make heavy investment in collecting data. More often what happens is an application of the new analytical methods to existing data. This data is usually found in abundant supply in the health field. This is an advantage for healthcare. This is in contrast with many of the other industries where even the habit of documentation in itself is not present and may need to be created. Many times a healthcare organisation may need to modify its data collection

procedures in order to focus on a particular problem. This is not expected to be problematical in a field where the culture of data collection is deeply rooted.

- Quality improvement methods are fun to use: In Deming's words " Joy in work describes the essence of the culture that values quality. With the transition from the old methods of quality control: standards, inspection, surveillance, blame, and incentives, to the new methods: teams, scientific investigation of processes, experimentation, customer- supplier dialogue, and celebration. Quality comes to denote aspiration and even fun. Equipped with the scientific methods, the people and teams that engage in the search for useful process knowledge are on a voyage of discovery, and the pleasure of new understanding and continuous improvement is theirs to enjoy.

- Costs of poor quality are high, and savings are within reach: No single project tries to measure all the costs of poor quality, but the overall pattern is nonetheless clear: These costs, the costs of waste, rework, complexity, and unreliability, are all as high in healthcare as they are in other industries. These costs are hidden in the total of today's healthcare bill. Taken one at a time, these costs are rarely dramatic. Public attention needs to turn instead to more newsworthy sources of expense, like new technologies or unnecessary surgery. But these costs of poor quality are a major burden on the healthcare system and they are discovered and remarked on by every team that tackles process improvement. Estimates of the costs of the routine flaws of the systems are said to account for some 40-50% of healthcare bill.

- Involving doctors is difficult: Physicians are part of almost every significant process in health care organisations as both internal customers and suppliers. Physicians tend to be too busy to join the quality teams and perhaps sceptical about their possible helpfulness. Experiences show that when physicians are willing to participate in quality improvement, they can make a major contribution. To be successful in getting physicians into the process, healthcare organisations will have to remove several critical barriers. First, they will have to overcome the fear of surveillance and "make -work" that most practitioners have come to associate with quality assurance activities. For doctors, the word "quality" has meant trouble. Leaders must confront this fear explicitly and explain clearly what is new about quality improvement methods. Second, organisations will have to overcome the barriers physicians feel to devoting time to uncompensated work on quality teams, including the time needed to be trained. This does not necessarily mean direct compensation, but they must see how their interests are served by participation. They must understand that revised processes mean for them less frustration, less risk, and higher productivity. These organisations need to focus on those processes that concern physicians either as suppliers or as key internal customers. Physicians deliver the " moments of truth" that characterise the real out-put of service organisations; to work most effectively; physicians must be supported by their organisations.

- Training needs arise early: Implementing the tools and techniques of TQM requires a certain amount of training. This training is required right at the

outset of implementation. Many organisations set out to implement TQM with only the minimal training needed to do so. Experience has been in favour of heavy investment in education, prior to embarking on the implementation.

- Non clinical processes draw early attention: Clinical quality is regarded as the territory of the physicians, who can be difficult to involve in the activities of quality improvement. Distinguishing between " management process" and " clinical process" can be misleading. Pure breeds exist, but many more are mixed cases.

- Healthcare organisations may need a broader definition of quality: Problems with labels ("quality improvement" as against "systems improvement". or a "clinical quality committee") may reveal a significant obstacle to quality improvement in medical organisations; namely, differences in the definition of quality. Modern quality management is concerned with understanding the requirements of customers and translating those requirements into internal procedures and measurements. As one health team put it when focusing on the special problems in "customer-mindless" that may arise in academic medical centres, "the biggest obstacle to systems-wide implementation of those techniques in healthcare may be ambiguity, especially in academic health facilities, about the collective definition of quality. Cohesive joint clinical and administrative leadership is required if the quality improvement is to be successful in healthcare settings".

- In healthcare, as in industry, the fate of quality improvement is first of all in the hands of leaders: The quality transformation depends on leaders. The first task

in quality improvement is clarification of mission, and the second is a commitment to change. Both require leadership. Only the most senior executives can mobilise the resources of time and money that are required for the organisation to learn new skills. Only they can strategically change organisational cultures. When physiciann's leaderships and organisational leadership are separate, then the same requirement for commitment applies to both. Neither can act alone with full effect.

Finally TQM address the basic problems of healthcare today; those being the great demand for more advanced health care by the patients, the existing inefficiencies in the healthcare delivery systems, and the escalating costs of the healthcare services. As a managerial tool, TQM offers a new approach, with new tools and methods that could be put into use in order to solve the existing problems. The same, to a lesser or greater extent depending on the problem, applies not only in industrialised countries but also in the developing world. One of the major contributors to the high costs of the health services is the managerial inefficiency in the delivery of these services. The misconception that the issue of applying the methods and tools of TQM is out- of- context for developing countries appears to be without foundation.

Conclusion

In summary and as Bertram argues, TQM is not an easy option .It requires much determination, patience and dedication but it is rewarding and can be fun. There are now too many examples of success to question its universal applicability[47.]

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CHAPTER EIGHT

STRATEGY IMPLEMENTATION: FIRST AND SECOND CYCLE OF

IMPROVEMENT

Introduction :

This chapter will show how the Quality Improvement Project Team (QIPT) practically implemented quality improvement in the Palestinian healthcare sector. Two cycles of improvement will be presented in this chapter. The first cycle is the one that took place from April 96 to April 1997 during which a total of 8 improvement processes were carried out in the West Bank and Gaza Strip. Only 2 improvement processes from the first cycle of improvement will be presented in this chapter, one from Al-Naser Hospital and one from Rafidya Hospital. The model of improvement that was followed in this cycle will be presented and will show the results of the improvement efforts. In keeping with the continuous improvement tenet of TQM, the experience gained by the QIPT in implementing quality improvement in the first cycle assisted them in initiating the second cycle of improvement. The second cycle of improvement was initiated in April 1997 during which a total of 35 improvement processes were carried out in the West Bank and Gaza Strip. Only 4 of those improvement processes will be presented in this chapter.This chapter will show the quality improvement model that was used in the second cycle, taking into consideration the challenges that are inherited from the firs cycle. The completion of the first and second cycle of improvement enabled

the QIPT to learn many lessons and to reach important conclusions. These lessons and conclusions will be also presented in this chapter.

FIRST CYCLE OF IMPROVEMENT

The QIPT initiated its first cycle of quality improvement in April 1996 by starting the following activities:

- Training of the QIPT : several training courses were conducted covering training in the principles of Quality Management, Methods and Tools of Quality Management, Team Skill Development, Measurement in Healthcare Quality, and the criteria for the Malcom Baldrige Award Scheme. The courses were conducted by a combination of international experts and the Harvard Institute for International Development (HIID) expert. This training was continuous and was aimed at creating a team competent to lead the quality improvement effort.

- It was decided by the MOH to embark on quality improvement in defined sites. Two development models were chosen by the MOH : the Gaza and Nablus Governorates respectively. In Gaza, work was started at Al- Naser Hospital. In Nablus, work was started at Rafidya Hospital.

- At both sites, the work started with sensitisation of quality. This took the form of a series of one-day workshops aimed at bringing the staff in the Development Models on board of the quality improvement journey. It consisted of discussions of what quality improvement is about, the need and the opportunity for quality improvement, the principles of quality improvement, and what the work to be done would entail. Nearly all the staff at Rafidya Hospital, and at Al

- Naser Hospital, participated in this sensitisation initiative. There were a total of 15 such workshops.

- Alongside the sensitisation, a definition of aims for improvement was determined by surveying 20% of all staff and patients and their families. Focus groups were instituted and utilised to translate areas for improvement into specific processes. In accordance with the process defined, Quality Improvement Teams (QITs) were formed. 55 staff members from the Development Models joined the process improvement teams. These included physicians, nurses, administrative and other support staff as necessary for the process improvements. These teams were given 3 days training in the principles of TQM. This included the gaining of a working knowledge in principles of quality management, the PDCA cycle, quality culture, variation, process management, data collection, analysis and presentation, and 3 days training in team skills development. This latter element included the role of teams in quality management, meeting skills, communication, problem solving and decision taking, and conflict management. Training was done in small groups of about 20 and emphasis was placed upon skills development. The curricula and materials for the training were developed locally and in Arabic. The following sections will show how the QIP implemented quality improvement in Al- Naser Hospital and in Rafidya Hospital in the first cycle of improvement.

Implementing Total Quality Management in AL-Naser Hospital

Al-Naser Pediatric Hospital is a 135 bed specialised government hospital that deals mainly with pediatrics through three pediatric and two nursery departments. The hospital also runs specialist clinics, including hematology, gastroenterology, epilepsy, cardiology, immunology, growth, genetics and endocrinology. The hospital laboratory conducts most of the required investigations.

In the summer of 1996, The QIPT assisted, by the MOH contacted the Director of the hospital and coordinated the issue of piloting quality improvement there. The QIPT and the MOH believed that the hospital could be a suitable place to pilot quality improvement as it is the only specialised, small sized government hospital in the area. The QIPTs' first steps in working in the hospital were to identify the hospital's priorities for improvement. A needs assessment survey titled "Aims Survey" was therefore developed by the QIPT and presentatives from the hospital including physicians, nurses, and administrators. The objective of this survey was to find out from the hospital customers, both the internal (health personnel) and the external (patients and their families) their perceptions about the most important clinical and non-clinical areas of improvement needed in the organisation. The survey consisted of two forms **(Annex1),** one to be completed by the hospital internal customers from the different occupations, such as doctors, nurses, administrators, technicians, and clerical staff; and the other was to be completed by the external customers. The survey was distributed to a random sample of 44 health personnel and 51 patients. Quantitative data was analysed using the

Statistical Package for Social Science (SPSS) and Excel software, while qualitative data was manually processed.

The results of the survey indicated that the overall satisfaction rate of the health personnel and the patients with the current health services in the hospital is varied (Table 8.1). About 12% of the health personnel and 4% of the patients evaluated the services as "bad", while 33% of the health personnel and 22% of the patients evaluated them as "accepted". About half of the health workers and 42% of the patients evaluated the services as "good".

Table 8.1: Level of Satisfaction with the Current Health Services

Evaluation	Health Personnel	Patients
Very Good	3.9 %	31.4 %
Good	51 %	41.2 %
Accepted	33.3 %	21.5 %
Bad	11.8 %	3.9 %

When asked about the aims for improvement, both health personnel and patients identified several clinical and non-clinical priorities. To choose one, a focus group discussion was instituted with selected health personnel in the hospital. "Improving the quality of medical performance during working hours" was selected as the first priority for improvement in the hospital. It was decided with the group to carry out this improvement process in departments 1 and 2 using the PDCA cycle of improvement. This research will report on how quality improvement was

implemented in department 2 only as the same procedure was followed in both departments.

Implementing Quality Improvement in Department 2

Department 2 in Al- Naser Hospital has 27 beds located in several medium size rooms. There are seven physicians, one of whom had recently joined the department and 4-5 physicians are available daily during morning hours. There are 11 nurses; four or five being available only during morning working hours.

PLAN

<u>Sensitisation</u>

Several sensitisation workshops were conducted in the hospital in the summer of 1996. These workshops were aimed at sensitising the health personnel in the hospital from different occupations with quality improvement issues such as definition of quality improvement, methodology, concepts, principles and so on. A total of 60 health personnel attended these workshops.

<u>Selection of the quality improvement team</u>

Following the sensitisation workshops a quality improvement team was formed. The formation of this team was based on the following criteria:

- The team members should be involved in the selected priority for improvement. This means that they should be working in Department 2 and involved in the medical round. Health personnel who are not working in the department can also be members of the team if their work is closely related to the improvement process.

- The team members should be personally interested in piloting quality improvement in their organisation.

- The team members should be ready to attend a training course in TQM.

The health personnel from Department 2 who met the criteria were a physician, two nurses, a lab technician, an x-ray specialist and an employee from the archive.

Training

The selected quality improvement team then underwent an intensive 6 days training course in the QIP training centre. This course consisted of two parts: the first part was in "team skills development" and the second part was in "principals of quality management". This course provided the participants with the basic skills needed to work on their first quality improvement project.

Problem Identification

The QIT accompanied, by a QIPT held several planning meetings aimed at understanding the process they were about to tackle. The QIT charted the steps of the daily medical performance process by producing a high and low level flow charts which showed that the medical performance in this department is a lengthy and complicated process.

The most important area for intervention was brainstormed with the team afterwards. As a result, the morning medical round was selected to be the focus of investigation at this stage. The team decided to extract discrete activity from the process and to study it separately. The QIT discussed in details with the QIPT the morning medical round process and it was clear to them that there were three

loops that they needed to review in order to have a more streamlined process. The loops were:

1. It was not clear at the present time whether the physicians were performing a single or a grand round.

2. Not all of the physicians completed the " patients' history sheet ".

3. The patients' file was not always available when needed.

Problem Quantification

To understand the current medical round better, more data was collected through the use of an observation sheet **(Annex 2)** .This sheet consisted of quantitative and qualitative variables. The quantitative variables were: the starting time of the round, the physician/patient contact time, number of patients, frequency of interruptions, and the satisfaction levels of the relatives of the patient. The qualitative variables were the nature of interruptions, and a description of the department. This observation sheet was filled out by a trained data collector (a staff nurse) for twelve consecutive days. His job was to observe the medical round carefully by selecting at random one physician every morning and shadowing him/her through the round using the observation sheet. The main findings of the observation study were as follows:

- 99 patient were observed out of 431 patients admitted during the study period.

- The earliest starting time was 8:30 am and the latest starting time was 9:10 am

- The shortest duration of the round was 40 minutes and the longest was 90 minutes.

- The average physician patient contact time was 4.5 minutes minimum and 10 minutes maximum.

- Nature of interruption: telephone calls, managerial requests, visitors (patients, health personnel).

- Description of the department: crowded rooms (not very often), needed instruments and tools were available most of the time. Nurses were co-operative most of the time. Most admitted cases were uncomplicated.

Data Sharing and the Formulation of an Informal Team

The observation information was shared with the QIT, all the physicians and the head of the department. They were all overwhelmed by the information, especially the department chair and the physicians. The team leader, a physician in Department 2, did a very good job in explaining the whole process to his colleagues. As a result, several in-depth, weekly meetings were conducted to discuss the findings and to suggest solutions.

 Identification of Problems

- There was an observable variation in the starting and ending time of the round. There was only one round in the department, "the primary round".

- Consultations about complicated cases did not occur.

- Interruptions were observed during the round.

- Physicians did not complete the patients' history sheet.

- Follow-up remarks were not written.

- Some physicians had more work responsibilities and work load than others

- Physicians were not satisfied with the way they performed the round.

Proposed Solutions

As a team, the head of the department and the physicians brainstormed and discussed the different solutions, they concluded that the daily morning medical round need to be redesigned.

A new description was suggested along with a new protocol. It was as follows:

New description of the morning round

in Department 2

The morning medical round is divided into to two parts; the primary & the grand rounds.

1. Primary rounds

A) Primary rounds should start at 8:15 in the morning. In this primary round each physician will see his own patients in his own room. The job of the physician in this round is to **1.** evaluate the cases 2. write the required investigations **3.** write history and follow up sheets.

B) The distribution of patients to the physicians will be carried out daily by the head of the department because the number of available physicians in not fixed.

C) This daily distribution will be done by assigning each physician a room number and he/she will be held responsible for the patients in this room. At the present time there are 6 similar rooms and one big room in the department. The health personnel suggested the following distribution (NB: each physician will be given a code number).

If 4 physicians are available

Physician x 1 will take room No. 9.

Physician x 2 will take room No. 6+8

Physician x 3 will take room No. 5+10

Physician x 4 will take room No. 3+4

If 3 or 2 physicians are available

Each physician will take his/her room and the work of the absent physicians will be distributed between the available physicians.

<u>If 1 physician is available</u>

This physician will see all the patients.

A nurse will accompany each physician and both will cooperate in taking the samples and preparing the tests.

Two new forms will be completed by the physicians during the primary round. One is the history sheet and the other is the follow-up sheet **(Annex 3)**

2.Grand Round

A) This round starts at 9:30 am with the presence of all the on-duty physicians and the head of the department, all of whom will see the patients. Normal cases will be reviewed quickly but critical cases will be discussed in detail. This round should end before visiting time starts.

B) The head nurse joins in the grand round with the physicians and the head of the department.

3. Interruptions

It was agreed to introduce the following guidelines to minimise interruptions:

Telephone calls will be received at the nurse's reception desk and a message will be taken for those involved. These messages will be reported only after the round is over. A message form will be provided by the QIP to facilitate this activity. **(Annex 4)** ; managerial requests will be delayed until the round is over. Management will be informed of this guideline; visitors (both for patients and health personnel) will not be allowed during the single and grand rounds. Management will be asked to assign someone to guard the main entrance of Department 2 during the round.

<u>Monitoring system</u>

The process was monitored over time. Changes in the medical round were discussed and it was decided to measure the changes by examining two indicators; the efficiency indicator of the round and the patient-physician contact time. The efficiency indicator was calculated as follows:

the real time of the medical round, duration of round less interruptions, divided by duration of round. This indicator was found to be 73.5 %. The average patient/physician contact time indicator was calculated as follows:

duration of round less interruptions divided by the number of patients examined. Using the monitoring sheet in **Annex 5** this indicator was found to be 7.07 minutes.

These indicators were tested again after implementing the changes to document the gains ensuring from the quality improving effort. Furthermore, a satisfaction survey **(Annex 6)** was conducted at the end of the implementation period.

DO

<u>Implementation</u>

The proposed changes were presented to the Director of the Hospital for comments and approval. This was done in a special meeting where the Director expressed her support and approval for the changes.

It was decided with the QIT to start implementing the suggested changes after the month of Ramadan (the fasting month for Moslems) to avoid the possibility of having certain difficulties arising, not from being unable to implement solutions,

but from other reasons such as fasting. Despite this agreement, the health personnel had piloted some of these changes such as the distribution of the work of physicians by rooms and a great deal of satisfaction was reported as a result.

Just before the implementation, a new physician had started working in the department. A large meeting was conducted in the presence of the QIT and all the physicians in the department. The aim of the meeting was to inform the new physician of the quality improvement efforts in the hospital and to discuss his roles and responsibilities. It was decided to involve this physician with the changes.

A large pre-implementation meeting was conducted after Ramadan and before the implementation, with the hospital Director, the Nursing Director, the Administrative Director, and the Head of the Department, the QIT and all the physicians in the department. The aim of the meeting was to discuss the changes in more details and to decide on certain operational issues such as the starting date of the implementation, the monitoring system, the use of the new forms, and all the relevant issues concerning the implementation stage. Agreement was reached on all of these matters with management suggesting that two new forms, the follow-up and the history sheets **(Annex3),** be used through this improvement process.

The implementation of the change started in the department on Monday 17th February. Monitoring started the same day, and was conducted daily for the first two weeks and three times a week for the three following weeks.

CHECK

Results

The process was observed qualitatively by those involved in the execution and the QIPT, and quantitatively by continuous monitoring.

The qualitative results are summarised as follows:

- Work was distributed as described.

- Unnecessary interruptions were minimised.

- All physicians used the new sheets; the follow-up and the history sheet.

- Grand round was performed as described.

- Mutual education and exchange of experiences between physicians was observed.

- A spirit of cooperation was visible in the department.

- The plan of treatment was changed several times to ensure its compatibility with patients' needs during the grand round.

The quantitative results are summarised as follows:

- The round was made more efficient. The real time of the round that was spent with patients was increased to 100%.

- Physician- patient contact time was increased to 14.86 minutes.

- The starting time of the round was stabilised.

- All physicians and nurses, who completed the satisfaction survey, were very satisfied with the new process. They all thought that the morning round was now better than the old one which it replaced.

- Physicians and nurses thought the new medical round was 66% successful.

- External customers (families of the patients) expressed their satisfaction about the service they recieved (rated the round now as "excellent" compared to "good and very good" before implementation)

In addition to the above results, the following comments were collected through the satisfaction survey. The question was: "What do you dislike most about the medical round?" The answers were as follows:

- Work assignment was not well-coordinated if more than one physician were absent.

- There is only one nurse to help physicians in the primary round, which was considered to be insufficient.

- The starting time of the primary round and the ending time of the Grand Round were not strictly adhered to.

- Interruption from visitors was still present, although minimised.

- Visiting time was not thoroughly controlled.

- Some nurses were not seen to be cooperative.

- The new process had made an addition to the work load of some physicians.

- Management was not as cooperative as had been expected.

- Some physicians thought that the Grand Round had not been allocated sufficient time.

When physicians and nurses were asked about suggestions to improve the morning round, they stated the following recommendations:

- Provide incentives that match the physicians' and nurses' extra effort.

- Add more nurses to the existing staff.

- Patients' files should be computerised.

- A weekly study hour should be allocated.

- Physicians and nurses should be more committed to the implementation of the improvement process.

- The patient should have only one file in the hospital. Each admission should use the original file.

- Grand Round should be performed three times per week with no time limit and the other days, should be arranged around it.

- Have one medical round. Complicated cases could be discussed later.

- The examination sheet should be used in conjuction with the new sheets.

A meeting was next conducted with all of the physicians; including the department head, the head nurse and his deputy. The meeting, which lasted for one and a half-hour, was excellent. Comments and suggestions, which were collected from the survey, were discussed. Some physicians said "this new way of doing the round should have been done a long ago". The department head added, "we always wanted to do this, but we couldn't do it by ourselves, management is not helping us. We needed someone from outside to help us". A senior pediatrician commented "We do not need a reward for what we have done, it is what we are paid to do by the MOH".

Results were summarised as follows:

- There is a shortage of nursing staff. More nurses were needed to make the round more efficient.

- Interruptions by visitors were still present. Management was to assign two workers, under the authority of the head nurse. The task of them was to exclude visitors when the round was in process.

- The duration of the Grand Round should be extended until 12 pm instead of 11 am.

- The start of the visiting time should be changed from 11am to 12 pm.

- The nursing staff were to prepare the patients' old files before the start of the morning round.

- The nurses and physicians were sharing one telephone line. Two lines at least were to be provided to cope with needs of the department.

- Growth percentile charts and patient's examination sheets were be added to the present file.

- Computerisation of patients' files was recommended.

- The workload had been increased considerably for both physicians and nurses, therefore, incentives were recommended for the extra effort entailed.

- A regular weekly study hour should be granted.

It was noticed that many of the admitted cases could have been treated as outpatients. This implied an urgent need to initiate an improvement process in the reception department.

ACT

The improvement process showed that there were many factors that contributed to the success of implementing the change in Department 2:

- Physicians and nurses were not satisfied with the previous performance of the morning round. The desire for change was present.

- The desire of the staff in Department 2 to prove that this department is the best in the hospital.

- Physicians and nurses had concerns about the patients' benefit.

- Physicians exhibited their desire to learn in order to improve.

Implementing Total Quality Management in Rafidya Hospital

Rafidya Hospital is a 140-bed hospital in the city of Nablus. This hospital serves as the central surgical hospital in the northern part of the West Bank. Referrals to the hospital are received from all the northern parts of the West Bank and from the primary healthcare centers in the area.

The hospital has the following facilities: 140 surgical beds, 5 ER beds, 3 ICU beds, 1 CT Scan, 1 central lab, 1 central X - Ray department, 11 specialized out patient departments, 1 central patho- anatomy department, and 1 day care centre. The hospital staff comprises 268 employees in the following disciplines: specialised physicians, resident physicians, nurses, paramedical staff, technicians, administrative staff.

After the handover of the health sector to the Palestinian Authority, the number of insured patients who were entitled to receive healthcare services in the hospital has increased significantly. The hospital did not have the required resources to meet this increase in patient needs.

In the summer of 1996, one process for improvement was selected to be carried out in the hospital based on the results of a needs assessment survey entitled

"Aims Survey". Like in Al-Naser Hospital. The objective of this survey was to find out from the hospital customers, both the internal (health personnel) and the external (patients and their families) their perceptions about the most important clinical and non-clinical areas of improvement needed in the organisation.

The survey was developed by the QIPT and was consistent with the fundamental principle of "customer orientation " of TQM. It consisted of two forms similar to those used in Al- Naser Hospital **(Annex1)**. One was to be completed by the hospital's internal customers drawn from different occupational areas, such as doctors, nurses, administrators, and technicians, and the other was to be completed by the external customers. The survey was distributed to a random sample of 20% of patients and 20 % of health personnel.

The results of the survey indicated that the overall satisfaction rate of the health personnel and the patients with the current health services in the hospital was varied.

Table 8.2: Level of Satisfaction with the Current Health Services: Rafidya Hospital

Evaluation	Health Personnel	Patients
Very Good	5%	35%
Good	55%	34%
Accepted	35%	25%
Bad	5%	6%

The results of the aim survey were discussed in focus groups and the following processes for improvement were designated to be carried out in the first cycle of improvement:

* Improving the prescribing practices of prophylactic antibiotics in surgery.

* Reducing patient's waiting time in the out patient clinic.

* Reducing the turnaround time for urgent laboratory tests.

* Reducing the post operative infection rate.   .

The "rationalisation of prescribing practices of prophylactic antibiotics in surgery " will be chosen to show the implementation process of quality improvement in Rafidya Hospital.

Plan

Formation and Preparation of the Team

A multidisciplinary team representing all staff functions involved in the prescribing of prophylactic antibiotics in surgery was formed. All members of the team had participated in at least one of the training courses organised by the QIP. Some members of the team had also had previous experience in quality improvement either in the form of training or earlier in working with a team on antibiotic use.

Process description

The process by which an antibiotic is prescribed at Rafidya Hospital starts when a patient arrives at the hospital. First, the emergency physician determines whether the patient is an emergency case. If the patient is classified as an " emergency case ", he proceeds to the emergency department, if not, he is checked for having a specialist referral for admission, if he has one, he also proceeds through the

emergency department. If not, then he is referred to the out-patient clinics where he awaits an appointment. If it is decided to admit a patient through the out patient department, then the admitting specialist makes the decision regarding prescribing antibiotics. In the event that the patient proceeds through the emergency department, again a series of decisions are made. If the patient carries a specialist referral for admission, then the referral is checked for prescription of antibiotics. If this is the case, the admitting physician in the emergency department writes these antibiotics in the patient's file. If not, then the admitting physician in the emergency department may choose to prescribe antibiotics himself. If he does not, and the patient is admitted to the ward, then the specialist may also choose at any point after this to prescribe antibiotics. A flow chart of this process is shown in (**Annex7**) The prescribing of prophylactic antibiotics in surgery should necessarily be preceded by a categorisation of the operation into one of five categories.

1. Clean

2. clean contaminated

3. Contaminated,

4. Dirty

5. High Risk

The process of whether to prescribe prophylactic antibiotics or not is dependent upon the classification of category of operation; for example "clean" should not be given antibiotics. "Clean Contaminated" , "High Risk" , "Contaminated" and " Dirty " operations should receive antibiotics.

If an antibiotic prescription is wanted, it will be prophylactic or curative. Then a choice needs to be made regarding which antibiotic to use. Many guidelines exit for this purpose. They are commonly based on knowledge of likely pathogens in different operation sites and their antibiotic sensitivity pattern. This is, of course, not a static issue and indeed resistant strains arise, and different hospitals harbour different microflora. This makes a good guideline a dynamic pursuit of microfloural changes and their antibiotics sensitivity patterns to specific settings. Such data does not currently exist at Rafidya Hospital. On a parallel process improvement ," Reducing Post - Operative Infections at Rafidaya Hospital ", this work is now starting. Earlier work done at Rafidya Hospital had advocated the implementation of one such guideline adapted from an international source. Meetings had been conducted and the guideline had been distributed. It was decided to take this guideline as a starting point and to update it, as data becomes available about differing strains and their antibiotic sensitivity

This guideline classified different antibiotics depending on site and nature of the operation. It recommended a first choice antibiotic and, in cases of its non – availability, a second choice. The guideline is shown in **(Annex 8)**

Process Quantification

A survey to understand the current knowledge and implementation of prophylactic antibiotics in surgery was conducted among hospital physicians **(Annex 9)**. It aimed at eliciting the knowledge of the existing clinical guideline for prophylactic antibiotics in surgery, their familiarity with its contents, the extent to which they were implementing it, why are physicians not implementing it, and their

suggestions. The survey was distributed to all physicians (45 physicians).The response rate was 45%. The results were as follows:

* 50% of physicians claimed knowledge of the existence of the guideline, 50% claimed no knowledge of the existence of the guideline.

* 40% of physicians claimed to be well acquainted with the content of the guideline, 50% claimed not to be familiar, and 10% did not answer the question.

* The degree to which physicians claimed to be familiar with guideline: 10% average, 35% good, 15% excellent, and 40% did not answer this question.

* The extent to which physicians were implementing the guideline: always 10%, sometimes 25% not implementing 25% and 15% did not answer this question.

* When asked as to why they were not implementing the guideline, the reasons given were:

   * Lack of knowledge about the guideline.

   * Unavailability of drugs in the hospital pharmacy.

   * Lack of cooperation between staff in implementing the guideline.

   * Lack of a prophylactic antibiotic policy.

The following recommendations on the policy were offered:

   * Introduce a prophylactic antibiotic policy.

   * Provide training in the prophylactic antibiotic policy.

   * Make the drugs available in the hospital pharmacy.

This survey showed that there is an information gap regarding the existence of a prophylactic antibiotic policy in the hospital. There was also a gap in the familiarity with its content amongst some of those who know of its existence.

There was also a further gap in implementing it amongst those whom where familiar with its content. The reasons given for not implementing it included drugs not being available, in addition to the information gap issues. Interestingly, the recommendations were to introduce a policy, conduct training on the policy and ensure availability of drugs in the hospital pharmacy.

Survey to Obtain Baseline Data on the Prescribing of Antibiotics

A survey **(Annex 10)** was conducted in order to obtain baseline data on the following"

- % Operations categorised

- % Operations categorised correctly

- Distribution of operation by categories 1-5

- % Category 1 operations for which antibiotics are prescribed.

- For operations in which antibiotics are prescribed, % prescribed as per guideline.

- Waste measured in terms of the cost of antibiotics incorrectly prescribed for operation categories 1,2,5.

The file number of all entries made into the Operating Theatre (OT) logbook was taken for the two weeks period, January 1-14, 1997. A total of 106 entries had been made. The files for all these entries were requested from the archives. There were six missing files (5.7%). The remaining 100 files were reviewed. Of these six files were found to have been entered into the OT logbook but operations had not been performed (6%). The remaining 94 files were reviewed in the study. For each

file, a questionnaire was completed. The data from the completed questionnaires was entered and analysed using SPSS for Windows.

Main findings:

- 25% of files were found to have a classification of the category of operation, 14% were found to be classified correctly.

- The operations conducted were classified by the reviewer according to the category of operations as follows:

Category	% of all operations
1	49%
2	20%
3	6%
4	5%
5	5%

- Of operations classified as category 1, which should not have received antibiotics, 61%, did receive antibiotics, of the 26% of all operations in which antibiotics were prescribed, they were prescribed according to the guideline. This was assessed by type of antibiotic only, not time of initiation of antibiotics or duration of prescribing.

Identifying the Problem

- Knowledge gap regarding the presence of a guideline at Rafidya Hospital.

- Knowledge gap regarding the content of the guideline.

- Classification of operation by category is low.

- Accurate classification of operation by category is low.

- Prescribing of antibiotics when not indicated.

- There exists a huge amount of waste in the current prescribing practices of prophylactic antibiotics.

Process Re- engineering

The old process was revised. It was simplified and streamlined. Three major changes were introduced **(Annex11)**:

- Admitting physicians no longer prescribe antibiotics.

- Admitting physicians are now obliged to categorise operations and act accordingly.

- Anaesthetists are the ones who will prescribe prophylactic antibiotics as part of " induction " in the new process. The re- engineered process should now operate as follows: a patient arrives at the hospital. If he is an emergency case, or if he has a specialist referral for admission, he is admitted through the emergency department. If neither, he is referred to the out- patient clinics where he awaits for his appointment. When the decision is made to admit and operate, be it from the emergency or the out- patient clinic, the physician who makes the decision to operate will have to classify the category of operation. If he classifies it as "Clean" , antibiotics are not to be prescribed. If " Clean Contaminated ", or " High Risk " The anaesthetist prescribes prophylactic antibiotics as part of the " induction ". The only exception to this role is

colorectal surgery where antibiotics need to be started 48 hours prior to surgery. In the case of " Contaminated " or " Dirty ", the admitting physician prescribes curative antibiotics. In either case, whether prophylactic or curative antibiotics are prescribed by the anaesthetist or curative antibiotics are prescribed by the admitting physician, they are to be given as per the updated clinical guideline.

Guideline Development

The team reviewed the existing guideline and decided to make some changes to it, namely, to adopt Cefazoline as first choice and Augmentin as second choice. This represented a reversal of previous practice; the logic being that they felt more secure using a third generation cephalosporin to peccilline resistant synthetic penicillin. This reversal also served as an extra precaution where there have been a possibility of infection by bactericides and prescribe rectal metronidazole in these instances. The updated guideline is shown in **(Annex12)** . It is expected that updates to this guideline will take place over time in accordance with data development on hospital microflora and their antibiotic sensitivity patterns.

Monitoring system

The reengineered- process and updated guideline will be monitored over time. The indicators of quality, which were used to monitor the process were:

- % Operations categorised.

- % Operations categorised correctly.

- % Category 1 operations for which antibiotics are prescribed.

- For Operations in which antibiotics were prescribed, % prescribed as per Guideline.

- % Waste in cost of antibiotics incorrectly prescribed for operations categories 1, 2 and 5.

The monitoring of the reengineered process was conducted by a survey. This is shown in **(Annex13).**

Do

This process stopped at this point and was not actually implemented. This was due to the problems that Rafidya Hospital was facing at that time, which led to the termination of all the quality improvement efforts in the hospital. These problems will be explained later in the thesis.

This improvement process shows that currently, waste in the prescription of prophylactic antibiotics in surgery was running at 92% of the dollar value of the prescribed antibiotics. Implementation of the re-engineered process nationwide is estimated not only to improve the clinical use of prophylactic antibiotics in surgery but also to save 1 million-dollars annually.

Challenges for the Next Cycle

The challenges that the QIP has faced in the first cycle of improvement can be categorised into:

First, These challenges which are common to most change management programmes. These include adherence to the status quo, resistance to change, problems with the introduction of new concepts and methods, difficulties in tackling the required cultural change, etc. The second, a group of challenges specific to

the QIP. An important challenge here was to select and train a team, capable of implementing the vision held by the initiators of the quality improvement effort. Then there was the challenge of demonstrating success; this involved selecting processes where change is more likely to succeed, and selecting processes, which are both important and manageable. A major challenge was whether to emphasise improvement in selected processes or, alternatively, to induce a cultural change for improvement. The former requires the implementation of rapid process improvement preferably by the core team for it to be successful. The latter requires heavier investment in training and motivation at the provider level and less leadership of the process improvements from the core team. This is naturally slower and runs the risk of not demonstrating benefits in the short term from pursuing quality improvement. A major challenge facing the QIP after the first cycle of improvement was how to proceed to ensure quality improvement in primary healthcare. There was the challenge to conduct this work in a politically and economically non- conducive environment caused by the repeated closures and separation of the West Bank and Gaza Governorates. It proved to be an extremely difficult task for a totally Palestinian team to function between the different Governorates as one team in these circumstances.

Second Cycle Of Improvement

In April 1997, a second cycle of process improvement was initiated in the West Bank and Gaza Strip taking into consideration the previous challenges. These improvement processes can be classified into two categories: the first category comprised those dealing efficiency and the second category focused upon dealing

with delays and waiting times. This latter category involved the training of some 170 professionals over five courses of 6- days each. The training curriculum that was used in the first cycle was updated for this purpose. This large increase in improvement projects necessitated the introduction of a special system in which improvement projects became programmed activities; a special implementation manual was developed for this purpose **(see Annex 14).** This manual is a translation of the **TOM NOLAN** model into operational stages that would help the team leaders to accomplish their work. In addition it became important to delegate the leadership of improvement projects to professionals from the participating organisations. This new management system was important to enable a handful of professionals to meet the challenge of implementing a large number of projects. It also served to create a new generation of quality improvement champions. The following examples are chosen to illustrate the implementation procedure that was followed in the second cycle of improvement.

Category 1: Efficiency

1. Reducing the number of donated blood pints with HBS and HCV positive in Rafidya Hospital.

2. Increasing the capacity of the incubators to treat a newborn with neonatal jaundice in Al Naser Hospital.

Category 2: Delays and Waiting Times

1. Reducing patients' waiting time in the Out-Patient Clinic of Department 2 at Al-Naser Hospital.

2. Reducing the time the patients spend in Sabha Clinic.

Category 1: Efficiency

1. Reducing the number of donated blood pints with HBS and HCV positive in Rafidya Hospital.

What are we trying to accomplish? Setting aims

The blood bank in Rafidya Hospital is a central bank that serves all the blood banks in the northern govenates of the West Bank. The monthly total number of blood donors in this bank is 400. The health personnel in the bank observed that the process of dealing with donated blood pints is not efficient. Currently, blood pints are taken from the donors who will be send home without being told if the donated blood is HBS and HCV positive. The pints will be then examined, if they are clean, they will be used, if they are HBS and HCV positive they will be thrown away. The bank does not have a record of those cases with HBS and HCV positive which means that when those donors return, resources are again be wasted in taking blood and then discovering that this blood cannot be used. There is a risk also that those donors who do not know that they are HBS and HCV positive will go to another bank and donate there, leading to wasting the resources of more than one bank. The Quality Improvement Team (QIT) in the hospital aimed at reducing the number of donated blood pints which were HBS and HCV positive.

How well we know that a change is an improvement? Establishing measures

The QIT in the hospital agreed that the quality indicator for this process would be the number of donated blood pints which were HBS and HCV positive. This indicator was measured before improvement. Data was collected for seven months

during which the number of donated blood pints with HBS and HCV positive and repeated donated blood pints with HBS and HCV positive was recorded. The following table summarises the results:

Table 8.3 : The Number of Donated and Repeated Donated Blood Pints That Were HBS and HCV Positive.

Month	Positive cases	Repeated positive cases	Percentage
January 97	2	0	0 %
February 97	12	5	42 %
March 97	11	4	36 %
April 97	9	4	44 %
May 97	18	1	6 %
June 97	18	4	22 %
July 97	17	5	29 %

The above table shows that a high percentage of donated blood pints with HBS and HCV positive repeat their donation in the same hospital.

What changes can we make that will result in improvement? Developing changes

The QIT suggested introducing a database in the blood bank in the hospital by which the donated blood pints with HBS and HCV positive were recorded. This system will also enable the health personnel to identify the repeated positive cases before the actual donation; thus saving hospital resources.

Plan

A computerised database was introduced in the blood bank for this purpose and it started functioning in August 1997. The health personnel in the bank were trained on how to use the new system of work.

Do

The new system of work was tried for three months during which each donor with HBS and HCV positive was recorded in the computer using the personal identity card number. During this period it was possible to identify those repeated positive cases before taking the blood from them.

Check

The quality indicator was measured after the implementation of the above changes. The following table summarises the results:

Table8.4: Measuring the Quality Indicator After the Change

Month	Repeated positive cases
September 1997	0
October 1997	1
November1 1997	0

It should be noted that the computer was not working for a period of time during October 1997 which led to the failure to track the positive case.

Act

The success of this improvement process led the QIT to conduct a survey on a national level including all the blood banks in the West Bank. This survey showed that the percentage of positive cases making repeated donations was 68 %. This high percentage also shows that positive cases that repeat their donation do not only do so at Rafidya Hospital but also in all the blood banks of the West Bank. Therefore, the improvement made in the blood bank of Rafidya hospital should be duplicated in all the blood banks of the West Bank. The QIT in the hospital presented their results in a meeting with the Laboratory Director who agreed to nationalise this process.

2. Increasing the capacity of the incubators to treat a new born with neonatal jaundice in Al Naser Hospital

What are we trying to accomplish? Setting aims

The health personnel in the Neonatology Department in Al-Naser Hospital observed that the time needed to treat a newborn with neonatal jaundice was long. That lengthy process was leading to the incapacity of the incubators to meet the demand. Furthermore, the possibility of getting hospital-acquired infection was relatively high. The QIT initiated a quality improvement process, which had special and common aims.

Special aim:

* Reducing the duration of time needed to treat a newborn with neonatal jaundice.

Common aims:

* Reducing overcrowding in the department.

* Reducing the possibility of getting hospital acquired infections.

* Reducing the possibility of suffering from complications resulting from long stay under phototherapy.

* Reducing the time the patient spend with the grandmother who accompany him during his stay in the hospital by returning his mother for breast-feeding.

How well we know that a change is an improvement? Establishing measures

The QIT decided that the quality indicator for this process was to be the <u>duration of time needed to treat a newborn with neonatal jaundice.</u> During 30 days, 8 patients were observed and the duration of time needed to treat them was recorded in the following table:

Table 8.5 : Number of Hours Patients Spend Under Phototherapy

(Pre Improvement Measurement)

Patient Number	Number of hours spent under phototherapy
1	48
2	40
3	66
4	49
5	48
6	51
7	47
8	47

This means that at the present time the average number of hours spent under phototherapy is 49.5 hour.

What changes can we make that will result in improvement? Developing changes

It is a well known fact in the medical field that the duration of time needed to treat a newborn with neonatal jaundice depends on how much exposure is received by the skin of the patient to ultra violate light. The QIT agreed to introduce the following changes in order to improve this process:

1. The nurse should make sure that the patient's position gets changed continuously. This will allow exposing of all parts of his / her skin to the ultra violates light. This should be carried out every 3 hours.

2. The nurse should make sure that the patient's nappy is open and does not cover the parts of his/her body that should be exposed to the ultra violate light.

3. The nurse should make sure that the patient gets his / her feed every 3 hours. This change depends on the fact that the speed of the patient's recovery depends on good feeding process.

Plan

The previous changes were explained to the working staff in the department who were convinced of the importance of the changes . The importance, content and the purpose of a recording form was explained to the staff and the QIT was held responsible for collecting the filled forms.

Do

The previous changes were implemented for 2 weeks during which 8 patients were admitted to the department. The working staff had no difficulty in implementing the recommended changes for the following reasons:

- The staff was convinced with the importance of this improvement process.

- There was no need for extra resources.

- The QIT continuously explained and convinced the working staff of the importance of the process changes.

- The recommended change resulted in quick and positive results.

Check

The quality improvement indicator was then measured. The duration of time needed to treat a newborn with neonatal jaundice was recorded in table 8.6.

Table 8.6: Number of Hours Patients Spend Under Phototherapy

(Post Improvement Measurement)

Patient Number	Number of hours spent under phototherapy
1	33
2	24
3	24
4	24
5	19
6	23
7	18
8	24

Act

It is clear that the duration of time needed to treat a newborn with neonatal jaundice was reduced from 49.5 to 23.6 hours. The implication of implementing this process nationwide would be to double the nation's incubator capacity with no increase in capital or human infrastructure.

Category 2: Delays and Waiting Times

1. Reducing patients waiting time in the Out- Patient clinic of Department 2 in Al- Naser Hospital.

What are we trying to accomplish: Setting aims

The health personnel in Department 2 and in the Out- Patient clinic at Al- Naser Hospital observed that the clinic was suffering from severe overcrowding on Mondays; which is the day when the discharged patients of Department 2 come back to the clinic for their follow - up examination. The patients in the Clinic complained about long waiting times. The QIT in Department 2 and in the Out- Patient clinic at Al- Naser Hospital aimed at reducing the patient's waiting time in Department 2 Out- Patient Clinic. The general aims were to:

- Reduce the level of overcrowding in the Department Out- Patient Clinic.

- Give the patient the chance to receive healthcare service in a suitable environment.

- Reduce the time the mother has to spend in the clinic which will in turn reduce the social problems resulting from her absence from home.

How will we know that a change is an improvement? Establishing measures

The QIT studied this problem and found that the patient passed through several waiting stations in the Clinic before seeing the doctor. It was decided that the quality indicator for the process is the time that the patient spends waiting in the Out Patient Clinic before seeing the doctor.

This indicator was measured by observing 31 patient over two weeks. It was found that the average time the patient spends in the clinic is 190 minutes, of which 178 minutes are waiting time and 9 minutes are examination time. This means that 94 % of the patients' time is waiting time.

What changes can we make that will result in improvement? Developing changes

The QIT in the Hospital discussed the situation with other health personnel and decided to introduce an appointment system. When the patient is discharged, he will be given a date and time to come back to the Clinic. Patients' medical files should be prepared in the morning before they come. The doctors should see their patients from 8: 30 - 12: 00. Two specialised doctors should be present in the clinic on that day; the head of the department should coordinate their presence. These two doctors should have a nurse working with them in that day; this nurse should do the necessary procedures such as taking the temperature of the baby before it is seen by the doctor.

Plan

The above changes were explained to all the health personnel working in the clinic and were discussed with the head of the hospital who approved their implementation.

Do

The changes were implemented for two weeks during which the following were observed:

- some patients (5 patients) still came to the clinic without an appointment because they simply did not know about the new system
- Some patients did not come according to the appointment.
- The doctors in the clinic did not always start work at 8:30 as was agreed.

Check

The quality indicator for this process was measured after implementing the changes for two weeks. Data collection was carried out for three weeks during which 46 patients were observed. It was found that the average time the patient spends in the clinic is 84 minutes. 72 minutes are waiting time and 12 minutes are examination time. The average total time the patient spent in the Out Patient Clinic was reduced from 190 minutes to 84 minutes. The time spent in examining the patient increased from 9 minutes to 12 minutes.

Act

This improvement process faced the following difficulties:

1. A number of patients were still coming to the clinic without the appointment card but according to a previous oral date that was given before the appointment system was introduced.

2. The two specialists doctors were sometimes late in starting the work.

3. Some patients were still not following the new system.

4. Patient's medical files were not always ready before the patients came to the clinic.

The above difficulties should be considered if further improvement is to be achieved.

2. Reducing the time the patients spend in Sabha Clinic.

What are we trying to accomplish? Setting aims

Sabha Clinic is a primary healthcare clinic, which operates 12 hours per day. It is the first primary care centre that provides education and health awareness. The Clinic provides the following services:

- 5 family doctor clinics.

- Mother and child health clinic.

- Reception.

- X-Ray section.

- Pharmacy.

- Orthopedic.

- Small laboratory.

- School health.

- Health education.

- Maternal health.

- Continuous education.

The Clinic's priorities for improvement were identified using a survey aimed at:

- Identifying the level of satisfaction of the internal customers (health personnel) with the health services provided by the Clinic.

- Identifying the level of satisfaction of the external customers (patients and their relatives) with the health services provided by the Clinic.

- Identifying the Clinic's priorities for improvement from external and internal customer perspectives.

- The following table explains the level of satisfaction resulting from the survey

Table 8.7 : Level of Satisfaction of the Internal and External Customers

Health Personnel	Patients and relatives	
20 %	26 %	Acceptable
40 %	47 %	Good
40 %	21 %	Excellent
0 %	5 %	Bad

The Clinic's priorities for improvement were non- clinical as far as the internal and the external customers were concerned. It was agreed by the health personnel at the Clinic to take the subject of long waiting time as the first priority for improvement .The aim of the QIT was to reduce the patient's stay time at the clinic.

How well we know that a change is an improvement? Establishing measures

The QIT in the Clinic agreed that the main quality indicator for this was the time the patient spends in the Clinic from the moment he or she arrives until departure . This process has however many partial indicators:

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Time 1: the time the patient spends from his arrival in the clinic till he or she gives the required papers to the reception.

Time 2 :the time the patient spends from giving the required papers to the reception untill he or she enters the mother and child health services room.

Time 3: the time the patient spends from entering the mother and child health services room to the moment of the departure from the room.

Time 4: The time the patient spend from getting his or her medical file to the doctor's room to the moment of entering the room for the medical examination.

Time 5: the time the patient spends from entering to the room for the medical examination untill he or she leaves the room.

Time 6: the time the patient spends from when he or she leaves the doctor's room utill receiving his or her medical papers from the reception.

Time 7 the time the patient spends from when he or she receives his or her medical papers from the reception untill the co- payment procedures are completed.

Time 8: the time the patient spends from when the co- payment procedures are completed untill he or she enters the changing room.

Time 9 the time the patient spends from when he or she enters the changing room till he or she leaves the changing room.

Time 10: the time the patient spends from when the co- payment procedures are completed untill the lab samples are taken.

Time 11: the time the patient spends from when the lab samples are taken untill the results are available.

Time 12: the time the patient spends from when the co- payment procedures are completed untill the X-ray is taken.

Time 13: the time the patient spends from when the X-ray is taken untill the results are available.

Time 14: the time the patient spends from getting the medical prescription from the reception untill he or she gets his or her medical file from the nurse.

Time 15: the time the patient spends from when the co- payment procedures are completed untill he or she gets a prescription from the pharmacy.

Time 16: the time the patient spends from giving the papers to the reception untill these are given to the physician.

Time 17: the time the child's mother spends from entering the mother and child room untill the patient starts to receive the medical service from the nurse there.

These quality improvement indicators were measured using a survey that was designed for this purpose . This survey was completed by observing 112 patients who were randomly selected during two weeks of work .The main quality indicator was found to be 5286 minutes. This means that the average stay time of the patients in the clinic is 47 minutes.

The survey showed that the highest partial indicator is t4 which represents the time the patient spends from getting his or her medical file to the doctors room to the moment of entering the room for the medical examination (1433 minutes).

What changes can we make that will result in improvement? Developing changes

The QIT in the Clinic conducted several meetings to discuss why t4 is of such magnitude. It was agreed to reduce the main quality indicator by tackling t4 through introducing the following changes

- An awareness campaign would be initiated aimed at educating the external customers (patients) that the Clinic would provide services not only between 9:30- 12:00 but also untill 20:00. This campaign would be initiated using posters and guidance provided by the nurses working in the Clinic.

- The physicians agreed to coordinate their annual leave in a way that would ensure the presence of at least 4 physicians per day. At the present time the clinic had 5 physicians who did not coordinate their absence; with which sometimes left the clinic with only 3 physicians leading to high stay time for patients.

- The physicians agreed to try an early start by being ready to provide the medical services to their patients at 8:30 at the latest.

- The physicians reached an agreement that the issue of interruptions and delays during work is contributing largely to the problem of long stay time in the Clinic. These interruptions were associated largely with patients trying to open the door while the physicians were with other patients. It was agreed to introduce an internal calling system combined with posters telling the patients not to open the door and to go to the physician's room only if they were called by the physicians.

Plan

The QIT in the Clinic and the QIPT started the following preparations for the changes:

- A letter was written to the World Bank asking permission to buy the internal calling system for the Clinic. This was done to comply with the regulations imposed by the World Bank that any resources that will be needed in the development sites should be agreed by the World Bank.

- The physicians held a meeting during which an annual leave schedule was agreed upon ensuring that the number of physicians in the Clinic should not be less than 4 on any one day.

- Posters telling patients to come late in the evening instead of only in the morning hours were designed and put in the Clinic.

Do

These changes were implemented for 2 weeks. During implementation, the physicians witnessed some difficulties in arranging their leave especially when any of them was suddenly invited for a workshop or for a training course. Furthermore the patients were not used to the new system and some of them did not follow the instructions.

Check

The quality improvement indicators were measured again after two weeks of implementing the previous changes using the same survey that was employed to collect the pre data. This survey was completed again by observing 112 patients

who were randomly selected during two weeks of work .The main quality indicator was found to be 4704 minutes. This means that the average stay time of the patients in the Clinic was 42 minutes.

Furthermore the health personnel operating the new system were asked the following questions as a satisfaction survey:

- How do you evaluate your level of satisfaction with the current health services provided?

- How do you evaluate the internal calling system that was introduced in the Clinic?

- How do you evaluate the posters that were introduced in the Clinic recently?

- How do you evaluate your level of satisfaction with the idea of telling the patients to come late in the evening instead of only between 9:30- 12:00?

The results of this survey are presented in table 8.10

Table 8.8 : Result of the Satisfaction Survey (Health Personnel)

	Excellent	Good	Accepted	Bad
Question 1	53.1 %	37.5 %	9.3 %	0%
Question 2	50 %	34.3 %	15.6 %	0%
Question 3	53.1 %	40.6 %	6.2 %	0%
Question 4	37.5 5	34.3 %	28.1 %	0%

The patients and their families filled another satisfaction survey answering the following questions:

- How do you evaluate your level of satisfaction with the current health services provided?

- How do you evaluate the internal calling system that was introduced in the Clinic?

- How do you evaluate the posters that were introduced in the Clinic recently?

- How do you evaluate the start time of the physicians?

The results of this survey are presented in Table 8.9

Table 8.9 : Results of the Satisfaction Survey (Patients and Their Families)

	Excellent	Good	Accepted	Bad
Question 1	70 %	21.5 %	5.8 %	0%
Question 2	86.2 %	13.7 %	0 %	0%
Question 3	88.2 %	11.7 %	0 %	0%
Question 4	25.4 %	43.1 %	13.7 %	17.6 %

The pre and post data on the time the patients spent in the Clinic can be

presented in the following run charts.

Reducing the time the patient spent in Sabha Clinic
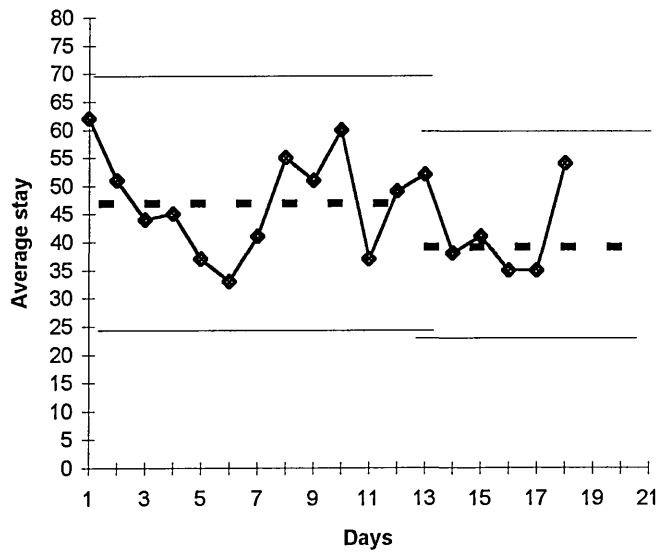
Act

The QIT in the Clinic thought that better results could be gained if longer time was given to the staff to adapt to the new way of work. The changes will therefore be monitored again after implementing the changes for longer time.

CONCLUSION

This chapter showed how quality improvement was implemented in the Palestinian Healthcare sector. It presented the first cycle of improvement which was carried out in Al- Naser Hospital and Rafidya Hospital. In Al-Naser Hospital two similar improvement processes were implemented in different departments. Only one process was presented which aimed at improving the quality of medical performance during working hours in Department 2 of the Hospital. The QIT followed the PDCA cycle to implement this process which resulted in increasing the real time spend with the patient from 75.5% to 100%. Furthermore, patient - physician contact time was increased from 7.07 minutes to 14.86 minutes. At Rafidya Hospital, a quality improvement process was implemented aimed at the rationalising prescribing practices of prophylactic antibiotics in surgery. The PDCA cycle was also followed to implement this process. The QIT achieved only stage one of the cycles (Plan) which showed that waste in the prescription of prophylactic antibiotics in surgery was 92% of the dollar value of the prescribed antibiotics. This improvement process stopped at this stage due to the strike that took place in the Hospital by the nursing department. This chapter also showed how the second cycle of process improvement was initiated in the West Bank and Gaza Strip. The improvement processes in the second cycle can be classified into

two categories: the first category being those processes that deals with efficiency (such as increasing the capacity of the incubators to treat a newborn with neonatal jaundice in Al-Naser Hospital and reducing the number of donated blood pints with HBS and HCV positive in Rafidya Hospital) and the second category being those processes that deal with delays and waiting times (such as reducing the time the patients spend in Sabha Clinic and reducing patients waiting time in the Out-Patient Clinic of Department 2 in Al- Naser Hospital). In the second cycle of improvement the QIT used Tom Nolan Model. This model was used as there was a need to use a model, which was easy to understand and did not take a long time to be implemented. The Tom Nolan model had those characteristics. The following results were achieved:

- Reducing the patients' waiting time in the Out- Patient Clinic of Department 2 at Al- Naser Hospital: the time the patient spent waiting in the Out- Patient Clinic before seeing the physician was reduced from 190 minutes to 84 minutes.

- Reducing the total time the patient spent in Sabha Clinic: the total time the patient spent in the Sabha Clinic was reduced from 47 minutes to 42 minutes.

- Increasing the capacity of the incubator to treat a new born with neonatal jaundice: the duration of time needed to treat a new born with neonatal jaundice was reduced from 49.5 hour to 23.6 hour.

- Reducing the number of donated blood pints with HBS and HCV positive in Rafidya Hospital: the number of donated blood pints with HBS and HCV positive was reduced from 36 cases out of 87cases to 0.

After implementing the first and second cycle of improvement, the QIPT reached many conclusions concerning implementing quality improvement in the Palestinian health sector. The QIPT agreed on the following issues:

- QITs were very susceptible to sensitisation. Enthusiasm and tension for change was created amongst the majority of health professionals from different specialists and in different positions. Teams were able to learn total quality management and apply it in the improvement projects. Teams were able to benefit from the special instruction given in team building and apply it to their work.

- The projects implemented have shown the multitude of improvement opportunities, for example, improvements made in neonatology have reduced the duration of time needed to treat a newborn with neonatal jaundice from 49 to 23 hours. The implication of implementing this project nationwide would be to double the nation incubator capacity with no increase in capital of human infrastructure. Furthermore, substantial progress has been made in solving the problems of overcrowding and long waiting times in hospital out- patient clinics and in several primary care centres.

- In implementing the above work a key determinant of success has been shown to be the real commitment to improvement and leadership of the top man in the organisation.

- The result of the work implemented has demonstrated that the issue of quality of healthcare in Palestine is that of " inefficiency in the system of delivery ". It has also shown that conducting improvements at the level of process" the

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micro level" is very successful as part of the " two pronged approach" to improving healthcare quality in Palestine.

- It was possible to train a number of multidisciplinary professionals (QIPT) in total quality management and to concentrate their efforts on implementing improvements in the Palestinian healthcare sector. The MOHs' organ for healthcare quality improvement is now fully functional.

- The immediate future should see a transformation moving out of selected sites " Development Models" into the implementation of improvement projects nationally. Experience has provided evidence that certain projects are of strategic significance to healthcare improvement in Palestine. These projects need to be implemented nationally in the next phase.

In order to implement improvement projects nationally, a new system have to be developed to enable the Palestinian QIPT to succeed in simultaneously managing a number of multi -side national initiatives. The training programme will also need to be revised to meet future needs. Much more support will be required from the Ministry in order to leverage more improvements on more sites. Alongside the national projects small scale testing (in one location) of new projects should continue. More importantly, The MOH will be able to recommend projects for testing in areas of strategic significance to the Ministry. The immediate future should see a close alignment between process improvement projects and the goals and objectives of the Ministry.

- In the long term, the vision is that all MOH departments and personnel will adopt the quality management methodology in their work. Quality management

should become "the way people manage" and even more importantly it should become the " organisational philosophy" throughout the system. This requires the infiltration of the "quality culture " throughout the system. This is the ideal state, which will be truly capable of enhancing and sustaining continuous improvement. For this, much training and experiential learning over a long period of time will be required. In contrast to the infiltration of the " Quality culture " throughout the Ministry comes the delegation of quality. In the latter case, a MOH Quality Department, and or quality departments at the level of the individual healthcare organisations, would be created. These departments would become responsible for quality improvement. In this case, quality improvement becomes " Someone's job" not the "way the whole Ministry functions". International experiences, and indeed our own experience, have shown the large difference between organisations where quality management was delegated to a specific department and where it was adopted as the " management methodology ".

- In order to promote and sustain improvement throughout the Palestinian health sector, a special organ similar to the existing QIP will be needed indefinitely. This organ should function as the Palestinian " think tank" on healthcare improvement. Consequently, it should be highly professional in nature and to include only specialists highly skilled in the science of improvement and fully dedicated to working in it. The QIPT demonstrated that it is capable of continuing to play this vital leadership role and today fulfills this function. Specific responsibilities of the QIPT for the future should include:

* Maintaining cutting edge knowledge and skill in the science of improvement.

* Continuous development and updating in the strategies of healthcare improvement.

* Continuous development of the training curricula on improvement methodology.

* Conducting training in improvement methodology.

* Supporting and facilitating quality improvement projects throughout the health sector. Importantly, this organ should support and facilitate improvements to be conducted by the teams in their organisations, but should not in any way replace them in this function.

CHAPTER NINE

EVALUATION OF IMPLEMENTING TOTAL QUALITY MANAGEMENT IN THE

PALESTINIAN HEALTHCARE SECTOR

Introduction :

The accomplishment of the first and second cycle of improvement was followed by two types of evaluation .The first was the evaluation study carried out by the QIPT and the second was the evaluation carried out by a World Bank consultant who visited the QIP after the completion of the first and second cycle of improvement. The results of these two evaluations are presented in this chapter.

First Evaluation

The first evaluation study was carried out by the QIPT to find out both the driving forces as well as the restraining forces occurring during the QIP's work.The data for this study was collected formally and informally. The most important sources of data were:

- Project reports.

- Surveying the Quality Improvement Project Team (QIPT) concerning the previous achievements and the future vision **(Annex 15)**

- Surveying the Quality Improvement Team Leaders (QITLs) concerning their experience in quality improvement **(Annex 15)**

- Surveying the Quality Improvement Teams (QITs) concerning their experience in quality improvement. **(Annex 15)**

The surveys will be analysed using a qualitative data analysis method concentrating on the main "themes" that will be mentioned for each subject.

The demographic data were not analysed because of the low response rate to the questionnaire.

QIP's Main Achievements: First Cycle Of Improvement

- *The operational plan from 1/10/1996 - 31/12/1997*

Met activities: several awareness session were undertaken in the targeted projects activities areas; finishing the improvement priorities in the targeted health organisations; finishing the planned training courses; several meetings for the QIPT from Gaza and the West Bank were organised; finishing the preparation for the TQM course for the Master's programme in Health Sciences in Alqudes University; establishing the computer network for the project; coordination of the nursing course; starting the improvement processes in Gaza and the West Bank by training the QITs from the activity areas; planning for the next phase and preparing for it.

Unmet activities: preparation of the projects monthly brochure; identification of the quality indicators; celebration of the end and the success of the first improvement processes.

- *Operational plan 1/1/1997 - 31/3/1997*

Met activities: periodic meetings of the QIPT from Gaza and the West Bank; several awareness sessions in the targeted areas; giving the TQM course to the Master's programme of Alqudes University; finishing the improvement processes of the first stage, planning for the next phase and preparing for it.

Unmet activities: training the QIT through local workshops; preparation of the project's monthly brochure; discus sing the framework of the research programme; discussing the framework of the Infection control programme; discussing the framework and the measurement of the quality indicators

programme. All these activities were not met because the team members were too pressed by the other activities.

- *Sensitisation*

Several awareness sessions on quality improvement principles were conducted in Gaza and the West Bank in the targeted areas for the quality improvement processes. The duration of each session ranged from 2 to 5 hours. The following topics were emphasised: the need for improvement; the principles of the quality improvement methodology; the improvement opportunities in Palestine.

- *Priorities for improvement*

The following methods were utilised in identifying these priorities in the targeted health organisations: (1) a questionnaire to determine these priorities was distributed to a sample of 20% of the total health personnel and patients in the selected organisations (2) focus groups with health personnel to identify these priorities were conducted in the selected organisations.

- *Training*

Two training courses both of 6 days on the concepts of teamwork and TQM were conducted by the QIPT at the beginning of November 1996 in the Gaza and West Bank for health personnel in the targeted organisations. The total number of the trainees in Gaza was 21 (physicians, nurses, administrators and technicians) from Shifa and Naser Hospitals, while in the West Bank the trainees were 34 from different sectors of Rafidia Hospital. According to the trainees' evaluation, these training courses were excellent in both Gaza and the West Bank. Most of the participants were very enthused and reported readiness to embark on the improvement processes. What characterises the

training most is its focus on the participants as the base of the training process and the strong relevance to the reality and employing various teaching methodologies.

- *Improvement processes*

Eight QITs were formed in Gaza and the West Bank, (55 members) comprising physicians, nurses and technicians. These improvement processes aimed at training the working teams how to use the quality improvement concepts in the implementation of some improvement processes within their health organisations. The following improvement processes were identified:

1. Improving the efficiency of the morning medical round in Department 1 of Al-Naser Hospital , Gaza

2. Improving the efficiency of the morning medical round in Department 2 of Al-Naser Hospital , Gaza

3. Rationalising the prescribing practices of prophylactic antibiotics in surgery at Rafidya Hospital , West Bank

4. Reducing the time for urgent laboratory tests at Rafidya Hospital , West Bank

5. Reducing patient waiting time in the Out- Patient Clinic at Rafidya Hospital , West Bank

6. Infection control at Shifa Hospital.

7. Infection control at Rafidya Hospital.

8. Improving the mechanism of drug ordering at Rafidya Hospital

QIP's Main Achievements: Second Cycle Of Improvement

- *Operational Plan from1/4/96- 31/9/97*

Met activities : several meetings for the QIPT in Gaza and West Bank were conducted; several awareness sessions in the targeted activity areas were conducted; an improvement priorities study was conducted in the targeted organisations; selection of the members of the QITs from the activity areas was made; training of the QIPT and attendance at quality workshops; training of the QITs from the organisations; creation and implementation of a system for managing the improvement processes; training the teaching team in Ibn-Sina nursing college.

Unmet activities: contributing to the preparations of the World Bank workshop which was cancelled; organisation of the "training the trainers" workshop; celebrating the end success of improvement processes; distribution of the certificates to the participants in the first and second phase and the planning and preparation of the next phase.

- *Sensitization*

    Several sensitisation workshops were carried out in the West Bank and Gaza Strip. The duration of these workshops was 5 hours during which the following issues were discussed: needs and opportunities for quality improvement in Palestine, and the concept of the efficiency and effectiveness of the healthcare system.

- *Priorities for Improvement*

    Priorities for improvement in the new selected sites were decided using an aim survey that was completed and returned by 20% of the health personnel and patients in those sites. Furthermore, several focus groups were carried out in each site with the health personnel with whom priorities for improvement were decided.

- *Training*

The QIPT conducted 5 training courses; 6 days each in team building skills and in concepts and principles of quality improvement. This training was conducted between 23/4 - 28/5/1997 in the West Bank and Gaza Strip. The total number of trainees in these courses were 160 health personnel, 85 from the Gaza Strip and 75 from the West Bank. These trainees represent the following healthcare institutions in Gaza Strip.

* Shifa Hospital.   (25)

* Al-Naser Hospital   (17)

* Ophthalmic Hospital.   (05)

* Sabha Clinic.   (09)

* Laboratories   (02)

* Primary Healthcare   (11)

* Rimal Clinic   (03)

* Health Education   (01)

* Surany Clinic   (02)

* Non-Governmental Institution   (10)

In the West Bank, the health personnel were from the following healthcare institutions.

* Rafidya Hospital.   (32)

* Ministry of Health   (05)

* Primary Care   (32)

* Womens' Health   (03)

* MOH /Country Supervision   (02)

The evaluation forms that were completed by the participants after each training course show that the training was successful and the trainees were satisfied and ready to start working in their institutions

- *Process improvement*

    QITs were formed in the West Bank and Gaza Strip. These multi-disciplinary teams consisted of physicians, nurses, administrators and technicians. The following quality improvement processes were selected to be carried out in the West Bank:

    * Reducing the patients' waiting time in the Family Planning Clinic, Women Health.

    * Harmonisation of the mechanism of providing services in the Family Planning Clinic, Women Health.

    * Improving the level of benefiting from unused Lab test in the Out-Patient Clinic , Rafidya Hospital.

    * Reducing the number of donated blood pints with HBS and HCV positive , Rafidya Hospital.

    * Improving the mechanism of health education in Family Planning Services, Women Health.

    * Reducing the time needed to get an appointment in the Out-Patient Clinic in Rafidya Hospital.

    * Organising the movement of patients' files at Rafidya Hospital.

    * Reducing the patients' waiting time in the Diabetic Clinics , Primary Care.

    * Improving self-care for diabetic patients , Primary Care.

    * Improving aseptic techniques in the Burn Unit at Rafidya Hospital.

* Improving the aseptic techniques dealing in surgical sites at Rafidya Hospital.

* Improving aseptic techniques in the Family Planning Clinic, Primary Care.

* Enhancing the system of in-service education at Ibn - Sina College.

* Reducing the percentage of respiratory complications for In-Patients in the female section at Rafidya Hospital.

* Enhancing the mechanism for maintaining the medical equipment at Rafidya Hospital.

* Improving student's academic average at Ibn-Sina College.

* Improving the system of prescribing treatment antibiotics at Rafidya Hospital

* Ensuring the availability of basic drugs in the rural primary healthcare clinics in the West Bank.

* Improving the teachers' skills in choosing and using educational materials and methodologies, Ibn-Sina College.

* Improving the care of diabetic patients through applying treatment guideline , Primary Care

In the Gaza Strip, the following improvement processes were selected:

* Infection control before surgery , Shifa Hospital.

* Infection control in the Maternity Department , Shifa Hospital

* Infection control in surgery , Shifa Hospital

* Rationalising the use of Lab tests , Shifa Hospital

* Infection control in Family Planning Services, Shifa Hospital

* Reducing the time patients spend under photo-therapy, Al-Naser Hospital.

* Reducing the percentage of repeated X-Rays , Al Naser Hospital.

* Reducing the level of crowding at Sabha Clinic.

* Rationalising patients' admission from the reception to Department (1) in the morning hours, Al Naser Hospital.

* Rationalising patients' admission from reception to Department (1) in the evening and night hours, Al-Naser Hospital.

* Rationalising the admission of patients from reception to all departments, Al-Naser Hospital.

* Reducing patients' waiting time in Department 2 Out-Patient Clinic, Al-Naser Hospital.

* Infection control associated with surgical endoscopes, Shifa Hospital.

* Infection control associated with anesthesia equipment, Shifa Hospital.

* Improving the efficiency of the medical morning round of doctors, Al Naser Hospital.

- *New Management System*

The second cycle of improvement witnessed an expansion of the quality improvement effort to more sites and new areas of improvement. This expansion necessitated the introduction of a new management system by which the role of the team leaders in the selected sites was optimised. Those leaders were given full responsibility to follow-up the quality improvement processes in their organisations. Weekly meetings took place between those leaders and the QIPT. This new management system comprised several phases. Each phase was specific. Everything done in those phases was documented via special forms. These phases were:

First Phase: preparation

Second Phase : Study of the intended improvement processes

Third Phase   : Identifying the indicators of the improvement process

Fourth Phase   : Measuring these indicators prior to initiation of improvement

Fifth Phase   : Determination of the proposed changes

Sixth Phase   : Study the changes and post-change measurements

Seventh Phase : Data analysis and writing the final report.

- *Miscellaneous activities*

  * "Quality improvement" course -2 credit hours- was given by the QIPT as part of the Master's programme in the West Bank.

  * "Quality improvement" course -3 credit hours- was given by the QIPT to the teaching staff of Ibn-Sina Nursing College in the West Bank

  * The Project's brochure was published. (contents: general information about the project, QI philosophy, activities of the project)

  * Mission statement of the project was formulated and distributed.

  * Computer programmes for the registration and index departments at Rafidya Hospital were added by the project

  * Training materials in Arabic were prepared for the awareness and training programmes. They reflected the latest advances in the TQM.

  * Project advertising in the newspapers, on radio and TV was conducted about the various project activities

  * The QIPT contributed to the adaptation of the drug procurement form, which was generalised in hospitals. A committee was formulated to develop a protocol and to train health workers in its use.

  * Paid training in private hospitals in the West Bank was undertaken

  * A study day was organised in Beir-Zeit University for the Master's students in Primary healthcare

* The QIPT participated in the MOH's 5 year plan workshops

Results of the Study: First And Second Cycle of Improvement

- *Training*

The QIPT conducted several training courses in quality improvement and team
building skills in the West Bank and Gaza Strip. The following table describes
the two training events that took place in Gaza and the West Bank during the
first and second cycle of improvement. The following data was taken from the
QIP training report 1997.

Table 9.1: Training No. 1

	West Bank	Gaza
No of courses	2 courses, 6 days each	1 course for 6 days
Date	29/10/1996 –11/11/1996	5/11/1996 - 11/11/1996
Numberof Participants	34	21
•Evaluation	•Overall satisfaction rate = 80 % •Satisfaction rate concerning content and methodology of training = 80 %	•Overall satisfaction rate = 80 %. •Satisfaction rate concerning content and methodology of training = 80 %
•Result :	•The evaluation forms filled by the participants show the need to : •Carry out more courses. •Carry out such courses for senior staff. •Include all staff of •Rafidya Hospital. •Increasing the duration of the course. •The training site should be easy to reach by the participants	•The evaluation forms filled by the participants show the need to : •Carry out such courses for senior staff. •Think of an incentive scheme for those who will participate in the quality improvement efforts. •Choose a suitable training site. •Increasing course. •Use case study examples during the training.

The previous comments were taken into consideration when preparation for the
next training started. Training material was reviewed and the trainees were
moved to a comfortable training site. Case study examples were also used.

It was not possible to carryout the requested training for senior staff as a result
of the turbulent political circumstances.

Table 9.2:Training No. 2

	West Bank	Gaza
Number of Courses	2 Courses , 6 days each	3 Courses , 6 days each
Date	30/4/97-7/5/97 21/5/97-27/5/97	23/4/97 - 29/4/97 12/5/97 - 17/5/97 19/5/97 - 21/5/97
No. of Participants	75	85
Results	The evaluation forms filled by the participants show the need to : 1)Practical rather than theoretical lectures should be given especially in the area of variation, statistics data collection, and process Description. 2)Cancel some theoretical material and add practical material on quality indicators. 3)Priorities for improvement should be decided before coming to the training. 4)Duration of the course should be extended.	The evaluation forms filled by the participants show the need to : 1)The presence of the trainees should be coordinated in advance in a way that ensures the continuity of the training. 2)Some changes in the training material were made in Gaza but not in the West Bank. 3)New learning tools were used such as video. 4)The participants showed a great deal of enthusiasm and contributed heavily in the discussions. 5)The participants requested continuous training and reminder workshops. 6)These courses should cover all health personnel in the different sites senior staff and decision-makers. 7)The trainees expressed their appreciation to the QIPT for their distinctive way of training and the ability to transfer their knowledge to the participants as simply as possible. 8)The participants acknowledge the possibility of implementing Quality Improvement in their daily work and even in their personal life.

The QIPT had the following opinions concerning training:

* Training should be reviewed and redesigned.

* It should be longer and consistent with the implementation stage of the quality improvement processes.

* Trainees should be selected according to their ability and readiness to work in quality improvement after training.

* The trainees should understand the nature of the QIP facilitator's role.

* Reducing the duration of the training course.

* Team leaders should participate as trainers in the future training courses.

* Conducting training at several levels.

* Reducing the number of participants.

* Concentrating on teaching the participants data collection and analysis.

The QITLs had the following opiniomns concerning training:

* The training course should be redesigned. It should be distributed over several weeks. This suggestion came as a result of the difficulties faced when the health personnel had to leave their sites for a week to attend the training.

* Training should be conducted in the healthcare organisations this will ensure the practicality of the training by connecting the theory to the practical situation in the institutions.

* The training should cover senior staff. They should be considered as team leaders to ensure successful and fruitful results of the quality improvement methods.

* Quality improvement success stories should be demonstrated in the training.

* Reducing the number of participants.

* Increasing the duration of the course.

* The trainees should have similar backgrounds from technical and educational point of view.

* Participants should be given the right for discussion during the training.

* Comparative visits between the West Bank and Gaza Trip should be carried out.

* Training should be continuous.

The QITs had the following opinions concerning training:

* Training should be redesigned. It should be longer.

* Trainees should be selected on the basis of their ability to work efficiently and effectively.

* Some trainees should not be allowed to dominate the discussion during training.

* Training should be carried out and in the host healthcare organisation.

* Training should include as many health personnel as possible.The number of courses should be increased to allow as many health personnel to participate as possible.

• **Results Achieved**

The following table presents the results that were achieved in the first cycle of improvement

Table 9.3: Results achieved " First cycle of improvement

Name of Process	Quality indicator	Pre improvement measurement	Post improvement Measurement
1) Improving the efficiency of the morning medical round in Department 1 in Al-Naser Hospital.	*Average physician – patient contact time * Real round time	6.9 minutes 72%	N.A N.A
2) Improving the efficiency of the morning medical round in Department 2 in Al-Naser Hospital.	* Average physician – patient contact time * Real round time	7 minutes 73.5%	14.68 minutes 100 %
3) Rationalsing the prescribing practices of prophylactic antibiotics in surgery at Rafidya Hospital.	The proportion of unnecessary use of antibiotics.	92 %	N. A
5)Reducing the time for urgent laboratory tests in Rafidya Hospital.	Time for urgent laboratory tests	43 minutes	19 minutes

Table 9.3: Results Achieved " First Cycle of Improvement

Name of Process	Quality indicator	Pre improvement measurement	Post improvement Measurement
5) Reducing patient waiting time in the Out-Patient Clinic in Rafidya Hospital.	* Average waiting time for getting an appointment	62 minutes	5 minutes
	* Average waiting time to be seen by the physician	96 minutes	33 minutes
6) Infection control in Rafidya Hospital	The percentage of patients who are transferred correctly to the theatre	0%	100%
7) Infection control in Rafidya Hospital	Cancelled		
8) Infection control in Shifa Hospital	The percentage of post operative infection	5.4%	N.A
9) Improving the mechanism of drug ordering in Rafidya Hospital	Cancelled		

The above table shows that four processes have been successfully implemented in the first cycle of improvement, three processes were not completed, and two processes were cancelled.

Furthermore, the QIPT carried out many improvement processes in the second cycle of improvement. The following table represents the quality improvement processes that were carried out in the second cycle of improvement.

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Table 9.4: Results Achieved " Second Cycle of Improvement (Gaza Strip)

Name of Process	Quality Indicator	Pre-improvement measurement	Post improvement measurement
1) Infection control before surgery/ Shifa Hospital	• Percentage of patients who receive bath before operation	29%	94%
2) Infection control in the maternity sections / Shifa Hospital	• Percentage of health personnel who use the operating suits. • Percentage of health personnel who wear hair cap, mask ,shoe cap • Hand scrubbing • Vaginal dis-infected • Percentage of health personnel who do not need to be in the operating rooms. • Percentage of cases where the operating team change clothes when needed	55.6% 100% 55.6% 59.6% 59.6% 0%	98.6% 100% 100% 100% zero % 100%
3)Rationalising the usage of Lab tests in Shifa Hospital	• The percentage of patients who are required to carryout Lab Test and the results are available in the file when needed.	53 %	70 %
4) Infection control associated with surgical endoscopes	Cancelled		
5) Infection control associated with anesthesia equipment	Cancelled		
6) Infection control in family planning service / Primary Care.	• The percentage of infection before using the lop. • The percentage of infection after using the loop • Percentage of follow up according to schedule ⇒ Right follow up ⇒ Late follow up ⇒ No follow up	75 % 15 % 26 % 52 % 21 %	Implementati-on is expected soon

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		49.5 hours	23.6 hours.
7) Reducing the time patients spend under phototherapy / Al Naser Hospital.	Time patients spend under phototheraphy	49.5 hours	23.6 hours.
8) Reducing the percentage of repeated X-Ray in Al-Naser Hospital.	The percentage of repeated X-Ray.	10%	4.4%
9)Reducing the level of crowdness in Sabha Clinic.	The time patients spend in the clinic	47 Minutes	42 Minutes
10) Rationalising patients' admission from the reception to Dept. (1) in the morning hours / Al- Naser Hospital	The percentage of patients who are discharged within 24 hours of admission	22%	13%
11) Rationalising patients' admission from the reception to Dept. (1) in the evening and night hours / Al-Naser hospital.	Percentage of patients who are discharged within 24 hours of admission	26%	6 %
12) Rationalising patients' admission from reception to all Departments / Al-Naser Hospital.	Percentage of patients who are discharged within 24 hours of admission	6.5%	9.5%
13) Reducing patients waiting time in Department 2 Out - Patient Clinic / Al-Naser Hospital.	The time patient spend waiting before seeing the doctor	190 Minutes	84 Minutes
14) Improving the efficiency of the medical morning round of doctors / Al-Naser Hospital	Cancelled		
15) Improving the aseptic techniques in the operation rooms in the Ophthalmic Hospital	-Average number of patients transferred to the operation room by trolley	Zero	5
	-Average number of health personnel with proper suits in the operation room and department	Zero	2
	-Average number of extra unnecessary personnel in the operation rooms	3	Zero
	-Average number of good hand scrubbing before the operation	Zero	3
	-Average number of reused instruments from the disinfectant	5	1
	-Average number of disposable that are reused	4	1

Table 9.5: Results Achieved " Second Cycle of Improvement (West Bank)

Name of Process	Quality Indicator	Pre improvement Measurement	Post improvement measurement
1) Reducing the patient's waiting time in the family planning clinic / Nables	The time the patient spends to receive the service	123 minutes	Not completed
2) Harmonising of the mechanism of providing services in the Family Planning Clinic/ Nobles.	The percentage of doctors who work according to the protocol	17 %	Not completed
3) Improving the level of benefiting from unused Lab tests in the out patient clinic / Rafidya Hospital.	• The average number of unused Lab Tests. Months.	155 test	Not completed
4) Reducing the number of donated blood pints with HBS & HCV positive –Rafidya Hospital.	The percentage of wasted blood pints	29.7%	0%
5) Improving the level of health education in family planning services / Primary Care.	The level of knowledge in 1- Condom. 2- Loop 3- Bills 4- Counting 5- Breast feeding	47% 100% 97% 36% 28%	60 % 100% 100% 70% 80%
6) Reducing the time needed to get an appointment in the out patient clinic / Rafidya Hospital	Time needed to get an appointment in the clinic: • Surgery. • E.N.T • Urology • Orthopedic • Ophthalmic	5 Weeks. 8 Weeks. 5 Weeks. 6 Weeks. 6 Weeks.	1/2 Week. 4 Weeks. 1.5 3 Weeks. 1.5 Week.

Table 9.5:Results achieved " Second cycle of improvement (West Bank)

Name of Process	Quality Indicator	Pre improvement measurement	Post improvement Measurement
7) Improving aseptic techniques in the Burn unit in Rafidya Hospital.	Percentage of negative environmental cultures from the different sites of the burn unit	Zero %	88%
8) Improving the aseptic techniques dealing with surgical sites in Rafedya Hospital.	Canceled		
9) Improving the system of prescribing treatment antibiotics in Rafedya Hospital	Canceled		
10) Improving aseptic techniques in the family planning clinic	Percentage of the IUD associated infection rate	20%	Not completed
11) Organising the movement of patient's files in Rafidya Hospital	The percentage as files that are not available when required	25 %	5 %
12) Reducing the patient's waiting time in the diabetic clinic in Nables	The time patients spend in the clinic	80 minutes	14 minutes
13) Improving self-care for diabetic patients in Nables.	• Knowledge of the disease.	40 %	Not completed
	• Results of health behaviours.	20 %	
	• Results of health services provided	30 %	
14)Enhancing the system of in service education in Ibn- Sina college	Canceled		

Table 9.5:Results achieved " Second Cycle of Improvement (West Bank)

Name of Process	Quality Indicator	Pre improvement Measurement	Post improvement measurement
15) Reducing the percentage of respiratory complications for in-patients in the female section in Rafidya Hospital.	Cancelled		
16) Ensuring the availability of basic drugs in the rural primary healthcare clinics in the West Bank	• Number of missed curative units and being dispensed from the central pharmacy	350 unit	50 unit

17) Improving the teachers' skills in choosing and using educational materials and methodologies	• The extent of applying different teaching methodologies
	  - Always
	  - Sometimes
	
	• The extent of applying different educational materials
	  -University curriculum
	  -Talent
	  -Production
	  - Visual aids
	
	• The extent of producing necessary educational materials:
	  - teacher self production
	  -Other resources
		46%
		54%
		
		69%
		46%
		62%
		48%
		
		62%
		31%
			Not completed

18)Enhancing the mechanism of maintaining the medical equipment	Cancelled		
19) Improving the care of diabetic patients through applying treatment guidelines	• Average fasting Blood Sugar • Average Body –mass index • Percentage of retinopathy	190 mg 29 67%	Not completed

The pervious tables show that 12 improvement processes have been successfully implemented and 3 improvement processes have been cancelled in Gaza Strip. In the West Bank 7 processes have been successfully implemented 7 processes are not completed and 5 processes have been cancelled.

- ***Obstacles During Implementing Quality Improvement:***

The QIPT had the following opinions concerning obstacles during implementing quality improvement:

* There is not real interest by some QITs in the subject of improvement.

* Some members did not perform the required task as requested of them.

* Individual preference and carelessness on the part of some nurses, doctors and support staff in the health organisations.

* Some QITs were part of more than one team leading to conflict and difficulties in working.

* The regular meetings for the teams were not always suitable.

* Top management was not always supportive of the quality improvement efforts.

* Top management was insistent on knowing the details and on achieving results as soon as possible.

* Top management made frequent requests to expand the work to more places in the organisation.

* Top management was busy most of the time, which made communication with it difficult.

* The existing environment does not facilitate improvement.

* Lack of human and material resources; needed to complete some of the quality improvement processes.

* Continuous political closures which made communicating and travelling between the West Bank and Gaza Strip difficult.

The QITLs had the following opinions concerning obstacles during implementing quality improvement:

* The health personnel do not believe in the subject of quality improvement.

* The health personnel are busy doing their basic work and do not have time to do the quality improvement work.

* Some team members were not ready to make an effective contribution to quality improvement efforts.

* Some colleagues in the institution were not aware of the quality improvement processes in their organisations.

* Some problems came from colleagues who were not in the quality improvement teams. This was due to professional competition.

* Lack of resources when needed.

* Change within the QIP.

The QITs had the following opinions concerning obstacles during implementing quality improvement:

* The current management system inside the health institutions is not supportive of quality improvement concepts. It does not provide support and incentives but exhibits a lack of confidence.

* It is difficult to deal with the colleagues in the institution, which makes implementing the improvement a difficult task.

* Some health personnel do not believe in quality improvement and they resist the existence of the QIP.

* Top management does not appreciate and value the role of the QIT in its organisation.

* Lack of time and lack of ability to stick to appointments by the QIT members.

* Some basic work is not being performed correctly. This could and should be corrected with no need for the QIP.

* Lack of required resources.

- **Suggestions for Overcoming the Obstacles**

The QIPT had the following suggestions for overcoming the obstacles:

* Quality improvement should be linked to the work of the top management in each organisation.

* Top management should be involved in the work of QITs in its institution and it should participate in the teams' regular meetings.

* The MOH should announce its adoption of the QIP and its methodology in improving the quality of healthcare.

* Top management should support the QIPT and should adopt its recommendations.

* The MOH and all health institutions should be committed to the QIP.

* The infection control processes in particular should have the required resources.

* Sensitisation workshops should be carried out on the infection control programme to attract the attention of all health personnel in the health sector.

The QITLs had the following suggestions for overcoming the obstacles:

* QITs should be valued and treated as an important body.

* QITs should be given power and authority.

* The work of the QITs should be coordinated within their institutions.

* QITs should include as many health personnel as possible. The continuation of the work of these teams is important.

* Monitory & moral motivation should be provided to those teams working in quality improvement.

* Team members should be patient and strong in implementing the required changes.

* Working in quality improvement should be voluntary. Top management should not choose team members.

* A quality improvement facilitator should be assigned in each institution to follow up the quality improvement work.

The QITs had the following suggestions for overcoming the obstacles:

* The required resources should be provided. Senior management should follow-up and facilitate the quality improvement work.

* QIPT should continuously follow - up and facilitate the quality improvement work.

* Awareness campaigns should be strengthened and the patients should be sensitised to the importance of quality improvement.

* Top management should be sensitised and trained in the importance of quality improvement.

* The regular meetings should be coordinated well in advance and time should be allowed for the members to participate after coordinating with top management.

* Health personnel should be persuaded to attend the sensitisation and training courses.

* The MOH should adopt the QIP.

* The current thinking should be changed.

* A management system that provides incentive and improvement opportunities should be created.

* The working system inside the institution should be improved. A system that facilitates concentrating on the customers should be developed. This will ensure the maximum benefit with the minimum cost

- *Driving Forces During Implementing Quality Improvement.*

The QIPT had the following suggestions concerning the driving forces during implementing quality improvement:

* Some quality improvement work was facilitated when the MOH interfered through top management in implementing the work.

* The believe by all parties that this is an efficient, effective and cheap method to improve quality.

* Communication links were developed with health personnel in the health institutions.

The QITLs had the following suggestions concerning the driving forces during implementing quality improvement:

* The cooperation of the Director of the Hospital facilitated the work in quality improvement.

* Top Management and health personnel have been sensitised to the importance of quality improvement in their organisations.

* The positive results that were reached created an environment of competition to participate in the quality improvement work.

* *The team's regular meetings were efficiently conducted.

* Distribution of roles in each team.

* The follow-up by the QIPT.

* New members expressed their desire to join the quality improvement journey.

* The team leaders and members developed good relationship with the QIPT.

* Some of the quality improvement concepts could be used in the daily life.

* It was interesting to find out that quality improvement tools are easy and fun to use. It was found also that data collection methods and tools are easy to use.

* Friendly relations with work colleagues.

* Enjoying the celebration of success.

* The promise of getting a certificate that proves attending the training course in quality improvement.

The QITs had the following suggestions concerning the driving forces during implementing quality improvement:

* The speed of accepting the concepts of quality improvement by the health providers and the patients.

* The application of the theory that was presented in the training course in the real working environment.

* The good relation and communication that was developed between the QIPT and the QITs in the health organisations.

* Getting to know the colleagues in the work gave everyone the chance to be exposed to other points of view, which improved the level of knowledge for everyone.

* Creating the willingness to change and overcoming all obstacles which may stand in the way.

* It gave the chance to read and self-educate to start questioning the validity of data.

- **Contribution of the Quality Improvement Process to Personal Development:**

It should be cleared that the survey completed by the QIPT did not address the issue of the contribution of the quality improvement process to the personal development of the QIPT. The QIPT's opinions on this issue will not, therefore, be listed below.

The QITLs had the following suggestions concerning the contribution of the quality improvement process to personal development:

* More experience was required especially in the area of problem identification.

* The experience was new and exciting.

* Certain beliefs and ideas were presented in numbers and charts that tell the whole true story.

* It gave more confidence to continue the work.

* I have learned not to neglect anything no matter how minor it may look.

* I have learned that starting something will always lead to success.

* I have managed to implement what I have learned in quality improvement and in team building skills.

* Confidence in the importance of continuous quality improvement.

* This improvement effort indicated the need to work harder than before.

* Health personnel should not be demotivated, gradual improvements can be witnessed in the health institutions.

* This experience gave the health personnel more confidence in themselves.

* Top management should activate the quality improvement teams that support quality improvement.

The QITs had the following suggestions concerning the contribution of the quality improvement process to personal development:

* I have benefited heavily from the experience and used the knowledge in my personal life as well as working life.

* I am using statistical thinking now to understand numbers.

* A scientific method is now used to describe the processes in the organisations.

* Self - confidence has been increased as each step is pre-planned now.

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* I feel psychological relaxed because I am doing the right thing.

* My work is now more organised and more specific.

* I am able now to provide a distinctive health service.

* I feel updated in my medical knowledge.

* The process helped continuous research in this area but the limited scientific sources made this job difficult.

* The importance of being faithful to work has been realised.

- ***Contribution of the Quality Improvement Process to Organisational Development:***

It should be cleared that the survey completed by the QIPT did not address the issue of the contribution of the quality improvement process to the organisational development. The opinions of the QIPT on this issue will not, therefore, be listed below.

The QITLs had the following suggestions concerning the contribution of the quality improvement process to the organisational development:

* It became evident that some problems that may look difficult can be easily solved using the right methods and techniques.

* The improvement made the way of work easier and more beneficial to the patients.

* Work has been organised to the benefit of the internal and external customer.

* The improvement process was good and clear but the hard working conditions made achieving results difficult.

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* Continuous monitoring is very important.

* Some resources are needed to implement certain improvement processes.

* Work has been improved by applying teamwork.

* Technical performance has been improved as a result of the quality improvement process.

The QITs had the following suggestions concerning the contribution of the quality improvement process to the organisational development:

* Health services provided to the patient have been improved.

* The improvement process provided a better monitoring and evaluating system.

- ***Team Leaders' Regular Meetings:***

The QIPT had the following opinion concerning the team leaders' regular meetings :

* The meetings were suitable for the current stage of the QIP.

* These meetings could be cancelled and replaced by a meeting at the level of top management in the organisation.

* These meetings are taking too long. They should take place only monthly.

* These meetings could be redesigned so that clinical processes are discussed separately from non-clinical processes.

* These meetings could be assigned to discuss results only.

* Each health organisation should have more than one team leader.

The QITLs had the following suggestions concerning team leaders' regular metings:

* These meetings are good but the number of participants is more than it should be. The participants do not always stick to the agenda of the meeting.

* These meetings are important to resolve some ambiguities that are faced during implementing quality improvement.

* These meeting give the participants the chance to exchange knowledge and experience.

* MOH representatives should participate in these meetings.

* These meetings should have a planned agenda.

* Minutes should be taken in each of these meetings.

* It is not necessary to present all the results in one meeting.

* Time should be managed in a better way.

* The participants should not be allowed to leave the meeting except in emergencies.

* Some times these meetings are of benefit; sometimes a waste of time.

* These meetings should be longer.

It should be cleared that the survey completed by the QITs did not address the issue of team leaders' regular meetings. The opinions of the QITs on this issue will not, therefore, be listed.

* **Forms Used**

It should be cleared that these forms were designed by the QIPT and was completed by the QITLs. The opinions of only the QIPT and the QITLs will, therefore, be listed.

The QIPT had the following opinions concerning the forms used:

1. The forms are good. It helped to organise the work and created a positive competition between the teams.

2. The forms should be redesigned.

The QITLs had the following opinions concerning the forms used:

* The forms are simple and clear and represent the stages that any improvement process passes through.

* These forms suffer from some duplication in content.

Interpretation of the Results

The previous results were distributed to the QIPT which was requested to study the results and prepare comments for discussion at a two day meeting that was held on the 16th -17th November 1997. The previous results were discussed in details at this meeting and the following questions were at the top of the agenda:

• Do we need to stick to the priorities for improvement that have been identified in the first and second cycle of improvement or do we need to give this responsibility to the health organisation?

The QIPT believes that the previous priorities for improvement served the purposes that they were supposed to in the previous period. The coming phase will witness a change in the way these priorities will be defined. The hospital and primary care Generals Directors in Gaza and the West Bank will be

contacted and requested to identify their priorities for improvement in the different healthcare organisations. This will improve the QIPT's relation with top management in the MOH as a result of involving them in decision making.

- Do we need to redesign the sensitisation workshops and take the suggestions from team leaders and members into consideration?

The QIPT agreed to continue these workshops in the health organisations and to increase their number. Each organisation's special conditions should be taken into consideration when carrying out these workshops.

- Do we need to redesign the training course and material?

This subject needs to be discussed in detail. The QIPT decided to follow up on this issue later. It is clear that the survey shows that the training course and material should be redesigned to fit the future needs. All suggestions concerning this issue will be taken into consideration.

- Do we need to redesign/ cancel the team leaders regular meetings?

The QIPT agreed that these meeting should be organised in a way that serves the future plan. Certain elements in these meetings should be modified which will make these meetings more effective

- What are the reasons behind the failure of some improvement processes in Rafidya Hospital?

The QIPT agreed that the main reason was that the hospital was facing a strike by the nurses due to a cut that had been imposed by the MOH in nurses overtime.

Second Evaluation

In addition to the above assessment , another assessment was offered by an assessor acting on behalf of the World Bank. In the interest of a balanced assessment, the observations of the World Bank assessor are offered below. In the evaluation report it is stated that the overall, QIP work has been excellent in many areas such as developing a highly qualified, dedicated, multi- disciplinary professional core team whose members have an updated understanding of QI philosophy / principles, and a very good knowledge of QI tools/ techniques/ methodology and were successful in sensitising MOH staff at large toward the QITs in different sites. These teams included healthcare professionals from different specialties and in different positions. They are enthusiastic about the process improvement activities they are involved in and appreciated the QIPT training and facilitating skills, particularly their ability to discuss and/or help them identify QI problems / opportunities, to organise and build and motivate teams, to teach and carry out the process improvement and follow-up activities systematically and to initiate model and outcome oriented multiple process improvement projects/systems in selected sites. These systems have demonstrated the positive impact of the QI practices on the quality and efficiency of healthcare delivery. There are records of these achievements in several QIP reports such as "Special Report on Healthcare Quality Improvement in Palestine", January 1997; "The Quality Improvement Project: Annual Evaluation Study " , March 1997;" Healthcare Quality Improvement in Palestine: Ideas For The Future Agenda ", September 1997. Furthermore, the QIPT has promoted a QI culture by engaging in substantial QI educational activities throughout the Palestinian health

sector. Most administrators were supportive of QIP efforts and appreciated of the QIPT strengths. There were , however, some concerns expressed by some MOH senior staff and some QIPT. The perception by the QIPT is that there has not been enough support from some top managers, while a few senior staff saw QIPT working in an "Ivory Tower". Other concerns related to the sustainability of QIP efforts, and to physicians resistance to QI . Senior management staff also conveyed several difficulties that they believed were having a detrimental effect on the quality of healthcare delivery services. These problem areas are the following :

- Human Resources: there are shortages in some very important human resource categories, such as medical secretaries and medical record technicians in many settings , within hospitals and primary care. This shortage is creating serious problems for patient records and for coordinating patient data (inputs and outputs). There are also shortages of well-trained nurses, of sub-specialists in medicine, of well educated quality staff in general. There is also an employee morale problem because of poor salary and shortage of resources.

- Material Resources: such as equipment, surgical instruments, chemicals, computer printers, intercoms, etc...

- System Problems: need for protocols, need for streamlining of paperwork; internal communication difficulties such as transportation to villages which is causing a shortage of nursing in remote villages (particularly women), causing medical doctors to stay shorter in villages, and causing problems in scheduling

for distribution of medicine. Onother system problems was scheduling of doctors in the clinic to ensure more continuity of care.

- Finally, the serious problem of lack of integration between primary care and hospital care and the urgent need for developing an effective, logical patient referral strategy. This may require the adoption of a different approach in QIP efforts and instead of spreading QIP efforts into new areas, focusing on a few sites (one or two clinics) and helping these organisations' leaders to take the initiative and develop model organisations where QI philosophy, guiding principles and practices, are institutionalised. This means that all the important healthcare service delivery processes, both clinical and administrative, in these model organiasations, will be continuously monitored by the self-sustained organisations where QI is integral part of conducting business and not a separate, detached activity that takes place at one point in time, Thus, QI becomes a way of life , not a programme: QI is put on every employee's , both clinical and administrative, on every team's both clinical and administrative, agenda, all the time, continuously. QI gets included in the design and implementation of every significant activity , of every important service delivery process.

A total, systematic, integrated, continuous, organisation - wide approach to QI is recommended , involving everyone and everything, and particularly stressing that the human element is essential for achieving organisational success. The advantages of this approach are: stabilisation of QI efforts and assurance of organisational sustainability ; development of integrated, systematic, organisation-

wide data collection and assessment, an opportunity to produce reports showing current level of organisational (clinical and administrative) performance and trends over time; an opportunity to make internal comparisons as well as comparisons with information from up to date sources such as standards guidelines. A healthy competition between organisations will take place and will have a positive impact on healthcare quality and system efficiency through the development of a quality culture which will have a synergistic effect on QI efforts, because these will become everyone's responsibility. Involving employees, bringing them in to the QI decision - making processes, will empower them and provide the opportunity for continuous improvement. Reaching the untapped ideas, innovative, creative thoughts of employees will make the difference between success and failure. When all the models, methodologies, tools and techniques are examined, the end result is that people are the key to success in all improvement efforts; people make quality improvement happen .

The second recommendation is to modify the training curriculum and include teaching / training in leadership skills. There should be as much emphasis put on the people management side as on the technical side. The human side is the heart of it because the people are the "programmers", they produce everything else, and that is why leadership skills at every level of the organisation are vital. To achieve total quality, individual workers/ producers, as well as managers, must become leaders, drawing from themselves and from their people their greatest capacity to contribute ideas, innovative thinking, and attention to detail, to product, to the workplace. It will be necessary to address the communication problem between

the QIPT and a few senior MOH management staff, as well as a few physicians. It will be necessary to remove some major barriers/difficulties that currently exist within the MOH, and have a detrimental effect on the quality of healthcare services, such as : the centralized system within the MOH; shortages of some important human resource categories , i.e., medical record technicians, medical secretaries, well - trained nurses, medical sub specialists ; shortages of material resources; poor staff salaries; inadequate transportation to villages. There is the need to develop an effective continuing education and training policy; to developing protocols, clinical guidelines, to streamline paperwork, assure accuracy of MOH statistics for staff, and to generate an effective patient referral strategy to improve the integration of primary care and secondary care. All of these are areas that should be addressed by the QIPT.

CONCLUSION

During the period from April 1996 to October 1997 the QIPT has accomplished a number of activities in accordance with its strategic and action plans. This evaluation study as apart of the action plan is aimed at studying both positives as well as negative factors occurred during the project's works and which affected the outcomes. This evaluation study attempts analysing the project's activities along with studying the current situation in the health organisations and the MOH in general in order to develop the action plan based on the current needs. Despite the obstacles presented by political and economic instabilities and the frequent closures of the borders upon health organisations, the QIPT managed to succeed

in its mission. its success proves the premise that QI principles and philosophy are applicable and of a genuine viability in Palestine.

Driving Forces During Implementing Quality Improvement:

- Teamwork was practiced by the QIPT which was led by a leader with a clear vision and mission of what he wanted the team to achieve.

- The QIPT spent a great amount of time and effort planning for its activities. Each cycle of improvement had an operational plan prepared by the whole QIPT over several days. These plans were followed carefully by the QIPT.

- The QIPT followed a well defined and a scientific methodology based on: defining priorities for improvement using surveys or focus group discussion; conducting sensitisation workshop for health personnel in the health organisations; conducting training in quality management and team building skills; connecting the theory given in sensitisation and training with practice by implementing improvement processes with great importance to the health organizations.

- The QIPT used a simple quality improvement model that was based on: studying, evaluating and measuring before change; implementing the change; measuring after the change and comparing pre-measurement with post measurement.

- A new management system was developed by the QIPT to follow up the work in the improvement processes.

- The QIPT continuously and determinably followed - up and facilitated the work of the team's leaders.

- Some teams leaders were very enthusiastic about quality improvement and determined to succeed.

- The work between Gaza and West Bank was strongly coordinated.

- The QIPT kept itself updated about the latest knowledge and science in the area of quality improvement.

- The QIPT had multi - disciplinary specialties, which enriched the quality improvement work.

Obstacles During implementing Quality Improvement:

- The turbulent environment and the continuous closures delayed many of the planned activities such as celebrating success and the distribution of the training certificates. A major workshop for senior managers was cancelled as a result of these closures.

- The work of the QIP was threatened sometimes by the internal problems and difficulties inside the organisations. Rafidya Hospital is an example where the quality improvement work stopped as a result of the strike by the nurses in the hospital.

- Lack of monitoring and follow - up systems. Some of the improvement processes collapsed over time .The absence of a supportive managerial system and committed leadership trained in the principles and methodology of quality improvement make it difficult to change the current health institutions that adopt continuos improvement.

- Quality improvement faced resistant from some health personnel in some health organisations. Those health personnel were not convinced about the quality improvement work and treated this work as extra burden on them.

- The current organisational structure that is based on centralisation makes it difficult to implement and, importantly to sustain quality improvement work.

- Bad communication between the MOH and the QIPT negatively affected the work and the achievements of the QIP.

- The health personnel are not satisfied with their jobs. There are continuous complaints from low salaries, lack of resources, and absence of incentives.

- Lack of communication between the health personnel inside their organisation

Most Important lessons:

- Macro levels managers' commitment to quality improvement as a policy through the adoption of a quality improvement methodology is very important. They should view improvement though focusing on processes in order reduce the cost and waste of health services in order to increase the efficiency and effectiveness of processes which ultimately guarantee high quality healthcare.

- Quality improvement in Palestine is possible and is potentially successful considering the current professional and technical perspectives

- Quality improvement approach can find great success in the Palestinian health sector

- Consumer (internal & external) views about the health service is very important to consider when intending any improvement in the health sector

- Teamwork approach has been successful in the project. The team leader's role as a facilitator and a member of the team following a pre-established plan has been a key to the success of the team

- It is necessary to spread the QI principles throughout every health organisation and to increase the awareness of people of the mechanisms of QI activities along with raising the viable potential of the QI.

- The continuous follow - up of the development work in healthcare organisations is necessary and should by done by the team leader and the MOH after reviewing the achievements

- The necessity to conduct improvement processes within the selected organisations in response to the annual improvement needs plan of both the organisations and that of the MOH.

- It is worth considering that the existing problems in health organisations negatively reflect on the QI action

- The importance of providing the financial and staff support for QI processes relating infection control.

- Teamwork proved to be practiced successfully both by the QIPT and by the QITs in the different sites.

CHAPTER TEN

LINKING THE RESULTS OF TQM IMPLEMENTATION WITH THE SWOT ANALYSIS AND THE THEORY OF TQM

Introduction :

Chapter 3 stated that the analysis of health sector resources is necessary to identify the strengths and weaknesses of the governmental healthcare sector. It also stated the opportunities available to the Quality Improvement Project (QIP) and the threats it faces. This chapter will attempt to link the SWOT analysis that was carried out in Chapter 3 with the results that were achieved through implementing Total Quality Management (TQM) in the Palestinian healthcare sector. Furthermore, Chapter 4 and 5 stated that many writers have provided different models by which to implement TQM. Chapter 6 showed that the implementation of TQM is confronted by many difficulties. This chapter will compare the problems of implementing TQM in the Palestinian healthcare sector against the difficulties that were faced with those stated in the literature.

Linking the Results of Total Quality Management Implementation and the SWOT Analysis: Macro level

Strengths

It was stated in Chapter 4 that one of the strengths of the governmental healthcare sector is the qualified leadership of the quality improvement efforts. This strength however was threatened by the decision taken by the Ministry of Health (MOH) to change the organisational structure and leadership of the QIP. The sudden change in the QIP leadership led to a state of confusion for about 6 months. The new imposed leadership had a very different vision and style of leadership which adversly affected the performance of the QIPT.

Financial support for the quality improvement efforts was also one of the strengths of the QIP. During the first and second cycles covered in this research the financial capability and independence of the Project continued to be one of its most positive features. But with the closing date for the Project expected to be June 1999, the future of the Project will depend upon the MOH seeking and securing another donor if quality improvement efforts are to continue.

It was also stated in Chapter 4 that the availability of technical assistance to the QIP was one of the strengths of the healthcare sector in general and of the quality improvement efforts in particular. The QIP experience during the first and second cycle of improvement showed that this is not the case. The MOH suddenly decided to terminate the contract of Harvard Institute for International Development for political reasons. The QIP consultant in the field of quality improvement was a staff member at the Harvard Institute for International Development, which meant that the technical assistance for the QIP was terminated with no prior warning. The alternative was to contract external international consultants but this option was not always accepted by the MOH since it is very expensive alternative and the duration of the consultants' work is relatively short. The QIPT had ,therefore,to depend on its internal scientific capacity and on reading and participating in national and international training courses. The negative side of what happened is that it slowed the process of work but the positive side is that it motivated the QIPT to develop its technical capacity and not to depend on external assistance.

The committed leadership of the MOH to quality improvement presented by the Minister remained one of the major strengths of the healthcare sector. Despite the change in the QIP organisational structure, which was decided by the MOH,

the Minister personally remained committed to the quality improvement efforts. The QIPT believed that some of the decisions taken by the Ministry negatively impacted upon its performance but the team also believed that the Ministry has very convincing reasons for its actions. Some decisions are certainly beyond the ability of the QIPT to influence. At the top management level, the QIPT faced two types of managers. Some top managers were very committed to the quality improvement efforts and ofered all the support to the QIPT. Others paid lip service to the effort of the QIPT and , although they pledged their commitment ,when it come to the real work they had all kinds of excuses to disrupt the quality improvement efforts. This argument is supported by the result of the assessment survey in Chapter 9 which showed that one of the main obstacles faced by the QIPT during implementing TQM was that top management was not always supportive of the quality improvement efforts. Furthermore QITs believed that top management did not always appreciate and value the work of the quality improvement team.

Weaknesses

The inequity in the distribution of the QIPT between Gaza and West Bank was expected to be a weakness threatening the implementation of TQM in the Palestinian healthcare sector. As stated in Chapter 4, only three out of the seven staff members of the QIP were located in Gaza.

Despite this the results achieved in the first and second cycle of improvements (see Chapter 9) show that the issue of inequity does not seem to have negatively influenced the implementation of TQM. The number of successful improvement processes in the first and second cycle of improvement was 15 in Gaza and 18 in the West Bank. This number does not show a strong

relationship between the number of the QIPT and the results that can be achieved. Other factors such as resistance to change, cultural factors, and motivation of the QIPT are more important . Lack of financial security was expected to influence the implementation of TQM. As stated earlier the QIP was funded by the World Bank for a period of 3 years. The QIPT comprised highly qualified professionals contracted by the MOH on the World Bank salary scale. The expected closing date for the Project in June 1999 has led some of the QIPT to start thinking of moving to another projects which have more job security. The MOH suggested contracting the QIPT on the Ministry salary scale. This was refused since the Ministry scale is much less than the World Bank scale. This situation led to the resignation of 2 staff members from the West Bank and one from Gaza. The remaining QIPT are now looking for other options, despite the promise from the Ministry that funding for the project will be extend for a further 3 years. The current fragmented structure of the MOH was considered in Chapter 4 as a weakness that is expected to threaten the implementation of TQM. The current centralised structure remains one of the major difficulties facing the implementation of TQM in the Palestinian healthcare sector. This issue will be discussed in details in the micro analysis. The tension in health provider organisations, which is caused by the turbulent environment, remains a major weakness in the current governmental healthcare sector. The MOH imposed many changes in the provider organisations which left these organisations anxious and shocked for a considerable period of time. Some of these changes took the form of changing Directors and General Directors of Hospitals and Primary healthcare and changing the salary scale of health personnel. Such changes kept the health institutions busy with their internal

affairs to the extent that the QIPT felt that it was sometimes neither fair nor even ethical to talk about TQM.

Opportunities

The contribution of national and international agencies to the MOH was listed in Chapter 4 as an opportunity that the QIPT should seize. During the first and second cycle of improvement the QIP received no contribution from the national agencies. These agencies concentrated on assisting the projects that dealt with infrastructure development. The only international agency that offered technical assistance to the MOH in the area of quality improvement was the Harvard Institute for International Development. Its offer was not accepted by the MOH for political reasons.

The high expectations of the Palestinian public were thought to be an opportunity that the QIPT should take. The QIPT tried to grasp this opportunity but was faced with the fact that the Palestinian public was not educated in the concepts of TQM. Improving the infrastructure of the health institutions was the popular basic demand. The Palestinian public was impatient for results. These high expectation put the QIPT under great pressure as the technical staff believed that improving quality requires years and not months.

The present Palestinian culture is in favour of implementing quality improvement. The Palestinian public health personnel are not satisfied with the present health services and are in favour of transforming the present culture to a quality culture. This is an opportunity that the QIPT thought of exploiting. In practice this was hard to do since the confusion surrounding the process of transformation, although well documented in the literature, is little appreciated outside professional quality circles. Some writers believe that TQM is about

culture change. Others believe that culture change is a consequence of an effective implementation of TQM. If TQM is about culture change , the Palestinian public and health personnel will have to be patient for the results. This recommendation is supported by Juran who states that to change culture requires years not months[1] . If culture change is a consequence of the effective implementation of TQM, the Palestinian public and health personnel will also have to wait for the results. This is because the most commonly recommended methods to change the culture are not effectively utilised in the Palestinian health institutions. Furthermore, many writers provided many recipes for implementing TQM. Most of these writers do not explain how to implement their prescriptions.

The present instability in the existing health system presented an opportunity for the implementation of TQM. This opportunity became a threat for quality improvement efforts. The Palestinian health institutions are still prone to external influences . Chapter 7 showed that Rafidya Hospital was the only site in the West Bank in which the QIPT had worked. The instability of the healthcare system characterised by a decision to stop payment for overtime for the MOH staff resulted in a protest that was not successful. The MOH staff decided to boycott all the QIPT activities as they recognised the significant cost savings they were making for the MOH. This problem led to terminating the work of the QIPT in the hospital. As stated in Chapter 7, the quality improvement process that was carried out in the hospital was stopped in the "Do" stage and was not practically implemented. This experience is linked with another issue, the economic situation. It was believed in the early stages that the economic situation emphasised the need to effectively utilise the existing

resources and that this would lead to a reduction in waste in the present health system. The experience of Rafidya Hospital shows that this opportunity was not taken in the first cycle of improvement. An opportunity to save 1 million dollars annually by rationalising the use of antibiotics was therefore lost.

Threats

Most of the threats listed in Chapter 4 are covered in the above macro analysis as many of the opportunities that the QIPT tried to seize turned into threats facing the quality improvement efforts. The instability of the political environment, for example, caused the termination of the only international assistance that was available to the QIPT. Furthermore, this instability was reflected the inability of the MOH to develop and implement the " Patients' Bill of Right" and the " Codes of Ethical Practice in Healthcare" because the political environment does not allow the MOH to develop , implement, and enforce regulations. According to the Palestinian situation, regulations should be passed through the Palestinian Legislative Council but this Council is at the present time concerned with dealing with political rather than health issues.

Finally, the availability and adequacy of trainers was expected to be a threat facing the quality improvement efforts. This issue will be discussed in details in the micro level analysis. Other threats such as the instability of the healthcare system, the present economic situation, and the expectations of the public that are listed in Chapter 4 as threats to the quality improvement efforts must, at the same time, be listed as opportunities that the QIPT should try to grasp.

Linking the Results of Total Quality Management Implementation and the Theory: Micro level

Model Used

The literature on TQM offers many models for TQM implementation. The QIPT had to choose one of these models to use in improving the quality of care in the Palestinian healthcare sector. Chapter 6 offered a number of TQM models such as the NKG Model, the Hospital Corporation of American Model, The Harvard Community Health Plan Model, the American Hospital Association Model, the University of Michigan Medical Centre Model, The S-P Model, Deming Model (PDCA), Tom Nolan Model and the what to do Model. Chapter 7 showed that in the first cycle of improvement, the PDCA cycle of improvement was used. The choice of this model depended largely on the lack of experience of the QIPT. It was felt that this was a flexible model, which allowed the methods for improvement to be tailored to the situation. The first cycle of improvement took a long time (12 months). Despite the difficulties faced during implementation some positive outcomes were reached. In the second cycle of improvement a shorter and a simpler model was needed. This was because the QIPT gained more experience from the first cycle of improvement and the team was reguired to carry out many improvement processes in different sites during a shorter time period. The literature states that the Tom Nolan Model is simple, short and elegant for achieving changes that are improvements[2]. The model was therefore adopted in the second cycle of improvement. The move from the PDCA Model to theTom Nolan Model does not conflict with the literature which states that a rigid adherence to the work of one guru is not appropriate[3.]This leads to the conclusion that whatever model is used it should fit the situation in

the organisation. This view is supported by Bendell, who states that as each guru had a unique message and as contradictions existed between the gurus' models, the approach taken needed to be made specific to the organisation context[4].

Commitment

The literature on TQM stressed the importance of top management commitment for successful implementation. For example, Bertram believed that a lack of top level commitment is the main reason for the upward of 80% failure rate on TQM programmes[5]. Senior management must lead positively and continually show its commitment by example, responsibility and trust. This view is supported by Latif who believes that transformation to a TQM culture can be generated if TQM is adopted and supported by a committed and aware leadership[6]. Stern states that even if continuous quality improvement has been assimilated into the organisation, it will still require the perpetual commitment of top management[7]. The fundamental message of the three TQM gurus (Deming, Juran and Crosby) is basically the same : top management commitment to quality improvement throughout your entire organisation[8]. Other writers such as Perters (1987), Brown (1993), Zairi et al (1994), Reeves (1993) and Koch (1991) stressed the need to ensure that senior managers are really committed to the basic concepts of TQM.

The experience of the QIPT shows that the commitment of senior managers in the MOH was not always guaranteed. The results of the evaluation study show that the QIPT believed that top management was not always supportive of the quality improvement efforts. The study also shows that the QITs believed that the current management system inside the health institutions is not supportive

of the quality improvement concepts; it did not provide support and incentives .This lack of support from senior management for the implementation of TQM in the Palestinian healthcare sector negatively affected the results achieved. The future should see a movement towards linking quality improvement to the work of top management in each organisation. As recommended by the QIPT, top management should be involved in the work of quality improvement in its institution and it should participate in the regular team meetings, support the QIPT, adopt, and monitor the team's recommendations. Furthermore, the MOH and all health institutions should be committed to the QIP. It should be stated that management commitment ,while very instrumental in the whole process of introducing TQM , might not be enough to generate success in the market place unless supported by management involvement.

Training:

Training has been identified in the literature as a key factor for the successful implementation of TQM. Longnecker et al argued that implementing TQM requires conducting quality training for the entire organisation[9]. Peters stated that everyone should be trained in techniques for assessing quality[10]. Holpp believed that training is the glue that binds quality[11]. Wilkinson et al identified lack of training as one of the main difficulties encountered in the management of quality[12].

Whilst implementing TQM in the Palestinian healthcare sector the QIPT acknowledged the importance of training and conducted several training courses in the West Bank and Gaza Strip. In the first cycle of improvement, the total number of trainees in Gaza was 21 while in the West Bank the number of trainees was 34 from different sectors. In the second cycle of improvement the

total number of trainees was 85 from the Gaza Strip and 75 from the West Bank. The number of health personnel who were trained in quality improvement was less than that recommended in the literature which states that implementing TQM requires conducting training for the entire organisation[13]. This indicates the importance of training more health staff in TQM to ensure successful implementation. Furthermore, training in itself is not sufficient. Attention should be given to the content of the training, its duration, its frequency, and the skills, experience and aptitude of the trainees.

Structure

Structure has been identified in the literature as a potential barrier facing managers in efforts to promote quality management within an organisation. Milakouich stated that despite persistent calls for greater employee participation and organisational decentralisation a " chain of command hierarchy still predominates in the public sector"[14]. This structure discourages employee participation in problem solving, inhibits team work, and rewards individual over group effort. Koch believes that a sound organisational structure was needed to gain the potential offered by implanting TQM[15]. This structure is unfortunately difficult to establish in many units especially in the presence of ineffective leadership. Furthermore Zabuda et al stated that rigid hierarchical structures do not allow a TQM initiative to flourish and prosper. The limitation that a centralised structure imposes on quality improvement efforts was recognised by the QIPT and by the World Bank consultant who stated in her assessment that it will be necessary to remove some major barriers /difficulties that currently exit within the MOH. These difficulties were having a detrimental effect on the quality of healthcare services. The QIPT also recognised the problem of

centralisation, which existed in the MOH. The QIP did not have the authority to change the structure in the MOH but the QIP was itself internally managed in a decentralised way as an example for the MOH to support and perhaps to follow in. The current centralised structure of the Ministry means that it is extremely difficult to function within any of the clinics or hospitals that fall under the MOH ambit as an independent unit. The MOH does not seem to believe in Reeves et al's recommendation that an organisation must be willing to literally redesign itself in order to eliminate systemic barriers to change and to create new systems that support and provide incentives for the creation of a fundamental capability for continuous improvement in organisation performance[16].

Resistance to change

Reeves et al identified fear / resistance to change as one of the barriers to TQM implementation in healthcare[17]. Furthermore, Zabada et al stated that physicians in most health organisations do not feel commited to TQM activities. They feel that TQM is not appropriate for their work and that they are already doing quality work. Zabda et al also argued that physicians feel that they do not have time for TQM and are unwilling to work as team members[18]. Physician resistance to TQM is a well- documented phenomenon encountered in many improvement efforts worldwide. This , however does not necessarily mean that it has to be present in Palestine. The QIP in the MOH has been founded, cultivated and led by a physician. Physician resistance to TQM, as a phenomenon, does not exit in Palestine. In fact TQM is led and supported by physicians some of whom are among the most prominent in the country. Furthermore, as indicated in Chapter 9,resistance to change by physicians was not among the obstacles faced in implementing TQM.

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CHAPTER ELEVEN
CONCLUSION

RESEARCH FINDINGS

This research looked at how the Quality Improvement Project Team (QIPT) in the Palestinian Ministry of Health (MOH) implemented quality improvement in the healthcare sector concentrating mainly on lessons learned and recommendations for future development .It reviewed the Palestinian healthcare infrastructure and the effect of this structure on the quality of healthcare provided . It showed that many features of the healthcare infrastructure and financing system are affecting the quality of healthcare provided.   With a per capita income ranging from US$1,320 to US$1,630 , Palestine is a low – middle income country by World Bank classifications . The health status of Palestinians appears to lie above countries listed as low- middle - income under the World Bank criterion. In many respects mortality data in Palestine more closely resemble the situation in the developed and in the non-developed countries. There are four major groups of providers in Palestine: MOH, United Nations Relief and Works Agency (UNRWA), Non Government Organisations (NGO), and the private sector. The MOH and the NGO provide the bulk of secondary care facilities in Palestine. However, a significant volume of NGO bed capacity is located in Jerusalem, to which it is difficult to obtain access to during times of border closure. The private sector has concentrated mainly on maternity hospitals and beds for surgical patients. Overall, Palestine has a population - to - bed ratio of 810 : 1. This is higher than in the neighbouring countries and in countries classified by the World Bank as

belonging to the middle income group. The West Bank is worse-off than Gaza in terms of secondary care beds; once allowance is made for the fact that many of the hospital beds are located in Jerusalem. Tulkarem and Jenin appear to be the particularly disadvantaged in this regard, with population -to-bed ratios of 2000 : 1 and 3000 : 1 respectively. Primary health centres are typically not uniform in terms of type and quality of service. Some provide a broad range of preventive and curative services, others are in the nature of village health rooms . This is true across the different providers as well as among facilities operated by a single provider group (MOH ,NGO, UNRWA) . There are also a large number of private clinics, possible in excess of 1,000, although no reliable estimates are available. The population-to-primary healthcare ratio is much lower in the West Bank (3700 : 1) than in Gaza (13000 : 1). However, this does not imply that the West Bank population is better-off than Gaza in this regard since it may be faced with comparatively longer travel distances, and clinics with a narrower range of services. In comparison to secondary care, the distribution of primary health centres appears to be more balanced across the different West Bank districts. However , variations in the services provided may still be a cause for concern. The population-to-doctor ratio in Palestine appears to be lower than in developing countries in general. However, it is higher than for other neighbouring countries such as Jordan, Lebanon, and Saudi Arabia. There is some concern about the variation in the training level of doctors and the lack of a proper system for their accreditation. The population-to-nurses ratio is high as well , although that may be the result of incomplete reporting of data on nurses.

There is a significant bias in the allocation of health personnel by various levels of care. Nearly 54 percent of the doctors and 68 percent of the nurses employed by the MOH, UNRWA, and NGO are employed in secondary care. However, there are variations between providers. For example , the bulk of UNRWA's doctors and nurses are involved in primary care activities. The pattern is the opposite in the MOH, where nearly 70 percent of the doctors are employed in hospitals. The primary health centres are heavily utilised . The average number of visits per physician per day in MOH clinics was estimated to range between 70 and 80 in both the West Bank and Gaza. This suggests heavy pressure on doctors resulting in very low patient-physician contact times. A similar pattern is noticeable in UNRWA clinics. In contrast, NGOs appear to be under less pressure. This may point to efficiency, although it may also result from the fact that NGO clinics charge a small fee for their services and offer a narrower range of services. Secondary care services are heavily utilised with occupancy rates in most, but not all, governmental hospitals running at 80 percent or higher. Occupancy rates in NGOs vary from 40 percent to 80 percent. Bed occupancy rates are especially low in maternity hospitals. Occupancy rates in Jerusalem based hospitals in 1996 appear to have been dramatically lower than in earlier years, owing to the closures of borders. It appears that healthcare expenditures in Palestine amounted to at least NIS 915 million in 1996. This constituted about between 7 and 8.5 percent of the GDP in 1996 . Although this proportion is lower than previously reported estimates, it is higher than most countries in the region.

The structure of the healthcare sector is affecting the quality of healthcare provided . This research showed that several factors affect the quality of healthcare. These can be categorised into three main groups: first, inputs into healthcare: investment in healthcare, human resources in the healthcare sector, facilities, equipment and supplies. Second, resource allocation: into relatively cost-effective programmes or the contrary. Third, the efficiency of the system of delivery of healthcare: the degree to which there exists, or does not exist, duplication of effort, re-work, unnecessary work and spending, and other different forms of waste in the system. The likely solution to the quality problem in the Palestinian health sector appeared to lie in a two pronged approach to improving quality: tackling the micro picture of inefficiency at the level of the provider organisations and tackling the macro picture of systems reforms on a national scale.

Before initiating quality improvement in the Palestinian healthcare sector, it was necessary first to understand the meaning of quality improvement, its implementation process and obstacles during implementation. This research provided a comprehensive literature review of these issues and showed that the existing literature on quality management is very largely concerned with the alleged virtues of the approach and the leading components and techniques embodied in the concept . The outline history and evolution of quality management is well documented. This research presented many definitions for quality as used in Quality Management given by a variety of gurus. The main conclusion that can be reached from these multiple definitions is the fact that they incorporate only

certain dimensions corresponding to the values of particular interest groups and this has the potential to lead to confusion. Furthermore, a number of operational models that could be implemented either in industry or in healthcare were presented . This research also showed that implementing quality improvement is not an easy task as many obstacles stand in the way of successful implementation. A comprehensive review of obstacles during implementing quality management was provided. After understanding the Palestinian healthcare structure , the effect of this structure on quality of care provided, the meaning of quality improvement, the implementation process and the obstacles faced during implementation, the research showed how the Quality Improvement Project Team (QIPT) in the MOH initiated quality improvement. The QIPT in the MOH has defined its overall goal as " Attaining the highest possible level of quality of healthcare in Palestine ". Achieving this goal encompasses two distinct parts. Part one is the health system reforms aimed at reforming the Palestinian health system in ways that stimulate and facilitate quality improvement and part two is the quality of healthcare programme, which relates to the required activities necessary to improve the efficiency of the provider organisations. It comprises six functions: Leadership, Institution Building, Training, Social Marketing, Information System, and Productivity. Despite the identification of the quality issue as an important area , no efforts have been made before the foundation of the QIPT to identify certain objectives and strategies for improving the quality of healthcare in Palestine.The QIPT has, therefore, identified the objectives and strategies for improving the quality of healthcare in Palestine. Consideration was given to

changes in the external environment that can indirectly influence the implementation of quality improvement. It first looked at the direct action elements of the external environment such as competitors, customers, labour supply , and financial institutions. It also looked at the indirect action elements of the external environment such as economic, socio -cultural, political- legal, and the international variables. Following that a resource analysis was carried out showing the strengths and weaknesses of the Palestinian healthcare sector. The most important strengths were the availability of the financial coverage to implement quality management, a quality improvement effort led by a qualified and determined staff, the availability of technical assistance, a new leadership in the MOH, the current state of the infrastructure and tension in the provider organisation. The most important weaknesses were the limited number of professionals who are engaged in quality improvement, the instability of the financial support and technical assistance, and the current structure which did not seem to support the monitoring and implementation of quality improvement. Also addressed were the opportunities available to the QIPT and the threats it faced. Among the opportunities were the high expectations of the Palestinian public , the present Palestinian culture, the instability of the existing health system, the opportunity to develop local trainers, and the present economic situation, which highlighted the need for quality improvement. Among the threats were the instability of the political environment, the degree to which the MOH was able to enforce regulations, the unsatisfied and demanding public, the instability of the current health system, and the degree to which trainers were available and

adequate. After analysing the resources and the environment, a gap analysis was carried out aimed at determining the extent to which strategic change is required. It could be concluded that there is not much of a gap between the MOH quality improvement objectives and the QIP objectives. Both of them concentrate on similar goals and talk about health system development and management. Furthermore, both of them highlight the need for developing human resources which requires investment in planning, education and training. A field force analysis was furnished aimed at showing that in the journey from 'where we are now' in terms of the status of quality of healthcare to where we want to be in terms of achieving the QIP's overall goal, many elements will be moving the efforts either towards or away from the identified goal. The most important driving forces are the availability of financial coverage, availability of technical assistance, availability of qualified staff, national and international contribution, new leadership, structural redesign, a supportive culture and favourable economic situation. The most important restraining forces are a lack of coordination and integration, lack of public awareness, lack of reliable data, unstable financial coverage and technical assistance, a changing environment and the non- availability of trainers. This analysis provided a basis upon which to develop, evaluate and select the strategic decisions facing the QIP. This was followed by describing how the QIPT implemented quality management in the Palestinian healthcare sector. Two examples were presented from the first cycle of improvement which was carried out in Al- Naser Hospital and Rafidya Hospital. The quality improvement team

followed the PDCA cycle to implement this process. The following results had been achieved:

- Improving the quality of medical performance during working hours in Department 2 in Al-Naser Hospital: the real time spend with the patient was increased from 75.5% to 100%. Furthermore, patient physician - contact time was increased from 7.07 minutes to 14.86

- Rationalising the prescribing practices of prophylactic antibiotics in surgery in Rafidya Hospital: The QIT achieved only stage one of the cycle (Plan) which showed that waste in the prescription of prophylactic antibiotics in surgery was shown to be 92% of the dollar value of the prescribed antibiotics. This improvement process stopped at this stage due to the strike that took place in the Hospital by the staff of the Nursing Department.

The improvement processes in the second cycle can be classified into two categories : the first category being those processes that dealt with efficiency, such as increasing the capacity of the incubators to treat a newborn with neonatal jaundice and reducing the number of donated pints of blood that were HBS and HCV positive at Rafidya Hospital. In the second category are those processes that dealt with delays and waiting times, such as reducing the time the patients spend in Sabha Clinic and reducing patients' waiting time in the Out-Patient Clinic of Department 2 in Al- Naser Hospital. In the second cycle of improvement the QIPT used the Tom Nolan Model. This model was used as the QIPT suffered from the long time needed to implement the first cycle. There was a need to use a model, which was easy to understand and did not take a long time

to be implemented. The QIPT believed that Tom Nolan Model possessed these necessary characteristics. The following results had been achieved:

- Reducing the patients' waiting time in the Out- Patient Clinic of Department 2 at Al- Naser Hospital: the time the patient spent waiting in the Out Patient Clinic before seeing the physician was reduced from 190 minutes to 84 minutes.

- Reducing the total time the patient spent in Sabha Clinic : total time patient spent in Sabha Clinic was reduced from 47 minutes to 42 minutes.

- Increasing the capacity of the incubator to treat a new born with neonatal jaundice: the duration of time needed to treat a new born with neonatal jaundice was reduced from 49 hours to 23 hours.

- Reducing the number of donated pints of blood that were HBS and HCV positive in Rafidya Hospital: the number was reduced from 36 instances out of 87 to zero.

FIRST ASSESSMENT

During the period from April 1996 to October 1997 the QIPT has accomplished a number of activities based upon its strategic and action plans. This was followed by conducting an evaluation study aiming at studying both the positive as well as the negative factors occurred during the Project's works and affected the outcomes. This evaluation study attempts to analyse the Project's activities along with studying the current situation in the health organisations and the MOH in general in order to develop the action plan based on the current needs. The study

showed that the most important driving forces during implementing quality improvement were:

- Teamwork: practiced by the QIPT which was led by a leader with a clear vision and mission on where he wanted the QIPT to reach.

- The QIPT spent a great amount of time and effort planning its activities. Each cycle of improvement had an operational plan prepared by the whole QIPT over several days of work. These plans were followed carefully by the QIPT.

- The QIPT followed a well defined and a scientific methodology based on defining priorities for improvement using surveys or focus group discussion, conducting sensitisation workshops for health personnel in the health organisations,conducting training in quality management and team building skills, connecting the theory given in sensitisation and training with practice by implementing improvement processes of great importance to the health organisations.

- The QIPT used a simple quality improvement model that was based on studying, evaluating and measuring before change, implementing the change, measuring after the change and comparing pre- improvement with post – improvement measurement.

- A new management system was developed by the QIPT to follow up the work in the improvement processes.

- The QIPT continuously and determinably followed up and facilitated the work to the team's leaders.

- Some team leaders were very enthusiastic about quality improvement and determined to succeed.

- The work between Gaza and West Bank was strongly coordinated.

- The QIPT kept itself updated with the latest knowledge and science in the area of quality improvement.

- The QIPT possessed multidisciplinary specialties, which enriched the quality improvement work.

The evaluation study found that the most important obstacles during implementing quality improvement were:

- The turbulent environment and the continuous closures which delayed many of the planned activities such as celebrating success and the distribution of the training certificates. A major workshop for senior managers was cancelled as a result of these closures.

- The work of the QIP was threatened sometimes by the internal problems and difficulties inside the organisations. Rafidya Hospital is an example where the quality improvement work stopped as a result of the strike by the nurses in the hospital.

- Lack of monitoring and follow up systems. Some of the improvement processes collapsed over time. The absence of a supportive managerial system and a leadership committed to the principles and methodology of quality improvement make it difficult to change the current health institutions and adopt a continuous improvement philosophy.

- Quality improvement faced resistance from some health personnel in some health organisations. Such health personnel were not convinced of the quality improvement work and treated this work as an extra burden imposed upon them.

- The current organisational structure, based on centralisation, made it too difficult to implement and sustain quality improvement work.

- Bad communication between the MOH and the QIPT negatively affected the work and the achievements of the QIP.

- The health personnel were not satisfied with their jobs. There was a continuous complaint arising from low salaries, lack of resources, and inadequate incentives.

- Lack of communication between the health personnel inside their own organisation

The most important lessons learned from implementing quality improvement in the Palestinian healthcare sector were:

- Macro level managers' commitment to quality improvement as a policy through adoption of quality improvement methodology is very important. They should view improvement through focusing on processes in order to reduce the costs and wastes of health services in order to increase the efficiency and effectiveness of processes which ultimately guarantee high quality healthcare.

- Quality improvement in Palestine is possible and is potentially successful considering the current professional and technical perspectives

- Quality improvement approach can make great success in the Palestinian health sector

- The mission statement is very important for it serves to direct the team in deciding work content and process.

- Consumer (internal & external) views about the health services is very important to consider when intending any improvement in the health sector

- Teamwork approach has been successful in the project. The team leader's role as a facilitator and a member of the team following a pre-established plan has been a key to the success of the team

- It is necessary to spread the quality improvement principles throughout every health organisation and to increase the awareness of people of the mechanisms of quality improvement activities along with raising the viable potential of the Quality Improvement.

- The continuous follow - up of the development work in healthcare organisations is necessary and should be done by the team leader and the MOH working together to review the achievements of the quality initiatives.

- The necessity to conduct improvement processes within the selected organisations in response to the annual improvement needs plan of these organisations and of the MOH.

- It is worth considering that the existing problems in health organisations can negatively reflect on the quality improvement action

- The importance to provide the financial and staff supports the quality improvement processes that concern infection control.

- Team work proved to be practiced successfully both by the QIPT and by the QITs in the different sites

SECOND ASSESSMENT

In addition to the assessment offered to the QIP by the researcher, another assessment was offered by an assessor acting on behalf of the World Bank. In the interest of a balanced assessment, the observations of the World Bank assessor are offered below and are themselves assessed in the light of the researcher's own findings.

- *Adopt a different approach in QIP efforts and instead of spreading QIP efforts into new areas, focus on a few sites (one or two hospitals, one or two clinics) and helping these organisations' leaders in taking the initiative and developing model organisations where quality improvement philosophy, guiding principles and practices, are institutionalised.*

At face value, this recommendation may appear to be sensible. However, knowledge of the management structures of these hospitals/clinics and the QIP experience within them has led the QIPT to believe otherwise.

The hospitals/clinics in question are MOH organisations, managed as part of the centralised MOH system. The financial management of these hospitals/clinics takes place between the Ministry of Finance and the top management of the MOH. The hospitals/clinics themselves, are hardly involved or even informed of this process. Appointments, promotions, rewards, and the majority of other important decisions, are essentially central decisions, made outside the hospital/clinic itself. In contrast to developed country settings where the functional unit is the hospital, clinic, or departments within it, the functional unit here is the MOH at large. This basic fact means that it is extremely difficult to function with any of the

hospitals/clinics of the MOH as an independent unit, because none of them are such. Even if one tried to do so, one will sooner or later come up against this reality and understand that this is not the case.

- *It will be necessary to remove some major barriers / difficulties that currently exist within the MOH, and have a detrimental effect on the quality of health care services, such as the centralised system within the MOH.*

Thereby recognising the problem of centralisation, yet neither taking it into account when making this recommendation nor suggesting steps to initiate decentralisation in the MOH. The QIP as an MOH organ, which is itself managed internally in a decentralised way, could has been used as an example for the MOH to support and perhaps to follow in decentralisation. It would have been particularly relevant to the World Bank assessor to bring this up in view of the re-organisation of the QIP, which took place in her presence and with her knowledge and which culminated in the centralisation of the QIP into the MOH structure. The initial work in quality improvement did in fact focus on specific hospitals/clinics and the first cycle of process improvement projects focused on two hospitals. Many process improvement projects, even though seemingly localised to one hospital or clinic, still required the involvement of central directorates and higher MOH staff as they are part of the centralised process of care. Often, this was necessary for no other reason than the inability of the staff/leadership in the organisation to make decisions or carry out functions needed for the process improvement. This applied to much of the work needed to ensure quality improvement.

Having worked through the first cycle of process improvements, the largest sources of resistance/obstruction to QIPT work started to come not from within the

hospitals/clinics where it was working. On the contrary, it came mainly from people with whom the QIPT did not work, and arose mainly from either lack of knowledge or professional envy. Hence, at the end of the first cycle of quality improvement activities, the QIPT decided to involve as many hospitals/clinics and professionals as possible in the work. This became important in order to reduce resistance to the work of the QIP.

Therefore, the option of taking on board many process improvement projects in several sites in the second cycle came about as a result of demand from internal customers. MOH officials and professionals throughout the health system were increasingly requesting the QIPT to embark on quality improvement activities in their hospitals/clinics. This was a genuine "pull". Additionally, meeting this demand had a significant role in reducing the resistance from professionals with whom the QIPT was not working. It would have been simply foolish not to respond to it.

In planning, organising and implementing the quality improvement work, the coordination and approval of plans, activities, and staff involvement needs to be done at levels higher up than the hospital/clinic concerned. In one incident all the approvals were obtained and the release of the staff was coordinated with the MOH and the hospital director. Half way through the first day of the training, the staff of the hospital was instructed to leave the training session because a senior MOH official, for his own reasons, so decided. This incident cost the QIPT six days of extra work, not to mention the demoralising effect it had. To think that it is possible to function in any of the MOH hospitals/clinics independent of its administrations is a fallacy. Moreover, if the QIPT is to work with the hospital's

central administrations, it will need to conduct the relevant sensitisation, training, and monitoring, and to meet administrative demands and expectations. This has important implications for the recommendation of focusing only on two hospitals/clinics. The senior officials who are actually managing these hospitals/clinics do not manage individual hospitals/clinics, but the system at large.

In the second cycle, and with the agreement of all parties concerned, the QIP embarked on several process improvement projects involving some 50 of the 300 staff of Rafidya Hospital. To do the quality improvement work, staff needed to be away from their regular duties, and often required special scheduling which interfered with the normal functioning of the hospital. The QIPT learnt the "too many projects" lesson the hard way. In changing an organisation in to a quality organisation, there is a limit to how much work the staff can be involved in since it will interfere with their regular duties. This has important implications for both scale of work and length of time implications on the improvement journey for any hospital/clinic.

Given the size of the organisations and the "too many projects" issue, it would be safe to assume that one would have some 3-5 process improvement teams at any one point in time in any one hospital/clinic. If only two organisations are chosen, then the ceiling limit for the operations will be at 10 process improvement projects at any one point in time. The QIPT was able to manage some 40-process improvements simultaneously, and was capable of expanding to take on more. Clearly, these cannot be in only two hospitals/clinics.

In order that improvement becomes evident in any organisation, many improvements need to have taken place, and most if not all staff members need to have been trained in improvement methodology and involved in improvement activities. This will require a long time. In fact, it is common knowledge that well managed organisations that make a serious commitment to improving quality require some 5-7 years before the results of their efforts are evident. Quality improvement is a long-term commitment. No organisation can realistically changed in to a quality organisation in 18 months.

The organisational structures, being as they are, leave the hospitals/clinics prone to external interference from even outside the MOH. A painful experience is worth noting. Rafidya Hospital was the major success story of the QIP. It was the only site in the West Bank in which the QIPT had worked during the first cycle . Leadership was committed, staff were enthusiastic. In the second cycle, another group of process improvement projects was launched. A decision, was made, outside the MOH, to stop payment of overtime hours for the Palestinian National Authority staff, of whom one category are MOH staff. This had different implications for different MOH organisations. At Rafidya Hospital, the nursing staff had, over the years, organised their schedules such that each nurse would do the work of 1.5 full time equivalents, and be paid overtime for it. The decision meant that they would be required to do the same work in the same number of hours as before, but now with a substantial reduction in salary. This resulted in a protest, which was not successful. Therefore, the nursing staff decided to do only the essential work. Nurses had recognised the significant improvements and cost

savings they were making for the MOH through quality improvement. They decided to boycott all QIP activities. The quality improvement work at Rafidya Hospital thus came to an end. All attempts, from the QIPT and different levels of authority in the MOH, at getting the nurses back to work on quality improvement were unsuccessful. The QIP thereby lost its star hospital. However, there were quality improvement activities in other hospitals/clinics, therefore not everything was lost. It is important to understand that by choosing only two hospitals/clinics, efforts would have been committed on too narrow front when they are vulnerable to external influences. Experience has shown that several of the improvement projects conducted are of strategic significance to the MOH. This finding came out of the QIPT experience with many improvement activities over several years. These include improving the prescribing practices of prophylactic antibiotics and saving $ 1M annually ; doubling the national capacity in incubators without any increase in capital or human resource inputs; and making significant improvements in the outpatient services and filing systems. The logic is compelling: projects that have succeeded and proven to be of strategic significance should be implemented nationally. The QIPT has the know-how and the capacity to so. Results are the best leverage for the support and continuity of the national QI effort. It would be illogical to forego such potential to make significant improvements and cost savings, and to gain support and leverage for the QI effort, in order to opt for the lesser option recommended by the World Bank assessor. Additionally, experience has indicated that top management has always been impatient for results. The best support for the quality improvement effort, and

its continuity and expansion, is the achievement of significant results in many processes of care in many areas throughout the health sector.

The next issue that stems from nationalising strategic projects, is that of purpose. One needs to be clear regarding purpose. The QIPT is clear that its purpose was to improve the Palestinian healthcare system. This being the case, all operations were directed towards that. The option of nationalising strategic projects is in harmony with this line of thought. It will also move the QIPT out of the "piloting" phase into real substantial returns on its time, effort and monetary investment in quality improvement in Palestine. If this is what will yield the biggest and more significant improvements for the MOH then, the question must be asked why do something which will yield less than that, particularly that this strategy is more logical, less risky and is a natural product of five years of indigenous experience in healthcare quality improvement in Palestine ?. Nationalising successful projects, is also an important means of involving the NGOs, UNRWA, and private sectors providers in quality improvement. It would firstly enable the team to make a broader contribution throughout the Palestinian health sector. Secondly, it would greatly contribute to the much-desired harmonisation and cooperation between them as they work together nationally to confront important common challenges they face.

- *My second recommendation is to modify the training curriculum and include teaching / training in leadership skills.*

It is evident that World Bank assessor was not aware of the total picture in the MOH. A sister project, the Italian Cooperation funded Health Services

Management Unit is doing exactly what she is recommending. Like QIP, it is an MOH project. It started a year earlier than QIP. Therefore, when QIP was staffed and its operational plans were developed, it was done with a view to other existing MOH projects and departments. As a matter of principle, different MOH organs should compliment, not duplicate each other's efforts.

- *other concerns related to the sustainability of quality improvement efforts.*

Beyond doubt, the sustainability issue remains one of the most important issues facing the QIPT. It has been a subject of on-going discussion with the members of the World Bank mission. The World Bank assessor suggested that the sustainability issue will be resolved once the MOH picks up the recurrent costs of operating the QIP from its Ministry of Finance allocation. Which inevitably means the QIP becomes a department in the MOH. However, it is by no means the only solution, nor is it necessarily the best one. Part of the reason why the QIP has been successful is related to its relative independence in terms of financing, leadership and management. This has meant that the QIP was able to attract senior staff by paying well above MOH rates. It has also meant that there was relative ease in the availability of funds for project activities. Last but not least, it has meant independence and dynamism in the management of the work, and modern leadership compatible with QI principles and practices. These factors have culminated to produce a system of work and an organisational culture conducive to attaining this high level of achievement. In addressing sustainability, The QIPT believe it is of paramount importance to address the question: how does one sustain the system, which has been capable of producing these results?. Not,

how does one change the system, which was the real reason behind these achievements. Addressing the sustainability issue of the QIP without carefully thinking through this point could well result in the loss of the essential ingredients of QIP success. The QIPT did not claim to have the answer. However,here are some proposed guiding principles:

- The QIPT and the system through which it had managed to succeed should be supported institutionally by the MOH and allowed to further develop into a semi-autonomous body. Its executive authority should also be further strengthened. It is most unfortunate that under the motto of sustainability, serious attempts are being made to radically change the organisational structure and modus operandi of the QIP. The QIP has set a model of organisational behavior and functioning well; worthy of supporting and following, not changing.

- The work done to date is indicative of the great potential for quality improvements and cost savings. The work done in improving prophylactic antibiotic use in surgery alone has shown a potential of over US $ 1M of savings annually (compare with the QIP annual expenditures of under US $ 0.4M), and this is one of fifty improvement projects either accomplished or currently in process. This is where the true financial sustainability of the QIP lies. Given time and support, the QIP will be capable of self-sustainability from the improvements and the savings it is capable of accomplishing. There is confident among the QIPT that a formula for translating these improvements and cost savings into funding for the QIP can be found.

- The QIP is halfway through a three-year project. It is quite acceptable that the members of the QIP request more time to resolve this issue. Even the three year life span of the project is hardly sufficient to establish the QI national effort, demonstrate results and become capable of self-sustaining itself. The request here is to extend the project and give the time and assistance needed for the QIP to become established and capable of self-sustenance. Business development assistance will also be important for this option to succeed.

- *Material Resources.*

In short, Palestine, a middle income economy, has per capita GNP of some US $ 1,000. Over 10% of which is spent on healthcare. This is approximately 2-4 times as much as that of neighboring countries of comparable socio-economic status. The health indicators are comparable to these countries, with the exception of certain indicators demonstrating the strong emphasis on primary care activities, some of which are at developed country levels. This goes to show that the major healthcare issue is not one of inappropriate resource allocation, but one of inefficient resource utilisation.

The Palestinian healthcare quality improvement effort has gone to great lengths to battle with outdated concepts implicating quality improvement as a function of increased resources. The QIPT has demonstrated outstanding improvements with substantial reductions in costs and waste in its various forms. There are still many examples of improperly functioning facilities, in spite of them being fully equipped. The recent work on shortages in drugs has clearly demonstrated that a re-

designed pharmaceutical inventory system was capable of solving this formidable problem without an increase in resources. It is absolutely inappropriate, and possibly damaging, to bring up the issue of material resources in this way at this stage in the development of the QI in Palestine.

- *And to physician resistance to quality improvement*

Physician resistance to quality improvement is a known phenomenon encountered in many improvement efforts worldwide. This however, does not necessarily mean that it has to be present in Palestine. We believe that the World Bank assessor either assumed it is there or based her opinion on encountering a resistant person, who just so happened to be a physician. Physician resistance to quality improvement, as a phenomenon, does not exist in Palestine. In fact, quality improvement in Palestine is led and supported by physicians, some of who are among the most prominent in the country.

- *Becoming an accrediting body for the MOH.*

The QIP has neither plans nor activities in the area of accreditation. The staff were neither recruited with, nor trained in, this area of expertise. In principal, it is philosophically and methodologically not in harmony with the total quality management approach taken by the QIP. This is not to belittle the importance of accreditation. It is certainly very important, and there is need for it in the Palestinian healthcare system. However, it is a large issue of debate whether the QIPT in particular should be the one to venture into this area. There is the real risk of the QIPT becoming or being perceived as " an inspector". This could endanger the whole teamwork and process improvement approaches in which the QIP is

well used and in which it has been very successful. This issue has been discussed with the World Bank assessor and concerns expressed. This recommendation could be seen as an unsuccessful importation of foreign models, and perhaps not the very best of them.

Finally , the week in which the World Bank assessor made her visit was the week in which the QIPT were getting to know of the impending changes in the organisational structure and leadership of the QIPT. The QIPT was extremely anxious about these changes and what they would entail. The team stressed the danger of changing the system, which is the primary reason for the success of the Palestinian QIP effort. The future of the QIP will heavily be affected by this change in organisational structure and leadership.

Future Research

This research focused on how the QIP implemented TQM in the Palestinian healthcare sector. Only the first and second cycle of improvement are covered in this research. The completion of the first and second cycle of improvement was followed by a decision taken by the MOH to change the organisational structure of the QIP. Another leader, with no background in the field of quality improvement, suddenly replaced the physician who led the quality improvement efforts. The third cycle of improvement, which is being led by the new leader, is expected to be managed differently. Furthermore, the closing date of the project is in June 1999 which leaves the QIP uncertain about its future. It is not clear yet whether the QIP will find another donor or if it will be integrated into the MOH thus, losing one of its

major strengths i.e. its independence. Finally, the results that were achieved in the first and second cycle of improvement should be sustained and monitored for continuous improvement. The MOH is still depending on the QIP to follow up the improvement processes. This will cause a problem if the fund for the QIP is not renewed, as the Ministry has no technical knowledge of how to monitor the sustainability of the results. Future research should look at the above issues. In particular:

- The effect of changing the structure and leadership of the QIP. Will the third cycle of improvement be managed differently?

- For how long will the improvement processes that were achieved in the first and second cycle of improvement survive?

- Does the QIP need to change its methodology by starting to focus on developing systems of work rather than improving processes of work?

- Was it right for the QIP to stay in the pilot stage for two cycles of improvement?

- Can the QIP work if the MOH decides to integrate it into its centralised structure?

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Quality Improvement Project
Ministry of Health - Gaza
Aims Survey.

QUESTIONNAIRE
Health Personnel

The Information in this survey will be used by the Quality Improvement Project (QIP). Confidentiality is assured. Please do not write your name.

1) How do you value your satisfaction with the health services provided in this hospital ?

V.Good ☐   Good ☐   Acceptable ☐   Bad ☐

2) What do you suggest to improve clinical practices ?

....
....

3) What do you suggest to improve non clinical practices ?

....
....

Quality Improvement Project
Ministry of Health - Gaza
Aims Survey.

QUESTIONNAIRE
Patients & Their Relatives

The Information in this survey will be used by the Quality Improvement Project (QIP). Confidentiality is assured. Please do not write your name.

1)   How do you value your satisfaction with the health services provided in this hospital?

V.Good ☐   Good ☐   Acceptable ☐   Bad ☐

2)   What do you like most in the hospital ?

....
....

3)   What do you like least in the hospital ?

....
....

Ministry of Health
Quality Improvement Project (QIP)

Improving the Medical Morning Round at Al Naser Hospital

Observation Sheet

Survey No.   :   Name of data collector   :
Date   :   Day   :
Hospital name: Department number   :

Medical morning round
Start time   :   End time   :
Type :   Single :   Grand :   End time every thing related to the round

Number of physicians :   Number of nurses :
Total number of patients in the department :   Number of patients examined today

Description for the department today :

....
....
....
....
....
....
....
....
....
....
....
....
....
....

Patient's number _____

1.   Start time of examination   _____

2.   Duration of stay at hospital_____

3.   Patient's condition   normal   critical   new patient

4.   Physician sees patient for the first time?   yes
     no
     If no, did he/she examine the patient before?   yes
     no

5.   All needed medical equipment was available during the round   yes
     no
     If the answer is " no ", explain _____

6.   Room is-crowded   yes   no
     If the answer is " yes ", state the reason _____

7.   Medical round was interrupted   yes
     no
     If the answer is " yes " state the reason and the duration of the interruption
     _____

8.   Nurses were available when needed   yes
     no
     if the answer is " yes " or " no " explain how ? _____

9.   The examination of the patient ended at _____

10. Patient's evaluation of the round
     What he/she likes most ? What he/she dislikes most? General observation
     _____

11. The patient's general evaluation of the round
     excellent   very good   good   OK   bad

12. Patient's evaluation of the round. Is today's round better than yesterdays?
     Explain how

13. What happened after the examination of this patient ?

FOLLOW-UP SHEET

Patient`s name : ....

DATE	SUBJECTIVE	OBJECTIVE	ASSESSMENT	PLAN

PATIENT CLINICAL SHEET

I) **Personal History :**
    Name : .... Date of Birth : .... Sex : M ☐ F. ☐
    Residence : ....
    Ticket No. : .... I.D. No. : ....

II) **Complaint :**
    ....
    ....
    ....

III) **Present History :**
    ....
    ....
    ....

IV) **Past History :**
    ....
    ....
    ....

V) **Family History :**
    ....
    ....
    ....

VI) **Examination :**
    ....
    ....
    ....
    ....
    ....

VII) **Provisional Diagnosis**
    ....
    ....
    ....

VIII) **Investigations :**
    ....
    ....
    ....

MEDICAL HISTORY SHEET

Complaint :

....
....
....
....
....

Present History :

....
....
....
....
....

Past History :

....
....
....
....
....

Perinatal History :

....
....
....
....
....

Family History :

....
....
....
....
....

Feeding History :

....
....
....
....
....

Development History :

....
....
....
....
....

Vaccination :

....
....
....
....
....

Filled By Dr. : .... Signature : ....

MESSAGE

Urgent

For   :   ....
Date   :   ....   Time : ....

WHILE YOU WERE OUT

From :   ....
Of   :   ....
Phone: ....

☐ Please Call	☐ Will call again
☐ Came to see you	☐ Wants to see you
☐ Returned your call	☐ Request appointment

Message : ....
....
....
....

Received by : _____

MINISTRY OF HEALTH – QUALITY IMROVEMENT PROJECT

IMPROVING THE MORNING MEDICAL ROUND DEPARTMENT IN AL-NASER HOSPITAL

MONITORING SHEET

Primary round

Date / Day	Start time	End time	# of patients	Interruptions					
				Nature	Duration	Nature	Duration	Nature	Duration
16-2-97 Sunday									
17-2-97 Monday									
18-2-97 Tuesday									
19-2-97 Wednesday									
20-2-97 Thursday									
22-2-97 Saturday									
23-2-97 Sunday									
24-2-97 Monday									

Primary round

Date / Day	Start time	End time	# of patients	Interruptions				
				Nature	Duration	Nature	Duration	Nature
25-2-97 Tuesday								
26-2-97 Wednesday								
27-2-97 Thursday								
1-3-97 Saturday								
2-3-97 Sunday								
3-3-97 Monday								
4-3-97 Tuesday								
5-3-97 Wednesday								
6-3-97 Thursday								

Ground round

Date / Day	Start time	End time	# of patients	Interruptions					
				Nature	Nature	Duration	Nature	Duration
16-2-97 Sunday									
17-2-97 Monday									
18-2-97 Tuesday									
19-2-97 Wednesday									
20-2-97 Thursday									
22-2-97 Saturday									
23-2-97 Sunday									
24-2-97 Monday									
25-2-97 Tuesday									
26-2-97 Wednesday									

Date / Day	Start time	End time	# of patients	Interruptions				
				Nature	Duration	Nature	Duration	
27-2-97 Thursday								
1-397 Saturday								
2-3-97 Sunday								
3-3-97 Monday								
4-3-97 Tuesday								
5-3-97 Wednesday								
6-6-97 Thursday								

**Ministry of Health
Quality Improvement Project**

Satisfaction Survey

The information in this survey will be used by the QIP. Please answer the quastions clearly. Confidentiality will be assured.

Number   : _____   Department : _____
Profession : _____   Age   : _____
Last certificate earned : _____   Sex   : _____

1. Do you think medical round is better than the old one ?   Yes   No

2. How successful is the new medical round?

....
....
....
....

3. What do you dislike most about the medical round now?

....
....
....
....
....

4. What do you suggest to improve the new medical round even further?

....
....
....
....
....

5. What do you think about the two new forms? Please state your opinion.

    The history sheet

....
....
....

    The follow-up sheet

....
....
....

Prescribing Practices of Prophlactic Antibiotics in Surgery at Rafidya Hospital

Type of Surgery	Firs Choice Antibiotic				Second Choice Antibiotic			
	Antibiotic	Dose	Frequency	Duration	Antibiotic	Dose	Frequency	Duration
Orthopedic	Cefazolin IV	1g	8h	24h	Cloxacilline IV	1g	6h	24h
Hernia	Cefazolin IV	1g	8h	24h	Cloxacilline IV	1g	6h	24h
Gastroduodenal	Cefazolin IV	1g	8h	72h	Augmentin IV	1g	8h	72h
Biliary Iract	Cefazolin IV	1g	8h	24h	Augmentin IV	1g	8h	24h
Appendix	Augmentin IV	1g	8h	24h	Cryst : Pencilin IV	4m	4h	24h
					Gentamicin IV	80mg	8h	
					Metronidazole IV	1g	8h	
Small bowel	Augmentin IV	1g	8h	24h	Ampicillin IV	1g	6h	24h
Thoracic	Augmentin IV	1g	Single dose		Cefazolin IV	1g	Single dose	
ENT	Augmentin IV	1g	Single dose		Cefazolin IV	1g	Single dose	
Colorectal	Pre: Neomycin PO	1g	6h	48h before				
	+ Metronidazole PO	250 mg	8h					
	Post : Cefazolin	1g	8h	3days				
Breast	Cefazolin IV	1g	Single dose		Augmentin IV	1g	Single dose	
Hystereclomy	Cefazolin IV	1g	Single dose		Augmentin IV	1g	Single dose	
	Metronidazole PR							
Cesarean Section	Cefazolin IV	1g	Single dose		Augmentin IV	1g	Single dose	
Fibroid	Cefazolin IV	1g	Single dose		Augmentin IV	1g	Single dose	
Urology	Gentamicin IV	80 mg	8h	24h	Augmentin IV	1g	8h	24h
Vascular	Cefazolin IV	1g	8h	3 days	Augmentin IV	1g	6h	3 days

Surveying the Usage of Prophlactic Antibiotic's Protocols
in Surgey - Rafidya Hospital

Dear Colleague,

The aim of this form is to ascertain the level of your knowledge of the exisitng prophylactic antibiotics protocols in surgery. Will you please answer the following quastions :-

1. Are you aware of the prophylactic antibiotic protocols in surgery?

2. Do you think that you understand the protocol?   ☐ Yes   ☐ No

3. If Yes, your level of understanding is ☐ Good   ☐ Accepted   ☐ Excellent

4. Do you follow the protocol ?   ☐ No   ☐ Sometimes ☐ Always

5. If you do not follow the protocol always, why?
....
....
....

6. Any suggestion or notes regarding the use of prophylactic antibiotics in surgery?
....
....
....

Thank you for you cooperation

Process Improvement Project
Prophvlactic Antibiotics in Surgery

Suvey form number :

Date of Surgery	:	....
Age	:	....
Patient file number	:	....
Name of Patient	:	....
Department 1	:	....
Surgeon	:	....

1. Category of operation defined   ☐ Yes   ☐ No

2. Category of operation defined correctly   ☐ Yes   ☐ No

3. Operation of classified as category   ☐ I   ☐ II   ☐ III   ☐ IV   ☐ V

4. If operation is classified as category I, are antibiotics are prescribed?
                             ☐ Yes   ☐ No

5. If operation is classified as category V, are High risk criteria are stated?
                             ☐ Yes   ☐ No

6. Are high risk criteria stated correctly?   ☐ Yes   ☐ No

1. Type of surgery : ....
2. Are prophylactic antibiotics given according to type of survey?
                             ☐ Yes   ☐ No
3. Are prophylactic antibiotics prescribed?
                             By .... (Physician)
                             In .... (Department)
4. Are prophylactic antibiotics prescribed as   ☐ 1st choice ☐ 2nd choice

5. If 2nd choice, why?..
....

6. Were prophylactic antibiotics started on time? ☐ Yes   ☐ No

7. Were prophylactic antibiotics started before time? How long before?...............

8. Were prophylactic antibiotics started late ?   How late ? ....

9. Were prophylactic antibiotic stopped on time ?   ☐ Yes   ☐ No

10. Were prophylactic antibiotics stopped before time?How long before? ....

11. Were prophylactic antibiotics stopped late?   How late? ....

* 1- Were prophylactic antibitoic prescribed more than once ☐ Yes   ☐ No

                                             If Yes, how many time? ....

2- For each time, please specfiy ....

Department	Physician	Correct Antibiotic	
1.	....	☐ Yes	☐ No
2.	....	☐ Yes	☐ No
3.	....	☐ Yes	☐ No
4.	....	☐ Yes	☐ No
5.	....	☐ Yes	☐ No

* Other remarks : ....

....

....

....

....

....

Prescribing Practices for Antibioties in Surgery

Patient Arrival

Emergency Care

No → Specialist Referral

Yes → Emergency Department

No → Wait

Yes → Outpatient Clinic

Admission and Surgery Decision

Admitting Physician Decide on Cetegory of Operation

Operation Catgories 1-5

1 Clean
*Sterile
*Skin intact
*No viscera opened
*No drain
*No trauma
*No inflammation
*No septic faults
*No risk factors
*Operation time<3hr
*No foreign body
→ No antibiotic prescription

2 Cleun Contaminated
*Skin intact
*Viscera opened during operation
*Minimal septic faults
→ Anesthesia physican prescribes prophylactic antibiotic

3 Contaminated
* Traumatic Wound < 4hr
*Septic rupture + Contamination
* Major Septic faults during operation
→ Admitting physician prescribes antibiotic

4 Dirty
* Actual non supporting bacterial infection
* Pus present
* Traumatic Wound > 4 hrs.
* Rupture visera + fecal contamination
→ Admitting physician prescribes antibiotic

5 High Risk
* Diabetes
* Immunodepression
* Steroid therapy
* Liver cirrhosis
* Radiotherapy
* Chemotherapy
* Obesity
* Malnutrition
* Age > 65 yrs.
* Clean fireign body
→ Anesthesia physican prescribes prophylactic antibiotic

Type of Surgery	First Choice Antibiotic				Second Choice Antibiotic			
	Antibiotic	Dose	Frequency	Duration	Antibiotic	Dose	Frequency	Duration
Orthopedic	Cefazolin IV	1g	8h	24h	Cloxacilline IV	1g	6h	24h
Hernia	Cefazolin IV	1g	8h	24h	Cloxacilline IV	1g	6h	24h
Gastroduodenal	Cefazolin IV	1g	8h	72h	Augmentin IV	1g	8h	72h
Biliary tract	Cefazolin IV	1g	8h	24h	Augmentin IV	1g	8h	24h
	Metronidazole PR	100mg		24h	Metronidazole PR		8h	24h
Appendix	Cryst : Pencilin IV	4m	8h	24h	Augmentin IV	1g	8h	24h
	Gentamicin IV	80mg			Metronidazole PR	100mg	8h	24h
	Metronidazole IV	1g						
Small bowel	Augmentin IV	1g	8h	24h	Ampicillin IV	1g	6h	24h
Thoracic	Cefazolin IV	1g	Single dose		Augmentin IV	1g	Single dose	
ENT	Cefazolin IV	1g	Single dose		Ampicillin IV	1g	Single dose	
Colorectal	Pre: Neomycin PO + Metronidazole PO	1g 250 mg	6h 8h	48h before				
	Post : Cefazolin IV	1g	8h	3days				
Breast	Cefazolin IV	1g	Single dose		Augmentin IV	1g	Single dose	
Hysterectomy	Cefazolin IV Metronidazole PR	1g	Single dose		Augmentin IV	1g	Single dose	
Cesarean Section	Cefazolin IV	1g	Single dose		Augmentin IV	1g	Single dose	
Fibroid	Cefazolin IV	1g	Single dose		Augmentin IV	1g	Single dose	
Urology	Gentamicin IV	80 mg	8h	24h	Augmentin IV	1g	8h	24h
Vascular	Cefazolin IV	1g	8h	3 days	Augmentin IV	1g	6h	3 days

Quality Improvement Team
Rafidy Hospital

Monitoring System for the Use of Prophylactic Antibiotic in Surgery

Patient's Name : ....
File Number : ....
Date of Surgery : ....
Name of Surgeon : ....
Name of Operation : ....
Date of Admission : ....
Date of Discharge : ....

1. Operation Category : According to Patient File.

   | 1 | | 2 | | 3 | | 4 | | 5 | | N.A |

2. Is operation category in question 1 correct?
....

3. If the answer is no. what is the right category?
....

4. If the operation was categorised according to patient file"1" have any antibiotics been prescribed?   ☐ Yes   ☐ No

5. If the answer to quation 4 is Yes, what are they?
Name   Dose
....
....
....
....

6. If the operation was categorised according to patient file "2" or "5", have any antibiotics been prescribed by the anesthesia physician?
                                        ☐ Yes   ☐ No

7. If the answer to question 6 is "Yes", did the prescribing practices follow the protocol?
                                        ☐ Yes   ☐ No

8. If the answer to question 7 is " No" what antibiotics have been prescribed ?

Name	Dose
…………	…………
…………	…………
…………	…………
…………	…………
…………	…………
…………	…………

9. What is the name of the anesthesia physician who prescribed the antibiotics in question 8?

………………………………………………………………………………

10. If the operation was categorised according to patient file "3" or "4",did the physician prescribed the antibiotic according to the protocol? ☐ Yes ☐ No

11. If the answer to question 7 is " No" what antibiotics have been prescribed ?

Name	Dose
…………	…………
…………	…………
…………	…………
…………	…………
…………	…………
…………	…………

12. Any signs of increasing temperature in patient's file after 24-48 hours after the surgery? ☐ Yes ☐ No

13. Any signs of infection after the surgery ? ☐ Yes ☐ No

First Stage : Preparation

Name of the Healthcare Organisation..

Contact Number ....

Quality Improvement Objective

....
....
....
....

Team Members	Job Title	Contact Number
....	....	....
....	....	....
....	....	....
....	....	....
....	....	....

Team Leader ....
Team Facilitator ....

What is the quality improvement indicator / indicators that will measure the objective ?

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....
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....

Second Stage : Process Description

Name of the Quality Improvement Process

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....
....
....

First Step in the Process

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Final Step in the Process

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....
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....

Process Description in words

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....
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....

Process Description

A : High Level Flow Chart

Third Stage : Measuring Quality Indicators Before Improvements

Quality Improvement Indicator (s)

....
....
....
....

Data Collection Tool

....
....
....
....

Data Collection Tool Content

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....
....
....

Who Will Collect the Data ?

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....
....
....

Mechanism of Data Collection

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....
....
....

Duration of Data Collection

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....
....

Fourth Stage : Changes

What are the Required Changes to Improve the Situation ?

....

....

....

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....

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....

New Recommended Process

A. High Level Flow Chart

B. Low Level Flow Chart

Fifth Stage : Change Implementation

What is the Recommended Change (s)?

....

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....

How Did the Organisation Implmenet the Change

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What Were the Obstacles During Implementing the Change?

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How Did the Organisation Overcome these Obstacles?

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What Facilitated Implementing the Change?

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Sixth Stage : Measurement After Improvement

Date Collection Tool

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....

Date Collection Tool Content

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....

Who Will Collect the Data?

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....
....
....

Mechanism of Data Collection

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....

Duration of Data Collection

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....

Data Analysis : Run Chart For the Quality Indicator after the Improvement

Seventh Stage : Data Comparison

Compare the quality improvement indicator before and after the changes.
This comparison should reveal
1. If the two measurements are different.
2. If the difference indicators an improvement or something else. In other words, did the changes lead to an improvement?

QUESTIONNAIRE 1

The aim of this questionnaire is to collect data about the Quality Improvement Team leaders (QITLs) in the pilot organisations which will be used to improve the work of the Quality Improvement Project. Please read the questions carefully, it will not take you more than 10 minutes. The results of this questionnaire are available for you if wanted.

First Section

1. Age   Less than 30   30 - 40   41 - 50   51+

2. Sex   Male   Female

3. Profession ....

4. Education ....

5. No. of working years in the organisation ....

6. Place of residents   West Bank   Gaza Strip

7. Language (s) ....

8. Special hobbies ....

9. Do you have any special leadership activities outside your work?

10. Number and content of training courses during the last 3 years

Name of training course	Duration	Content
....	....	....
....	....	....
....	....	....
....	....	....

Second Section

11. Why did you participate in the quality improvement processes?

12. How many quality improvement processes you have participated in?

13. Have you attended the Quality Improvement Training Courses?

Yes   No

If " Yes", please specify the date ....

14. What do you think of the training?

15. What do you suggest would improve the training?

16. How were you chosen as a team leader?

17. What are the obstacles that you faced while leading your team?

18. What do you suggest to overcome these obstacles?

19. What are the driving forces that helped you accomplish you task?

20. What do you think of the quality improvement team meetings?

21. Do you have any suggestions to improve these meetings?

22. What do you think of the forms that were used in the different stages of the quality improvement process?

23. Do you have any suggestions to improve these forms?

24. How would you evaluate the quality improvement process that you have lead from your personal development point of view?

25. How would you evaluate the quality improvement process that you have led from your organisation"s point of view?

QUESTIONNAIRE 3

The aim of this questionnaire is to find out Quality Improvement Team (QIPT) of view regarding the quality improvement process that have been facilitated by them. Will you please read the questions carefully. Thank you for your cooperation.

1. Name

2. Current situation of the quality improvement process :

Name of the process	Site	Who decided to conduct the process?	Result completed not completed canceled	Reason

3. What do you think of the training course that was carried out by the Quality Improvement Project?

4. What do you suggest to improve this course?

5. What do you think of the team Leaders regular meetings?

6. What do you suggest to improve these meetings?

7. What do you think of the forms that was used by the Quality Improvement Teams to record the progress of their work?

8. Do you have any suggestions to improve these forms?

9. What are the major obstacles that you have faced while facilitating the work of the Quality Improvement Team?

10. Do you have any suggestions to overcome these obstacles?

11. What are the major driving forces that helped accomplish the work?

12. Describe your way of facilitating the work of the Quality Improvement Teams.

13. How do you see the work of the Quality Improvement Project in the future?

14. Any thing to add?

Questionnaire 2

The aim of this questionnaire is to collect data about the quality improvement Teams (QITs) in the pilot organisations which will be used to improve the work of the quality improvement project . pleas read the questions carefully , it will not take you more than 10 minutes . the results of the questionnaire are available for you if wanted .

First Section

1. Age   Less than 30   30 - 40   41 - 50   51+

2. Sex   Male   Female

3. Profession ....

4. Education ....

5. No. of working years in the organisation ....

6. Place of residents   West Bank   Gaza Strip

7. Language (s) ....

8. Special hobbies ....

9. Special activities outside work?   ....

10. Number and content of training courses during the last 3 years

Name of training course	Duration	Content
....	....	....
....	....	....
....	....	....
....	....	....

Second Section

11. Why did you participate in the quality improvement processes?

12. How many quality improvement processes you have participated in?

13. Have you attended the Quality Improvement Training Courses?

Yes   No

14. What do suggest to improve this course ?

15. What are the major obstacles that you have faced as a member of the QIT?

16. Do you have any suggestion to overcome these obstacles ?

17. What are the major driving forces that helped accomplish the work ?

18. How would you evaluate the quality improvement process that you have participapted in from your personal development point of view?

19. How would you evaluate the quality improvement process that you have participated in from your organisation's point of view?