ADDIS ABABA UNIVERSITY
SCHOOL OF INFORMATION SCIENCE AND SCHOOL OF PUBLIC HEALTH
M.Sc. IN HEALTH INFORMATICS PROGRAMME

PROJECT TITLE

EVIDENCE BASED DECISION MAKING TO THE CONTINUOUS QUALITY IMPROVEMENT OF LABOUR AND DELIVERY SERVICES IN SAINT PAUL HOSPITAL MILLENNIUM MEDICAL COLLEGE

BY:-
SOLOMON W/AMANUEL

JULY, 2014

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APPROVED BY ADVISORS AND BOARD OF EXAMINERS

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Dedication

This project work is dedicated to my beloved father, Ato Woldeamanuel Birru , my brothers Mamushet , Gashaw , Fisseha and my sisters Elfinesh , Etenesh, Aynalem & Etagegne.

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First of all I owe my heart-felt gratitude to Almighty God, His mother Saint Virgin Mary and all of His Saints for their being with me in every aspects of my life including this project work.

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Acronyms and Abbreviations

BPR	Business Process Reengineering
CQI	Continuous Quality Improvement
DMAIC	Define, Measure, Analyse, Improve, Control
EBP	Evidence Base Practice
FMOH	Federal Ministry of Health
IRB	Institutional Review Board
ISO	International Organization for Standardization
HMIS	Health management Information System
PDCA	Plan, Do, Check, Act
PDSA	Plan, Do, Study, Act
QI	Quality Improvement
QMS	Quality Management System
QOF	Quality and Outcomes Framework
RHB	Regional Health Bureau
SPC	Statistical Process Control Charts
SPHMMC	Saint Paul Hospital Millennium Medical College
SPSS	Statistical Package for Social Science
TQM	Total quality management

Abstract

Background: Delivering high quality health service by health facilities is achieved through the implementation of continuous quality improvement. Good health information systems are crucial for addressing health challenges and improving health service delivery in developing countries. However, the quality of the data produced by such systems is often poor and the data are not used effectively for decision-making.

Objective: The objective of this project is to improve the quality of labor and delivery service through evidence based decision making in Saint Paul's Hospital Millennium Medical College.

Methodology: A descriptive study design with quantitative method was employed to conduct the baseline assessment before the implementation of the project in Saint Paul's Hospital Millennium Medical College from April to June 2014. The whole health professionals working in the labor and delivery unit were participated in the assessment. The data were collected using self administered closed structured questionnaire and analyzed using SPSS version 16.0. As part of the intervention and problem solving mechanism, the baseline assessment was presented and also orientation on data quality, health service quality and model for quality improvement were given to the quality management team of the labor and delivery unit and action plan was designed after a through discussion on the results and the orientation to solve the problems identified.

Results: The findings of this project have shown that among the total respondents 54.8 % of the respondents did not have knowledge of quality improvement project. About 67.1 % of the study participants did not know about Key Performance Indicator (KPIs). In addition 32% of the respondents said that the team work; and 29% said knowledge about the project were the critical factors to successful implementation of Quality Improvement Project. Around 51.1 % of the respondents did not agree that the labor and delivery unit has quality of data. Even though 71.1 % of the managers responded that there is no clear quality policy within the hospital, the same percentage responded about the availability of quality improvement program. Coming to the evaluation of the staff's commitment for the quality improvement project; the majority, 85.7 %, of the respondents responded that the staffs were fairly committed. Since this project is on progress its effect will be appreciated in the future after the proper implementation of the action plan designed.

Conclusion and Recommendation: High proportion of the staff did not know about the quality improvement project; for this and other reasons the quality of data in the labor and delivery unit is found to be poor; however they all have shown their interest to work in team and also to have training in quality improvement project. Possible solutions proposed and intervention was given.

CHAPTER ONE: Introduction

1.1 Background

Sound and reliable information is the foundation of decision-making across all health system building blocks, and is essential for health system policy development and implementation, governance and regulation, health research, human resources development, health education and training, service delivery and financing. The health information system provides the underpinnings for decision-making and has four key functions: data generation, compilation, analysis and synthesis, and communication and use. The health information system collects data from the health sector and other relevant sectors, analyses the data and ensures their overall quality, relevance and timeliness, and converts data into information for health-related decision-making (1).

Quality Improvement (QI) is a proven, effective way to improve care for patients, residents and clients, and to improve practice for staff. In the healthcare system, there are always opportunities to optimize, streamline, develop and test processes, and QI should be a continuous process and an integral part of everyone's work, regardless of role or position within the organization (2).

International evidence suggests that improving the quality of obstetric care can directly reduce maternal and neonatal deaths. Accurate and reliable data are needed on the quality of services provided at health facilities in Ethiopia, especially for complicated deliveries involving postpartum hemorrhage, pre-eclampsia/eclampsia, and newborn asphyxia (2).

Health service quality is the key component of the health sector development plan IV and the Ethiopian Health reform implementation guideline addressed quality management as one chapter of the reform implementation (3). As part of this national effort, the reform in the health sector has been intensified through the application of a new concept known as Business Process Reengineering (BPR). In addition a process itself forms a fundamental rethinking and requires a purposeful and radical redesign of health business processes to achieve dramatic improvements in critical, contemporary measures of performance such as cost, quality, service and speed (4).

Delivering high quality health service by health facilities is achieved through the implementation of continuous quality improvement (3). Quality improvement is now a driving force in health care and is an essential aspect of service delivery at all levels (5). Good health information systems are crucial for addressing health challenges and improving health service delivery in developing countries. However, the quality of the data produced by such systems is often poor and the data are not used effectively for decision-making (1).

St. Paul hospital Millennium Medical College is found in Addis Ababa under the Federal Ministry of Health (FMOH) it is one of the known public hospitals in the nation, and was built in 1969 EC by the Emperor Haileselassie with the help of the German Evangelical Church. Since 2007, it has become a medical college by opening a medical school with the initiative of the Federal Ministry of Health and its core services are medical care, teaching and research .The College currently has more than 950 clinical and non clinical staffs (out of which 68 are academic staffs) that provide medical specialty services to an estimated 110,000 – 115,000 people annually who are referred from all over the country with its 345 beds and an average of 700 patients and clients visit the hospital as outpatient and emergency daily. The hospital provides health care through its different clinical departments. Annually there are approximately 3600 deliveries in the hospital. There is little practice in

the quality improvement project in Saint Paul's Hospital Millennium Medical College that contributes to the difficulty to improve the quality of labor and delivery health service and end up with poor decision making.

1.2 Statement of the problem

There is a worldwide concern over the quality of healthcare services being provided to patients. The hospitals & other healthcare service providers are increasingly using the quality management techniques for ensuring patient care & patient safety (6). The governments in various countries are also encouraging the healthcare service providers to adopt international or national standards on healthcare quality leading to accreditation of these organizations (7). Although Total Quality Management / Continuous Quality Improvement has been widely adopted in health care (in name at least), there have been significant problems in embedding the core approach in health care organizations (8).

A general commitment to improving quality is insufficient to promote substantive change. Substantive change involves redesign of processes and sub-systems to improve health outcomes and is crucially dependent on skilled leadership and management (9).

Improving the quality of obstetric care at health facilities is a challenge that must be undertaken to reduce maternal deaths and enable developing countries to achieve their targets for MDGs 4 and 5 (10). The process of providing care in developing countries is often poor and varies widely. A large body of evidence from industrial countries consistently shows variations in process, and these findings have transformed how quality of care is perceived (11)

Many low- and middle-income countries have developed ambitious health policies and strategies to improve health service delivery (HSD) and attain the health-related Millennium Development Goals, but have difficulty in matching implementation with their aspirations (12).

Deficiencies in quality of care represent neither the failure of professional compassion nor necessarily a lack of resources. Rather, they result from gaps in knowledge, inappropriate applications of available technology, or the inability of organizations to change. Local health care systems may have failed to align practitioner incentives and objectives, to measure clinical practice, or to link quality improvement to better health outcomes (11).The complexity of health care systems and delivery of services, the unpredictable nature of health care, and the occupational differentiation and interdependence among clinicians and systems make measuring quality difficult (13).

The literature on quality improvement in health care focuses on healthcare processes in institutions, mainly in developed countries. The literature on quality improvement in developing countries is limited, on community health care in developing countries scarce. Quality improvement is data-driven and is led by managers but carried out by ‘empowered’ cross-functional teams (9).

The improvement of quality is central to the reform of health systems and service delivery. All countries face challenges to ensure access, equity, safety and participation of patients, and to develop skills, technology and evidence-based medicine within available resources (14).

Federal Ministry of Health of Ethiopia has developed the quality improvement guideline and hospital performance monitoring and improvement manual of Ethiopia. Despite the utilization of the guideline and the manual, quality improvement is not fully implemented in Saint Paul's Hospital Millennium Medical College. However there is little practice in the HIV/TB and ART clinic. Hence I believe, this project will contribute in identifying the major problems which became challenges for the efficient implementation of the quality improvement project in the labor and delivery department and exploring the possible solutions in order to meet the standards of quality labor and delivery service and benchmarking the best practice to other departments within the hospital and health institutions outside the hospital.

1.3 Objectives of the Project

1.3.1. General Objective

The general objective of this project is to design continuous quality improvement for labor and delivery service through evidence based decision making in Saint Paul's Hospital Millennium Medical College.

1.3.2. Specific Objectives

- To identify the major problems related to information in the labor and delivery unit
- To introduce quality improvement model to labor and delivery unit
- To guide evidence based decision making

1.4. Significance of the Project

Data helps us to understand and improve our service by giving us the tools to describe what's going on and to compare our performance, either against known standards or against previous performance (15). It is important to optimize existing events and processes by applying, monitoring, and improving the key elements of the quality improvement cycle. The right information system will enable the quality improvement cycle, and will consequently provide the data collection, automation, and analytics that are necessary for continuous improvement (16). The measurement of quality is essential if quality is to be managed effectively and the continuous quality improvement cycle is to work in practice (10).

The quality of data is becoming very important concern because of its importance not only in promoting health but also impact on government budget for the maintenance for health care setting. Therefore, the accurate and timely information plays important role for the smooth running of health care service and assisting the government regarding decision making on the provision of quality care service at regional and national level

Thus, implementing this project on evidence base decision making to the continuous quality improvement of labor and delivery services in Saint Paul Hospital will help labouring mother to receive better and safer care as long as healthcare professionals have access to accurate and reliable data to support decision making. In addition this will facilitate the achievement of organizational mission and contributes to the achievement of MDG 4and 5. This project work will also be significant to other departments within the institution and other government and nongovernment organization outside the institution.

1.5. Scope and limitations of the Project

1.5.1. Scope of the project

The scope of the project is to recommend continuous quality improvement for labor and delivery service in Saint Paul's Hospital Millennium Medical College. The project is bounded to the identification of the information and knowledge gap of quality improvement project and proposing possible solutions to improve the quality of labor and delivery services.

1.5.2. Limitation of the project

The project did not include other departments within the hospital and the same services outside the hospital. The time allocated to the project was not enough. It would have been better if training had been given on the software development to support the master student in health informatics to develop workable software to manage the data handling system and come up with evidence base decision making. The process of obtaining ethical clearance from the university and approval from the institutional review board was also other challenge of the project work.

1.6. Deliverables and Expected Outputs

- Result of baseline assessment (Clear evidence of the quality gaps.)
- Most possible solutions to strengthen the quality improvement projects.
- Producing document of the project work

CHAPTER TWO: Literature Review

2.1. General literature

2.1.1. Continuous Quality Improvement (CQI)

The National Child Welfare Resource Center for Organizational Improvement and Casey Family Programs defined continuous quality improvement as "the complete process of identifying, describing, and analyzing strengths and problems and then testing, implementing, learning from, and revising solutions". It relies on an organizational and/or system culture that is proactive and supports continuous learning. It is firmly grounded in the overall mission, vision, and values of the agency/system (17).

CQI is also used interchangeably with total quality control and it is a philosophy of management that aims to help organizations of all kinds improve performance through eliminating poor quality during production or delivery of the product or service rather than through trying to fix the results after the product has been made or the service given (18). Another way of explaining about CQI is "Total Quality Management" (TQM) which is a quality management system that requires the cooperative endeavour of every one in the organization to produce services or products that looks at quality from the customer's perspective. All services or products must meet or exceed the customer's expectations. Under TQM, quality is an essential part of every stage of the production process and not merely an inspection at the end (19).

2.1.2. Continuous Quality Improvement in Healthcare

According to Quality management for health care delivery published in 2003, continuous quality improvement has been used in the manufacturing world more extensively than in the healthcare field. However, the underlying foundation of medicine is in fact quite closely tied to the principles of CQI. This includes the observation of a phenomenon, isolating variables and changing the process, observing the results and taking action. If the results are beneficial, continue with the change and look for the next area to improve. If the results are adverse, discard them and try something else. Continue to observe the results until a pattern of foreseeable results emerges from performing certain actions (18).

As healthcare professionals learn the concepts and strategies behind CQI, they will infuse their scientific background and experience into the program. Innovative measures and positive results follow quickly. These results include higher quality of service delivered, happier patients and customers, and lower costs. Quality Control has proven time and again to cut costs dramatically. In addition leaders in every field constantly strive for improvement, working toward the highest quality possible. Improved quality not only can improve the quality of life, it can actually give life, extend life and permit life! In no other domain can the benefits of quality improvement prove so beneficial and the lack thereof is so costly (20).

Continuous quality improvement has got different benefits in the health care settings. It has internal and external benefits, such as improved accountability, improved staff morale, refined service delivery process, flexibility to meet service need changes, Enhances information management, client tracking & documentation. It is also a means to determine & track program integrity and effectiveness, lends itself to design of new programs & program components, and allows creative/innovative solutions (21).

2.1.3. Quality Improvement Model for Improvement

The Model for Improvement has two basic components: the first addresses three fundamental questions these are: What are we trying to accomplish? (Aim), how will we know if a change is an improvement? (Measure) and what changes can we make that will result in improvement? (Change) and the second is the rapid cycle improvement process comprising a series of PDSA cycles to develop, test and implement changes for improvement. The Model for Improvement is a simple but powerful framework for structuring any quality improvement (QI) project. QI teams that use this model have the highest chance of success (22).

Quality improvement projects and studies aimed at making positive changes in health care processes to effecting favourable outcomes we can use the Plan-Do-Study-Act (PDSA) model. The PDSA cycle was first developed by Walter Shewhart, later refined by W. Edwards Deming, and recently made popular in medical service settings by the Institute for Healthcare Improvement (IHI) (23). The cycle also calls for action oriented learning in quality improvement. Team members using the PDSA model design a quality-improvement intervention (plan), implement it on a small scale (do), evaluate the results (study), and implement or alter the intervention accordingly (act) (24).

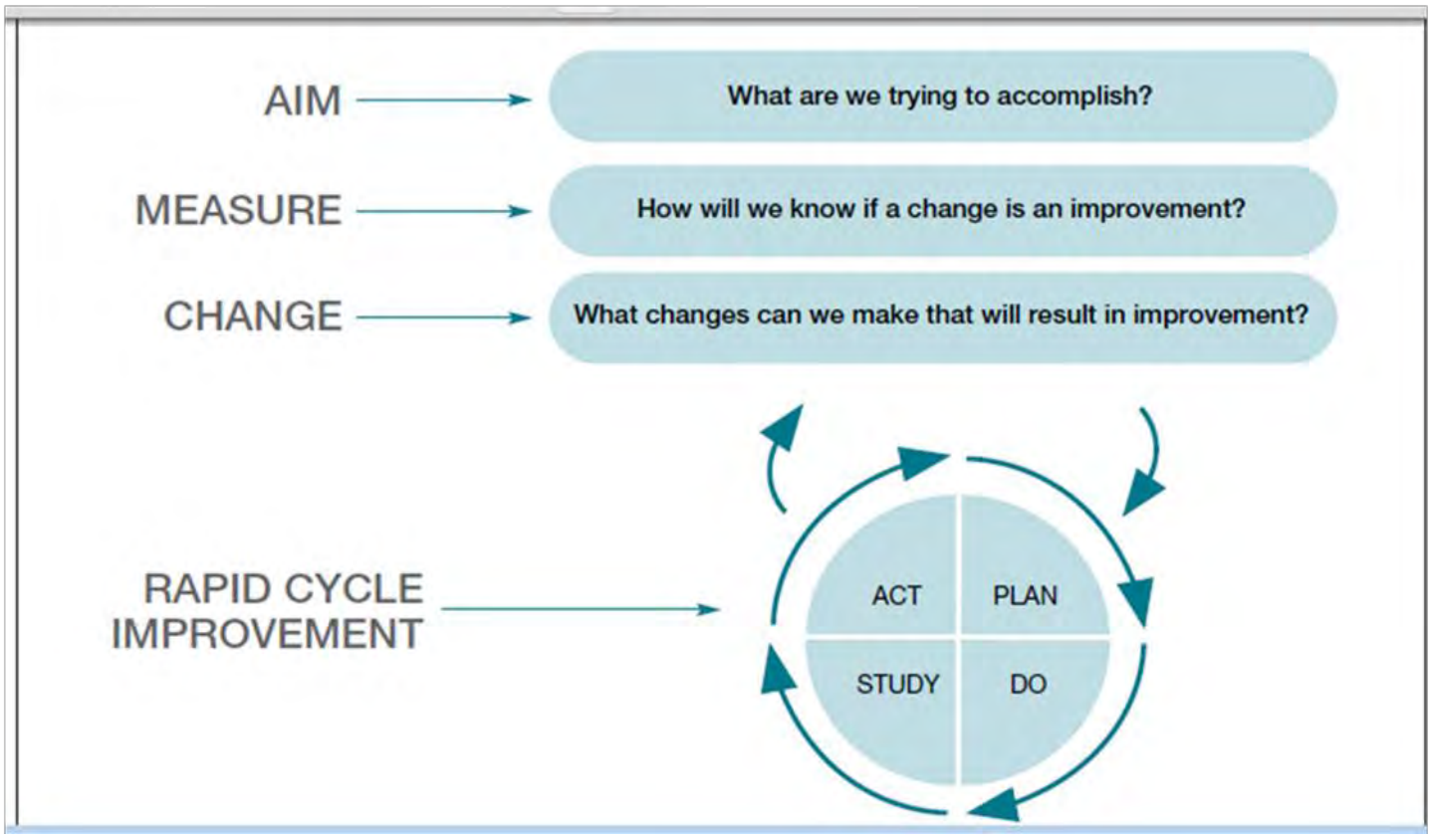

Figure 1: Model for quality improvement
(Adapted from: Dr. W. Edwards Deming and Dr. Joseph Juran, and promoted by Dr. Donald Berwick of the Institute for Healthcare Improvement, 2012.) (22).

2.1.4. Assembling the team for quality improvement

To implement continuous quality improvement, organizations should form a team that has knowledge of the system needing improvement, define a clear aim, and understand the needs of those served by the system, and identify and define measures of success. In addition, organizations can advance toward continuous quality improvement by brainstorming potential change strategies; planning, collecting, and using data for effective decision-making; and applying the scientific method to test and refine changes (25).

To be successful, a quality improvement (QI) initiative needs the support of the whole team from the receptionist and clerk to managers, providers and others. It is said; although the team needs to be inclusive, inviting a maximum of 10 people to join keeps it manageable (22). It is recommended by other literature that the

improvement teams to be typically consist of 3 to 9 people who routinely work in the care process under investigation (26).

Identify a leader who is respected and has credibility among peers. Be open to including constructive skeptics who have legitimate concerns but are open to change. Sometimes, teams choose to include a member from outside their service group because of interdependency with other parts of the system. For example, the emergency department may consider someone from the lab, or primary care may consider a local diabetes education representative (22). The success of any quality improvement (QI) endeavour depends on the team working on it. It is not the number of people, but rather how well they function and work together, that makes a team successful. QI team members must respect each other, and share common goals, vision, agendas, and timelines to be successful. QI teams work best when each team member has a good disposition toward making the improvement (21).

2.1.5. Data and quality improvement

Quality improvement is now a driving force in health care and is an essential aspect of service delivery at all levels. Put simply, quality is everyone's business. But, unless we measure, it's difficult to know exactly what to improve and whether we have in fact achieved improvement, so efforts to improve systems or processes must be driven by reliable data. Data not only enables us to accurately identify problems, it also assists to prioritize quality improvement initiatives and enables objective assessment of whether change and improvement have indeed occurred. Collecting and analyzing data are therefore central to the function of quality improvement in any health service. The good news is that you don't have to be a statistician to be successful in quality improvement (15).

2.1.6. The role of data in quality improvement

Having understanding health service organisations as the complex adaptive systems, making changes to improve quality of care can therefore be a complex business. Fundamentally it requires us to understand what is happening in the delivery of our health services, what factors affect delivery and how we can influence them to achieve improvement. In such a complex system, solid evidence is what we need to support decision making, rather than information based on isolated occurrences, assumptions, emotion or politics. With this in mind it is useful to consider that quality improvement can be both reactive and proactive. For instance, most health services collect and analyse data routinely across various quality domains, thus problems are often clear and self-evident and the health service reacts to introduce appropriate improvements. Data therefore helps to 'push' improvement by identifying problems, and to 'pull' improvement by identifying opportunities. Data helps us to understand and improve our service by giving us the tools to describe what's going on and to compare our performance, either against known standards or against previous performance (15).

2.1.1. Performance Monitoring and Quality Improvement

According to Alison M. Dean, Christopher Kiu, (2002) defined Performance Monitoring as the continuous tracking of priority information on conducted activities and the indicators of success in order to identify achievement gaps and lessons learnt as an input for subsequent leading to the planning and implementation of corrective measures. In regard to quality Improvement Process it is a performance monitoring activity by which health facilities themselves use the opportunity of using locally available data generated during provision of health service to improve quality of health care through a continuous process of measurement and improvement. (24). Performance monitoring involves both efficiency (costs) and effectiveness (quality) measures; however, there is little guidance from the literature to indicate the best approaches in different contexts (27).

Monitoring and evaluation (M&E) is an action-oriented and pre-planned management tool that operates on adequate, relevant, and reliable and timely collected, compiled and analyzed information on programme/project objectives, targets and activities. The objectives of M&E are to improve the management and optimum use of resources of programme and to make timely decisions to resolve constraints and/or problems of implementation. The key elements for a successful programme management and implementation are the designing of a programme built on a hierarchy of objectives, targets, activities and measurable indicators. Agreed indicators are the most important management tools for monitoring, review and evaluation purposes. Indicators are always directly linked to the objective setting of a programme (28).

In many organisations, "monitoring and evaluation" is something that is seen as a donor requirement rather than a management tool. Donors are certainly entitled to know whether their money is being properly spent, and whether it is being well spent. But the primary (most important) use of monitoring and evaluation should be for the organisation or project itself to see how it is doing against objectives, whether it is having an impact, whether it is working efficiently, and to learn how to do it better (29).

2.1.7. Quality Improvement Strategies

More than 40 years ago Donabedian proposed measuring the quality of health care by observing its structure, processes, and outcomes. Structure measures assess the accessibility, availability, and quality of resources, such as health insurance, bed capacity of a hospital, and number of nurses with advanced training. Process measures assess the delivery of health care services by clinicians and providers, such as using guidelines for care of diabetic patients. Outcome measures indicate the final result of health care and can be influenced by environmental and behavioral factors. Examples include mortality, patient satisfaction, and improved health status. (12) The IOM has argued in favour of a redesign of the health care process, effective use of information technology, coordination of the patient's state of health, therapy, and environment over time and measurement of outcome to continuously improve quality with the aim of reducing errors and improving institutional and process quality (30).

2.1.8. Evidence-based practice

Different scholars have written about the evidence based practice. In the nursing profession it is described as the use of the best available evidence together with a clinician's expertise and a patient's values and preferences in making health care decisions. The Prevention and Chronic Care Program works to expand the available evidence base for evidence-based practice and to ensure clinicians have the tools to put this knowledge base into practice. Clinical decision support provides timely information, usually at the point of care, to help inform decisions about a patient's care. Clinical decision support can effectively improve patient outcomes and lead to higher-quality health care (30).

During the 1980s, the term "evidence-based medicine" emerged to describe the approach that used scientific evidence to determine the best practice. Later, the term shifted to become "evidence-based practice" as clinicians other than physicians recognized the importance of scientific evidence in clinical decision-making. Various definitions of evidence-based practice (EBP) have emerged in the literature, but the most commonly used definition is, "the conscientious, explicit, and judicious use of the current best evidence in making decisions about the care of individual patients" (31).

2.1.9. Evidence-Based Decision Making

For centuries, medical practice has been based mostly on clinical experience and judgment. Several recent developments have increased the promise and imperative of evidence-based decision making. Proponents of evidence-based decision making have always recognized that evidence is never the sole determinant of clinical or policy decisions. Decisions for individual patients must integrate evidence with information on clinical circumstances and patients' preferences, while policy decisions need to consider values and resources along with evidence. The importance of scientific evidence in various decisions is also a function of available evidence, the number of competing considerations, and the culture and context of the decision makers. (32)

This evidence base decision making can be supported with evidence base practice (EBP) which encompasses multiple types of evidence such as research findings, research reviews and evidence-based theory and the integration of that evidence with clinical expertise and patient preferences and values (33).

2.2. Related literature

2.2.1. Quality improvement programmes

The most studied subcategory of quality programmes is hospital quality programmes, particularly US hospital total quality management programmes, later called continuous quality improvement programmes. Out of the several non-systematic reviews have been carried out, there is evidence from some studies that certain factors appear to be necessary to motivate and sustain implementation and to create conditions likely to produce results. The most commonly reported are senior management commitment, sustained attention and the right type of management roles at different levels, a focus on customer needs, physician involvement, sufficient resources, careful programme management, practical and relevant training which personnel can use immediately, and the right culture (34). Much of the current literature on CQI has come from studies in hospitals and has focused on best practices rather than adoption (35).

A national survey of United States hospitals in 1993 found that 69 percent had adopted and were beginning to implement some form of CQI program. According to the survey finding in improving the work of pediatric immunization rate the nineteen medical clinics with health partners in the twin cities organized a multidisciplinary CQI team to improve the immunization rates of two year old children. They used various CQI techniques (flow charts control charts, cause and effect diagrams) to determine the cause of late or missed appointments which is discovered to be chiefly missed opportunities when the child was in the clinic for another reasons. Based on the finding certain interventions were implemented and these resulted in an increase in immunization from 53 percent to 86 percent over a period of four quarter (36).

In the study of total quality management in Nigeria, several important principles of this management philosophy that influence its successful implementation are brought to the forefront. These include management commitment, customer focus and satisfaction, employee empowerment, continuous improvement, and organizational culture and attitudes. Others are education, teamwork, communication, measurement, and process chain (37).

According to different literature, CQI is to be supported with a well structured data handling system to arrive at effective and evidence base decision. Finland is implementing FinnWell, comprising an electronic patient record systems, interoperability, e-prescribing, e-referrals, home care, telemedicine, decision support, standards-based systems, component- based systems and home monitoring systems. Germany has started an ambitious project to build a national infrastructure with health professional cards, patient cards, and electronic prescriptions, finally aiming at electronic medical records. Denmark currently implements the National IT Strategy for the Danish Health Service which will be completed by 2007. In the Netherlands a national IT institute for healthcare was founded in 2002 to establish national healthcare information system architecture with an electronic health record system as a core component (29).

There are very few in-depth case studies in health care that offer empirical findings to support the value of continuous quality improvement. Although most American health care organizations would report that they already practice CQI, this probably is not true. To implement CQI properly throughout an organization may take from 5-7 years. Because of the resources needed for proper implementation, American health care organizations have been reluctant to fully implement CQI. Other countries however have been willing to allocate the resources necessary to properly implement CQI. In Denmark, for example there is national quality of care development policy. In Norway, the government has legally mandated the implementation of quality systems based on the customer focus, process improvement, and total involvement by the year 2000. In German hospitals, extra funding is available for participating in a government based quality improvement program (38).

2.2.2. Quality of care in developing countries

The process of providing care in developing countries is often poor and varies widely (24). For the CQI, organizational processes are the objects of improvement, and there improvement is the key better quality. One of the CQI's important contributions is its development of effective, simplified techniques that are accessible to employees with out an advanced education (39).

A large body of evidence from industrial countries consistently shows variations in process, and these findings have transformed how quality of care is perceived. A 2002 study found that physicians complied with evidence-based guidelines for at least 80 percent of patients in only 8 of 306 U.S. hospital regions. Studies from developing countries show similar results. For instance, care in tertiary and teaching hospitals and care provided by specialists may be better than care for the same cases in primary care facilities and by generalists. One explanation for variation and low-quality care in the developing world is lack of resources. Limited data indicate, however, that high-quality care can be provided even in environments with severely constrained resources (24).

2.2.3. Evidence base decision making

According to a meta analysis done by Heater, demonstrated that nursing practice based on evidence improves patient care, as compared to traditional practices. Moreover, as nurses are increasingly more involved in clinical decision making, it is becoming important for them to utilize the best evidence to make effective and justifiable decisions. A number of studies investigating nurses' perceptions show that nurses generally view EBP positively and consider it important to better patient care (40).

The other related terms to the decision making is the shared decision making. According to US Institute of Medicine has put the six domains of quality: patient-centred experience, effectiveness, efficiency, timeliness, equity and safety. The term shared decision making has been used to describe many aspects of patient involvement in their health and care, including access to personal health records, personal health budgets, care planning and decision aids (41).

Another literature review found that shared decision making had a positive effect on patient satisfaction and had more impact than gender, education or the number of healthcare visits. There is emerging evidence that helping people to share in decision making about their care can have benefits for people using services and their families, particularly in terms of patient satisfaction. Interviews with patients, general practitioners, health managers and researchers in Germany found that shared decision making was considered most important for people with severe illness and long-term conditions. A study in Canada found that less educated women were less likely to engage in shared decision making, largely because they lacked confidence in their ability to understand information and make decisions (41).

CHAPTER THREE: Methodology

3.1. Setting

Since 1994, Ethiopia has been managing a decentralized health system across nine regional states and two city administrations (Addis Ababa and Dire Dawa). The Federal Ministry of Health (FMOH) develops policy and technical guidelines, which are managed by Regional or City Administration Health Bureaus (RHB). In 2010 Federal Ministry of Health of Ethiopia has developed the quality improvement guideline and hospital performance monitoring and improvement manual of Ethiopia. In this project work, I introduced quality improvement project models in Saint Paul Hospital Millennium Medical College where the medical services, medical teaching and researches are conducted. The hospital currently has 345 beds. Out of these 30 (9%) are assigned to labor and delivery services.

3.1.1. Study design

A descriptive quantitative study design was employed to conduct the baseline assessment before the implementation of the project in Saint Paul's Hospital Millennium Medical College, particularly in labor and delivery unit where the out patient emergency and delivery services are provided; from April to June 2014.

3.1.2. Project area and Period

This project work was carried out in Saint Paul's Hospital Millennium Medical College specifically in the labor and delivery department from the period of January to June 2014.

3.1.3. The sampling size and techniques used

The sampling technique used was census. Thus, all health care provider in the department and the managers who are working in line with the program of the labor and delivery services were included.

3.2. Source and study population

3.2.1. Source population

- All health care provider working in the labor and delivery unit in Addis Ababa
- All managers who have a stake in the services in Addis Ababa

3.2.2. Study population

- Health care providers and managers who are working in the labor and delivery unit in SPHMMC
- Managers who have a stake in the services in SPHMMC

3.3. Data collection tools and procedures

The data collection instrument for the quantitative method used was structured self-administered questioner with the response options of multiple choices. This type of response option is easy to fill out, takes little time, keeps the respondents on the subject is relatively objective, and quite easier to tabulate and analyze. After having their verbal consent data on the health professional's knowledge, Attitude, practice the quality improvement project for the continuous quality improvement of labor and delivery services collected by administering a pre-tested structured questionnaire. Each health professional filled one questioner. In addition information of the health professionals Sex, Age, profession and educational level and year of service has been collected. Since the number of the study population were small in number I together with only one data collector participated in the data collection process. In regard to the secondary data both general literature and related works were consulted.

3.4. Intervention and method for problem solving mechanism

3.4.1. **Organizing team**

I requested the teaching hospital to organize a team to achieve the objective of this project. Having accepted my request the Vice provost for medical service allowed me to join the recently established quality team for maternity service. To continue working with the team I was requested to submit the base line assessment result and the purpose of organizing the team member and hence I have done it accordingly. After submission all these to the vice provost for medical service I presented my findings to the team members. (The request letter for team organizing and its detail purpose is attached in annex II & III)

3.4.2. **Orientation on concepts of quality**

Discussion was made after the presentation of the result of the baseline assessment with the quality management team for labor and delivery unit. In addition orientation on data quality, information quality and health service quality, quality improvement model which incorporates the PDSA tool; a method that has been widely used by the Institute for Health Care Improvement for rapid cycle improvement, the steps in the continuous quality improvement process were also introduced for the intervention and the 8 step scientific Method for Problem solving to solve the problem identified.

3.5. Data management and analysis

After data collection process, the data was checked for completeness, consistency and clearance accordingly. Data has been entered with the help of statistical package for social science (SPSS 16.0) windows version. Descriptive statistics has been computed to determine the frequency distribution of the responses which was presented tabular. The frequency Distribution of each variable was discussed as in parallel with the objective, in comparison with each other.

3.6. Method of Dissemination of Results

The result of the project on progress will be forwarded to Addis Ababa University , Saint Paul Hospital Millennium Medical College, FMoH and other governmental and nongovernmental organization that potentially benefit from this project on progress. In addition the action plan for the intervention to the continuous quality improvement in labor and delivery unit will be followed up for its effective implementation and improvement. Further more the finding of the study may be published in professional journals.

3.7. Operational Definition

Assessment: A formal method of evaluating a system or a process, often with both qualitative and quantitative components.

Attitude: A relatively stable belief or feeling about a concept, person or object which can often be inferred by observing behaviours.

Continuous Quality Improvement is a philosophy that encourages all health care team members to continuously ask: "How are we doing? And can we do it better?

Evaluation: Efforts aimed at determining as systematically and objectively as possible the effectiveness and impact of health-related (and other) activities in relation to objectives, taking into account the resources that have been used.

Evidence: Information such as analyzed data, published research findings, results of evaluations, prior experience, expert opinions, any or all of which may be used to reach conclusions on which decisions are based.

Health care provider: a midwife, nurse, gynaecologist, health officers working in the labor and delivery unit

Information system (IS): is an arrangement of people, data, processes, communications, and information technology that interact to support and improve day-to-day operations in a business as well as support the problem-solving and decision making needs of management and users.

Knowledge: what a person knows about something that is gained through education or experience.

Monitoring is the systematic collection and analysis of information as a project progresses.

Project: is a temporary, non-repetitive, goal-oriented activity that has measurable outputs and a particular set of constraints.

Quality: is the 'extent to which a health care service or product produces a desired outcome'.

Quality improvement: is a system by which better health outcomes are achieved through analysing and improving service delivery processes.

3.8. Ethical Clearance

The assessment for the project work was carried out after getting permission from the Research and Ethics Review Committee of Addis Ababa University, School of Public Health. Further data was collected after getting formal letter from Saint Paul Hospital Millennium Medical College Institutional Review Board.

The data was collected from both health professionals and managers of the study population through self- administered questionnaires. During the data collection written consent was requested from the respondent and the privacy and confidentiality of the personal data was kept completely secret.

CHAPTER FOUR: Discussion of Results

4.1. Results

Table 1: Socio Demographic Characteristics of the Respondents in Saint Paul Hospital Millennium Medical College, April 2014. (n=31)

Variables	Item	Respondents	
		Frequency	**Percent**
Sex	Male	15	48.4
	Female	16	51.6
	Total	**31**	**100**
Age Group	20-30	21	68.0
	31-40	5	16.0
	41-50	4	13.0
	51-60	1	3.0
	Total	**31**	**100**
Profession	Gynaecology & Obstetrician	5	16
	Midwife	11	35
	Nurse	14	45
	Other	1	3
	Total	**31**	**100**
Education	Diploma	6	19
	First Degree	14	45
	Post graduate degree	11	35
	Total	**31**	**100**

The data in table 1 shows that among 31respondents the majority of the respondents 16 (52%) were female. Concerning about the age group the majority which is 21 (68 %) were found with the age group of between 20 and 30. The table also denotes that 14 (45 %) of the respondents were nurses followed by 11(35 %) of midwives and 5(16 %) were Gynaecologist and Obstetricians by the profession. Regarding the educational level of the respondents, the majority which is 14 (45 %) of have first degree, 11(35%) have post graduate degree and the rest 6(19 %) had diploma.

Table 2: Knowledge of respondents towards quality improvement project in Saint Paul Hospital Millennium Medical College, April 2014 (n=31)

Variables	Item	Respondents	
		Frequency	**Percent**
How did you get the training?	Through training	4	28.6
	Through reading	5	35.7
	Discussion with colleagues	5	35.7
	Total	14	**100**
Which Institution provided you the training?	The hospital itself	3	75
	Others	1	25
	Total	**4**	**100**
PDSA measures continuous quality improvement	Yes	3	9.7
	No	2	6.5
	I don't know	22	71.0
	No response	4	12.9
	Total	**31**	**100.0**
Are you aware of key performance indicators (KPIs)?	Yes	8	25.8
	No	21	67.7
	No response	2	6.5
	Total	**31**	**100**

The above table 2 states that out of 31 respondents 17 (54.8%) of them did not know about the quality improvement project, among the fourteen respondents who knew about the quality improvement project 4 (28.6%) had got through training, 5 (35.7%) of each through reading and discussion with colleagues. In regard to the plan, do, study and study (PDSA) 22 (71%) of the respondents did not know whether PDSA measures continuous quality improvement and only 3(9.7%) knew about PDSA. The majority 27 (87.1%) of the respondents responded that data were being recorded in paper base record. Coming to their knowledge about the key performance indicators, 21(67.7%) did not know about it.

Table 3: Attitudes of the respondents towards the quality improvement project in Saint Paul Hospital Millennium, June 2014. (n=31)

Variables	Item	Respondents	
		Frequency	Percent
Do you think implementing quality improvement project shall improve labor and delivery services?	Yes	25	81
	No	2	6
	Don't know	3	10
	No response	1	3
	Total	31	100
How would you prefer to work in quality improvement project?	As individual	2	6
	As team	21	68
	As both	4	13
	No response	4	13
	Total	31	100
In your opinion what are the critical factors to successful implementation of Quality Improvement Project?	Involvement of the staff	3	10
	Managerial support	3	10
	Knowledge about the project	9	29
	Team work	10	32
	All	4	13
	Others	2	6
	Total	31	**100**
Do you agree that your unit has quality of data?	Strongly agree	2	6.5
	Agree	11	35.5
	Disagree	16	51.6
	Strongly Disagree	2	6.5

	Total	31	**100**

Attitudes of the respondents towards the quality improvement project (continued…)

Variables	**Item**	**Respondents**	
		Frequency	**Percent**
Do you think quality of data will improve quality of information?	Yes	31	100
	No	0	0
	Total	**31**	**100**
How important do you think is the quality of information for evidence based decision making?	Most	26	83.9
	Moderate	3	9.7
	Fair	2	6.5
	Least	0	
	Total	**31**	**100**
An evidence based decision making will improve quality of labor and delivery service	Strongly agree	20	64.5
	Agree	11	35.5
	Total	**31**	**100**
Are you interested to take quality improvement training?	Yes	29	93.5
	No	2	6.5
	Total	**31**	**100**

As indicated in table 3 above 13 (55%) of the respondents did not agree that all the necessary information was being recorded completely. The majority 17 (81%) of respondents thought that implementing quality improvement project shall improve labor and delivery services. In regard to team work, 21 (68%) of the respondents said that their preference to work as team in quality improvement project. Coming to the opinion to the critical factors to successful implementation of quality improvement project 10 (32%) suggested team work and 9 (29%) said knowledge about the project.

The other part of the table indicates the quality of data, the majority 16 (51.6%) of the respondents did not agree that their unit has quality of data and 11 (35.5%) agreed that their unit has quality of data. All of the respondents responded that quality of data will improve quality of information. Out of the 31 respondents 26 (83.9 %) responded that quality of information is most important for evidence based decision making. 20 (64.5%) of the respondents strongly agreed that an evidence based decision making will improve quality of labor and delivery service and 29 (93.5%) of the respondents are interested to take quality improvement training.

Table 4: Practice of quality improvement project for quality information in Saint Paul Hospital Millennium Medical College, April 2014 (n=31)

Variables	Item	Respondents	
		Frequency	**Percent**
Have you got opportunity to participate in quality improvement project?	Yes	6	19.4
	No	25	80.6
	Total	31	100
Did you work as a team?	Yes	21	68
	No	10	32
	Total	**31**	**100**
Rate of your participation in quality improvement activities	Lowest	4	13
	Average	13	42
	Highest	5	16
	Non response	9	29
	Total	**31**	**100**

The table 4 states that 25 (80.6 %) of the respondents did not get the opportunity to participate in quality improvement project. 21 (68 %) are working in team. 13 (42 %) of the respondents was in the average rate of participation in quality improvement activities.

Table 5: Managers responses to questions related to quality improvement in Saint Paul Hospital Millennium, April, 2014 (n=31)

Variables	Item	Respondents	
		Frequency	**Percent**
How does your organization Solve quality related problems?	Set up a multidisciplinary team for each problem	4	57.1
	A permanent team is available	3	42.9
	Total	7	**100.0**
Do you have a system for gathering clients' suggestions?	Yes	6	85.7
	No	1	14.3
	Total	**7**	**100.0**
How do you measure client's satisfaction?	Questionnaire survey	6	85.7
	Not measured	1	14.3
	Total	**7**	**100.0**
Do you have a system for gathering employees' suggestions?	Yes	2	28.6
	No	4	57.1
	No response	1	14.3
	Total	**7**	**100**
Has your organization developed a clear quality policy?	No	5	71.4
	No response	2	28.6
	Total	**7**	**100**
Does your organization have a quality improvement program?	Yes	5	71.4
	No	2	28.6
	Total	**7**	**100**
How do you evaluate the labour and delivery unit staff's commitment to the continuous quality improvement of the service?	Fair	6	85.7
	Very Good	1	14.3
	Total	**7**	**100**
Do you think you have sufficient number of staff for labor and delivery unit?	Yes	3	42.9
	No	4	57.1
	Total	**7**	**100**

According to table 5 denotes among 7 managers 4 of them said that a multidisciplinary team was set up for each problem, and 3 of them responded that a permanent team is available to solve the quality related problems. And the table also states that 6 managers responded that there is the system for gathering client suggestion. The other part of the table shows how client satisfaction is being measured, out of the total respondents 6 of them said that they used questionnaire survey to measure client's satisfaction and only one person responded that not yet measured so far.

Out of the 7 respondents 4 of them responded that there is no system for gathering employee's suggestion and only 2 of them said there is the System for gathering employee's suggestion. In regard to the quality improvement policy, 5 respondents said there is no quality improvement policy developed in the hospital.

Even though 5 managers responded that there is no clear quality policy, the same number responded there is quality improvement program. Coming to the evaluation of the staff's commitment for the quality improvement project; the majority which is 6 of the respondents responded that the staffs are fairly committed. Further more 4 of the respondents responded that there is no sufficient number of staff for the labour and delivery unit.

I have incorporated my research finding with the national baseline self-assessment result of Saint Paul Hospital Millennium Medical College on the quality of maternal service in general, however I focused on the data and information aspects of the finding accordingly and how data is being recorded and information is processed to support evidence base decision making specific to labor and delivery unit. The result of the self assessment is attached in annex II.

4.2. Discussion

The field of health and medical practice requires the use of computer in information processing, record keeping and decision making. The success of information and communication technology application in health is dependent on the level of computer use by health professionals. In this study 6 (87.1%) of the health care providers responded that the data were manually recorded. From this I can infer that a lot has to be done in order to give education or training on how to record data electronically which could contribute to the accuracy reliability and timeliness of the data for the generation of quality information. And this will intern result in the quality of labor and delivery services through evidence base decision making.

As the result indicated about the quality of data, the majority of the respondents said that there is no quality of data in labour and delivery unit. This will lead to the poor information and evidence decision and this will affect the quality of health services provided. This result is supported by the literature that "Accurate and reliable data are needed on the quality of services provided at health facilities in Ethiopia, especially for complicated deliveries involving postpartum haemorrhage, pre-eclampsia/eclampsia, and newborn asphyxia." In addition, this finding goes with the result shown in the self assessment report of the maternal care quality improvement conducted in Saint Paul hospital millennium medical college from March -April, 2014 in collaboration with Federal Ministry of Health Ethiopia. The result found out that there is some need for the improvement to reach standards of care for the availability of labor and delivery , patient information to service providers and all records of pregnant mothers in continuum of care to staff providing care during the different phase.

In the other part of the literature it was also illustrated that "Data helps us to understand and improve our service by giving us the tools to describe what's going on and to compare our performance, either against known standards or against previous performance." However my finding denoted that the majority of the respondents did not know quality improvement project and PDSA which measures continuous quality improvement by understanding and effectively using the data. This shows that there is a knowledge gap that has an impact on the quality of service being rendered in the labor and delivery service

This finding has shown that more than half of the respondents were not aware of the key performance indicators (KPIs). Despite the Federal Democratic Republic of Ethiopia, Ministry of Health has developed hospital performance monitoring and improvement manual in order to support the senior management teams, governing boards, and higher officials to monitor hospital performance focusing on a core set of key performance indicators (KPIs). KPIs provide all the information needed to ensure that hospitals provide effective, efficient and quality services through evidence based decision. Hence action is to be taken to fill the knowledge gap in the key performance indicators as it contributes for evidence base decision making. More than half of the respondents said that all the necessary data was not being recorded completely and they recommended implementing the quality improvement project shall improve the labor and delivery services. In addition they are interested to work as a

team which is critical for the successful implementation of the quality improvement project. It was also supported by the literature that establishing and work as team to implement continuous quality improvement**,** organizations should form a team that has knowledge of the system needing improvement, define a clear aim, and understand the needs of those served by the system, and identify and define measures of success.

The finding of this project work also stated that quality of data will improve quality of information and quality of information is most important for evidence based decision making which consequently result in improving quality of labor and delivery service.

Almost all of the respondents are interested to take quality improvement training. More than three fourth of the respondents said that they did not get the opportunity to participate in quality improvement project. Those who got the opportunity are in the average rate of participation. From this I can conclude that if the managers could create a good opportunity for quality improvement project and work together with the staff, there will be a an improvement (positive change) in the handling of the data and also to the services.

If there is quality related problems arise in the hospital the majority of the managers said that they set up a multidisciplinary team for each problem and some of them said that permanent team is available to solve the problem. This also supported by the literature that organizations can advance toward continuous quality improvement by brainstorming potential change strategies; planning, collecting, and using data for effective decision-making; and applying the scientific method to test and refine.

It is one of the dimensions of quality health service to have knowledgeable and sufficient number of staff; however in this finding more than half of the managers responded that there is no sufficient number of staff for the labour and delivery unit. Hence the managers need to work on the recruitment and deployment of sufficient and knowledgeable human power.

The majority of the respondents said that there is no quality improvement policy developed in the hospital. Concerning about gathering employee's suggestion most of them said that there is no system. Of course, I appreciated that there is no clearly stated quality policy; nevertheless the majority of the managers said that there is quality improvement program and the staffs were fairly committed to the quality improvement project. Further more it is discussed in the literature that continuous quality improvement is rooted in the culture of a health care organization. It requires that all workers in the organization understand the same quality terms, speak the same quality language, and share the same quality vision. This is to mean that there has to be a policy, procedures and manuals that could guide the staff. Further, the consistent achievement of high-quality outputs depends upon the processes that an organization employs. Arguably, good management is the most important factor that determines whether an organization will succeed in continuous quality improvement.

4.3. Proposed solutions and action plan

Using the literature and the study, a quality improvement model has been recommended that could provide managers and the quality management team with a framework for improving their performance and quality monitoring practices, and highlights areas for future academic research. This model will solve the problem identified and the potential problems that could arise in the future. The baseline assessment that was conducted by the investigator was presented and orientation on data quality, health service quality were introduced in addition to the model for quality improvement as this will guide to the quality management team of the labor and delivery unit to continue the project on progress. Moreover action plan was designed after a through discussion on the results and the orientation to solve the problems identified.

CHAPTER FIVE: Conclusions and Recommendations

5.1. Conclusions

In spite of the fact that there is quality improvement program within the hospital, the result of the baseline assessment has shown that, there is no a clear quality improvement policy. In addition there is little knowledge about quality improvement project among the high proportion of the staff who are currently working in the labor and delivery unit. This is could be due to the lack of opportunity to the staff to participate in the quality improvement activities, lack of training and absence of a clear policy of quality improvement.

According to this project work all the necessary information were not being recorded completely. This is supported with the national self assessment result of the hospital that confirmed the need for some improvement in the data keeping and recording system. In the literature it is mentioned that "To implement continuous quality improvement, organizations should form a team that has knowledge of the system needing improvement". So it is the good part of Saint Paul Hospital Millennium Medical College that was appreciated the commitment of the recently established team for the quality of maternity service and the interest shown by all of the respondents participated in the project work assessment to work in team and to have training in quality improvement project.

The other problem identified was the insufficiency number of the staff affected the data quality in the unit as the professionals are expected to cover additional activities within the department which burdened them and affected the quality of services being rendered in the department.

In regard to the intervention, the assessment result of this project work were presented and discussed; orientation on the dimension of data quality, dimension of service quality and the steps of quality improvement, and scientific problem solving mechanism were provided to the quality team for maternity services.

Consequently action plan was designed to implement the intervention proposed by the project owner and the quality team. Moreover template for the quality improvement plan is attached with the document that is submitted to Saint Paul Hospital Millennium Medical College.

Therefore the project owner strongly believe that introduced model for quality improvement and the orientation given about the quality improvement will guide the health professionals to implement and sustain the continuous quality improvement in their unit and benchmarking to other department within the hospital and also outside the hospital.

5.2. Recommendations

The following recommendations are forwarded based on the findings of this baseline assessment and also the self-assessment of maternal care quality improvement which is designed by the Federal Ministry of health in order to alleviate the problems identified and brings quality of information for the continuous quality improvement of labor and delivery services

- Provision of additional training on quality improvement project is mandatory so as to ensure the sustainability of continuous quality improvement of the service in the hospital in general and in the labor and delivery unit in particular.
- The managers participated in this baseline assessment and also received the result need to consider the recruitment of additional staff to the labor and delivery unit as this matters in the quality of information processed and services rendered.
- The quality team for maternity care need to give particular emphasis to those key performance indicators directly works for labor and delivery unit (KPI 19, 20, 21, and 22) as these contribute for evidence decision making.
- Saint Paul Hospital Millennium Medical College along with ministry of health should set conducive climate for the whole staff to participate in quality improvement project.
- The quality policy is to be developed for the hospital in line with the ministry of health in order the staff to develop culture of quality, team spirit and speak the language of quality.
- Integration of this project work with the already established quality improvement project for maternity service.
- In general the project owner believes that if the above recommendations are implemented the problem of data quality, information quality and health service quality can be alleviated and the client who are getting the labor and delivery service will be benefited from this project.

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Annex I
Questionnaire

Introduction

This questionnaire is prepared to collect the necessary information to carry out the project as a partial fulfilment of the requirements for M.Sc. in Health Informatics programme at Addis Ababa University School of Information Science and School of Public Health. On this questionnaire your name will not be written and your answers will be kept completely confidential. Your honest answers will help me to understand better whether there is the availability of quality improvement project that helps to evidence based decision making to the continuous quality improvement of labour and delivery service and to identify problems related to such a project and finally to bring the possible intervention to the problem. I would greatly appreciate your truthful participation in filling the questionnaire.

Part I: Socio Demographic Characteristics of the Respondents

1. **Sex**

   A. Male B. Female

2. **Age**

A. 20-30 C. 41-50

B. 31-40 D. 51-60

3. **Profession**

A. Gynaecology & Obstetrician C. Nurse

B. Midwife D. Other Specify _____

4. **Educational level**

A. Post graduate C. Diploma

B. Degree

PART II
Knowledge of health professionals on quality improvement project

5. Did you get training on quality improvement project? (if no escape Ques No 6)

A. Yes B. No

6. If yes how did you get it?

A. Through training C. Discussion with colleagues

B. Through reading D. Other Specify _____

7. If you trained in quality improvement, which institution did give you the training?

A. The hospital itself
B. Ministry of health
C. Regional health bureau
D. Other Specify _____

8. PDSA cycle is a tool to measure the continuous quality improvement

A. Yes
B. No
C. I don't know
D. No response

9. How is the data being recorded within the labour and delivery (maternity) unit in St. Paul's Hospital?

A. Paper based
B. Electronic medical record
C. Both
D. Do not know
E. No response

10. In the currently available system, do you believe that all the essential information have been recorded completely?

A. Yes
B. No
C. No response

11. Are you aware of key performance indicators (KPIs)?

A. Yes
B. No
C. No response

PART III

Attitude of health professionals on quality improvement project

12. Do you think that implementing the quality improvement project shall improve labour and delivery service?

A. Yes
B. No
C. Do not know
D. No response

13. How would you prefer to work if the quality improvement project was to be implemented again if there was before?

A. As individual
B. As team
C. As both
D. No response

14. In your opinion, what are the factors critical to the successful implementation of quality improvement project?(more than one answer possible)

A. The involvement of the staff
B. Managerial support
C. Knowledge about the project
D. Team work
E. Other Specify _____

Here below listed are the elements of the dimensions of data quality

A. Integrity
B. Precise
C. Truthfulness
D. Completeness
E. Accuracy
F. Reliable
G. Consistency

15. Considering the data dimensions mentioned above do you agree your unit has quality of data?

A. Strongly agree
B. Agree
C. Disagree
D. Strongly disagree

16. Do you think improving the quality of data will improve the quality of information?

A. Yes
B. No
C. No response
D. I don't know

17. How important do you think is the quality of information for evidence based decision making

A. Most
B. Moderate
C. Fair
D. Least

18. Do you agree that an evidence based decision making will contribute to the improvement of quality of labour and delivery service?

A. Strongly agree
B. Agree
C. Disagree
D. Strongly disagree

19. If you get the opportunity, are you interested to take quality improvement training?

A. Yes
B. No

IV. Practice of quality improvement project for quality information

20. Have you got the opportunity to participate in quality improvement project?

A. Yes B. No

21. Did you work as a team?

A. Yes B. No

22. If yes, how would you rate your participation in quality improvement activities?

A. Lowest C. Highest

B. Average

VI. Questionnaire specific to managers

1. How does your organization solve quality related problems?
   A. Assigns individual to solve
   B. Set up a multi disciplinary team for each problem
   C. A permanent team is available
   D. Other (please specify) _____
2. Do you have a system for gathering clients' suggestions?
   A. Yes
   B. No
   C. Non response
3. How do you measure client's satisfaction?
   A. Questionnaire surveys
   B. By the number of complaints
   C. Not measured
   D. Other methods (please specify) _____
4. Do you have a system for gathering employees' suggestions/exit interviews?
   A. Yes
   B. No
   C. No response
5. Has your organization developed a clear quality policy?
   A. Yes
   B. No
   C. No response
6. Does your organization have a quality improvement program?
   A. Yes
   B. No
   C. No response
7. How do you evaluate the labour and delivery unit staffs' commitment to the continuous quality improvement of the service?

   E. Fair G. Very good
   F. Good H. Excellent
8. Do you think that you have sufficient number of staff for labour and delivery unit?
   A. Yes
   B. No

Annex II

Saint Paul Hospital Millennium Medical College

Vice Provost for Medical service

Subject: Invitation to be the member of the quality improvement project for labor and delivery service

First of all I would like to thank for the continuous support that the hospital is providing me in studying my postgraduate program in health informatics in Addis Ababa University School of Information Science and School of Public Health. As the requirement for the partial fulfilment of the postgraduate I have been accepted to work on the title of "**evidence based decision making to the continuous quality improvement of labour and delivery service in Saint Paul Hospital Millennium Medical College**"

I have completed the baseline assessment to identify the existing situation of the hospital on quality of data that contribute for the quality of information and evidence based decision making which will result in the quality of services being rendered in the labour and delivery department.
According to the assessment result the majority of the health professionals working in the labor and delivery department are not aware of the quality improvement project, but they all are interested to know about this project and work in team. In addition all the managers participated in this base line assessment have shown their interest in the establishment of the project.
To achieve the objectives of the project I am preparing to establish the quality improvement project team for the labor and delivery service which will be held on Wednesday, May 7, 2014 from 10:00 to 11:30 AM.
Hence, I kindly invite responsible persons from the respective department and units to be the member of the proposed team and participate in carrying out this project.

In addition I earnestly request your esteemed organization to arrange the meeting hall to conduct the meeting with the respected potential team members of the project.

N.B: This project "on progress" will continue after the accomplishment of the requirement for the partial fulfilment of the masters program.

Potential Candidates of Team Members

Ser.No	Name	Position	Remarks
1.	Dr Birke Ambessie	Vice provost for Medical Service	
2.	Ato Habtamu Maru	Business and Development Vice provost	
3.	Dr. Malede Birara	Head of the Gynaecology and Obstetrics Department	
4.	Sr. Eskedar Belay	Head representative of the labor and delivery unit	
5.	Ato Mulugeta Ademe	policy and Plan officer	
6.	Ato Ayalneh Tesfaye	Head of the Emergency Gynaecology and Obstetrics	
7.	Miserach Ayalew	Head of the quality management office	

I would like to thank so much in advance for your consideration!

Solomon W/Amanuel

Candidate M.Sc in health informatics

Annex III
Detail purpose of organizing quality improvement team

1.1. Introduction
To implement continuous quality improvement, organizations should form a team that has knowledge of the system needing improvement, define a clear aim, and understand the needs of those served by the system, and identify and define measures of success. In addition, organizations can advance toward continuous quality improvement by brainstorming potential change strategies; planning, collecting, and using data for effective decision-making; and applying the scientific method to test and refine changes.

1.1. Objectives of organizing quality team
- To discuss the assessment results
- To fill the gap identified in the assessment
- To make the project on progress practical
- To introduce the model for quality improvement

1.2. Activities planned to be done by the team members
- All the managers participated in this assessment will oversee the quality improvement project activities in the labour and delivery unit.
- Member from the labour and delivery unit will act as the secretary and initiate the staff under his/her unit to document the service data based on the dimension of data quality standard.
- Head of the Gynaecology and Obstetrics Department can be the chairperson of the team who can lead the team and follow the progress of the project very closely.
- Member from the policy and plan directorate together with the quality management office will review and analyse the data documentation in the labour and delivery unit and report to the team.
- All of the team members should have a minimum of monthly meeting to update the progress of the project work and provide possible solutions for the quality of information problems related to the service delivery specific to the labour and delivery unit.

1.3. Significance of the team activity towards the quality of services

Quality improvement is now a driving force in health care and is an essential aspect of service delivery at all levels. Without team the quality improvement project will not be successful. In addition unless we measure the data, it is difficult to know exactly what to improve and whether we have in fact achieved improvement, so efforts to improve systems or processes must be driven by reliable data. Data not only enables us to accurately identify problems, it also assists to prioritize quality improvement initiatives and enables objective assessment of whether change and improvement have indeed occurred. Collecting and analyzing data are therefore central to the function of quality improvement in any health service. Hence, the members' activities from different units have a great impact in the quality of service delivery in the labour and delivery unit.

Annex IV
Saint Paul Hospital Millennium Medical College National Self-Assessment Report

Standards of hospital Information and records to measure its quality of services

- Patient card have all important components & filled properly
- For L&D Partograph availability and use
- Availability of patient information to service providers

User guide for the assessment of maternal care quality improvement

Guide
From total deliveries in the last quarter 5 randomly sampled cards should be seen and scored by numbers from 5 to 1, 5 being good practice complying with standards of care(write 5 on the "Good" column), 4 showing little need for improvement to reach standard of care, 3 meaning some need for improvement to reach standards of care, 2 indicating considerable need for improvement to reach standards of care and 1 being services not provided, totally inadequate care or potentially life-threatening practices(For scores 1-4 please write the exact score on the "To be Improved" column). Always write specific comments if the score is in the range of 1-4 (29).

Self assessment Result

Saint Paul Hospital Millennium Medical College conducted baseline assessment on March 25th and 26th, 2014 using the Maternal Care Quality Improvement Self- Assessment tools for Hospitals (user guides for hospital maternity health care in Ethiopia). According to the baseline self -assessment report , there is little need for improvement to reach standard of care for the patient card to have all important components & filled properly. Some need for improvement to reach standards of care for the following components of standards, for availability of L&D Partograph, for the availability of patient information to service providers and for the available of all records of pregnant mothers in continuum of care to staffs providing care during the different phase. In regard to the vailability of information from previous admissions to staff providing care to mothers and neonates, indicates considerable need for improvement to reach standards of care

Concerning about the availability and clearly written of discharge note, the report shows services are not being provided. The available and written clearly of the history sheet indicates considerable need for improvement. There is a little need for improvement for the available and clearly written of order sheet. Partograph is used properly and consistently at the bedside; however, some need for improvement. There is a good practice complying with standards of care for the Partograph's information is collected, recorded and interpreted by skilled birth attendant and is used to support labour management interventions,

Annex V

Model for quality improvement

PDSA Template

Name of Team:

Date: 13/05/2014

Team Members:

1. _____ 6._____
2. _____ 7._____
3. _____ 8._____
4. _____ 9._____
5. _____ 10._____

1. **Aim:** What are we trying to accomplish?
2. **Measures:** How will we know that a change is an improvement?
3. **Current Process:** What is the process for giving care to this type of patient?
4. **Plan**

- How shall we Plan the pilot?
- Who does what and when?
- With what tools or training?
- Base line data to be collected?
- How will we know if a change is an improvement?

Task to be completed to run test of change	Who	When	Tools/Training Needed

5. Do

- What are we learning as we DO the pilot?
- What happened as we ran the test?
- Any problems encountered? Any surprises?

6. Study

- As we STUDY what happened,
- What have we learned?
- What do measures show?

7. Act

- To hold gains or abandon our pilot efforts, what needs to be done?
- Will we modify the change?
- Make PLAN for next cycle of change

(Quality Assessment and Improvement Curriculum (QAIC) Toolkit – Oyler, J. Vinci, L. Johnson, J. , Arora, V., University of Chicago Medical Center ,2009)

Note: Questions 1-3 are bigger picture ("30,000 feet type questions.) Questions 4-7 are specific ground level questions

Declaration

I, the undersigned person, declare that this project work/thesis is my original work and has not been presented for a degree in this or any other university, and that all the material resources used in this project work/thesis have been fully acknowledged.

_____

Solomon W/Amanauel

June, 2014

This project work has been submitted for examination with our approval as university advisors.

Advisors

_____

Dr Solomon Teferra
June, 2014

_____

Dr. Mulugeta Betre
June, 2014