

Republic of Malawi



Ministry of Health

**Operational Framework for
5S-KAIZEN-TQM Approach
Under Quality Assurance Policy
in Malawi**

“Platform of all Quality Assurance Programme”

1st Edition

January 2014

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ACRONYMS

AAKCP	Asia/Africa Knowledge Co-creation Programme
CD	Capacity development
CHQAC	Central Hospital Quality Assurance Committee
CPR	Contraceptive Prevalence Rate
CQI	Continuous Quality Improvement (KAIZEN)
CSSD	Central Sterile Supplies Department
DFID	Department for International Development (United Kingdom)
DHMT	District Health Management Team
DHO	District Health Office (Officer)
DHS	Directorate of Hospital Services
DMO	District Medical Officer
DNO	District Nursing Officer
EHP	Essential Health Package
EU	European Union
GIZ (GTZ)	Gesellschaft für Internationale Zusammenarbeit
HPAT	Hospital Performance Assessment Tool
HQ	Head Quarter
HR	Human resource
HRO	Highly Reliable Organizations
HSSP	Health Sector Strategic Plan
IMR	Infant Mortality Rate
IPC	Infection Prevention and Control
ISO	International Organization for Standardization
JHPIEGO	Johns Hopkins Program for International Education in Gynaecology and Obstetrics
JICA	Japan International Cooperation Agency
JIT	Just In-Time
JOCV	Japan Overseas Cooperation Volunteers
KAIZEN	Continuous Quality Improvement
MDGs	Millennium Development Goals
M & E	Monitoring and Evaluation
MMR	Maternal Mortality Rate
MOH	Ministry of Health
NQATF	National Quality Assurance Task Force
NTBCP	National Tuberculosis Control Programme
PAM	Physical Asset Management

PDCA	Plan-Do-Check-Act
PMTCT	Preventing Mother-to-Child Transmission (for HIV)
POW	Programme of Work
QA	Quality Assurance
QAP	Quality Assurance Policy
QAPs	Quality Assurance Programmes
QATWG	Quality Assurance Technical Working Group
QC	Quality Control
QI	Quality Improvement
QIST	Quality Improvement Support Team
RH	Reproductive Health
SOP	Standard of Operational Procedure
STI	Sexual Transmitted Infection
TB	Tuberculosis
TOT	Training of Trainers
TQM	Total Quality Management
USAID	United States Agency of International Development
IUTBLD	International Union against Tuberculosis & Lung Disease
WHO	World Health Organization
WIT	Work Improvement Team

FOREWORD

With limited financial, human and infrastructure resources for the health sector, healthcare services are being provided with a number of challenges which have a bearing on quality. In order to ensure quality of healthcare services, the 2011 –16 Health Sector Strategic Plan (HSSP) has specifically incorporated and advocates the promotion and implementation of Quality Assurance interventions. It is worth noting that many Quality Assurance interventions have been developed in the country and have had positive impact over the time on how health workers do their work and care for the patients and other clients.

Malawi has participated in the Total Quality Management (TQM) for better hospital services programs since 2007, with Dowa and Mzimba being pilot sites. This is a Japan International Cooperation Agency (JICA) Sub-program of an Asia-Africa knowledge Co-creation Program (AAKCP) which aims at improving health services with the use of Japanese-style quality management method called 5S-KAIZEN-TQM. Since its introduction, to date, a total of 19 health facilities have started the implementation of 5S-KAIZEN-TQM although at different implementation levels.

I recommend this framework for use by all health workers and other stakeholders if we are to achieve quality improvement in healthcare services. Lastly, it should be noted that “knowledge and skills” are not enough. Strong commitment and leadership by managers and positive attitude by all health workers is critical for successful 5S-KAIZEN-TQM implementation.



Honourable Catherine Gotani Hara, MP

MINISTER OF HEALTH

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The development and publishing of this operational framework for 5S-KAIZEN-TQM is a result of collaborative efforts of members of Quality Assurance Technical Working Group and experts of 5S-KAIZEN-TQM approaches. The Ministry of Health would like to applaud the contributions from all of them.

Sincere gratitude also goes to the JICA experts of 5S-KAIZEN-TQM for Hospital Management, for their immense support and technical contribution in the development of the 5S-KAIZEN-TQM practical guidelines.

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Furthermore, sincere appreciations go to the Government of Japan through Japan International Cooperation Agency (JICA) for both technical and financial support during the process of developing this operational framework. This is one of the remarkable and tangible outcomes of the good working relationship between the Ministry of Health and JICA.

A handwritten signature in black ink, consisting of a large, stylized loop followed by several vertical strokes and a final flourish.

Chris. V. Kang'ombe

SECRETARY FOR HEALTH

Chapter 1

Introduction

1.1. Objectives of the Framework

This document (here in after called “the framework”) was originally the second draft of the practical guideline for 5S-KAIZEN (Continuous Quality Improvement)-TQM (Total Quality Management) approach in health sector in Malawi. The draft guideline was modified to be more practical for users, more specific for implementation of the approach and more systematic for the integration with the guidelines of the other Quality Assurance Programs. Then the guideline was separated to “Operational Framework for 5S-KAIZEN-TQM approach under Quality Assurance Policy in Malawi” which is the framework, “5S Practical Guide” and “Facilitators’ Guide for 5S”

The objectives of the framework is as follows

To identify the relationship between Quality Assurance Policy and 5S-KAIZEN-TQM Approach

- To define the concept of 5S-KAIZEN-TQM approach
- To describe the national rollout process of 5S-KAIZEN-TQM approach
- To introduce the installation, implementation and maintenance procedures of 5S

The main target readers of the framework are top management team in health facilities and focal person for Quality Assurance Programs especially Quality Improvement Support Team (QIST) member for 5S-KAIZEN-TQM. Although this guideline is useful to understand 5S-KAIZEN-TQM Approach, procedures in details are not described. The framework is the reference to describe the conceptual framework of 5S-KAZIEN-TQM approach in Health Sector in Malawi. Installing, implementing and expanding procedures in details will be mentioned “5S Practical Guide” and “Facilitators ’Guide for 5S”.

1.2. Contents of the Framework

Chapter 1 Introduction

This chapter describes the outline of the framework. The contexts of this framework are based on the successful experience of 5S-KAIZEN-TQM approach in Sri Lanka and Tanzania and also the quality assurance policy in several countries. The core concepts and the organization structure have been derived from Quality Assurance Policy of Malawi.

Chapter 2 Background to install 5S-KAIZEN (CQI)-TQM approach into Quality Assurance Mechanism for Health in Malawi

The national level effort for quality assurance begun since 1995 and then the National Quality Assurance Policy was published in 2005 supported by United States Agency of International Development (USAID). From 2000, further steps have been undertaken through the appointment of a high level National Quality Assurance Task Force (NQATF), comprised of the directors in Ministry of Health (MOH), Health regulatory bodies and other stakeholders. Then followed the formalization and integration of Quality Assurance (QA) into the national health care delivery system.

In 2012, “Malawi Health Sector Strategic Plan 2011-2016 (HSSP)” was issued and Quality Assurance is also mentioned that it cuts across all the components of the HSSP; however, quality improvement in the health sector in Malawi is hindered by the poor condition of facilities such as lack of equipment, lack of qualified human resources, and weak management.

Since the establishment of healthcare services quality improvement workshop in 2004, MOH has been striving for the improvement under the initiative of chiefs of relevant agencies. Meanwhile, Japan International Cooperation Agency (JICA) has made efforts to familiarize strategically with the Japanese style quality management methodology “5S-KAIZEN-TQM” to African countries including Malawi, as a part of “Asia/Africa Knowledge Co-creation Program (AAKCP)” since 2007. Based on the experience in the pilot hospitals of AAKCP, and MOH it was realized that 5S-KAIZEN-TQM approach is not only to promote IPC but also to facilitate several Quality Assurance Programs (QAPs).

Several QAPs were introduced to health sector in Malawi in order to overcome the situation and MOH has established “Quality Assurance Technical Working Group (QATWG)” recommended by Sector Wide Approach Programs (SWAPs). Integration of the QA programs has been going on, and 5S-KAIZEN was selected as one of the core targets for harmonization of QA.

Chapter 3 Purposes of 5S-KAIZEN-TQM Approach

The goal for the three-step approach of implementing 5S-KAIZEN-TQM is not simply to implement 5S or KAIZEN into the hospitals, but is to enable the hospitals to reform its own management style or organizational culture and therefore become enabled to provide the medical services with the focus always placed onto “being outcome-oriented” and onto “being centered on the patients”. That is to say, the organization is to be reborn as 'Value Co-creation Organization' that provides only service to hospitality.

The characteristics of the hospital industry is quite unique compared to the other industries. Services offered by the health facilities are highly risky, therefore safety management in the health facility shall be ensured more than the other industry. Therefore, hospitals must be Highly Reliable Organizations (HROs). To achieve high quality, systems used in implementation have to constantly be improved. Quality fails when systems fail.

Chapter 4 Basic Concepts of 5S-KAIZEN (CQI)-TQM

‘Implementing’ these three management methods ‘in phases’ is a characteristic of ‘5S-KAIZEN-TQM approach’, and in this approach, each step is defined as follows.

Step1, ‘5S’: improvement of work environment, rethinking of the staff, understanding their business processes

Step2, ‘KAIZEN’: constructive understanding of the systematic problem resolution and business process improvement

Step3, ‘TQM’: implementation of hospital management, realizing value co-creative organization

All the staff, as Internal Entrepreneur, should become hospital management creators from the service providers to aim for realizing ‘Value Co-creative Organization’.

TOYOTA production system which had been known as the most advanced TQM is also called “Lean methods”. Lean methods create a continual improvement based on waste-elimination culture that involves workers and operators at all levels of the health facilities.

Hospitals and other health facilities are the typical targets of 5S since these systems are rather complicated and difficult to maintain for delivery of various services in the best obtainable condition. By the continuous actions of Sort-Set-Shine-Standardize-Sustain you can; reduce your workload; make maximal use of given working hours to provide services to the clients.

Chapter 5 Harmonization of 5S-KAIZEN-TQM Approach in Quality Assurance

The National Quality Assurance Policy was published in 2005 supported by USAID. And based on “Needs Assessment”, “Situation Analysis”, “Problems Analysis” and “Solutions Analysis”, it was defined that 5S-KAIZEN-TQM could contribute several issues in QA for strengthening the “Platform” of Quality Assurance. However, the following challenges are also described for the integration of Quality Assurance Programs

- (1) Enhancement of current QA structure
- (2) Establishment of National Trainer Scheme
- (3) Formulation of Annual Action Plan for National Rollout

- (4) Integration of training scheme
- (5) Integration of monitoring and evaluation methods
- (6) Showcase

Chapter 6 The Organizational Structure of 5S-KAIZEN-TQM Approach

To harmonize 5S-KAIZEN-TQM Approach in QA organization structure, the Approach shall be recognized to the member of QATWG, and Departmental Focal Persons shall be assigned, and also QA Unit shall be established.

Though the Zonal Health Officers have been assigned, their capacity is not enough to support district level. The national level has to support their capacity building. Also capacity of District Health Management Team (DHMT) shall be enhanced to support QA activities in health centre level. According to the Quality Assurance Policy, each health facility has to establish QA committee and QIST, and assign QA focal person(s). 5S activities also contribute formulation of the organization mentioned above and enhancement of capacity of current organization for quality assurance.

Chapter 7 National Rollout of 5S-KAIZEN-TQM Approach

In order to deploy this 5S-KAIZEN-TQM method to a nation-wide level, the following two tracks will be required to be implemented;

- Track1: Proceeding of the efforts implemented within the hospital in the order of 5S-KAIZEN-TQM
- Track2: Deployment of the approach from the pilot hospital to a nation-wide level

Since 2007, 5S activities have been installed in health facilities in Malawi and 12 hospitals and three health centres are carrying out 5S activities.

To disseminate 5S-KAIZEN-TQM approach to central hospitals, MOH is a responsible body and Zonal Health Offices are responsible bodies to disseminate 5S-KAIZEN-TQM approach to district hospitals. However, disseminating procedures, such as trainings and supportive supervisions for central hospitals will be combined into activities by Zonal Health Offices in the three areas, Northern Area (Northern Zone), Central Area (Central Eastern and Western Zones), and Southern Area (Southern Eastern and Western Zones). Cascade training scheme, national trainer scheme and periodical supportive supervision are also utilized for the dissemination.

To disseminate 5S-KAIZEN-TQM approach, one cycle from “Installation of 5S” to “Expansion of KAIZEN is set for four years and activities mentioned in the next chapter will be done.

Chapter 8 Implementation of 5S-KAIZEN-TQM

It is mentioned that morale of staff and members of a management team in an organization strongly reflect the implementation of 5S activities. It is necessary to create good working environment to ensure that health workers and service users are satisfied. Attitude change and mutual effort by both management and other health workers are necessary to improve working environment.

5S is usually implemented gradually, and it often takes over one year or two years to proceed to sustain.

When the management team of the health facility considers installing 5S, top management (DHO) and a focal person for QA in the facility shall attend “**5S Basic Training**” to understand 5S principle and implementation procedure.

In Preparation phase, the top management team shall decide the installation of 5S officially.

In Introductory phase, Sort, Set and Shine activities are carried out in pilot areas. After the six (6) months from 5S exposure training, “**Supportive Supervision**” will be conducted. Based on the achievement in the pilot areas, the management decides how to expand 5S to all departments in the hospital. Before the expansion of 5S, top management shall send a focal person and another person in-charge for 5S to “**5S Training of Trainers (TOT)**” to understand how to conduct internal training of 5S.

Beginning of Implementation phase, QIST and Work Improvement Team (WIT) shall be established formally. And also internal training of 5S should be conducted to all staff. Standardize and Sustain activities are developed by QIST and practiced in pilot areas.

Maintenance phase is an on-going phase, hence there is no time limit. However, it is expected that all the necessary structures and accountability systems are in place within three years of entering this phase. All health workers (staff) will be required to follow workplace rules and habits, and then S1-S4 will be the culture of all staff and the facility management.

Maintenance phase is also the entry point to KAIZEN. Of course, it is possible to try KAIZEN in a smaller scale in implementation phase. However it is recommendable that KAIZEN shall be started after conducting “**KAIZEN Basic Training**”.

The objective of KAIZEN is “Work Process Improvement”, whereas the core objective of 5S is “Work Environment Improvement”.

Preconditions toward KAZIEN are known as follows.

- Enhance staff’s sensitivity against problems and risks
- Record work process
- Build highly motivated teams

In KAIZEN, there are several types of KAIZEN scheme but KAIZEN process shall be utilized fluently to attain TQM.

Total Quality Management (TQM) is a description of the culture, attitude and organization of a health facility that strives to provide clients with services that satisfy their needs.

Chapter 9 Supportive Supervision of 5S-KAIZEN (CQI)-TQM Activities

M & E is crucial in QAPs as a part of Supportive Supervision. Although the supportive supervision is conducted in the other QAPs, the procedure of each QAP is different. In the future, the supportive supervisions will be integrated in implementation to reduce the burden of the facility.

QIST has responsibility of conducting M&E and supporting 5S activities within the hospital. WITs are responsible for conducting monitoring of day-to-day 5S practices and KAIZEN activities that are suggested and executed within their work place.

External supportive supervision under QAPs is implemented by National level to Central hospitals, by Zonal Health Office to District level and by DHMT to Health centres. Information sharing is also an essential component of external supportive supervision.

Chapter 2

Background to install 5S-KAIZEN (CQI)-TQM approach into Quality Assurance Mechanism for Health in MALAWI

2.1. History of Quality Assurance in Health Sector

Quality Assurance as an approach to improve health services is not new in Malawi. The first national level efforts to have a comprehensive quality assurance programme began in 1995 with assistance from Quality Assurance Project (funded by USAID) and UNICEF, culminating in a draft National Quality Assurance Plan in 1998. This document provided input for the 4th National Health Plan. Since 2000, further steps have been undertaken through the appointment of a high level National Quality Assurance Task Force (NQATF), comprised of the directors in MOH, Health regulatory bodies and other stakeholders..

There have been deliberate and successful, though isolated, efforts for improving quality throughout the health care system at the operational level. Below is a selection of Quality improvement initiatives in Malawi:

- Facility based quality improvement teams for Tuberculosis management in Ntcheu district and quality management and improvement training of central level programme management staff (Equi-TB knowledge Programme- Liverpool School of Tropical Medicine - DFID)
- Development and testing of Infection prevention standards in seven Hospitals (Reproductive Health Programme - JHPIEGO - USAID)
- Facility based and district wide Quality improvement teams in six districts and Lilongwe Central Hospital improving patient care and systems management (Quality Assurance Project - CHAPS / USAID)

- Development and testing of in-patient care standards for severely ill children within the health delivery system of the District hospital (Child Lung Health Project -UITBLD)
- Management problem solving (using WHO teamwork and problem-solving model) for district level planning and budgeting in 10 districts (joint effort between HSRD - EU, GTZ, the Netherlands, DFID and PHRplus - USAID)
- Financial management system for the districts (HSRD - EU and PHRplus- USAID)
- Qualitative studies to determine barriers and enabling factors for obtaining treatment and adhering to treatment in TB cases (Equi-TB knowledge programme - Liverpool School of Tropical Medicine - DFID and NTBCP)

These efforts have been supported by various technical assistance mechanisms. There was a need to harmonize the approach to improve quality of services and systems through the guidance of a national policy, and then the National Quality Assurance Policy was published in 2005 supported by USAID.

In 2012, “Malawi Health Sector Strategic Plan 2011-2016 (HSSP)” was developed to guide the implementation of interventions aimed at improving the health status of the people of Malawi as the successor of the “Program of Work” (POW). Challenge of Quality Assurance is mentioned as well as the other major challenges in health sector. According to HSSP, despite intentions stated in the POW and the National Quality Assurance Policy, only a limited number of interventions have been implemented. Many stakeholders, however, are already implementing QA measures and are ready to harmonize their approaches with national guidelines and standards aiming at continuous quality improvement at system level.

According to the HSSP, Quality Assurance cuts across all the components of the plan. However, quality improvement in the health sector in Malawi is hindered by poor facilities, lack of equipment, lack of qualified human resources and weak management. Specific strategies and key interventions have been designated as follows.

- Improve the policy environment for implementing quality improvement interventions
- Improve quality in standards and accreditation
- Improve performance management
- Improve client and provider satisfaction

In the current situation, the modified National Quality Assurance Policy is drafted for supporting the implementation of HSSP 2011-2016 and the harmonization of several QA

programs. National Quality Assurance Guideline is also ongoing to edit under QATWG. The Quality Assurance policy has designed the following areas as its priorities set the in order to promote the delivery of quality services.

Area 1: Accountability and Coordination Mechanisms

Area 2: Enabling Environment

Area 3: Mechanism for Capacity Building

Area 4: Advocacy and Planning for financial resources

Area 5: QA Communication Mechanism

Area 6: Monitoring and Documentation

Area 7: Supportive Supervision

Area 8: Recognition System

2.2. Current Situation of Health Sector in Malawi

Under Programme of Work (POW) from 2004 to 2011, substantial progress was made as demonstrated in improved health indicator, such as Maternal Mortality Rate (MMR), Infant Mortality Rate (IMR), and Contraceptive Prevalence Rate (CPR). An Essential Health Package (EHP) was agreed upon, covering diseases and conditions affecting the majority of the population and especially the poor. This package has been delivered for free of charge to Malawians and most of the interventions for EHP conditions have been cost effective. On the other hands, challenges for health systems are still remaining in Drugs and Medical Supplies, Human Resource Management, Laboratory and Radiology Service, Medical Equipment, Health financing, Financing Management, Procurement, Monitoring, Evaluation and Research, Universal Access and Quality Assurance.

As mentioned in HSSP, Quality issues are hindered behind due to the lackof various resources such as qualified personnel, materials, equipment,and financial resources, accurate health information, and well functioned management.

Since the establishment of a healthcare services quality improvement workshop in 2004, MOH has been striving for the improvement under the initiative of heads of relevant agencies.

Meanwhile, JICA has made efforts to strategically familiarize the Japanese style quality management methodology “5S-KAIZEN-TQM” to African countries including Malawi. The initiative commenced in 2000 at a maternal hospital in Sri Lanka and it was led by one genius director with support from technical advisors from Japan. This has been implemented as a part of “Asia/Africa Knowledge Co-creation Program (AAKCP)” since 2007.

Though the first impression of 5S-KAIZEN-TQM approach by MOH was not very evident regarding the effectiveness to improve quality, especially for Infection Prevention Control (IPC), the pilot hospital, Dowa district hospital produced enough evidence to convince management. MOH recognized that 5S is useful to promote IPC activities.

After the completion of AAKCP in 2009, “Preparatory Survey for African Healthcare Facilities Improvement (5S-KAIZEN-TQM) Program” was established to provide technical support to the countries implementing 5S-KAIZEN TQM approach in their health sectors. During the three years of its program, series of trainings and seminars were conducted to build capacity to MOH officials and health managers on KAIZEN skills. The ministry selected key personnel from MOH Head Quarters (HQ) and district hospitals in Malawi to be further trained. Mzimba South District Hospital and Dowa District Hospital were identified as pilot hospitals (hereinafter called AAKCP pilot hospitals) and participated in the training in Japan, Sri Lanka, and Tanzania

The MOH in Malawi had originally selected Dowa District Hospital as the pilot program. However, it had been offered that they would like to add another pilot hospital, Mzimba South District Hospital in 2009, and therefore both hospitals are implementing the 5S-KAIZEN-TQM activities as the pilot hospitals.

Additionally MOH has received great opportunities to enhance the capacity of focal persons in the ministry headquarters, pilot hospitals and other hospitals; such as attaching JOCVs in selected health facilities, attending TQM training course in Egypt, conducting study tour to Mbeya Referral Hospital in Tanzania, conducting Joint 5S training by JOCVs and focal persons in the facilities and so on. After observation in Tanzania in October 2010, Chiradzulu District Hospital and Thyolo District Hospital have launched 5S activities and 5S has been practiced in 11 hospitals and now plans to develop the “5S-KAIZEN-TQM” activity toward central/district hospitals across the country other than pilot hospitals.

Based on the experience in the pilot hospitals, MOH realised that 5S-KAIZEN-TQM approach is not only to promote IPC but also to facilitate several Quality Assurance Programs.

On the other hand, several QAPs are introduced to health sector in Malawi. To overcome the situation of poor quality of health services, MOH has established “Quality Assurance Technical Working Group (QATWG)” recommended by SWAPs and integration of the QA has been going on. 5S-KAIZEN was selected as one of the core targets for harmonization of QA. The expected documents for harmonization are listed below.

- (1) Quality Assurance Policy
- (2) Infection Prevention Policy
- (3) Health Care Waste Management
- (4) 5S-KAIZEN
- (5) Laboratory Policy / Standard
- (6) National Drug and Treatment Guideline
- (7) Patient Charter
- (8) Care of Carer Policy
- (9) Integrated Supervision checklist
- (10) Essential Health package
- (11) TB guidelines
- (12) Management of STI (Sexual Transmitted Infection)
- (13) National HIV Strategy
- (14) PMTCT (Preventing Mother-to-Child Transmission) Guideline
- (15) Community Based Injectable Contraceptives Guideline
- (16) R.H. (Reproductive Health) Performance (FAHL)
- (17) IPC Standard Guideline
- (18) Youth Friendly Accreditation
- (19) Integrated Maternal and Neonatal Care
- (20) R.H. Integrated
- (21) PAM (Physical Asset Management) Policy

2.3. Definitions of Quality Terms

Quality

At first, we have to define what good quality is. Is it high accuracy or advanced technology? Neither of them means good quality. The quality of outcomes for customer is evaluated only by matching of need of customers. It means that the quality is measured based on the required level of components such as accuracy, cost, timing, quantity and so on.

And the definition of quality in QA policy of Malawi is “doing the right thing, the right way, the first time and doing it better in the next time, within the resource constraints and to the satisfaction of the community”.

Management

Management in public health facilities needs the ability to attain the maximum benefit by utilizing current resources.

In the sense of managing, it is mentioned to be synonymous to; Control, supervision, manipulation, handling, directing, administration, government, conduct, governance, operation, running, superintendence, command, guidance, stewardship. Management involves the action for further improvement which is not mentioned in most of the synonymous.

Quality of Health Care

Health care services that produce desired health outcomes and fulfil clients' needs, with optimum use of available resources, are provided by trained and competent providers as per the national norms and standards with minimizing risk for service providers as well as clients.

Quality of health care is recognized as conforming to standards of health services and satisfying all clients or customer including staff. Standards are the description of how a particular service (Total Quality; clinical, managerial, accessible, comfortable, financial, equitable, monetary, timely, and so on) will be delivered in order to achieve the best possible outcome or desired result, not only clinical but also the views of Total Quality.

Quality Assurance

Quality Assurance is a part of quality management focused on providing confidence that quality requirements will be fulfilled and a set of activities that are planned for, carried out systematically or in an orderly manner and continuously to improve quality of care. It involves:

- Establishing mechanism for planning, implementing, evaluation, and standardizing of Quality Assurance,
- Setting of standards and protocols,
- Developing indicators,
- Monitoring gap with standard and
- Solving problems by team approach.

Quality Management

Quality management is a continuous process which includes series of activities; Plan, Do, Check and Act, for improving and maintaining optimum level of quality of health care services systematically.

Standard

A Standard is a statement of expected level of quality. The standard shall be designated by the evidence which is able to clarify the relevance of the defined quality.

Standards are used to:

- Define required quality for all measurable aspects,
- Determine, inputs, processes and outcomes, and
- Develop indicators to monitor quality.

Standardizing is an activity to attain the level of standard and to maintain that level.

Monitoring

Monitoring is the process of collection, analysis, interpretation of data, modification of activities, feedback to the stakeholders and lessons learnt in order to assess whether we are making any progress towards achieving our set targets or improving quality, to adjust the direction toward the attaining our maximum benefit or quality, and to learn the management process from the current activities.

Supervision for Health Facility

Supervision is a process of guiding, helping and teaching health workers at their workplace to perform better. It involves a two-way communication between the one supervising (supervisor) and the one being supervised (supervisee). Adequate preparation should be made in terms of planning and budgeting before carrying out supervision visits.

Quality Management System for Health Care Services

It includes the organizational structure, resources, liability and planned activities of the healthcare providers in assuring quality (Quality assurance requirements for health services).

Generally, it is often mentioned that the quality failure is resource failure or human error; however it is not true in the reality of work venue.

Even if there are enough resources and skilful personnel in the health facilities, medical incident and accident will still occur. We have to understand that quality failure is system failure. Since “To err is human” has been published, the Quality management system for health care services shall strive for fail safe and fool proof mechanism.

Strategy

Originally, “Strategy” is art of General. It is also art of team building to attain the expected outcome. It includes, direction setting, planning, and communication. It is an adjective synonymous to: tactical, key, crucial, principal, cardinal, and critical. However, the meaning of strategy is quite different to tactics. Tactics is technic how to precede the war.

Based on the formulated strategy, tactics will be chosen and managed.

Strategic Management

Strategic Management is the most effective and efficient way to change direction or the way the organization works.

Strategic Management can also be defined as strategic planning and a joint operation of intellectual activities of developed strategic plan and continuing exercise of work environment improvement which leads to quality services and high productivity.

Team

A team is defined as a group of people working together to achieve a common goal for which they share responsibility. It can also be defined as a high performing task group whose members are interdependent and share common performance intent. A high performing team usually establishes urgency and direction, pays particular attention to the meeting, sets some clear rules for behaviour, spends a lot of time together, exploits the power of positive feedback, recognitions and rewards and disciplinary actions.

Total Quality Management (TQM)

A comprehensive & fundamental rule or belief for leading & operating an organization aimed at continuously improving performance over a long term by focusing on (internal and external) customers while addressing the needs of all stakeholders.

Chapter 3

Purposes of 5S-KAIZEN-TQM Approach

3.1. Asia Africa Knowledge Co-creation Program (AAKCP)

JICA inaugurated an Asia-Africa Knowledge Co-creation Program (AAKCP) in 2005, with a view to the "promotion of Asia-Africa cooperation," an initiative launched by the Government of Japan in the Tokyo International Conference on African Development (TICAD) III held in 2003. The agency embarked on "Total Quality Management (TQM) for Better Hospital Services" as a sub-program of the AAKCP in March 2007 (the first group (Group 1) started in 2007 and the second group (Group 2) started in 2009). The sub-program aims to improve health services with the use of a Japanese-style quality management method, so called 5S-KAIZEN-TQM.

The list below shows two main characteristics of the Program;

- It looks at both the policy-making level, i.e., administrative organizations in charge of health services, and the working level, i.e., actual medical institutions. It intends to bring about synergy effects from both policy-level and field level activities.
- "TQM for Better Hospital Services" aims to achieve and establish "Value Co-creation Organization" by utilizing "5S-KAIZEN-TQM" method which implements so-called 5S and KAIZEN, which are two management tools, in phases.

Table 3-1: List of 15 countries participating in AAKCP
"TQM for Better Hospital Services" Program

Group 1			Group 2	
Eastern part of Africa	Western part of Africa	Southern part of Africa	Western part of Africa	Northern part of Africa
Uganda Eritrea Kenya Tanzania	Senegal Nigeria	Madagascar Malawi	Niger Burkina Faso Burundi DRC Mali Benin	Morocco

5S was implemented in the pilot hospitals as '5S Phase' in 'Better Hospital Services, and MOH prepared policies for nationwide deployment and dissemination strategy based on the results of pilot hospitals. 'Better Hospital Services' was implemented in eight countries mainly focusing on English speaking countries from 2007 to 2008, and seven French speaking countries from 2009 to 2010.

5S phase:

- a. Introduction Seminar: Explain this approach to a quality and safety department director of health services in MOH and to directors of candidate hospitals for pilot hospital in order to introduce the approach to their country.
- b. Interim Seminar: Hold 5S training seminar to the mid-level executive people of pilot hospitals and formulate the action plan (Sri Lanka).
- c. Introduction of the 5S actions: Based on the action plan formulated in the previous stage, each pilot hospital starts 5S pilot actions, and MOH starts reviewing the quality and safety of health services (duration of one year).
- d. Supervisory Trip: Field instruction by the resource persons from Japan and Sri Lanka.
- e. Wrap-up Seminar: Presentation of the results of the 5S pilot actions and share its experience.

Later, supervisory trips were conducted to support the seminar by region, 'Quality improvement in health services by 5S-TQM' and field activities in order to reflect the results of 'Better Hospital Services' to 'KAIZEN-TQM Phase'.

Seminars in Africa region were held in eight countries mainly focusing on English speaking countries from 2009 to 2010 and in 2011, both English and French speaking countries and in 2012, it was held in nine French speaking countries. Supervisory trips were conducted in all the target countries until 2010; however, these trips have been conducted upon the request of the target countries since 2011.

KAIZEN-TQM phase:

- a. KAIZEN-TQM Seminar: Check the progress of each country once every year, holds lectures related to KAIZEN and implement the exercise in order to formulate the action plans. After the first year, seminar contents were to be reviewed based on the progress of the actions in each country confirmed in the supervisory trips.
- b. Policy-making and nation-wide expansion: MOH in each country formulates the

policies related to the quality, and starts disseminating 5S actions throughout the nation.

- c Launch of KAIZEN activities: Pilot hospitals launch the introduction of KAIZEN activities.
- d Supervisory Trip: Conducted once a year.

‘Cooperative preparatory survey’ supports smooth implementation of ‘Better Hospital Services’, ‘Seminars by region’, and ‘Supervisory trips’.

3.2. Goal of 5S-KAIZEN-TQM Approach

The goal for the three-step approach of implementing 5S-KAIZEN-TQM is not simply to implement 5S or KAIZEN into the hospitals but is to enable the hospital to reform its own management style or organizational culture and therefore become enabled to provide the medical services with the focus always placed onto “being outcome-oriented” and onto “being centered onto the patients”. By accumulating small success cases within the daily business via this approach, the atmosphere of participating in such activities would become widespread regardless of the class or business type among the hospital staff members, and therefore lead the hospital to be reborn as “a merely existing organization” to “an organization which generates values”. By utilizing this step-wise approach, “team-building” would be done in all departments within the hospital through it providing high quality care and by ensuring patients / employee satisfaction, and “Team-building” would be possible to be ensured between the patients and the medical service providers.

That is to say, the organization is reborn as 'Value Co-creation Organization' that provides only service to hospitality. Hospitality is the similar concept to Japanese word ‘Omotenashi’ that contrary to the service which provider serves the customer, ‘provider and service on the same ground’ where the values are created on the spot and when it is needed. Up till now, corporations run business by creating ‘value’ assuming the requests of customers, that is to say, they mainly did ‘Service Management’. However, in future, ‘Hospital Management’ is required, that is, corporations and customers run business by mutually providing each other’s resources with the value to be created on the spot and when it is needed. This business model is shown in many occasions in concierge service at the hotels and customer service of private banks, however, the health service should be the industry requiring ‘Hospital Management’, and the hospitals are the organizations best fit for it.

Value Co-creation in Hospital

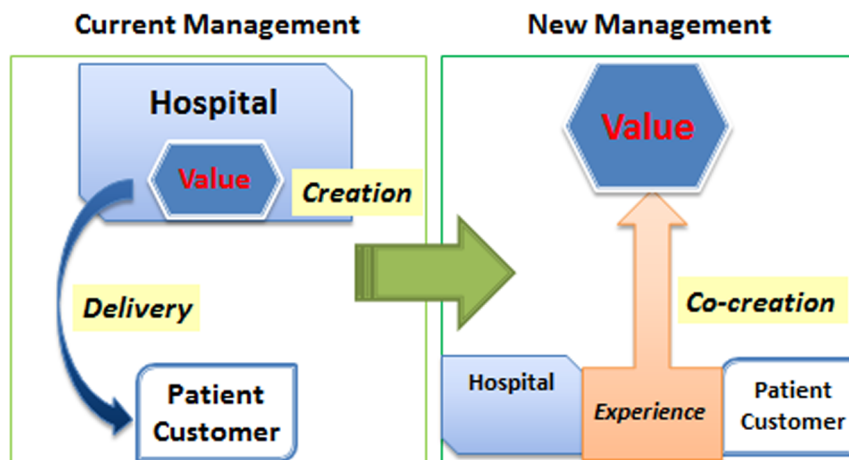


Diagram 3-1: Conceptual Diagram of New Hospital Management

Goal of the —three-step-approach, —5S-KAIZEN-TQM, is not just to install 5S or KAIZEN activities into hospitals, but to change organizational culture and management style of hospitals. Health care delivery should become outcome-oriented and patient-centered. —Safety and Quality are the essential features of the outcome. Responsiveness and equity are the core components of patient-centeredness. To achieve those goals participatory approach is essential. Regardless of the categories and ranks of hospital staffs, the full participation of the employees should be encouraged through accumulation of small successes in the routine work. Therefore, the hospital will be changed from an only existing organization to value co-creating organization. Team-building among patients and medical professionals and staff throughout the hospital to create value, i.e. safe and high quality care, professional satisfactions can be accomplished by stepwise approach —5S-KAIZEN-TQM.

Proposed new approach is based on the Japanese management tools originally used in industrial sector like TOYOTA and other companies. In 2000, Dr. Wimal Karandagoda, a director of Castle Street Hospital in Sri Lanka, applied this industrial tool to health sector; the maternity hospital for the first time. . He formulated the stepwise approach from 5S to KAIZEN then to TQM. KAIZEN is the Japanese word for the Continuous Quality Improvement (CQI). This problem-solving process can spread to the whole organization under the top management’s leadership. TQM stage, thereafter, can be started to develop a Value Co-creating Organization.

Empowering people to fight against the poverty could ameliorate the chronic problems of funding of health services. Although the problems are persistent with us, we, health workers, cannot stop providing services to the people, nor cannot leave the problems alone. The answer to this struggle is depending upon how well we can manage the available resources and work environment.

We need to manage our work so that we can still enjoy life. But in order to achieve this, one has to have an active professional life through which he/she can reach his/her life aspirations. However, in order to reach a situation where one has an active professional life; one has to have confidence in oneself (self-confidence) that in turn is only possible if one is able to gain respect from his/her clients and fellow workers. Respect is achieved through professional competency. Professional competency is easily reached where the working environment affords minimal workload with maximal achievement, in a comfortable and safe work place and a good teamwork or support system.

Managing our work will lead to our enjoyment of life. One of the strategic entry points is the working environment improvement which can be easily achieved by the implementation of the 5S concept. The other strategic entry point is the implementation of the planning activities. These planning activities include strategic analysis, strategic choice, and strategic control. While there are various models of implementing the planning activities, the most important and vital point are the needs to always strive to improve leading to Continuous Quality Improvement.

Implementing working environment improvement together with intellectual activities of planning with CQI will lead to acquire the TQM framework which enables the provision of quality services and high productivity.

3.3. High Reliable Organizations (HROs)

The characteristics of hospital industry is quite unique compared to the other industries; labour intensive, different categories of professionals, asymmetry of information, dealing with human life, uncertainty of outcome, highly controlled and regulated by government, society and culturally sensitive work environment, and also safety management in health sector is different from the other industries because customers for the health industry (patient) comes with risk (disease, ill-health or injury), receives uncertain decision (diagnostic) and takes invasive (operation) or high-risk treatment (medication) in a health facility. Services offered by the health facilities are highly risky, therefore safety management in the health facility shall be ensured more than the other industry. Therefore,

hospitals must be Highly Reliable Organizations (HROs). HROs are organization where errors are able to induce catastrophes. Hospitals, thus, consistently avoid errors or prevent catastrophes through adequate safety management. Characteristics of HROs are as follows.

- (1) They frequently audit the processes and procedures to make sure that they are correct, efficient, effective culturally and socially acceptable and pertinent.
- (2) They constantly do risk management by assessing the risk involved in all their undertaking and taking preventive and correctable measures.
- (3) They avoid quality degradation by continuous quality improvement including adoption of new inventions, innovations and technology.
- (4) They have a good system of command and control by having a system that assures good leadership, good decision-making process as well as effective monitoring and evaluation process.
- (5) Employees are well motivated by the existence of an acceptable reward and punishment system.
- (6) Migrating decision-making is made possible by the existence of clearly known protocols coupled with good communication system in the organization.
- (7) Back-up system is always in place and known to all pertinent employees in the organization.
- (8) Formal rules and procedures are in place and are observed. There is hierarchy but this should be differentiated from the bureaucracy with negative implications.

Therefore to achieve quality of service and safety in health industry, characteristics of providing high quality services has to be attained in all health facilities. Where symptoms of poor quality are seen, it is impossible to provide services with safety. To achieve high quality of services, the systems have to constantly be improved. Quality fails when systems fail. It is therefore important to note the following rankings in order to solve problems:

- **First order problem solving** is to remove the immediate obstacle for patient care. But it has to be remembered that in doing so nothing removes the chances of problem(s) to occur again. Therefore, it is important to implement second order problem solving.
- **Second order problem solving** refers to system re-organization to prevent problem from recurring.

Chapter 4

Basic Concepts of 5S-KAIZEN (CQI)-TQM

4.1. Definition of 5S, KAIZEN and TQM

4.1.1. What is 5S-KAIZEN-TQM Approach?

5S, KAIZEN and TQM were originally developed in the manufacturing industries, particularly in Japan that is, individual management improvement method or approach, and it can be defined as follows.

5S: There are five activities, namely Sort (S1): to eliminate unnecessary items, Set (S2): to align in the position to work easily, Shine (S3): to make things clean without trash or dust, Standardize (S4): to maintain S1 to S3, and Sustain (S5): to voluntarily continue S1 to S4. Its original purpose is elimination of the defect and/or dirt from finished goods, and later 5S is utilized in the various purposes such as improving the work environment, organizational revitalization and management system improvement.

KAIZEN: In most cases, it is indicating Continuous Quality Improvement activities by Quality Control (QC) circles, but it also includes KAIZEN suggestions and field direct improvement activities (GEMBA KAIZEN). It is generally conducted through PDCA (Plan-Do-Check-Act) cycle, so that it can be called problem-solving through participation of service providers. TOYOTA production method (such as automation and Kanban-placard method, etc.) fits in this category.

TQM: It is sometimes defined as the implementation of QC circle activities across the organization; it is essentially approach aiming to comprehensive quality management that utilizes capacity throughout the organization at maximum (aggregation of systemized methods). Constraint theory and Six Sigma are two of TQM approaches, and International Organization for Standardization (ISO) implementation is one example of its practice.

‘Implementing’ these three management methods ‘in phases’ is a characteristic of ‘5S-KAIZEN-TQM approach’, and within this approach, each step is defined as follows.

Step1, ‘5S’: improvement of work environment, rethinking of the staff, understanding their

business processes

Step2, 'KAIZEN': constructive understanding of the systematic problem resolution and business process improvement

Step3, 'TQM': implementation of hospital management, realizing value co-creative organization

In the first 5S activities, the efforts will be focused on improving the environment of the work place as a preliminary stage for ensuring the improvement of the productivities (Working process) as the hospital and various departments (Step 1). Once the 5S activities are thoroughly ensured, the target will gradually shift to solve problems regarding quality and safety (Step 2), and finally, will shift to realize and maintain the organizational TQM (Step 3). In Japan, these three step approaches are often implemented independently. This approach will not start directly from KAIZEN, but will start from implementing 5S. The reasons are that; 1) all staff members will be able to understand 5S easily, 2) the achievements for 5S can be visually confirmed, 3) the activities for improving the environment of the work place will bring the positive minds and mutual trust among the work places, and 4) the intermediate management members and staff members at the sites can be fully utilized. Implementing this step would require “positive mind-set” and “strong leadership”. In the developing countries, it is important to start from ensuring improvement for the staff members (internal customers) in order to develop such “positive mind-set” and “strong leadership”.

The origin of this approach is the Japanese-style management method which had been implemented in the Japanese industrial communities (such as TOYOTA and other companies), whose very roots lie within the Japanese traditional culture, the art of “tea ceremony”, and the concept of “warm hospitality”. This step-wise method was developed due to the implementation of the method originally utilized in the industrial community to the Castle Street Hospital for Women in Colombo, the capital city of Sri Lanka by its director, Dr. Karandagoda in 2000. Director Karandagoda succeeded in implementing the 5S activities, and then expanded the activities to the entire hospital, and then established the structure for this approach which the entire process would be to implement 5S first, then KAIZEN, and finally TQM.

4.1.2 What is 5S?

5S is literally five abbreviations of Japanese terms with five initials of S. These are (i) Seiri, (ii) Seiton, (iii) Seiso, (iv) Seiketsu and (v) Shitsuke.

Convenient translation to English similarly provides five initials of S. (i) Sort (ii) Set (iii) Shine (iv) Standardize (v) Sustain. To make 5S principle be more familiar among workers at health facilities in Malawi, 5S is also translated into “Chichewa”. These are explained briefly below:

.....
(i) Sort (Sankhulani):

Remove unused stuff from your venue of work; and reduce clutter (Removal/ organization)

(ii) Set (Sanjani):

Organize everything needed in proper order for easy operation (orderliness)

(iii) Shine (Salalitsani):

Maintain high standard of cleanness with preventive or predictive action (Cleanness)

(iv) Standardize (Samalitsani):

Set up the above three Ss as norms in every section of your place (Standardize)

(v) Sustain (Sungitsani):

Train and maintain discipline of the personnel engaged spontaneously (Discipline)

Five steps of Sort-Set-Shine-Standardize-Sustain is a sequence of activities to improve your work environment to make it as convenient and comfortable as possible and thereby also improve your service contents with regard to preparedness, standardization, and timeliness. Health personnel are technology oriented since everyone lives on health service which is based on specific technique.

5S activities are the tools to prepare the obtainable best stage for them to make maximal use of their skills and knowledge. The 5S conceptual framework is shown in diagram 4-1.

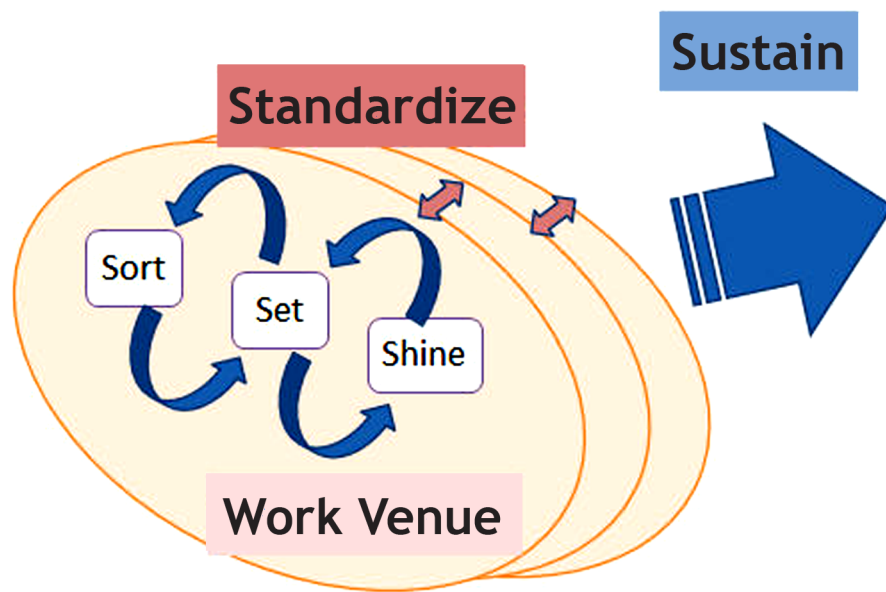


Diagram 4-1: 5S Conceptual Framework

5S Principles are your reliable instruments to make a break-through in your work environment and staff attending various types of jobs in your institution. This is not only a concept but also a set of actions, which has to be conducted systematically with the full participation of staff serving at the institution. 5S activities are practiced in a real participatory movement to improve the quality of both the work environment and service contents, which are delivered to your clients using the improved environment. It is used as a basic, fundamental, and systematic approach for increasing productivity, improving quality and enhancing safety improvement in all types of organizations.

Targets of 5S principles are:

- Zero defects leading to higher quality
- Zero waste leading to lower cost, more benefits to health workers
- Zero delays leading to on-time delivery, increased productivity
- Zero injuries thus promoting safety
- Zero unnecessary breakdowns bringing better maintenance
- Zero customer complaints, i.e., customer satisfaction

Furthermore, introduction of 5S is expected to install into team culture in order to increase morale and motivation and improve job satisfaction. They are simple but effective methods to organize the workplace. In the long-run implementation of the 5S principles, it also

helps in creating positive attitude to the workforce.

Two different grades are identified in the standard of 5S activities in service sector particularly in health services:

Grade 1: This refers to the physical environment

Grade 2: This refers to software matters such as:

- Job sequence and contents,
- Time management,
- Communication system such as meetings and briefings,
- Standardization of patients care procedures

If physical environment is improved perfectly through 5S activities, the staff can identify the problems easily in the working process such as outpatient guidance, diagnostic procedure, admitting protocol, operation setting, etc. because the work venue was set in order, all necessary items put in order, there is no clutters, how to organize the venue is standardized properly and all staff follows the standard.

5S activities in Grade 2 are an entry points to KAIZEN although they are not utilized in KAIZEN process and KAIZEN tools. In Grade 2, staff can identify current procedures and sensitize problem consciousness. Therefore staff will be able to appreciate the problem based on the current situations and the solution based on the problem analysis.

4.1.3. What is KAIZEN?

KAIZEN is originally a word in Japanese which means “Improving to better”, and it is translated Continuous Quality Improvement (CQI) in English. It is a process to secure “Productivity”. This is a non-stop, day-to-day process to improve the standard of work, followed by all members of the workforce for achieving the best in outcomes (outputs) of service (including health) or products. KAIZEN is a sequence of actions as mentioned above. It has to be practiced by all categories of staff at all levels of the organization including the management team. Top management is not an exception and should participate in the process. For top management of a project or an Institution; and activities including community-based health services, it is crucial to make this process a “Movement or Campaign” within the organization as a management target.

In addition to that, KAIZEN also works as “Means of Monitoring”. It can function to

monitor the on-going work and task given to each cluster in the system. At a health institution, for example, KAIZEN can monitor the performance in each section from the hospital director's office to patient wards.

KAIZEN is an approach developed in manufacturing sector in Japan to improve the productivity. There, are prepared, standardized and timely and assembly processes which enable to complete a vehicle using over 2,500 parts in a vehicle manufacturing factory. There is also a workable communication system among different sections and offices to control the production process. The production line is perfectly in order since they have to assemble 2,500 parts precisely on time having their outcome target of finalizing and finishing 5,000 vehicles per day. Each assembly process and manoeuvre of workers should be in the achievable best level. If there are many rejected items in the final product evaluation, the company receives less profit. It also negatively affects the quality of vehicles and finally loses in the competition in the market.

Quality of the end-product, which is handled by various groups of people (production units), cannot be maintained, if there is no mechanism, by which all production units seek higher quality of work throughout the on-going production process. It is this concept, which KAIZEN seeks to achieve in the provision of health services in the hospitals and other health facilities.

4.2. Stepwise Approach for 5S-KAIZEN-TQM

In Step 1, the 5S approach, in order to firmly ensure the acts for improving the environment of the work venue, an organization for promoting the 5S activities within the hospital (the organization later referred to as Quality Improvement Support Team: QIST) would have to be established. Establishment of Work Improvement Team (WIT) within each department needs to be ordered in a top-down approach. WIT is a small group, may consist of volunteer staff within each department, and is expected to promote the 5S activities for each individual work venue in order to reduce the inconveniences at each department. At the initial stage of the implementation of this approach, WIT does not need to be approved as an official organization within the hospital; the volunteer members can form the WIT first, and be trained for the basic techniques for 5S.

In 5S Phase, each health professional understands his/her business process by understanding the difference between the improved conditions in the pleasant work place and the status in the past with problems. That is to say, each staff improves its sensitivity towards the problems. If the progress into KAIZEN Phase is carried out without

improvements of sensitivity towards problems, KAIZEN activities will be stalled.

Once 5S is firmly established within each department in the hospital and all staff understand their work process and enhance sensitivity against problems, the next stage would be KAIZEN. In the KAIZEN stage, the training targets would shift to enhance the abilities of the WIT members and intermediate managers such as the top managers of the diagnosis and treatment departments, the inspection managers, and chief nurses, additionally to having the 5S activities continued by WIT, which therefore would strengthen each individual department.

In the TQM stage, the achievements gained during the KAIZEN stage would have to be accumulated in order to improve entire management of the hospital as well as to solve different problems. In TQM stage, it would be necessary to enhance the management abilities of top management in the hospital such as the hospital director and the chief officers in the hospital.

All the staff, as Internal Entrepreneur, should become hospital management creators from the service providers to aim for realizing 'Value Co-creative Organization'. Patients should not only receive the medical service from the hospital, but also should understand their symptoms well, and have relevant health information, that is to say, an important information resource. Hospitals hold knowledge, human resource, and facilities, that is to say, information resource and physical resource to improve health status. When both parties form a team, it enables integration of all the resources. And at the same time, 'Value' which both side look for in this environment and in this timeframe, can be shared. Then, 'Sharing the experience' through this shared process can be a basis to form the framework of required 'Value', and eventually, 'Value' of provider and service on the same ground is created through mutual cooperation. TQM is a method of permanently continuing the approach to aim for 'Value Co-creative Organization' that all the staff can develop 'this value co-creation' independently but integrated.

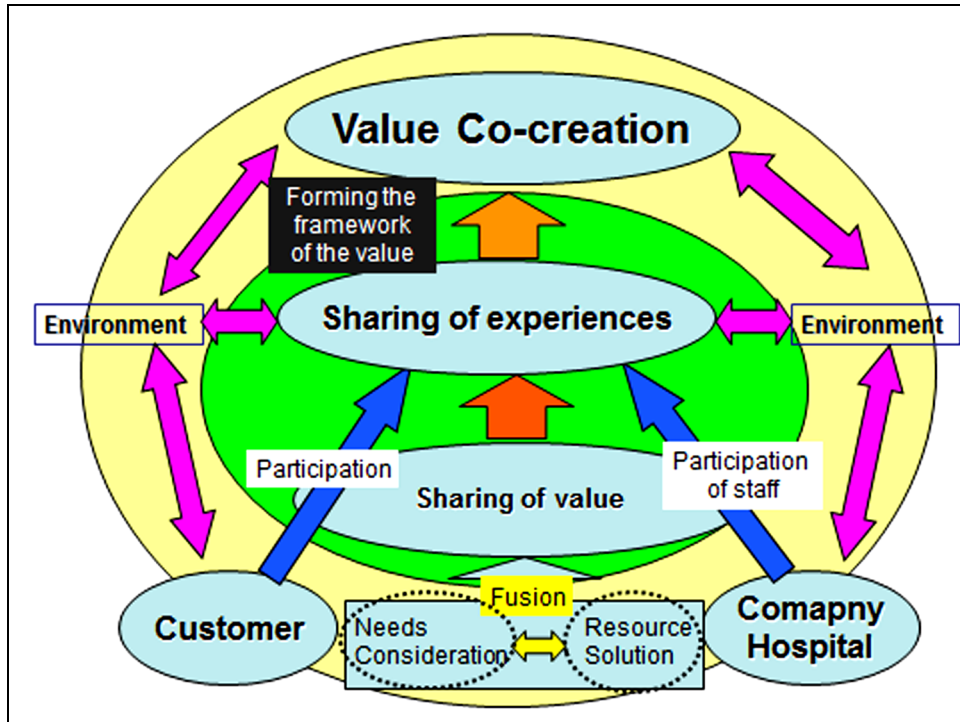


Diagram 4-2: Conceptual Diagram of the Process of Value Co-creation

4.3. Lean Thinking

TOYOTA production system which had been known for the most advanced TQM is also called “Lean methods”. This Lean methods creates a continual improvement based on waste-elimination culture that involves workers and operators at all levels of the health facilities. Lean Thinking is one of the most important concepts of the approach.

Management team of health facilities should have “Lean Thinking” for appropriate health resource management. “Lean Thinking” focuses on three objectives:

- Reducing production resource requirement by minimizing inventory, equipment, storage, service space, and materials.
- Increasing service provision velocity and flexibility and
- Improving quality and eliminating defects and mistake / errors

Eliminating waste is the basic principle of Lean Thinking. Lean Thinking looks at the total value chain and asks: How things can be structured so that the health facility does nothing but add value, and do it in the most efficient way. It is important to use Lean Thinking when you conduct 5S-KAIZEN activities.

4.4. The Approach in Health

Hospitals and other health facilities are the typical targets of 5S, since these systems are rather complicated and difficult to maintain for delivery of various services in the obtainable best condition. There are divisions, as implementation units (clusters), which need to have respective objectives as an essential functional component of the institution. Table 4-1 gives some examples on divisions and their expected outcomes.

Table 4-1: Examples on Divisions and Expected Outcomes

Divisions	Expected outcomes of routine work
Security guard	The facilities are protected from outside environment.
Kitchen	Foods supplied to in-patients are safe, nutritious and tasty.
Physical Assets Management office	Equipment are available and all in good functional condition.
Pharmacy	Drugs are well managed and delivered to the clients precisely.
Laboratory	Standardized and quick laboratory tests are available.
Outpatient Department (OPD)	Outpatients are nicely treated with minimum waiting time.
Patient ward	Inpatients receive treatment under comfortable environment.
Delivery room	Normal deliveries are conducted in a safe, clean and efficient system.
Operation Theatre	Surgical care is given under a safe, clean and efficient system.
Central Sterilize and Supply Department (CSSD)	Supply and sterilization system supports the safety and cleanliness.
Clinic	The utility provides staff relaxation and readiness to work.
Administration	Office is functioning as the management centre.
Nurse station	Office works as the management Centre for nursing/auxiliary staff.
Physicians' room	Office works as the centre for decision-making and management.

The above is an example of the target setting for clusters (implementation units) in a health unit. To have tangible outcomes, each division is required to fulfil the task in the obtainable best working condition avoiding excessive workload to the staff in-charge.

The workload should be moderate under the stimulating working condition to allow the staff to be innovative in developing various ideas or proposing for the betterment of the

work and the outcomes. It is, however, not easy to realize the above situation in reality. Overflow of many clients, and paper work and complexity in the reporting system are often seen in workplaces.

By the continuous actions of Sort-Set-Shine-Standardize-Sustain you can; reduce your workload; make maximal use of given working hours to provide services to the clients; and in addition, you will be able to have an extra cup of tea in the tea time, because your system becomes lean and maximally efficient. You sorted necessary and unnecessary things at your workplace and discarded unnecessary items.

Then you set the essential items in the best order for the convenience of your operation. You always make the venue shining by daily cleaning and also standardize the process of Sort-Set-Shine successfully. In the process of the standardization, you acquire good attitude to be in driver's seat of this KAIZEN and 5S movement to sustain and improve the "Quality of Service" in the health facility or hospital.

Chapter 5

Harmonization of 5S-KAIZEN-TQM Approach in Quality Assurance

5.1. Meaning of 5S-KAIZEN-TQM in Quality Assurance

5.1.1. Needs Assessment

To identify the needs of Quality Assurance, Needs Assessment was conducted on June 2012. Needs Assessment is a method to reveal the several characters of the target topic through simple question. The respondent will create at least five answers per question. Two questions are provided in this matter; “*Why Quality Assurance / Improvement is necessary in a hospital / health facility?*” and “*What do you think is the role / importance of 5S-KAIZEN-TQM as a part of Quality Assurance?*” Needs assessment sheet was sent to 14 stakeholders (seven; person in model hospital of 5S, seven; officers in MOH). Seven stakeholders have answered these questions.

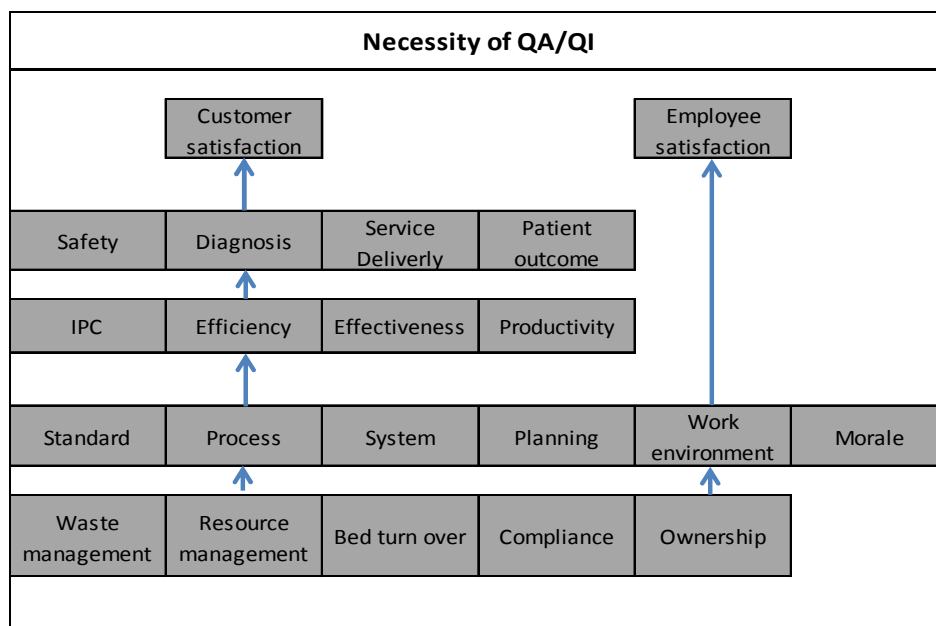


Diagram 5-1: Relationship of Answers of Necessity of QA / QI

The respondents provided about 50 different answers for each question. The answers were categorized by means and ends relationships as above.

It was defined that the goals of QA are to improve “Patients Satisfaction” and also “Employee Satisfaction”. The approach is one of the tools for the improvement of QA, especially for the changing attitudes, resource management and problem solving.

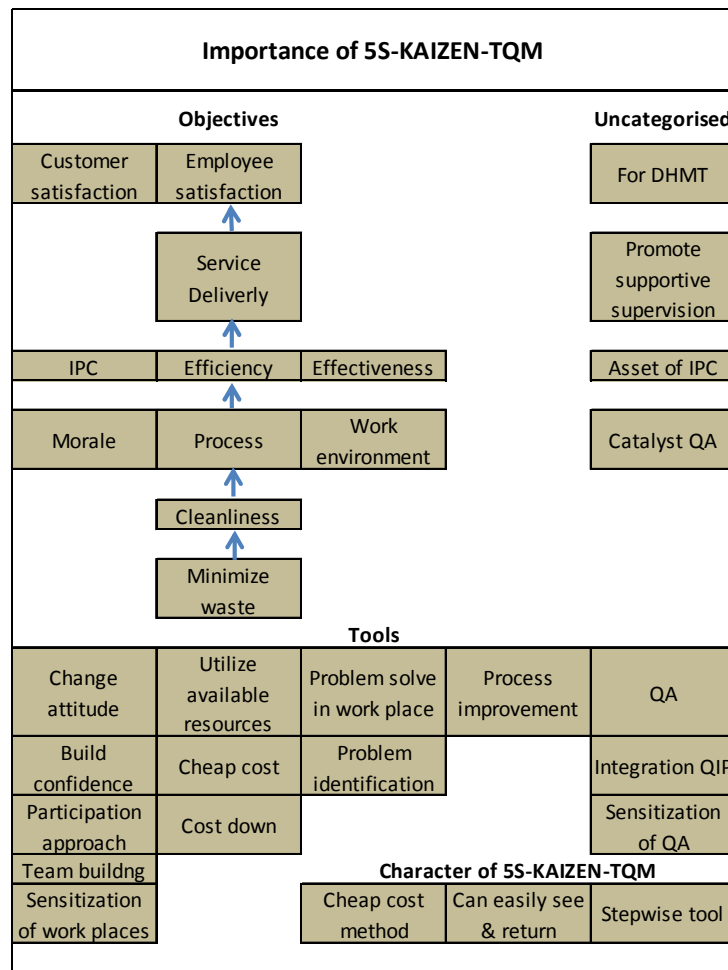


Diagram 5-2: Relationship of the Answers of Importance of 5S-KAIZEN-TQM

5.1.2. Situation / Problems / Solution Analysis

Based on the result of needs assessment, answers from respondents regarding QA and the approach, current issues in QA and the approach are considered (Situation Analysis). In the next step, challenges or problems in current QA were brainstormed and categorized into the cause and effect relationship (Problems Analysis). Finally, it was considered how the approach will contribute to solve constrains in current QA issues (Solution Analysis).

(1) Situation Analysis

The result of needs assessment was described that the respondents almost understood the meanings of QA and 5S-KAIZEN-TQM. However, the answer in importance of 5S-KAIZEN-TQM; “for DHMT”, was not adequate in terms of its utilization in different levels. 5S-KAIZEN-TQM is supposed to be understood that it have to be utilized in both district levels and other levels.

(2) Problems Analysis

The challenges and problems in QA were brainstormed referring the result of Situation Analysis. The extracted ideas were sorted into the cause and effect relationship as following.

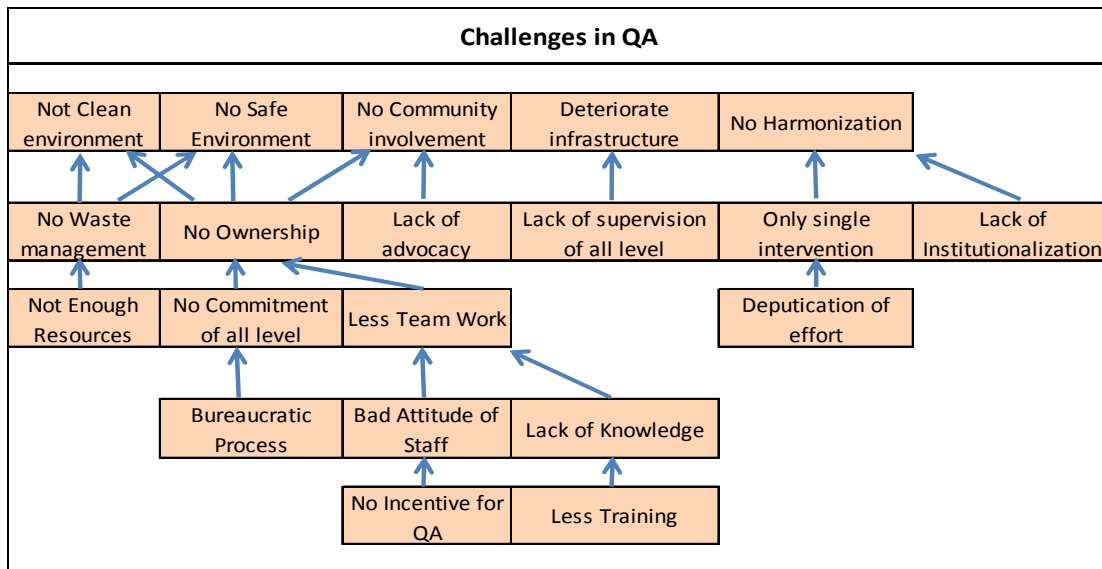


Diagram 5-3: Result of Problem Analysis of Quality Assurance

(3) Solution Analysis

The relationships between 5S-KAIZEN-TQM and QA were considered based on the contribution of 5S-KAIZEN-TQM influencing the challenges or problems to change as following Diagram 5-4.

It was defined that 5S-KAIZEN-TQM could contribute to several issues in QA. However some efforts were necessary for installation of 5S-KAIZEN-TQM. The harmonization of QA is not simply solved by 5S-KAIZEN-TQM approach. Proper positioning 5S-KAIZEN-TQM approach in QA framework should be considered.

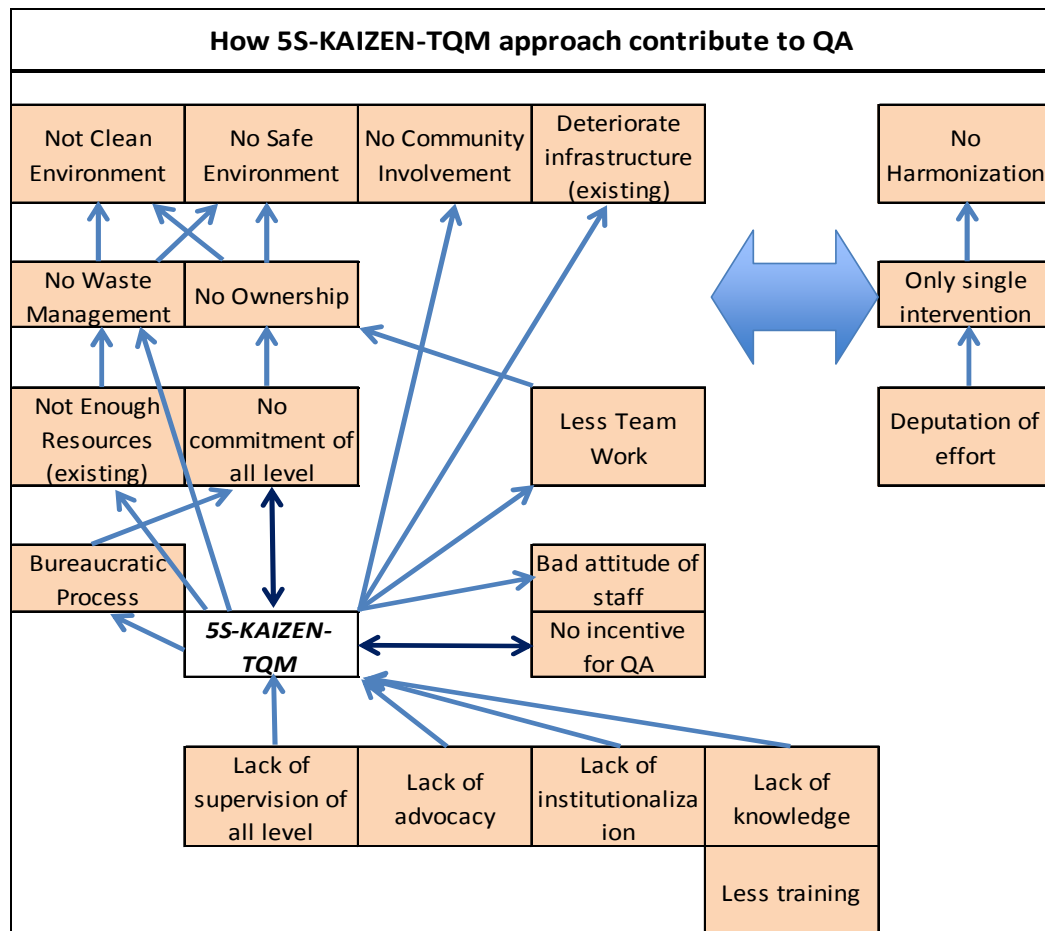


Diagram 5-4: Solution Analysis by the Utilization of 5S-KAIZEN-TQM Approach

5.2. Quality Assurance Policy and 5S-KAIZEN-TQM

The National Quality Assurance Policy was published in 2005 supported by USAID. In the document, these are described clearly; the purpose of setting QA policy, the objectives of QA policy, principles of QA policy, and quality assurance guidelines have been issued or are going to be issued for service contents or programs, such as Infection Prevention Control (IPC), Maternal Child Health (MCH), TB Program, HIV/AIDS Program and so on, as well as Standard of Operational Procedure (SOP), respectively.

All health interventions have the target of QA, and all health interventions are created at work venue, through work process and under work schedule. All works are operated by health workforce and managed by each management team. These work related QA mechanism is its “Platform”. 5S-KAIZEN-TQM approach is strengthening the “Platform”. The relationship mentioned above is described on the following diagram.

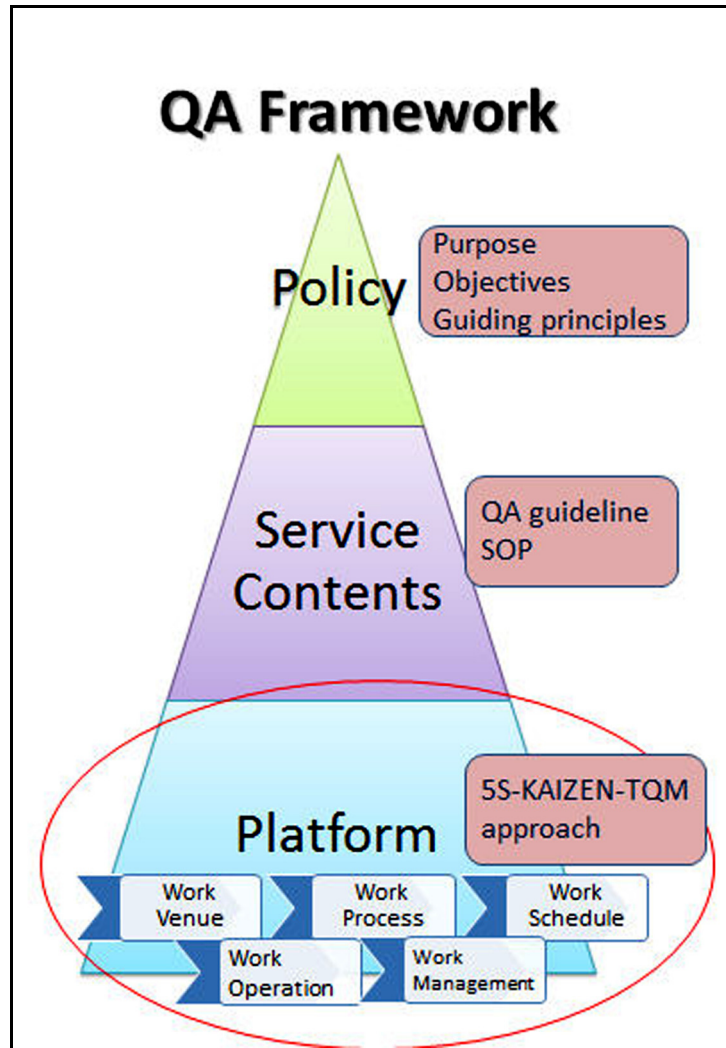


Diagram 5-5: Relationships of Policy, Service Contents and Platform of QA

5.3. Strengthening Organization Structure for 5S-KAIZEN-TQM

In the document of Quality Assurance Policy 2005, the organization structure for QA is also mentioned. The roles of national level are to develop guidelines, plan necessary activities, mobilized, allocate budget and other necessities, supervise, coordinate and monitor its inputs, process, and outputs. The roles of zonal level are to support the development of QA mechanism at district level, such as training, monitoring, and supervising, and to develop mechanism sharing the information across the district in their zone, as a local office under Ministry of Health. The Central Hospitals are able to receive the support for QA from national level directly and the hospital shall establish QA mechanism. The roles of district level are to support the development of QA mechanism in district hospital and health centres, such as training, monitoring, and supervising, and to

develop mechanism sharing the information across health facilities in their district, under the district government. The relationships of national level office, zonal health offices, central hospitals, and district management teams mentioned above are described on the following diagram.

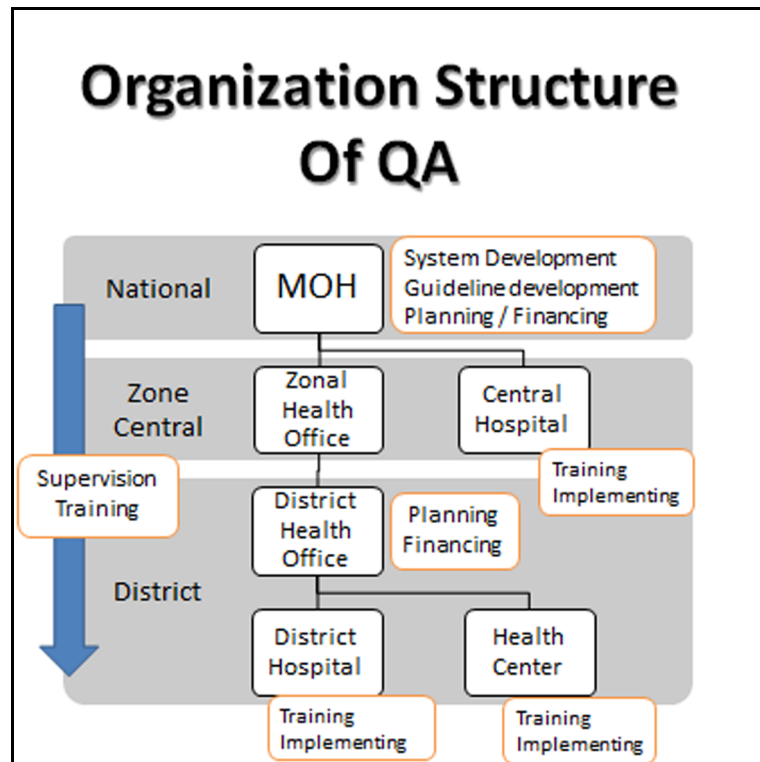


Diagram 5-6: Relationships of National, Zonal, Central Hospitals, and District of QA

On the other hand, new organization structure for proceeding of the modified Quality Assurance Policy is drafted on the new QA policy document. For the coordination purpose, a small QA unit shall be created in the Department of Planning and Policy (DoPP).

The terms of referring a QA unit are the followings.

- Coordinate activities, prepare agenda and convene meetings for National QA TWG members
- Liaise with and support MOH QA focal persons
- Manage the day to day matters relating to QA
- Coordinate review and integration of existing QA standards
- Ensure effective follow-up of decisions taken in the National QA steering committee
- Plan orientation of new QATWG and QIST members at zonal and district level for institutional memory.
- Ensure effective communication of all QA activities to all stakeholders.
- Support central and zonal-level QA activities, including supportive supervision
- Coordinate external QA assessments of facilities

- Support QA activities of non-public health facilities
- Develop QA training materials and QA job aids in collaboration with the medical and health services training institutions and regulatory councils for pre-service and in-service or continuing education.
- Organize training for QISTs
- Maintain an inventory of all personnel trained in QA
- Maintain an inventory of QA health standards
- Support integration of QA activities into MOH strategies
- Advocate for QA issues at all levels

The tasks of each QIST would be

- Disseminate QA standards of care and systems strengthening to all facilities
- Institute and train Quality Improvement Support Teams (QISTs) for health facilities;
- Develop Job Aids for facility-level QA Coordinator and QISTs.
- Define priorities concerning the services and systems to be improved at central and district hospitals for all services, public and private;
- Facilitate QA activities at zonal and district level;
- Ensure that QA activities are included in the Zonal Implementation Plan (ZIP), Central Hospital Implementation Plan (CHIP), and District Implementation Plan (DIP) budgets;
- Support health facilities in QA self-assessments
- Monitor and evaluate quality improvement (QI) activities at facility level and disseminate results
- Follow QA and Quality Management (QM) principles in guiding the QI activities (i.e. promote decision-making supported by data, promote teamwork, analysis of systems and processes and focus on client and community needs)
- Strengthen teamwork and partnership between district / hospital staff and community
- Ensure that the Provider and Patient Bill of Rights and responsibilities is upheld
- Oversee the ad hoc committee for Complaints
- Make regular reports to the district assembly

In facility level, facility-based Quality Improvement Support Teams (QISTs) shall be established and facility-based Quality Improvement Coordinators shall be also assigned.

Terms of references would be the followings

Facility-based Quality Improvement Support Teams (QISTs)

- Ensure on-going quality improvement activities in the health centres
- Conduct internal assessments to identify gaps in QA;
- Develop and implement a QA action plan to address identified gaps;

- Monitor progress in the implementation of the QA action plan;
- Support implementation of departmental and health centre QA activities;
- Advocate for availability of resources for QA activity.

Facility-based Quality Improvement Coordinators

- Coordinate activities of the facility QIST
- Compile and disseminate QA reports;
- Convene QA self-assessment activities
- Support QIST in the orientation of new members of staff to QA activities at the facility.

New Framework for Implementing the QA Policy

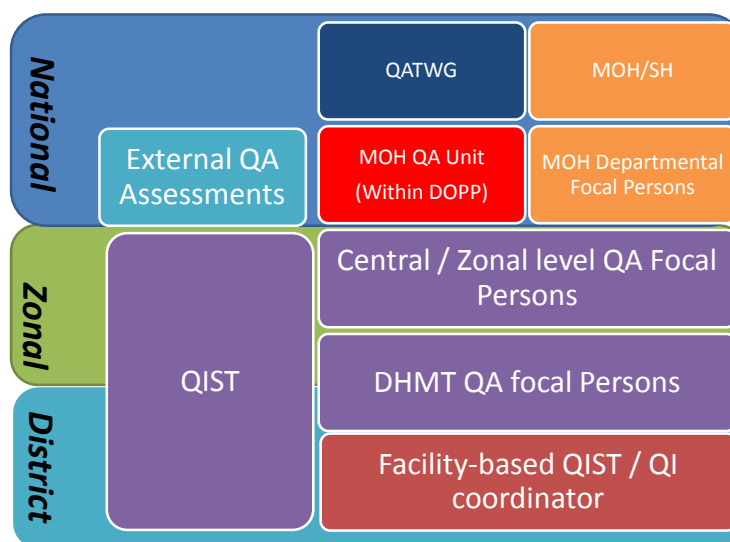


Diagram 5-7 Relationships of National, Zonal, and District level in New QA

5.4. Integration of Quality Assurance Programs

(1) Enhancement of Current QA structure

Under QA policy, organizational structure for QA is already assigned, however the function of each organization / unit under the structure has not been standardized yet. Installing 5S will be a good opportunity to enhance the capacity of National, Regional and District level.

In national level, there is no Quality Improvement Support Team (QIST) in MOH

and QA manager is not assigned.

In zonal level, most of officers seem not to have enough capacity to supervise district level. Training for QA programs shall be integrated to the training of the staff in Zonal Health Offices.

In district Level, several QA programs are implemented individually. Through the integration process, duplication among the QA activities shall be mitigated and mutual effectiveness will be created at frontline.

(2) Establishment of National Trainer Scheme

Since the enhancement of QAPs, authorized trainers are necessary to conduct adequate training to zonal and district level. Since the qualified trainers will be selected based on database, the record of the training and trainee shall be archived properly. Based on the Training of Trainer (TOT) and database of appropriate training contents, National Trainer scheme shall be formulated.

(3) Formulation of Annual Action Plan for National Rollout

National rollout plan shall be formulated and revised annually. To disseminate the Approach, the capacity of the national trainers will be enhanced in the possible fast manner and the capacity of Zonal Health Office shall also enhance to sustain the structure of QA.

In each level of the organization under QA mechanism, action plan should also be developed to install, enhance or disseminate 5S activities. The action plan shall be described for one year plan for the organization. The plan should be amended if necessary.

(4) Integration of Training Scheme

The training of national trainers shall be conducted to enhance the QA structure, especially the strengthening capacity of the trainers is important for national rollout of the approach. The national trainers shall be assigned not only for 5S-KAIZEN-TQM but also the other QAPs. Some trainers will be multi-disciplinary trainers.

The training materials will be also developed based on the practical guideline / SOP of each program.

At frontline, the contents of training for QAPs shall be combined. For example, training of IPC shall include basic concepts of 5S. 5S basic concepts shall be learned in trainings of all QAPs as the basic knowledge. However, specific training is also necessary to install 5S-KAIZEN-TQM approach for changing organizational management.

(5) Integration of Monitoring and Evaluation Methods

Based on the monitoring or evaluation procedure of QAPs, the materials for M&E and supervision shall be integrated one by one. The integrated materials will be used in the beginning before finalizing them in order to combine with another material.

(6) Showcase

One of the outstanding strengths of 5S is easy to see the success. Show case (or 5S corner) shall be provided at each hospital as one of the practices of QAPs. The good practice shall be shared not only in the facility but also in the community. Even though 5S is installed for the improvement of work environment for the staff, impacts of 5S to the community (patients and visitors) shall be appealed through the showcase. Good practices in other QAPs shall also be on the showcase as well as 5S corner. Visualized materials are useful to grasp the points how to combine with QAPs.

Chapter 6

The Organizational Structure of 5S-KAIZEN-TQM Approach

6.1. National, Zonal and District Level

According to the document of new National Quality Assurance Policy, which is drafted, three units shall be established for QA activities in national level.

- Quality Assurance Technical Working Group (QATWG)
- Departmental Focal Persons
- Quality Assurance Unit (QA Unit)

Quality Assurance Technical Working Group (QATWG) has been established in MOH. The focal persons at each department, however, have not been assigned and QA Unit has not been established yet. To harmonize the Approach in QA organization structure, the Approach shall be recognized the member of QATWG and focal persons in each department and QA unit.

In Zonal level, two units shall be assigned for QA activities according to the QA policy documents.

- The Central and Zonal Level QA Focal Persons
- The QA / QI trainers / Coaches

Though the Zonal Health Offices and central hospitals have assigned QA focal persons respectively, their capacity is not adequate for supporting in the district level. The national level has to support their capacity building. Neither trainers nor coaches are assigned not only in 5S-KAIZEN-TQM Approach but also in the other QAPs. Since the capacity of Zonal level is not adequate to manage the trainer / coach scheme, the trainer or coaches should be assigned by National level at the beginning of the integration. The trainer / coach shall train the staff in district level or central hospital under the order of QA unit as well as the supervision of hospitals. The trainer / coach scheme shall be transferred from National level to Zonal Level after the proper capacity development of zonal level.

In district level, District Health Management Teams (DHMT) shall assign QA focal persons respectively. Quality Improvement Support Team (QIST) would be established by Zonal QA manager, and focal persons of zonal and district level at each zone support implanting QA activities including 5S-KAIZEN-TQM approach

The development of organization in national, zonal and district level mentioned above is described on the following diagram.

Organization Development National / Zonal / District

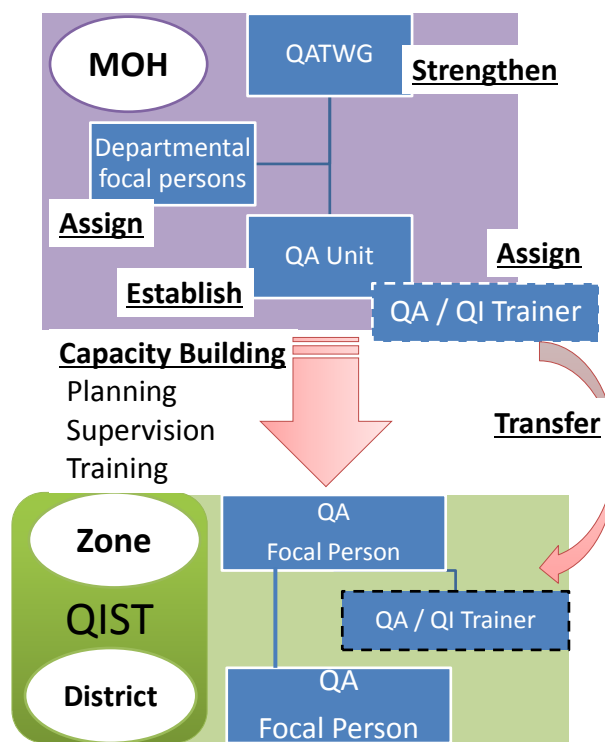


Diagram 6-1: Capacity Development at National, Zonal and District Level for the Harmonization

6.2. Central Hospital

The necessary of three units for QA activities at central hospitals is also mentioned in the document of QA policy.

- A Quality Assurance Committee (CHQAC)
- A QA focal person
- Quality Improvement Support Team (QIST)

Though Mzuzu Central Hospital has established the QA mechanism and the units for the Approach, the hospital shall enhance the mechanism supported by National QA unit. The other central hospitals shall establish the mechanism supported by National QA unit and model hospitals assigned by National QA unit. (Details of model hospital are explained in next paragraph.)

Currently, QIST is composed by members of several sub-committees. The member of QIST for 5S should be selected from the member of the other sub-committee as well as non-QIST member. The main roles of QIST for 5S are the followings.

- Learn the 5S method
- Develop Action Plan for 5S installation and dissemination
- Explain the effectiveness of 5S to the staff
- Train the staff
- Demonstrate 5S activities
- Monitor the progress of 5S activities
- Support WIT
- Motivate the staff for 5S
- Inform the progress of 5S to top management
- Learn the 5S method
- Communicate with QIST in other facilities / organizations
- Develop / formulate budget system for Zonal Offices, Central Hospitals, District Health Management Teams to ensure continuous implementation of activities

In the beginning of the establishment of QIST, a team leader of QIST shall be selected by the management. The team leader should be highly committed for 5S promotion and leadership to propel 5S. The team leader shall be rotated among the members of QIST periodically in order to develop 5S capacity of all staff when the successor has the required capacity for the leader.

After the establishment of QIST, some staff might consider that 5S is done by QIST. Basically, QIST is not a practitioner of 5S and 5S shall be implemented by all staff in the facility. Even though each staff has their own role in the hospital, everybody has to be responsible to promote 5S in the hospital.

6.3. District Level

In district level, there are several units in District Health Offices, District Hospitals and Health centres.

Organization Development Facility

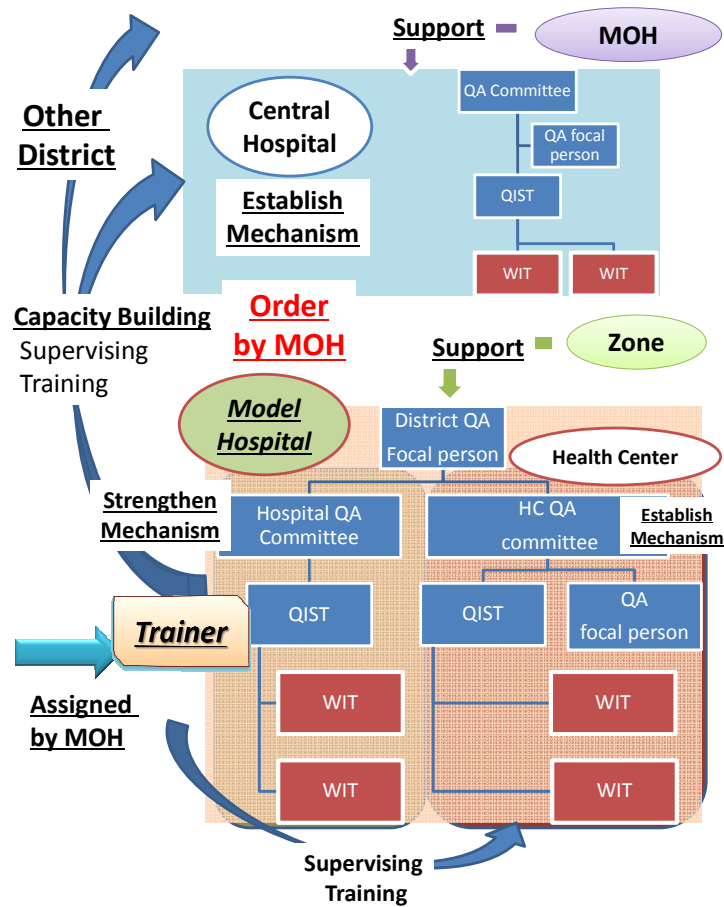


Diagram 6-2: Capacity Developments at Central hospitals and District Level for the Harmonization.

The district health offices and district hospitals shall support health centres in their districts.

- The District Quality Assurance focal person
- The District Hospital Quality Assurance Committee
- The Quality Improvement Support Team (QIST)
- Health Centre QA Committee
- Health Centre Quality Improvement Support Team (QIST)

- Health Centre Quality Assurance focal person

The development of the organization in central hospitals and district level which are mentioned above are described on the above diagram.

Some district hospitals shall be assigned as “Model Hospital” which demonstrates 5S-KAIZEN-TQM activities. Though Dowa District Hospital and Mzimba South District Hospital are assigned as Model hospital of 5S-KAIZEN-TQM approach, the model hospitals shall be assigned by the official order in National QA mechanism to support the national rollout of the approach at North, Central and Southern region.

Since some district hospitals have well trained staff for the approach, the staff should be assigned QA / QI trainers or coaches officially by National QA mechanism and they have to support not only in their district but also the other districts and the central hospital in their zone.

Additionally, it is one of the most important issues for the approach to establish “Work Improvement Teams (WIT)” in each work unit in all health facilities. WIT is a unit to practice 5S in its work venue and QIST shall support WIT technically and occasionally. Though WIT has to be established each work venue in all central and district hospitals, it might be difficult to establish WIT in each work venues in small health centres where limited number of staff is working. In the small health centre, 5S activities shall be implemented by the staff of each work venue with QIST.

After the establishment of WIT, some staff might also consider that 5S is the work done by WIT and the other staff is not necessary to work for 5S. In the early stage, WIT has responsibility to promote 5S in their work venues; however work venue shall be maintained by the all staff because the owner of the venue is the staff themselves. All the staff y shall support 5S activities and WIT.

Chapter 7

National Rollout of 5S-KAIZEN-TQM Approach

7.1. Basic Concept of National Rollout

Based on the confirmation of the successful implementation of 5S approach in model hospitals and the effectiveness of the approach towards to quality improvement, MOH Malawi shall decide rollout of 5S approach to other public hospitals.

In order to deploy this 5S-KAIZEN-TQM method to a nation-wide level, the following two tracks will be required to be implemented;

- Track1: Proceeding of the efforts implemented within the hospital in the order of 5S-KAIZEN-TQM
- Track2: Deployment of the approach from the pilot hospital to a nation-wide level

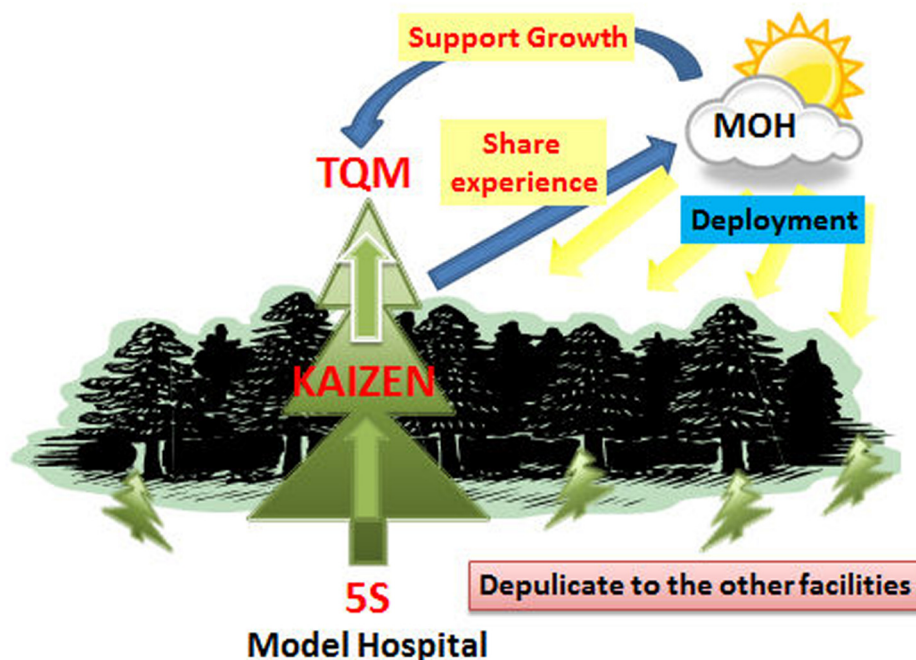


Diagram 7-1: Image of Nation-wide Expansion of the Approaches

Track 1 sets its target to have the “TQM tree” grow within the pilot hospital (the Centre of Excellence), which would become the model hospital for all of the other hospitals in the same country, and during this stage, it would be important for the responsible department within the Ministry of Health (MOH), etc. to provide appropriate support for the activities implemented within the pilot hospital. When the achievements within the pilot hospital are confirmed, the track will move onto Track 2 where the responsible departments within the MOH, etc. would establish the appropriate strategies and guidelines based on the knowledge gained through the successful completion of Track 1 and other activities, and deploy the approach to other medical institutions at a nation-wide level based on such strategies and guidelines. In order to deploy the medical service quality improvement activities utilizing 5S-KAIZEN-TQM to a nation-wide level, it would be necessary to be incorporated to Track 1 and Track 2.

7.2. Current Situation of National Rollout

Since 2007, 5S activities have been installed in health facilities in Malawi and 15 hospitals and 3 health centres have been conducting 5S activities.

Table 7-1: List of 5S Implementing Health Facilities (September 2013)

No.	Hospitals	Location	Initiated Year
1	Dowa District Hospital	Central East zone	2007
2	Mzimba South District Hospital	Northern zone	2009
3	Mzuzu Central Hospital	Mzuzu	2010
4	Chiradzulu District Hospital	South West zone	2010
5	Thyolo District Hospital	South West zone	2010
6	Jenda Health Centre	Mzimba South District	2010
7	Luwerezi Health Centre	Mzimba South District	2010
8	Karonga District Hospital	Northern zone	2011
9	Rumpi District Hospital	Northern zone	2011
10	Kamuzu Central Hospital	Lilongwe	2012
11	Salima District Hospital	Central East zone	2012
12	Ntcheu District Hospital	Central West zone	2012
13	Malamulo Christianity Hospital	Thyolo District	2012
14	Edingeni Health Centre	Mzimba South District	2012
15	Mwanza District Hospital	South West zone	2012
16	Queen Elizabeth Central Hospital	Blantyre	2013
17	Balaka District Hospital	South East zone	2013
18	Mangochi District Hospital	South East zone	2013

Several types of trainings have been also implemented for installation and enhancement of 5S activities as follows.

Table 7-2: List of Trainings (December 2012)

No.	Month/ Year	Name of the Training	Location	Duration (Day)	No. of Participant
1	9-10/2010	Study Tour in Mbeya Hospital	Mbeya, Tanzania	8	20
2	9/2011	5S Basic Training with JOCVs	Mzimba	2	13
3	12/2011	5S Basic Training	Thyolo	2	48
4	12/2011	5S Basic Training	Chiradzulu	1	20
5	1/2012	5S Advance Training with JOCVs	Lilongwe Dowa	3	11
6	1/ 2012	5S TOT	Lilongwe	3	14
7	8/2012	5S Basic Training	Mwanza	2	38
8	12/2012	5S TOT	Lilongwe Dowa	4	28
9	8/2013	5S Basic Training	Lilongwe Dowa	3	28

Unfortunately, dissemination of the approach has not been planned systematically. Based on the framework, the rollout procedure shall be strategic and systematic.

7.3. National Rollout Mechanism

7.3.1. Structure

To disseminate 5S-KAIZEN-TQM approach to central hospitals, MOH and the Zonal Health Offices will be the responsible bodies to disseminate 5S-KAIZEN-TQM approach to district hospitals. However, disseminating procedures, such as trainings and supportive supervisions for central hospitals will be combined into activities by Zonal Health Offices.

In the practice for the dissemination, it is categorized into three regional areas; Northern Area (Northern Zone), Central Area (Central Eastern and Western Zones), and Southern Area (Southern Eastern and Western Zones). Zonal Health Offices in Central area and South area will conduct the activities together with the coordination of MOH.

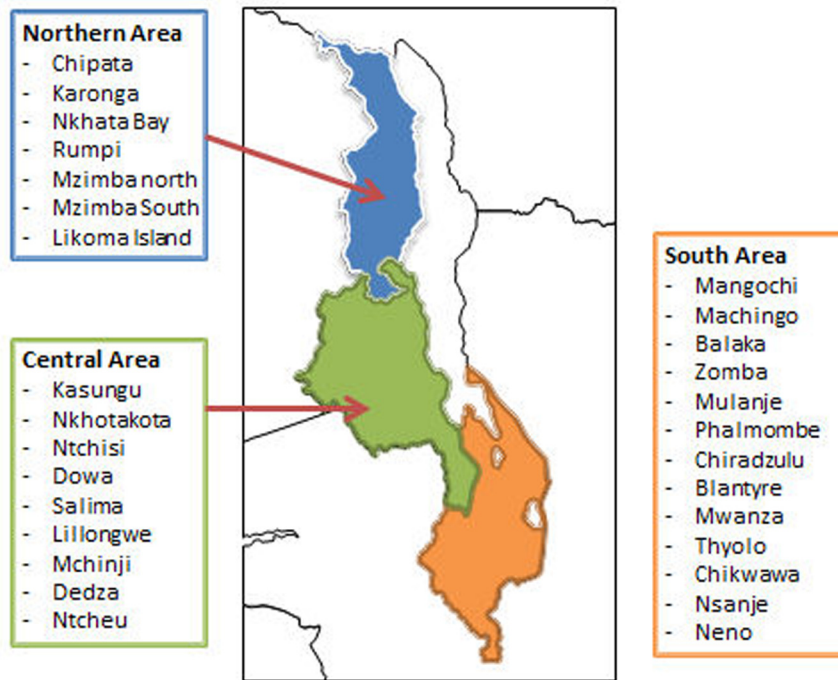


Diagram 7-2: Areas for 5S-KAIZEN-TQM Dissemination

Cascade training scheme, national trainer scheme and periodical supportive supervision are utilized for the dissemination.

7.3.2. Cascade Training Scheme

For smooth dissemination of 5S-KAIZEN-TQM approach, the intervention for the enhancement of the approach shall be distinguished based on the progress at each target facility. It is difficult, however, to provide support depending upon the needs from each hospital. Therefore, there are two types of intervention; training and supportive supervision and also four types of training will be prepared for the dissemination as follows.

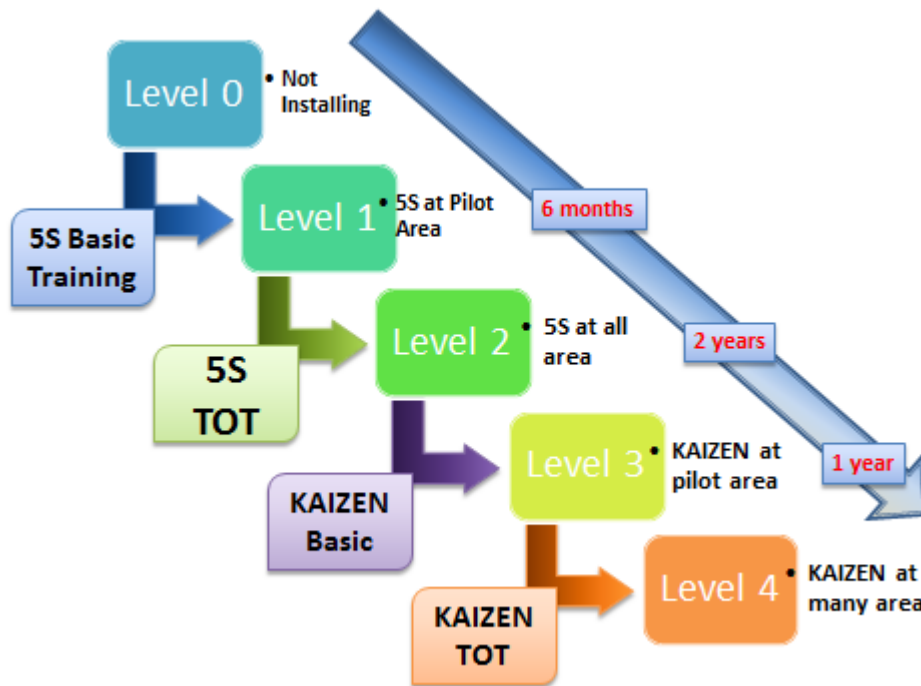


Diagram 7-3: Level of Hospitals and Training Steps

The main purpose of 5S Basic training is sensitization of 5S to the target hospitals. After the 5S Basic Training, it is ready to conduct “Kick off Meeting” and then proceed to 5S activities in pilot areas.

Objective of 5S TOT is how to conduct internal 5S training by QIST in target hospitals. After 5S TOT, 5S activities will be proceeded to the whole hospitals.

From 5S to KAIZEN and KAIZEN Basic Training is necessary to understand what KAIZEN is. 5S must be culturally grounded in the target hospital before installing KAIZEN (some indicators and benchmark must be utilized).

To expand KAIZEN activities in the whole hospital, pilot activities at target areas are necessary to build capacity of QIST and WIT in the target hospitals. Based on the experience in the target areas, KAIZEN activities will proceed in all areas. KAIZEN TOT will help to disseminate KAIZEN by QIST and WIT in the hospital.

Target participants of each training course could be different. Since the main objective of Basic training is sensitization of the hospital, top management and focal person shall be the main target for the training. On the other hand, focal person or other QIST members will be main target for TOT because it is a practical session disseminating the practices in the hospital.

Type of Training	Contents	Target Participants	Facilitator
5S Basic Training	5S principle, 5S tools, Action plan, Situation analysis	Top management QIST member	MOH Zone Level1 QIST
5S TOT	Facilitation, Supervision, Arrange training	QIST member WIT member	MOH Zone Level2 QIST
KAIZEN Basic Training	KAIZEN principle KAIZEN process KAIZEN tools	Top management QIST member	MOH Zone Level3 QIST
KAIZEN TOT	Facilitation, Supervision, Arrange training	QIST member WIT member	MOH Zone Level4 QIST

Diagram 7-4: Training Type and Contents

Facilitators will attend not only from MOH and Zonal Health Office but also from lower level. For example, QIST member from Level 2 hospital could attend the 5S Basic Training in same zone as one of facilitators. It is also effective to develop the capacity of QIST in upper level hospitals.

7.3.3. National Trainer Scheme

Data of participants and facilitators who attended the training courses of 5S-KAIZEN-TQM, shall be registered at MOH and the participants will be possible candidates of facilitators for next trainings. All facilitators for external training courses of 5S-KAIZEN-TQM will be approved as “National Facilitator” by MOH. The purposes of establishment of national trainer scheme are as follows

- to secure the quality of training
- to identify the capacity of trainers
- to establish road map to be trainer
- to keep enough number of trainers for national rollout
- to establish the mechanism utilizing resource in a district to other districts

The QA unit in MOH is the responsible body for the scheme and its duties which are 1) Register the trainees, 2) Register the trainers and 3) approve the promotion of the trainers and also Zonal Health Office has the responsibility to assign the trainers for each training course. Though national facilitators will attend the training courses at their districts, they can also attend the training courses at the other districts or the other zones in accordance with the request from Zonal Health Office or MOH.

Based on the cascade training scheme, QIST members of Level 1 hospital will be candidates of trainers for 5S Basic Training and also QIST members of Level 2 hospital will be the candidates of trainers for 5S TOT. In KAIZEN stage, QIST members of Level 3 hospital will be candidates of trainers for KAIZEN Basic Training and also QIST members of Level 4 hospital will be the candidates of trainers for KAIZEN TOT.

National facilitators will enhance their capacity through trainings and also their QIST will be strengthened by the facilitators.

7.3.4. Periodical Supportive Supervision

The progress of 5S activities shall be monitored, evaluated and adjusted if necessary. In health sector in Malawi, the monitoring is involved in Supportive Supervision. It is recommended that the supportive supervision will be conducted once a half year. The main actors of the monitoring are Zonal Health offices and QIST in DHMT. The process of national rollout shall also be monitored periodically. Progress report shall be submitted from facilities to MOH through Zonal Health Offices and DHMT. In future, the monitoring procedures should be integrated to the other QAPs. Details of the monitoring and supportive supervision are described on Chapter 8.

7.4. National Rollout Plan

To disseminate 5S-KAIZEN-TQM approach, a cycle from “Installation of 5S” to “Expansion of KAIZEN is a set to be implemented for the period of four years and the following activities are expected to be conducted in the timely manner.

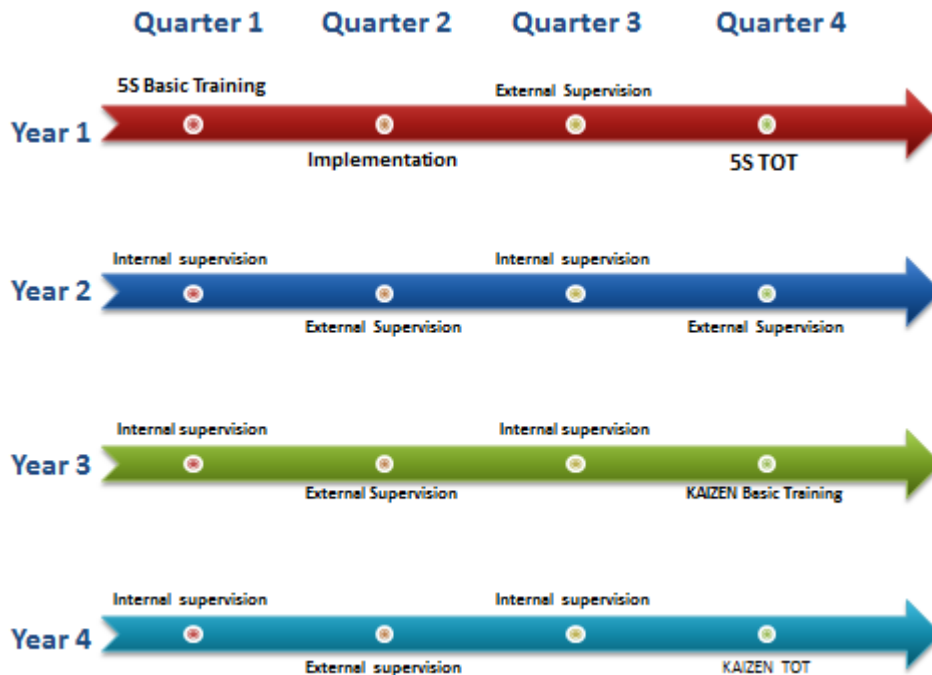


Diagram 7-5: Cycle of National Rollout

Based on the schedule above, Zonal Health Offices will nominate the target hospitals which top management is interested to install 5S and willing to conduct 5S Basic Training. At a training course, number of participants shall be limited up to three from each health facilities and also health facility of Level-1 will be provided. It is recommended that some facilitators will attend from the observations site. At least one of the participants shall be from the management team such as DHO, DMO or DNO and the other participants shall be focal persons for Quality Assurance, especially for 5S- KAZEN-TQM. After 5S Basic Training, the participants shall prepare to install 5S in the facilities. In the fourth quarter, A Zonal Health Officer will nominate in the target hospitals to attend 5S TOT based on the external supervision and the request from the level-1 hospitals. Number of participants and number of hospitals are same as 5S Basic training and also observation site (health facility) of Level-2 will be provided.

The second year shall be appropriate time to confirm sustainability of 5S activities by internal and external supervisions. In the third year, it shall be affirmed by MOH and Zonal Health Office whether the hospital is able to install KAIZEN, based on the results of external supervision. KAIZEN Basic Training shall be conducted in the hospital when it gets the approval from MOH and Zonal Health Office at the fourth quarter of the third year. The hospitals which are not approved for KAIZEN have to improve their 5S activities through support from Zonal Health Office and MOH.

In fourth year, the hospital instating KAIZEN will receive the external supervision to review KAIZEN activities in pilot areas. Zonal Health Office and MOH will decide to conduct KAIZEN TOT based on the results of external supervision.

These cycle shall be continued annually. The first year of the cycle will conduct in other hospitals where 5S is not yet installed. The hospital where 5S has been installed can send participants for the refresh training.

Chapter 8

Implementation OF 5S-KAIZEN-TQM

8.1. Preparation

In this chapter, actual implementation of 5S activities is explained in details. It is mentioned that morale of staff and members of a management team in an organization strongly reflect the implementation of 5S activities. *If the sense of belonging of staff to the organization is high, work place will be automatically well organized, and kept clean and systematic.*

However, change in management of a system is be difficult and complex in any organizations. Implementing a quality improvement system often face difficulties due to deficiencies in leadership, support and motivation of management and staff, information management, organizational structure, and culture (e.g. team work, learning orientation)

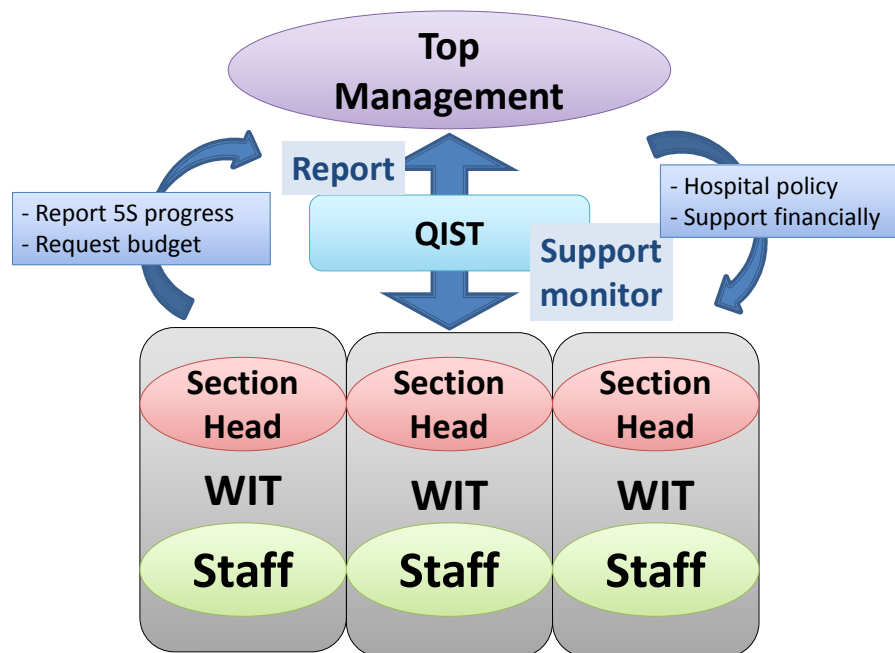


Diagram 8-1: Implementation Structure

It is necessary to create good working environment to make health workers and service users satisfied. However, top to bottom approach will not be able to improve working environment as sense of belonging among health workers to the health facility is not going to change easily.

Therefore, attitude change in a larger scale and mutual effort by both management and other health workers are necessary to improve working environment. This can be achieved through utilization of a mixture of top to bottom and bottom to top approaches shown on Diagram 8-1 “5S implementation Structure”

Implementation of 5S activities should not be a one time or short-term event. It is better to make it a habit of health workers so that sustainability of 5S activities will be kept highly. To make 5S as a habit of health workers, it is necessary to clarify how work place and environment should be, and share that image to all staff. Here are the key factors for successful implementation of 5S activities:

For Successful Implementation of 5S Activities:

1. There should be continued commitment and support by top management
2. 5S implementation starts with education and training of all health workers
3. There are no observers in 5S and everyone must participate in 5S activities
4. Practice 5S cycle (Sort-Set-Shine-Standardize-Sustain) daily in order to achieve a higher standard

Note that what we need in implementing 5S principles is: little knowledge, little hard work, little dedication and the positive attitude

It is often seen slowing down or a stop in improvement activities. There are a few characteristics observed behind the organizations that slow down or stop improving activities. These include:

- Management of the organization prioritize “profit” over customers’ satisfaction
- Management of the organization has weak leadership and hesitating to “change”
- Copy 5S-KAIZEN–TQM approach and implement without proper understanding and adoption of the concept.
- Management of the organization does not recognize the importance of user-friendliness

Even though management of the organization has strong leadership and 5S-KAIZEN-TQM concept is well adopted by managers, there are some organizations that slow down or stop

improvement activities. In this case, “resistance to changes” among health workers is often the cause.

“Un-cooperative staff or resistant to changes” in your organization affects “cooperative staff” to have negative thinking and attitude on improving activities.

It is often observed that those “Un-cooperative staff or resistant to changes” are senior staff of the institution and usually those personnel are well experienced and highly skilled. Un-involvement of experienced and skilled personnel into the activities is inexpedient as skills and knowledge of those personnel are very effective for quality improvement. Therefore, it is necessary to change mind-set of “un-cooperative staff or resistant” on successful implementation of the activities. Here are the hints (the box below) on how to change mind-set of un-cooperative or resistant staff:

Hints for How to Change Mind-set of Resistant Workers
--

- | |
|---|
| <ul style="list-style-type: none">- Show example and explain effectiveness and necessity of 5S using data, pictures, etc.- Remove “unnecessary work” from current workflow,- Remove variability of work (Equalization/Levelling)- Make work procedure clear and develop Standard Operating Procedures,- Explain what we can do if 5S is introduced. |
|---|

Once resistance to “change” is reduced, managers should aim to build mutual understanding and communication mechanism between management and all health staff. QIST and WIT are very important for development of this mechanism (Detail of QIST and WIT are explained later). To run the communication mechanism, it is important to respect humanity and hash out until you have consensus between management and other workers.

For successful implementation of 5S-KAIZEN-TQM and the other QAPs, changing the attitude of all health workers is cornerstone. Staff should be encouraged to perform 5S in their mind and brain as summarized in the box bellow.

Tips for Successful 5S Implementation (a)

“5S of the mind”

5S is usually used for “Objects”, however, it is important to implement “5S in your mind” for practicing 5S activities appropriately:

- Sort your mind to concentrate on your work
- Set your mind to organize your work
- Shine and standardize your mind to enjoy your work and maintain your way of working
- Sustain your mind to carry out your work actively and maintain quality of your work

Tips for Successful 5S Implementation (b)

“5S of the brain”

- **Sort** in your brain is to clarify your work on what / for whom / what purpose / how and by when
- **Set** in your brain is to prioritize you work
- **Shine** in your brain is to manage your work one by one
- **Standardize** in your brain is to remove barriers of managing your work
- **Sustain** of your brain is to solve problems and execute your work continuously

The mind of 5S is very important for changing your attitude in positive way and accelerates 5S implementation appropriately

8.2. 5S Installation

5S is usually implemented gradually, often over one or two year period of time toward Sustain. The following phases and duration of each phase are recommended for effective and efficient implementation of 5S-KAIZEN activities. Preparatory phase – three months, Introductory phase – six months, Implementation phase – two years, and Maintenance phase – on-going indefinitely. The details are shown in Diagram 8-2.

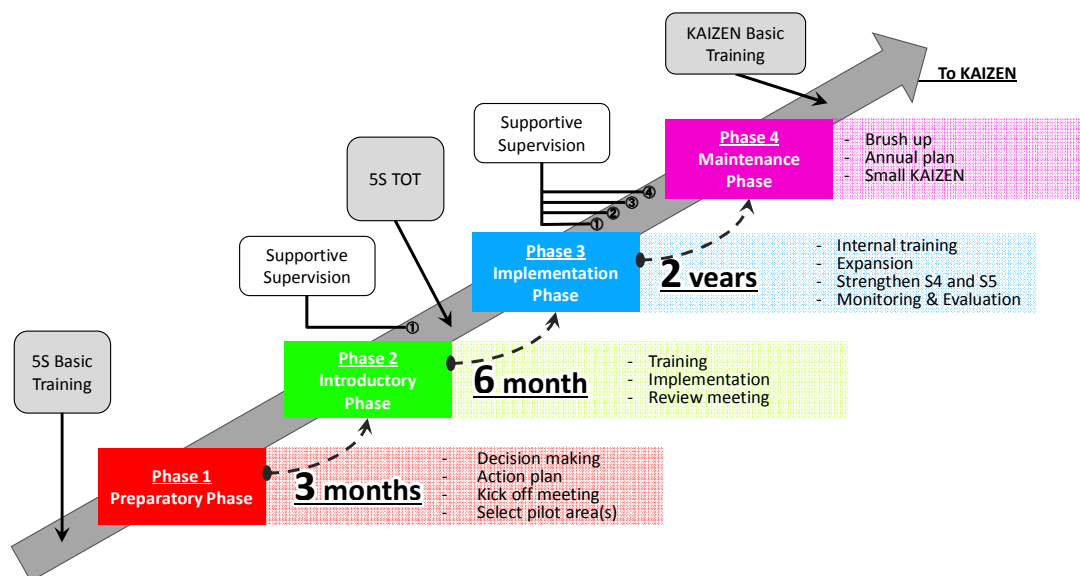


Diagram 8-2: Phases of 5S Implementation

When the management team of the health facility considers installing 5S, top management (DHO) and a focal person for QA in the facility shall attend “**5S Basic Training**” designated by Zonal Health Office (or DHMT for Health Centre) and supported by MOH. The top management and the focal person should understand 5S principle and implementation procedure.

In Preparation phase, the top management shall decide the appropriate timing for the installation of 5S officially. It then continues with kick off meeting. And pilot areas to install 5S are selected after the situation analysis.

In Introductory phase, Sort, Set and Shine activities are carried out in the pilot area supported by focal persons. After the six (6) months from 5S exposure training, “**Supportive Supervision**” will be conducted by Zonal Health Office (or MOH). Based on the achievement in the pilot areas and result of supportive supervision, the management decides how to expand 5S to all departments in the hospital. As the benchmark of it, if the score of monitoring check sheet of Leadership, Sort, Set and Shine get over 80% of all the score in each pilot areas, the facility can expand 5S activities to the whole areas.

Before the expansion of 5S, top management shall send focal person and another person in-charge for 5S to “**5S TOT**” designated by Zonal Health Office which is supported by MOH. They have to understand how to conduct internal training of 5S.

Beginning of Implementation phase, QIST and WIT shall be established formally. Internal

training of 5S should be also conducted to all staff. Standardize and Sustain activities are developed by QIST and practiced in pilot areas. The departments where 5S activities were begun will install Sort, Set and Shine activities based on the standardized procedures.

Maintenance phase is an on-going phase hence has no time limit. However, it is expected that within three years after entering this phase all the necessary structures and accountability systems be in place. All health workers (staff) shall follow workplace rules and habits. S1-S4 will be the culture of all staff and the facility management.

If the score of monitoring check sheet of Leadership, Sort, Set, Shine, Standardize and Sustain are over 80% of the total score in all areas, the facility can proceed to KAIZEN activities.

Maintenance phase is also the entry point to KAIZEN. Of course, it is possible to introduce KAIZEN in a small scale in Implementation phase. However it is recommendable that KAIZEN shall be started after conducting “KAIZEN Basic Training”.

8.3. Implementation Steps of 5S Activities

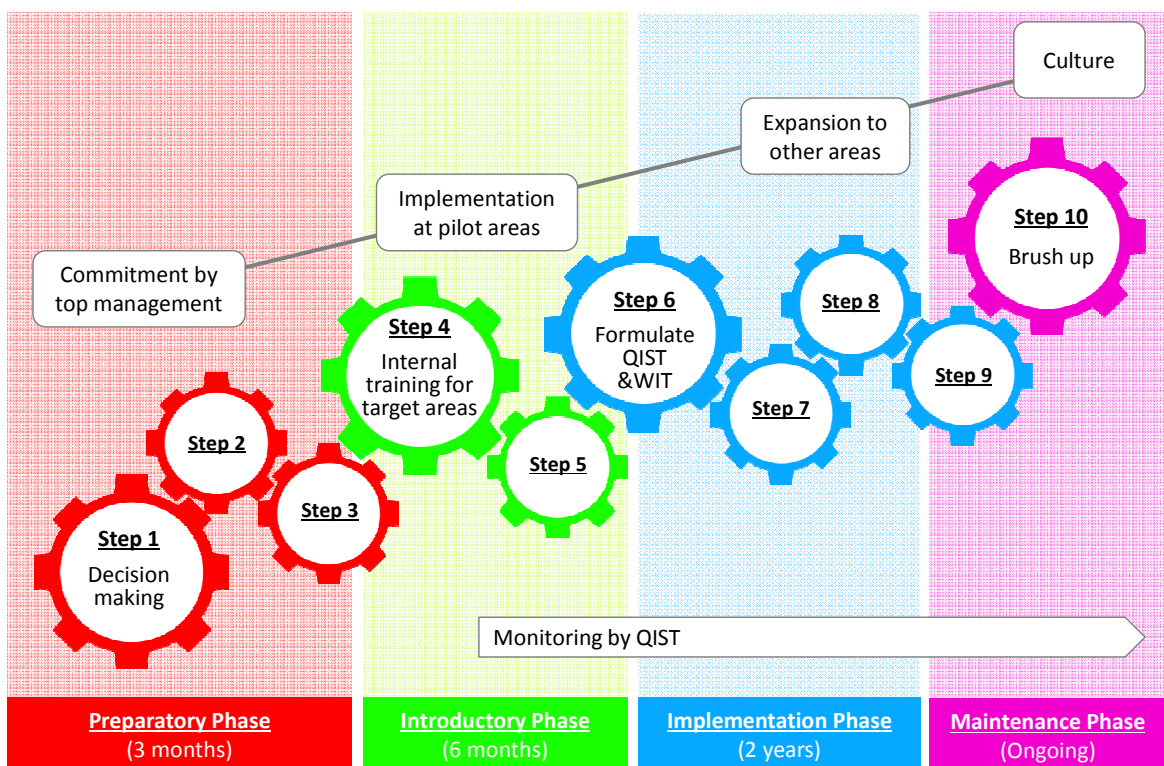


Diagram 8-3: 5S Implementation Flowchart

The phases of 5S-KAIZEN-TQM activities have a total of ten (10) steps. Preparatory phase has three (3) steps; Introductory phase has two (2) steps; Implementation phase has four (4) steps; and Maintenance phase has one (1) step. In each step there are many activities that need to be done to accomplish it. The 5S activities flow chart is illustrated in diagram 8-3.

8.3.1. Preparatory Phase

In this phase, it is designed managers and staff will understand and adopt 5S-KAIZEN-TQM concepts. It is also important to select pilot areas knowing “where and how you are” by conducting the situation analysis. Though time requirement for this phase is approximately three (3) months, it might be shortened by the commitment of management team.

Step-1: Decision making to install 5S in the hospital

After the attending “5S Basic Training”, top management decides whether 5S is properly installed or not. The top management has to make consensus in management team for installation. The materials given at the training are useful to explain what 5S is and how effective 5S would be. Focal persons who attended the training shall also support to make consensus in the facility.

Step 2: Drafting Action plan for 5S implementation

The focal person prepares an action plan for 5S implementation and the plan should be authorized by the management team. The action plan is the first draft (version 0) for the health facility and the plan should be revised and be elaborated in implementation phase. In the kick off meeting, management team and staff have to know the contents of the action plan.

Step 3: Kick off meeting; Sensitization of 5S principle and Selection of pilot area

Kick off meeting is the event which announces to begin 5S officially. The purposes of the meeting are to sensitize 5S activities to hospital staff and to select pilot areas for 5S installation. There are three events in the meeting; Exposure Seminar, Situation Analysis and Selection of Pilot area.

8.3.2. Introductory Phase

Step4: Training for Sort, Set Shine to the members of the pilot area

Based on the selected a member at Situation Analysis, the member for 5S implementation at the pilot areas shall be selected. To start 5S activities, formal trainings for the

implementing member are necessary. The trainings are conducted by the focal person for 5S and also ask support for national trainers to support the training. Recommendable contents for the training are followings

- What 5S is
- How to Sort
- How to Set
- How to shine
- Monitoring and self-evaluation

Management level staff had better to attend in the training if possible because one of the key factors for successful 5S implementation is “strong leadership and commitment”.

After or the same time of the formal training, on the job training shall be conducted to enhance the capacity of implementing members.

Step 5: Feedback of the achievement of 5S activities

The **Supportive Supervision** will be conducted by Zonal Health Office (or MOH) to monitor the progress of 5S activities in pilot area to make suggestions for improvement. 5S activities in pilot areas shall be monitored by the focal person and monitoring result should be shared with management team. It is useful to conduct a feedback seminar of 5S activities in pilot areas for sharing the achievements and considering way forwards. Top management decides whether 5S is properly installed into all area of the hospital or not. If it is confirmed, top manager selects the persons who attend “**5S TOT**” designated by Zonal Health Office and supported by MOH.

After attending 5S TOT, 5S implementation phase will be shift from introduction phase to implementation phase.

8.3.3. Implementation Phase

This phase aims to make all staff understand and adopt 5S-KAIZEN-TQM concepts. It is also important to know “How to do” with 5S activities. Time requirement for this phase is approximately six months.

Step6: Formulation of Quality Improvement Support Team (QIST) and Work Improvement Team (WIT)

After 5S TOT, **Quality Improvement Support Team (QIST)** shall be established formally. QIST is a team taking lead to implement quality improvement activities. Member

of QIST should be focal person and trained person in 5S TOT and also selected persons from Hospital Management Team and staff from pilot areas. The team that includes top and middle management has to coordinate internal training, revising action plan and implementing 5S. QIST helps to improve the speed of decision-making and increase commitment for quality improvement in the hospital. Main roles of QIST are as follows:

- To train hospital staff on 5S-KAIZEN-TQM
- To implement 5S- KAIZEN activities for common problems of the hospital
- To conduct periodical monitoring and provide technical advice to WIT
- To record all Quality Improvement activities conducted in the hospital
- To review the action plan
- To provide necessary input for 5S- KAIZEN -TQM activities
- To Provide progress report quarterly to Zonal Health Office (MOH)

Work Improvement Teams (WITs) are essential employees-based small groups for 5S activities. Their aim is to provide staff with opportunities for meaningful involvement and contribution in solving problems and challenges. WITs meet regularly to identify, analyse, and solve problems and improve their outputs of their work unit. They also implement improvement measures or recommend the suggestion for improvement to management.

The norms of WIT generally consist of:

- Close relationships developed and the team demonstrating cohesiveness
- Team group rules and boundaries agreed
- Cooperation
- Team identify and member enjoy camaraderie (fellowship/peer consciousness) with one another and
- Commitment to work out differences and giving constructive feedback

A WIT leader and members of WIT are obliged to take their roles and it is important to be familiar with the importance of the team facilitator and the position of the steering committee in their hospitals.

Roles of team at each level are described on the following diagram.

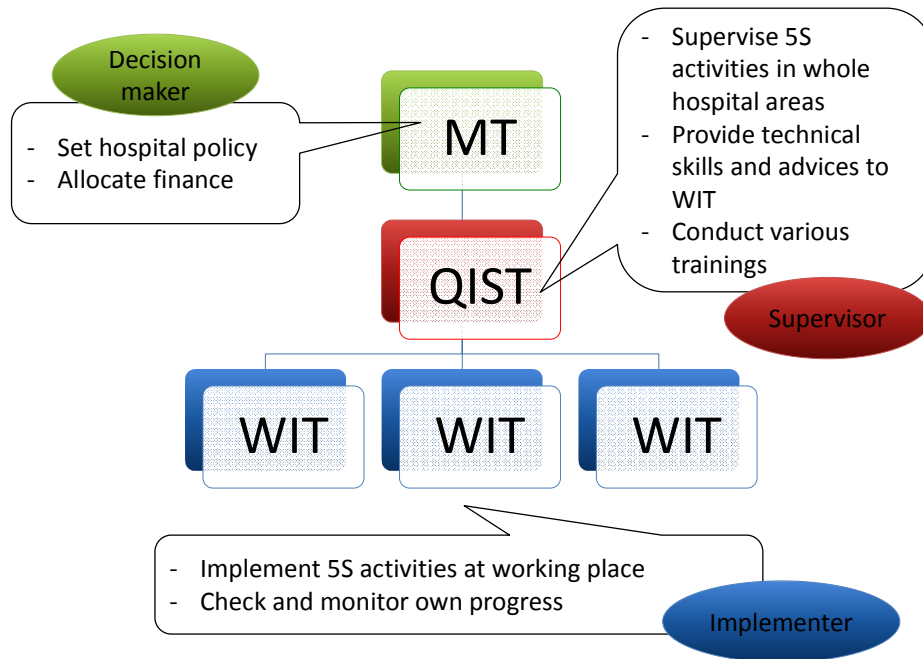


Diagram 8-5: Organization Structure for 5S Implementation
(MT=Management Team)

The team meetings should be conducted regularly as per schedule and minutes of the meeting including the attendance record of the participants should be kept properly and appraised regularly. Throughout WIT regular meetings, the tips are usually underlined. Some of the tips for effective team meeting are such as: meeting agenda prepared in time and distributed to the members, time management and maintain focused discussion, encourage and support participation of all members.

Benefits of working as a team comprise sharing of the knowledge, skills and experiences of different members which builds confidence among the members and collective decision making, sharing responsibility, tackle issues in synergistic manner and there is also mutual support and cooperation between team member thus in the end accomplish quality improvement.

Teamwork is vital in achieving continuous quality improvement and is at the heart to improve quality. Usually the teams take a problem as an opportunity and the team members' support each other. One big tree does not make a forest!

Step 7: Conducting internal 5S training

One of the key factors for successful 5S implementation is “everyone’s participation”. Therefore, training of all staff is essential. In the training, the following contents should be

focused:

- Post / Pre test
- 5S principles
- 5S tools
- Building and maintaining Positive attitude / team building
- How to Sort, Set and Shine
- Monitoring and Evaluation
- Formulating action plan

In case of the internal training, it is not necessary that all hospital staff participates for one training course and the training is not conducted in one day. Based on the capacity of QIST and facility, the contents of internal training shall be arranged freely. For example, training conducts every afternoon from 3:00 PM to 4:30 PM for 4 days. For the internal training, QIST is able to ask support from Zonal Health Office or MOH. Even though QIST ask support for the objectives and schedule of the training shall be planned by the hospital.

Step8: Formulation of Action Plan

After the internal training, the member of WIT might have enough capacity to implement 5S activities. In next step, they have to formulate their action plan for smooth implementation of their work and for information to QIST and management team.

The contents of the action plan are as follows.

- Activity (What)
- Duration (When)
- Place (Where)
- Responsible person (Who)
- Resource (How much)

Step 9: Monitoring

Although supportive supervision will be conducted periodically by Zonal Health Office or MOH, QIST has to establish internal monitoring mechanism and conduct periodical monitoring. Detail of monitoring procedures is mentioned in chapter 9.

8.3.4. Maintenance Phase

This phase aims to maintain people to follow work habits well and workplace's rules and regulations. To make 5S activities as a part of your organization culture, it takes long time and need to be repeated. There is no time allocation of this phase as it is on-going process.

Step10: Brush up 5S activities to a culture of your facility

Through brushing up 5S activities, WIT shall be a highly motivated team to propel 5S and the concept of 5S shall be understood not only by the staff but also by the all visitors in the hospitals and community. For sustaining 5S activities, all participants shall enjoy 5S and understand how effective 5S.

8.4. KAIZEN

The objective of KAIZEN is “Work Process Improvement”, whereas the core objective of 5S is “Work Environment Improvement”. The difference between 5S and KAIZEN is the difference of target and process. The most important achievement of 5S is "employees' satisfaction" as the result of improvement of work environment. In other words, “Easy to Work” is the visible outcome of 5S. The main achievement of KAIZEN is, however, not only "employees' satisfaction" but also "organization's satisfaction" through improvement of work processes leading to high quality and safety. The target area and procedures of 5S are mostly standardized. WIT is the engine for promoting 5S activities as bottom-up approach under the commitment of top management. In KAIZEN, on the other hand, the aim is problem-solving, which may not be defined clearly in the beginning. To define the problems, some Scientific Quality Control (SQC) tools were developed in Japanese industry. The tools are now also applicable in other service sectors including hospitals.

KAIZEN teaches individual skills for working effectively in small groups, solving problems, documenting and improving processes, collecting and analysing data and self-managing within a peer group. KAIZEN activity must deal not only with improvement of results, but more importantly with improvement of capabilities to produce better results in the future.

KAIZEN focuses on:

- Moving rapidly from planning to implementation
- Making continued progress rather than waiting to find the perfect solution;
- Worker involvement and teamwork;
- Addressing the root causes of problems; and
- Processing improvement from systems perspective.
-

8.4.1. Preparation for KAIZEN

Through 5S activities, mind of all staff in the hospital will be changed to positive and creative for improving their work venues. They understand their current working process has been lean comparing to the situation before 5S. It is the time to start KAIZEN (Continuous Quality Improvement) process which considered meeting clients' satisfaction, productivity and safety. However, even though step up to KAIZEN process, 5S activities must be continued to maintain the platform of quality assurance.

Preconditions toward KAIZEN are known as follows.

- Enhance staff's sensitivity against problems
- Document work process
- Make highly motivated teams

If QIST considers that capacity of WIT is not enough to start KAIZEN, extra training is meaningful to strengthen their capacity

(1) KYT

KYT stands for "Kiken Yochi Training", is originally developed in Japanese Health Industry to prevent injuries in work. It means the training for enhancing abilities to predict the risk factor in working area. The trainee group will find the risk factors in the illustration and discuss how to mitigate the risk factors. It is a very useful training that the staff can identify the risk factor in their working place easily.

(2) Process Documentation

It is necessary to conduct workshop on the process documentation if the working procedures has not been documented clearly. Although QIST developed several SOPs or operation manuals as standardizing activities, some link-activities, such as procedure between doctors' diagnosis and laboratory test, preparation for an operation theatre and carrying patient into Operation Theatre, etc. might not be cleared. Based on the task flow or patient flow, the processes should be standardized. In the workshop, each WIT develops their current task flow or patient flow and discusses how to improve current task flow.

(3) Team training

The training mentioned above shall be conducted as group work for each WIT. Through the exercise, the member of WIT will understand the team work properly.

8.4.2. Gemba KAIZEN

We have to solve the issues in work place because issues are occurred in work place. It is called Gemba KAIZEN. Gemba KAIZEN is the core philosophy of KAIZEN. High quality service is produced in Gemba, is not produced through the check by QIST or management team. WIT shall be an engine to create better quality services through continuous quality improvement.

Gemba is a Japanese word meaning “real place” – now adapted in management terminology to mean the “workplace” – or that place, where value is added. In manufacturing, it usually refers to the shop floor. Go to Gemba is first principle of Gemba KAIZEN. This is a reminder that whenever abnormality occurs, or whenever a manager wishes to know the current state of operations, he or she should go to Gemba right away, since Gemba is a source of all information.

In the hospital sector, for instance, Gemba is everywhere: in OPD, ward, dispensary, operating theatre, laboratory etc. Most departments in these service companies have internal customers with whom they have inter-departmental activity, this also represents Gemba.

To start KAIZEN in Gemba, Muda offers a handy checklist and Mura and Muri offers a handy reminder for this purpose.

MUDA is a Japanese word meaning “waste” which, when applied to management of the workplace, refers to a wide range of non-value –adding activities. But this word carries a much deeper connotation. Muda refers to any activity that does not add value. Muda in Gemba has seven deadly wastes.

Seven deadly wastes

1. Overproduction: Blood draws done early to accommodate lab. Lab investigations not taken to the hepatitis B test and idling in nurse’s lockers.
2. Transportation: Moving patients for unnecessary tests. Sending two or more ambulances for the same clinic due to lack of planning in the hospital.
3. Excessive Processing: Asking a patient the same information multiple times. Nurses drawing the drug chart, observation charts rather than spending time on patient care.
4. Waiting: Inpatients waiting in X-Ray rooms, ECG rooms etc for investigations, especially during emergency.
5. Inventories: Keeping the items, which are unnecessary for the unit, condemning items,

and irrelevant items for the unit, and excessive items in a unit.

6. Movement: Looking for missing charts or equipment, searching an item for more than 30 seconds, unnecessary movements to perform a work.
7. Defects: medication errors.

MURA (Irregularity)

Whenever a smooth flow of work is interrupted in an operator's work, the flow of parts and machines, or the production schedule, there is Mura. For example, during an emergency in labour room (Post-Partum Haemorrhage), each person from Nursing Offices to the labour room are performing more than their capacity to recover the patient. But the one who goes to blood bank may take her own time to return to Labour Room (LR) without any consideration about the emergency. Therefore all the work in the labour room must be adjusted to meet the slowest person's work. Looking for such irregularities becomes an easy way to start Gemba KAIZEN.

MURI (Strenuous work)

Muri means strenuous condition for worker and machines as well as for the work processes. For instance, if a newly appointed nursing worker is assigned to assist a veteran surgeon without sufficient training, the job will be strenuous for her, and chances are that she will be slower in her work and may make many mistakes, creating Muda. For instance, if the stretcher is not properly maintained in the hospital, a minor staff may feel difficult to push it when taking a patient. This causes strain on him meaning that abnormality has occurred.

8.4.3. PDCA Cycle

PDCA (Plan-Do-Check-Act) Cycle is the core concept of KAIZEN process how to solve the problems. In the *planning* phase, people define the problem to be addressed, collect relevant data, and ascertain the problem's root cause; in the *doing* phase, people develop and implement a solution, and decide upon a measurement to gauge its effectiveness; in the *checking* phase, people confirm the results through before-and-after data comparison; in the *acting* phase, people document their results, inform others about process changes, and make recommendations for the problem to be addressed in the next PDCA cycle.

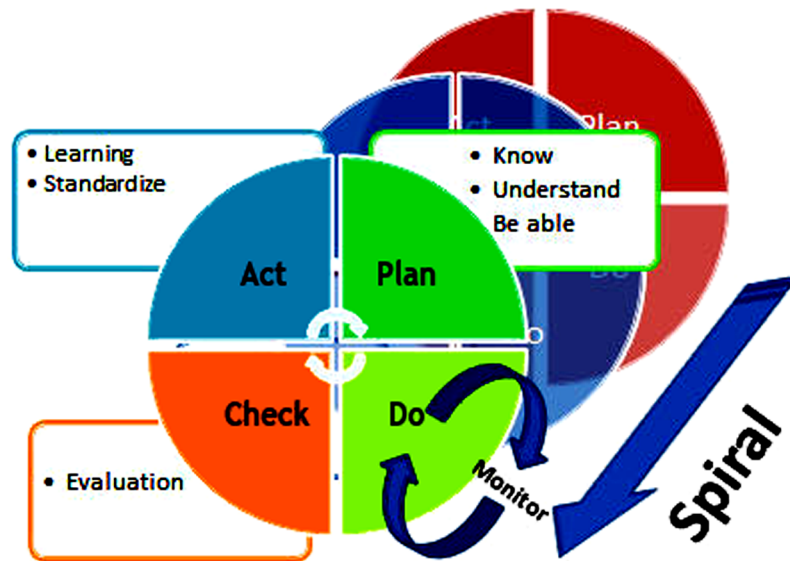


Diagram 8-6: PDCA Spiral

PLAN

Establish the objectives and processes necessary to deliver results in accordance with the expected output. By making the expected output the focus, it differs from what would be otherwise in that the completeness and accuracy of the specification is also a part of the improvement. To make plan, there are three steps; “Know”, “Understand” and “Be able”. “Know” means situation analysis, “Understand” means problems analysis and “Be able” means solution analysis.

DO

Implement the new processes, monitor the progress and consider necessary adjustment.

CHECK

Measure the new processes and compare the results against the expected results to ascertain any differences.

ACT

Analyse the differences to determine their cause. When a pass through these four steps does not result in the need to improve, refine the scope to which PDCA is applied until there is a plan that involves improvement. If result is successful, it shall be standardized.

8.4.4.KAIZEN Suggestion

To propel PDCA cycle in the hospital, WIT has to consider how to make a plan for KAIZEN. WIT members may suggest many issues/problems to be improved. The considered solution shall be implemented as KAIZEN Suggestion. KAIZEN Suggestion is an entry point of KAIZEN and brings valuable opportunities for WIT members' self-development as well as for interactive communication in the workplace. KAIZEN Suggestion makes employees' KAIZEN - consciousness and provides opportunities both to health and non-health staffs to speak out to their managers as well as among themselves.

In KAIZEN Suggestion, there are three stages as follows.

1. Encouragement

In the first stage, top manager and QIST should make every effort to help all staff who provides suggestions. No matter how primitive those suggestions are, the top management group has to handle them for the betterment of the work flow, the workplace and visitors' satisfaction. This will help the staff look at the way they do their jobs.

2. Education

In the second stage, the manager and QIST should stress employee education so that employees can provide better suggestions. In order for the staff to provide better suggestions, they should be equipped with skills to describe the problem objectively and the backgrounds.

3. Efficiency

In the third stage, after the staff is both interested and educated, the top management should be concerned with the management improvement through the suggestions.

KAIZEN Suggestion encourages staff to generate a great number of suggestions. Having these opportunities, they work hard and consider how to implement in the work, which are suggested and created by them. The top management has to prioritize the submitted KAIZEN suggestions based on the relevance, effectiveness and efficiency, and also gives the recognition to employee's efforts for improvement. An important aspect of KAIZEN Suggestion is that each suggestion, once implemented, has potentials to lead the entire work process to an upgraded standard.

8.4.5. KAIZEN Process

If selected problem is complicated, WITs might have difficulties to solve the situation. Under these circumstances, QC tools, several applicable methods to KAIZEN process, are provided to quantify the existing undesirable situations. To analyse the causes using cause-effect relationship and to select the feasible solutions are both essential in KAIZEN especially for invisible problems. The entire process, mentioned above, is so to say, a visualization process of the invisible causes.

Based on PDCA (Plan-Do-Check-Act) cycle, KAIZEN process is established as a sequential process of events, so-called “QC (Quality Control) story”. KAIZEN process is a basic procedure for solving problems scientifically, rationally, efficiently and effectively. At the same time, it is a fundamental problem solving tactics, which allows any staff or group to solve even persistent problems in a rational and scientific way. KAIZEN process consists of seven basic steps. Certain time-frame is normally set for the problem-solving process, since consciousness of time is really vital in the real work front-line. It is recommendable that one KAIZEN process has to be finalized within around six months. If KAIZEN process is shorter than six month, the work unit members involved in the process cannot cope up with each step and cannot utilize the QC tools properly. If KAIZEN process is longer than six months, the members will be bored and discouraged in tackling problem-solving. The most prioritized topic for problem-solving should be selected for respective work unit conducting KAIZEN. As already mentioned above, the solution should be achievable within six months.

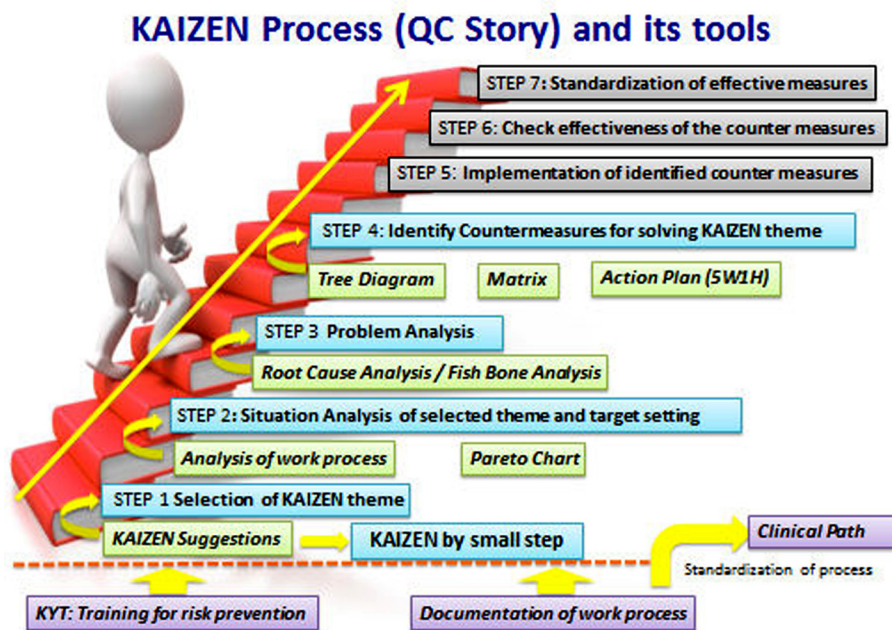


Diagram8-7: KAIZEN Process

The KAIZEN process should be taken in in the following Seven Steps:

Step 1: Selection of KAIZEN Theme

Since members of WIT will work together on KAIZEN for six months, it is important to select a challenging and appealing topic. It is called “KAIZEN Theme”.

At first, KAIZEN Theme will be suggested as KAIZEN Suggestion through the discussion in the work unit. In the KAIZEN Suggestion, KAIZEN Theme will be selected based on the criteria.

0. Necessity: The problem has to be solved by KAIZEN process
1. Impact: There is great positive influence after solving the problem
2. Urgency: The problem has to be solved immediately
3. Realization: The problem will be solved by current resources in the work place
4. Customer oriented: The problem solving will contribute to improve customer service

WIT has to notify KAIZEN Theme, which is expected to be removed through KAIZEN, to the top management via QIST.

Step 2: Situation Analysis of Selected theme and target setting

At the first step in analytical process, WIT member should collect data related to the selected theme. Both quantitative and qualitative data should be in his or her hands. It is Situation Analysis that implies the conditions related to KAIZEN Theme in the past, and the existing present one. It is useful to visualize the collected data; such as table and figure etc.

Based on the situation analysis, measurable target by the KAIZEN shall be defined. The target prefers quantitative indicators because it is easy to justify the effectiveness of countermeasures.

Step 3: Problem analysis

This step, Problem analysis, is the most important step in KAIZEN. Identifying the accurate causes shows various hints for creating solution measures. Analysing causes is actually an investigation process using the logic of "Cause-Effects relationship". Root causes, which maybe crucial ground causes of various visible problems, can be identified in this analytical process. Ideas for necessary actions, which should be taken as the countermeasures, are automatically created, in a later stage, through the brain-storming.

Step 4: Identify Countermeasures for solving KAIZEN theme

WITs look into possible countermeasures as many as possible with paying attention to the following sequences related to the nature of the targeted problem. The process for

participatory work are (1) considering the problems from all angles, (2) collecting ideas from the related parties and stakeholders in upstream and downstream segments of the work system, (3) discussing the topic in open-mind and avoiding critics for critics. Based on the collecting ideas, feasibility as countermeasures shall be evaluated in terms of 1) importance, 2) Urgency, 3) Difficulty, 4) Time consumption and 5) Resource availability.

Step 5: Implementation of identified counter measures

Some feasible countermeasures are selected to solve the problems. For proper implementation of the countermeasures, “Action plan for KAIZEN” shall be formulated before commencement of the activities.

In the action plan, following contents shall be fulfilled by each counter measure;

- Why: purpose of the activity
- What: target of the activity
- Who: responsible person of the activity
- When: duration of the activity
- Where: place implementing the activity
- How: procedure of the activity

Prior to implementation of the countermeasures, recording the present situation with constraints is essential activity for the convenience of the future monitoring and evaluation processes. For visualization purpose and also for easiness in demonstration of changes, photo and/or video-takings are highly recommendable. The each step of the countermeasure implementation should be properly recorded, with summary, in documents. It is expected that this procedure comes to be a part of routine administrative practice in wider range in the entire hospital.

Step 6: Check effectiveness of the counter measures

At the end of the implementation, WITs check the results of the countermeasures and the attainment of the target set at Step 2. The data for the evaluation had better be collected same way in the Situation Analysis. In the evaluation, influenced factors to promote or inhibit are also considered.

Step 7: Standardization of effective measures

Based on the evaluation of the countermeasures, WITs consider the means to prevent backsliding, to sustain the effectiveness and to expand the relevant countermeasures to other part of the organization through the standardization of procedures, which are formulated based on the outcomes and evidences in KAIZEN process.

8.5. TQM

Total Quality Management (TQM) is a description of the culture, attitude and organization of a health facility that strives to provide clients with services that satisfy their needs. The culture requires quality in all aspects of the facility's operations, with processes being done right the first time and defects and waste eradicated from operations.

In health sector, particularly in public sector hospital services, TQM should be understood to be an approach promoting maximum utilization of limited resources and an approach seeking elimination of non-productive activities. In hospitals, every client or patient wishes to be taken care under smooth implementation of hospital services all the venues from the entrance to the exit.

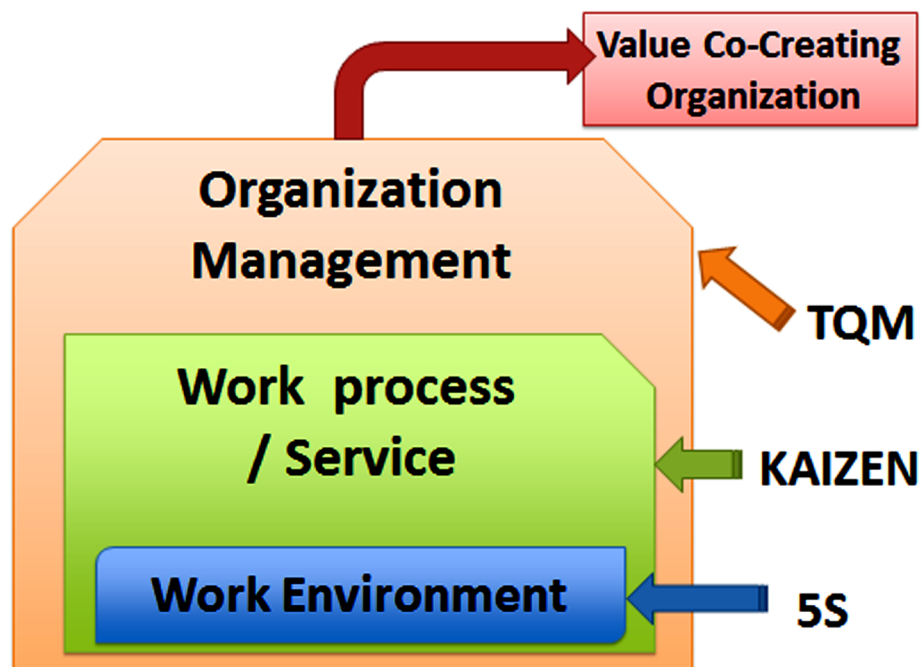


Diagram 8-8: Relationship of 5S, KAIZEN and TQM

The above diagram indicates what health facility management team should consider. At the beginning, consider creating good working environment to enable health workers to be competent towards to provide high quality of services. They should, then, consider clients satisfaction to improve clinical and non-clinical (responsiveness) issues with KAIZEN activities. Other related issues such as financial and human resource management should be also considered. Considering quality linkages in all services, in all departments and sections is called Total Quality Management. TQM is organizational or management approach toward to be Value Co-Creating Organization.

Chapter 9

Supportive Supervision of 5S-KAIZEN (CQI)-TQM Activities

9.1. Monitoring and Evaluation under Supportive Supervision

9.1.1. Monitoring and Evaluation

Monitoring and evaluation (M & E) is an integral component of quality improvement in health services. Health managers, in-charges of hospitals/departments, programme managers/staff, and other health workers need to know about M & E. In this case they need not to be its experts but the basic understanding of M & E is adequate including data collection, processing, analysis, and use.

The knowledge about M & E helps health workers in health sector to effectively monitor and evaluate their health facilities or programme; and hence strengthens the performance. This chapter aims at highlighting M & E essentials for the implementation of 5S-KAIZEN-TQM based on Quality Assurance Policy approaches in Health Sector in Malawi.

Monitoring refers to an on-going activity to track progress in implementation of activities in a health facility or programme, against planned tasks. Data are systematically collected, analysed and used to provide information to policy makers, health managers, directors, in-charges, QIST members and others (including stakeholders), for reviewing the achievement and adjustment of the activities if necessary.

Evaluation represents a set of procedures and analytical tools to examine how interventions or activities are implemented; their level of performance; and whether they have the impact they were intended to have. Evaluation helps to assess the effectiveness, relevance and impact of intervention/activities towards achievement of the set goals.

9.1.2. Supportive Supervision

M & E is crucial in QAPs as a part of Supportive Supervision. It is particularly due to the fact that it:

- Assists health managers, directors, in-charges, QIST, staff, and others in the health sector in performing the day-to-day management of health facilities and programme.
- Provides information for strategic planning, design and implementation of health interventions and programme.
- Assists in making informed decisions on the prudent use of meagre resources available.
- Helps to improve performance by identifying those aspects that are working according to plan, and those aspects, which need a mid-course correction.
- Tracks changes in services provided and in the desired outcomes.
- Assists better human condition in terms of safe working environment, and improved health status.
- Puts up a system for transparent accountability.

Although the supportive supervision is conducted in the other QAPs, the procedure of each QAP is different. In future, the supportive supervision will be integrated as implementing at same time to reduce the burden of the facility.

9.2. Internal Supervision

9.2.1. Supportive Supervision by QIST

QIST has responsibility of conducting monitoring, evaluation and support of 5S activities within the hospital. QIST should monitor and evaluate their own performance and visit the sections or departments that are practicing 5S-KAIZEN-TQM activities periodically. These kinds of visit and exchange opinions with WIT are important to find problems and have ideas of their solutions. It is also useful to provide technical support, advice, mentoring or coaching, if necessary. Points of supportive supervision are as follows:

- Leadership and ownership of WIT
- Action Plan development
- Performance of Sort, Set, Shine, Standardize and Sustain activities
- Performance of WITs members

Monitoring check sheets are useful to measure points above.

If 5S activities are in place and became a culture of the health facility (maintenance phase), consider going for next step and monitor and evaluate the issues for KAIZEN achievements;

- Enhance staff's sensitivity against problems
- Describe documents of work process
- Make high motivated team

9.2.2. Monitoring by WIT

WIT has responsibility for conducting monitoring of day-to-day 5S practices and KAIZEN activities that are suggested and executed within their work place. Process of 5S and KAIZEN activities must be documented and the results shall be shared within the department/sections.

WIT will also inform the results to the hospital QIST. WIT should develop their own checklist to suit in their work environment.

9.3. External Supportive Supervision

9.3.1 Structure

External supportive supervision under QAPs is implemented by national level to Central hospitals, Zonal Health Office to District level and by DHMT to Health centres. Information sharing is an essential component of external supportive supervision.

The Zonal level has to be given an important role to proceeding 5S-KAIZEN activities for health facilities in the zone as well as QAPs structure. District Health Management Team is responsible for coaching and supervising to the district hospital and health centres in the district. Report of Internal supportive supervision shall be sent from lower level to upper level and also shall be shared to the zonal and national level. Central hospitals will be monitored and communicated through monitoring system to the national level directly. The national level will also support zonal level to promote monitoring and supervising.

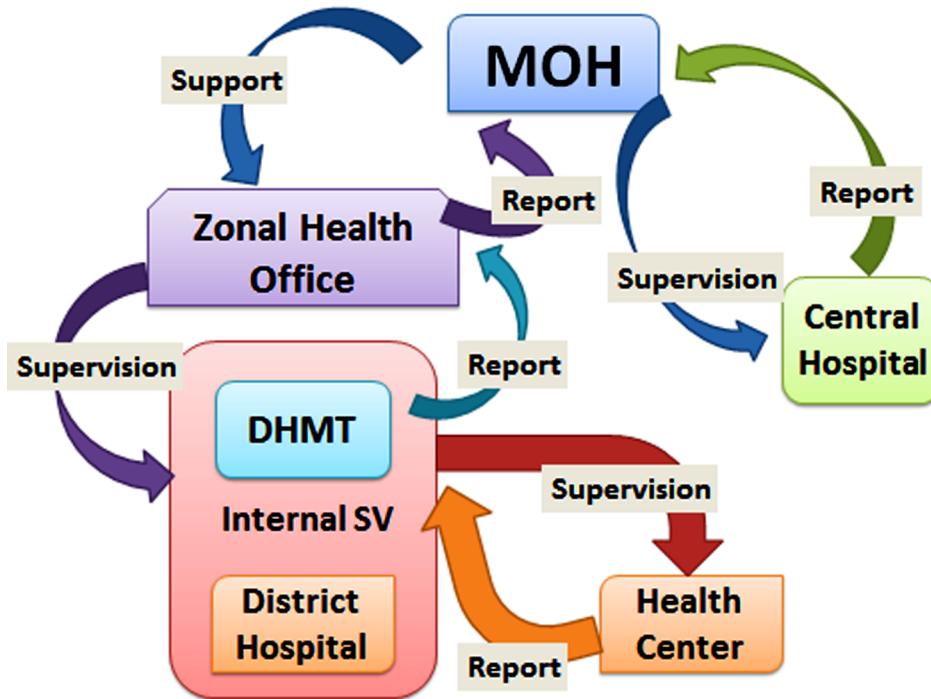


Diagram 9-1: External Monitoring Structure

9.3.2. Procedure

For the monitoring of DHMT and District Hospital, Zonal Health Office provides Monitoring team. The member of the team will be selected from Zonal Health Office and QIST member of another district in the zone. Zonal Health office can also ask MOH sending the monitoring member out of the zone. The monitoring team monitor the progress of the activities by monitoring check sheet and also review the action plan of the district hospital. Photos shall be taken in the monitoring procedures. The result of the monitoring has to be feedback to the staff of the district hospital and report of the monitoring shall be written by Zonal Health Office, DHMT, District Hospital and MOH.

Though procedure of the monitoring at health centres is similar to that of District Hospital, main actor for the monitoring is DHMT.

Reference

Hasegawa. T and Karandagoda. W (ed.) (2013) Change Management For Hospitals Through Stepwise Approach, 5S-KAIZN-TQM. 2nd Ed. Tokyo: Japan International Cooperation Agency

The United Republic of Tanzania, Ministry of Health and Social Welfare (2011) Implementation Guidelines for 5S-CQI (KAIZEN)-TQM Approaches in Tanzania “Foundation of all Quality Improvement Programs”. 2nd Edition. Tanzania

The United Republic of Tanzania, Ministry of Health and Social Welfare (2013) Implementation Guidelines for 5S-KAIZEN-TQM Approaches in Tanzania “Foundation of all Quality Improvement Programs”. 3rd Edition. Tanzania (ISBN No. 978-9987-737-04-8)



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