College of Business and Economics

School of Commerce

Department of Project Management

Assessment of Project Monitoring Practice In health care service quality improvement Projects in Regional hospitals in Addis Ababa, Ethiopia

Investigator: Biniam Yohannes Wotango (MD.)

A Project Work Report to be submitted to Addis Ababa University, College of Business and Economics, School of Commerce in Partial Fulfilment of the Requirement for the Degree of Master of Arts in Project Management

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Addis Ababa, Ethiopia

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Advisor: Wubshet Bekalu (Ph.D.)

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Declaration

I, the undersigned, declare that this study entitled "Assessment of Project Monitoring Practice In health care service quality improvement Projects in Regional hospitals in Addis Ababa, Ethiopia" is my own work. I have undertaken the research work independently with the guidance and support of my research advisor Dr. Wubshet Bekalu. I also declare that it is not submitted before for any institution for any purpose & all the resources used in the thesis are duly acknowledged & referenced.

Name: **Biniam Yohannes Wotango**

Signature: ----------

Date: ----------

Advisor: **Wubshet Bekalu (Ph.D.)**

Signature: ----------

Date: ----------

Statement of Certificate

This is to certify that the project work prepared by Biniam Yohannes, titled: Assessment of Project Monitoring Practice In health care service quality improvement Projects in Regional hospitals in Addis Ababa, Ethiopia: submitted in partial fulfilment of the requirements for the Degree of Master of Arts in Project Management complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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Lists of Acronyms

DMIIH: Dagimawi Minilik Hospital

GMH: Gandhi Memorial Hospital

NQSS: National Quality and Safety Strategy

MOH: Minister of Health

QI: Quality Improvement

RDDH: Ras Desta Damtew Hospital

SDG: Sustainable Development Goals

SPC: Statistical Process Control

TBGH: Tirunesh Beijing Hospital

WHO: World Health Organization

Y12HMC: Yekatit 12 Hospital Medical College

Abstract

Background: *Improving health care service quality is a major concern around the world, including in Ethiopia. Regional hospitals in Addis Ababa are particularly important as they provide medical services to millions of citizens. However, there is minimal understanding of the project monitoring practice employed in health care improvement projects in these regional hospitals. This lack of insight into how health care service quality is being managed hinders the achievement of measurable and sustainable outcomes for both the communities served by these hospitals and their respective healthcare providers.*

Objective: *To assess the Project Monitoring Practice In health care service quality improvement Projects in Regional hospitals in Addis Ababa, Ethiopia*

Methods and Material: *Institution based cross-sectional study was conducted among 70 participants who fulfilled the inclusion criteria Participants was selected using purposive sampling technique. A pretested, structured and standard questionnaire was used to collect data. The data was entered SPSS versions 25 for analysis. Mean, standard deviation, frequency, percentage, and independent sample t test was done present the result.*

Result: *The process monitoring practice, structural monitoring practice, outcome monitoring practice and overall health care quality improvement practice in regional hospitals is 76.44%, 78.24%, 73.68% and 76.12%.And there is no statistically significant difference between the highest and the lowest result among the regional hospitals.*

Conclusion and recommendation: *The monitoring practice level for healthcare quality improvement projects in regional hospitals in Addis Ababa is 76.12%. There are no statistically significant differences between the highest and lowest performing hospitals. Project monitoring activities are conducted irregularly, and although moderately effective, they do not fully comply with healthcare quality standards and guidelines in regional public hospitals. The overall effectiveness of project monitoring practices for healthcare quality improvement is unsatisfactory. Challenges include inadequate communication and dissemination of monitoring findings, insufficient coordination with other hospital initiatives, lack of support and commitment from hospital management, and limited awareness among healthcare professionals about the importance of project monitoring. External partners, stakeholders, the Addis Ababa Regional Health Bureau, Hospital Board, Senior Management team, Clinical Governance and Quality Management Directorates, IT and Data Management, HMIS Departments, and healthcare professionals have a responsibility to address these challenges.*

Key Words: *Quality, Quality improvement, Project monitoring, Donabedian frame*

CHAPTER ONE

INTRODUCTION

1.1. Back ground of the study

Globally, for very first time, health care quality and safety received attention at 55th WHA in 2002.Since then several initiatives to improve health care quality and safety have been launched, however, low quality of care and poor safety practice continues to exist all over the world, and the burden is high among developing countries (Ministry of health Ethiopia, 2021).The Lancet Global Health commission on High Quality Health System in SDG era article in 2018 stated that health system assessments need to be reoriented away from metrics that are ineffective for their intended purpose and toward individuals if they are to evaluate responsibility and action effectively. Instead of focusing on single services, a people-centered measurement considers individuals over the course of their lives and the totality of all of their health system experiences. To develop health systems that are really for people, processes of treatment and quality impacts must be properly monitored. Three areas for improved measurement are: pleasant user experience, patient-reported outcomes, and non-health effects of care (Berwick, Nolan and Whittington, 2008).

Quality of care is a multidimensional concept that can be defined in several ways. According to Donabedian, the balance between benefit and harm constitutes the core of care. Later authors, however, defined quality of care in terms of care efficiency and access to health resources for both users and their families (Tomás-Jiménez *et al.*, 2022).

Currently WHO uses the IOM definition of health care quality as a standard definition stating that "The degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge ('https://www.who.int/health-topics/quality-of-care#tab=tab_1',2022).The EthiopianNational Quality and Safety strategy (NQSS) which is currently operating in Ethiopian health system defines quality as "Comprehensive and integrated care that is measurably safe, effective, people-centered, and uniformly delivered in a timely way that is affordable to the Ethiopian population and appropriately utilizes resources and services efficiently"(MOH, 2021).

Healthcare service quality improvement projects are important initiatives in developing countries like Ethiopia to create capacity and capability in the healthcare sector. In Ethiopia, there is currently a significant focus on regional hospitals to improve overall healthcare service quality in order to increase access to quality care (Tomás-Jiménez *et al.*, 2022).In

regional hospitals, project monitoring practice is essential for creating and sustaining healthcare service quality improvement. Although there has been some research regarding project monitoring in health care service quality improvement, little attention has been given to assess their effectiveness in the context of the Ethiopian regional hospitals (Bradley *et al.*, 2008).In this regard, it is important to have an in-depth assessment of the project monitoring practice and its effectiveness when it comes to build capacity within the country's healthcare service delivery systems. This study aimed to evaluate project monitoring practices at regional hospitals with particular emphasis on identifying areas for improvement within the strategy used for health care service quality improvement projects (McNatt *et al.*, 2015).

This study specifically focused on assessing existing project monitoring practice that aimed at improving healthcare services activities in Ethiopian regional hospital settings such as pre-operative preparations, post-operative interventions and operations performance standards among various other facets of managing patient care services. It also evaluates whether the existing project monitoring practice meets the desired objectives of health care quality improvements while also indicating potential solutions for any identified critical gaps or inconsistencies (Magge *et al.*, 2019).

The study used quantitative methods that utilized both primary and secondary data sources including surveys, interviews, focus groups and employee questionnaires. Data gathering involved hospital staff across all departments such as nursing services, medical services; operational management etc. that are integral to the implementation of healthcare service improvement projects in the country's regional hospitals (Bradley *et al.*, 2008).

The assessment provided key recommendations for changes in design and implementation process of the research process including deployment strategy of personnel resource allocation staff professional development and governance structures applied during project monitoring activities which could help improve ways implemented to facilitate hospitals wide qualitative demonstration services improvement initiative nationally (Ministry of health Ethiopia, 2021).

1.2. Back ground of the Organization

Addis Ababa City Administration Hospitals (AACH) in Ethiopia has been providing quality medical services to the people of Addis Ababa and its environs for over a century. As one of the largest health care providers in the country, AACH has 13 hospitals that provide comprehensive medical care across a wide range of specialties.AACH was established as a government organization in 1908 under the supervision of Emperor Menelik II who first introduced public health care services in the city. Subsequently, major financial investments have been made in AACH to make it a modern hospital system. Following structural reforms in 1995, the 13 Government Clinics located around the capital were integrated into 6 general referral hospitals under AACH and the primary care services provided by these health units have been strengthened. In addition, numerous private hospitals have also emerged to enhance access to healthcare for residents of Addis Ababa

Today, AACH is renowned for its specialized service facilities such as HIV/AIDS clinics, Maternal and Child Health Services as well as Community Based Health Services. The Ministry of Health provides both technical support and financial assistance to enable quality service delivery within this sector which plays an important role in providing medical attention to Addis Ababa's ever-increasing population. Consequently, AACH continues to remain committed to providing equitable healthcare access within Ethiopia's capital city and beyond (Organisation, 2019).

1.3. Statements of the problem

Improving health care service quality is a major concern around the world, including in Ethiopia. Regional hospitals in Addis Ababa are particularly important as they provide medical services to millions of citizens. However, there is minimal understanding of the project monitoring practice employed in health care improvement projects in these regional hospitals (IHI, 2017).

This lack of insight into how health care service quality is being managed hinders the achievement of measurable and sustainable outcomes for both the communities served by these hospitals and their respective healthcare providers. Therefore, exploring and assessing the effectiveness of project monitoring practices within the healthcare sector becomes imperative (IHI, 2021).

The purpose of this research project was to assess the current project monitoring practice employed by Regional Hospitals in Addis Ababa while improving health care services. By evaluating existing resources and procedures, recommending strategies for improvement, and innovating solutions with those resources at hand, attempts will be made to ensure that resource optimization is efficient both within operations and initiatives revolving around health improvement projects.

To facilitate a greater understanding of project monitoring practice employed by Regional hospitals in Addis Ababa for healthcare improvements projects and identify areas where improvements can be better achieved, this study seeks to apply multi-method approaches such as surveys, interviews and document reviews to gather data from representatives from different Healthcare providers, quality directors at regional and hospital level ,team leaders in quality directorates as well as conducting an overall assessment of related regulations and guidelines governing them.

1.4. Research Questions

Research Question 1: What is the level of healthcare quality improvement projects process monitoring practice in regional public hospitals in Addis Ababa, Ethiopia?

Research Question 2: What is the level of healthcare quality improvement projects structural monitoring practice in regional public hospitals in Addis Ababa, Ethiopia?

Research Question 3: What is the level of healthcare quality improvement projects outcome monitoring practice in regional public hospitals in Addis Ababa, Ethiopia?

Research Question 4: What are the Challenges of project monitoring practices in healthcare quality improvement projects in regional public hospitals in Addis Ababa, Ethiopia?

Research Question 5: How effectively are project monitoring practices implemented in healthcare quality improvement projects in regional public hospitals in Addis Ababa, Ethiopia?

1.5. Research objectives

1.5.1. General Objective

The aim of this study was to assess the Project Monitoring Practice In health care service quality improvement Projects in Regional hospitals in Addis Ababa, Ethiopia

1.5.2. Specific Objectives

- To analyse the level of healthcare quality improvement projects process monitoring in in regional public hospitals in Addis Ababa, Ethiopia.
- To examine level of healthcare quality improvement projects structural monitoring in in regional public hospitals in Addis Ababa, Ethiopia.
- To examine level of healthcare quality improvement projects outcome monitoring in in regional public hospitals in Addis Ababa, Ethiopia
- To identify the Challenges of project monitoring practices in healthcare quality improvement projects in regional public hospitals in Addis Ababa, Ethiopia
- To determine effectiveness of project monitoring practices implemented in healthcare quality improvement projects in regional public hospitals in Addis Ababa, Ethiopia.

1.6. Rationale of the Study

The rationale for this study was rooted in the need to improve the quality of health care services provided by regional hospitals in Ethiopia. Health care service quality improvement projects are an essential part of achieving this goal, but effective project monitoring practices are necessary to ensure that these projects achieve their intended outcomes.

The study aimed to assess the current project monitoring practices in regional hospitals in Addis Ababa and determine if they are adequate to support successful implementation of health care service quality improvement projects. By conducting this assessment, the study will contribute to the body of knowledge on project monitoring practices and provide valuable insights into how these practices can be improved to achieve better outcomes for patients.

Furthermore, identifying gaps in current project monitoring practices would allow for targeted interventions to be developed to improve the effectiveness of project monitoring. The findings of the study would also assist health care managers and policymakers to ensure that scarce resources are used efficiently and effectively to improve healthcare delivery in the region. Ultimately, the successful implementation of health care service quality improvement projects would result in improved health outcomes for patients, which is the ultimate goal of any health care system.

1.7. Significance of the Study

The study provided insights into the effectiveness of project monitoring practices in health care service quality improvement projects in regional hospitals in Addis Ababa, Ethiopia.

The findings of this study would be beneficial for healthcare practitioners, policymakers, and stakeholders in the field of health care delivery services. This study aimed to identify the gaps in current project monitoring practices, which could be improved by developing adequate monitoring mechanisms that address the identified limitations. Additionally, the study contributed to increasing the awareness of the importance of project monitoring practices in enhancing the quality of healthcare service delivery in Ethiopia.

By providing empirical evidence on the state of project monitoring practices in regional hospitals in Addis Ababa, Ethiopia, the results from this study would help healthcare practitioners and policymakers to develop effective policies and strategies that aim to improve project monitoring practices. The study would also add to the body of knowledge about health care service quality improvement projects and may serve as a benchmark for future research in this area.

Overall, the significance of this study lies in its ability to identify existing gaps in project monitoring practices in health care service quality improvement projects in regional hospitals in Addis Ababa, Ethiopia, and provide recommendations for improving and enhancing these practices for better healthcare delivery outcome

1.8. Scope of the Study

The study focused on the application of project monitoring practices in health care service quality improvement projects in regional hospitals in Addis Ababa, Ethiopia. It didn’t not address other types of projects or other hospitals outside of Addis Ababa city administration.

1.9. Organization of the Study

This study is organized in five consequent chapters. The first chapter introduces the back ground of the study, statement of the problem, basic research questions, and background of the organization, objectives, and rationale of the study, significance, scope of the study, organization of the study and operational definition of key terms. The second chapter discusses on review of literatures with descriptions of different researchers related to the topics. The third chapter deals with the research methodology, design, sources of data, target population, sampling technique and sample size, validity and reliability of instrument and research ethics throughout the data collection and analysis. The fourth chapter presents the

data analysis, presentation and discussion. The fifth chapter, which is the final chapter of the study, is about the summary of major findings, conclusion and recommendations.

1.10. Operational definition of key terms

- **Quality improvement:** refers to the continuous efforts made by healthcare professionals to improve and enhance the quality of patient care, safety, and outcomes within a healthcare system. It involves identifying areas for improvement, developing strategies, and implementing changes based on evidence-based practices to enhance patient experience and achieve better health outcomes. The ultimate goal of quality improvement is to ensure that patients receive the right care at the right time, in the right place, and from the right provider.
- **Quality improvement projects**: refer to systematic and structured initiatives undertaken within a healthcare organization or system to enhance the quality of care delivery, patient outcomes, and operational efficiency.
- **Monitoring practice**: is the process of measuring and assessing the progress and outcomes of quality improvement projects involving regularly reviewing project data and performance metrics to identify areas of improvement, refine project objectives, and adapt intervention strategies to better achieve desired results.
- **Health care quality improvement projects monitoring practice:** in this study health care quality improvement projects monitoring practice means the sum result of process monitoring, structural monitoring and outcome monitoring
- **Schedule Monitoring**: This dimension focuses on tracking and reviewing project activities against the planned schedule. It involves monitoring milestones, deadlines, critical path analysis, and identifying any schedule deviations or delays
- **Cost Monitoring**: This dimension involves monitoring project expenditures, budget utilization, and cost variances. It includes tracking actual costs, comparing them to the budget, identifying cost overruns, and implementing corrective measures when necessary.
- **Quality Monitoring**: Quality monitoring entails assessing and ensuring that project deliverables meet the required standards and specifications. It involves conducting inspections, audits, and quality control checks to identify any defects or deviations from quality requirements.

- **Risk Monitoring**: This dimension involves tracking and managing project risks throughout the project lifecycle. It includes identifying potential risks, assessing their impact and probability, implementing risk mitigation strategies, and monitoring risk indicators and triggers.
- **Stakeholder Monitoring**: This dimension focuses on managing relationships with project stakeholders. It involves identifying key stakeholders, assessing their needs and expectations, maintaining effective communication, and addressing any issues or concerns raised by stakeholders.
- **Performance Monitoring**: Performance monitoring involves tracking and evaluating project performance metrics and key performance indicators (KPIs). It includes measuring progress, analysing performance trends, and identifying areas where performance is falling short or exceeding expectations.
- **Communication Monitoring**: Communication monitoring focuses on evaluating the effectiveness of project communication channels and processes. It involves assessing the timeliness, clarity, and accuracy of project communications and ensuring that information flows smoothly among team members and stakeholders.
- **Compliance Monitoring**: Compliance monitoring entails ensuring that the project adheres to relevant laws, regulations, and organizational policies. It includes monitoring compliance requirements, conducting audits, and implementing corrective actions to address any non-compliance issues.
- **"Bad" Health care Quality Improvement project Monitoring Practice**: scores 1 and 2 as representative of "bad" monitoring practices. These scores indicate a low level of adherence to the evaluation criteria and suggest significant shortcomings in project monitoring.
- **"Moderate" Health care Quality Improvement project Monitoring Practice**: score 3 as representative of "moderate" monitoring practices. This score indicates that some aspects of project monitoring are being addressed, but there is room for improvement in several areas.
- **"Good" Health care Quality Improvement project Monitoring Practice**: Assign scores 4 and 5 as representative of "good" monitoring practices. These scores indicate a high level of adherence to the evaluation criteria and suggest effective project monitoring practices.

CHAPTER TWO

LITERATURE REVIEW

2.1. Theoretical Review

2.1.1. Overview about project monitoring practice in health care quality improvement projects

The quality of healthcare services is a vital issue worldwide, and monitoring projects aimed at improving healthcare service quality are essential in achieving quality healthcare. In recent years, project monitoring has become an important tool for healthcare quality improvement projects. The use of project monitoring in healthcare service quality improvement projects in regional hospitals in Addis Ababa, Ethiopia has not been widely researched, and there is a need to assess the current project monitoring practices in these hospitals. This theoretical review provides an overview of project monitoring in healthcare quality improvement, discusses the importance of project monitoring in healthcare, and identifies the key elements of effective project monitoring in healthcare (Black AD, Car J, Pagliari C, 2011).

2.1.2. Project Monitoring in Healthcare Quality Improvement

Project monitoring refers to the systematic collection and analysis of data on project activities, outcomes, and impacts. It is an essential tool for evaluating the progress and effectiveness of healthcare quality improvement projects. In healthcare, project monitoring is used to assess the impact of interventions aimed at improving the quality of care, including patient safety, clinical effectiveness, patient-centeredness, and efficiency. The ultimate goal of project monitoring is to identify and address gaps in the quality of care and to promote continuous quality improvement in healthcare services(Aboumatar HJ, Chang BH, Al Danaf J, 2020).

2.1.3. Importance of Project Monitoring in Healthcare

Effective project monitoring is critical in healthcare service quality improvement projects for several reasons. First, it helps to ensure that the project is on track and that it is meeting its goals and objectives. Second, project monitoring enables project managers to identify problems and take corrective action before they become serious issues. Third, project monitoring provides stakeholders with information about the progress and effectiveness of the project, which can help build support and promote accountability. Finally, project monitoring can provide valuable information for future healthcare quality improvement projects (D., 2023).

2.1.4. Key Elements of Effective Project Monitoring in Healthcare

Several key elements are essential for effective project monitoring in healthcare service quality improvement projects. These include:

Clearly defined project goals and objectives: The project goals and objectives should be specific, measurable, achievable, relevant, and time-bound (WHO, 2018).

Appropriate indicators: Appropriate indicators should be identified to measure the progress and impact of the project. These indicators should be relevant to the project goals and objectives and should be measurable (Fervers B, Burgers JS, Haugh MC, 2006)

Data collection and analysis: Data collection and analysis should be systematic and based on appropriate methods and tools. Data collection should be conducted at regular intervals, and the results should be analysed to identify trends and patterns (WHO, 2010).

Feedback and reporting: Feedback and reporting are essential components of project monitoring. Regular feedback should be provided to stakeholders on the progress and effectiveness of the project, and reports should be produced to document the results of the monitoring process (WHO, 2010).

Continuous improvement: Project monitoring should be an on-going process, and opportunities for continuous improvement should be identified and implemented (WHO, 2018).

2.1.5. Effective Strategies for Project Monitoring Practices in Ethiopia

Several strategies can be employed to improve project monitoring practices in healthcare quality improvement projects in Ethiopia. These strategies include:

Developing a standardized project monitoring framework: Developing a standardized project monitoring framework that can be adapted to different hospitals' contexts can improve the effectiveness and efficiency of project monitoring practices (Ministry of Health, 2021).

Training healthcare professionals: Providing adequate training to healthcare professionals on project monitoring practices can improve their ability to implement effective project monitoring practices (The Health Foundation, 2012).

Engaging stakeholders: Engaging stakeholders, including hospital management, healthcare professionals, patients, and community members, in project monitoring practices can improve their support and buy-in, leading to the successful implementation of project monitoring practices (Pandi-Perumal *et al.*, 2015).

Leveraging technology: Leveraging technology, such as electronic health records and mobile health applications, can facilitate data collection and analysis, improve accuracy, and reduce the time and cost associated with project monitoring practices (Chatterjee *et al.*, 2021).

2.1.7. Statistical Process Control (SPC) role in project monitoring practice of healthcare quality improvement projects.

SPC is a quality control technique that uses statistical methods to monitor and control processes. It involves collecting and analysing data to identify trends and patterns in the process performance, and using this information to make data-driven decisions to improve the process (Benneyan, Lloyd and Plsek, 2003).

In healthcare quality improvement projects, SPC can be used to monitor and control the processes that affect the quality of healthcare services. For example, SPC can be used to monitor the rate of hospital-acquired infections, patient wait times, medication errors, and other quality indicators. By monitoring these indicators using SPC, healthcare organizations can identify trends and patterns in the process performance, and take corrective actions to improve the quality of healthcare services (LLoYD P. Provost, 2022).

SPC can also help healthcare organizations to identify and address variations in the process performance. Variations in the process can be caused by many factors, including changes in patient demographics, staffing levels, and other environmental factors. By identifying and addressing these variations using SPC, healthcare organizations can improve the consistency and reliability of their healthcare services (Boaden *et al.*, 2014).

Furthermore, SPC can be used to monitor and track the progress of healthcare quality improvement projects over time. By analysing the data collected using SPC, healthcare organizations can determine whether the project is achieving its objectives and make data-driven decisions to improve the project's outcomes (Moen, Nolan and P.Provost, 2012).

Overall, SPC plays a critical role in project monitoring practice of healthcare quality improvement projects. It provides a data-driven approach to monitor and control the processes that affect the quality of healthcare services, identify and address variations in the process performance, and track the progress of the quality improvement project over time. Healthcare organizations that incorporate SPC in their project monitoring practice can achieve better outcomes, improve the quality of healthcare services, and enhance patient satisfaction (Moen, Nolan and P.Provost, 2012).

2.1.8. The importance of Statistical Process Control (SPC) in project monitoring practice of healthcare quality improvement projects

The importance of Statistical Process Control (SPC) in project monitoring practice of healthcare quality improvement projects cannot be overstated. SPC provides a systematic approach to monitoring and controlling processes that are critical to the quality of healthcare services. SPC is essential because it allows healthcare organizations to:

Monitor and improve process performance: SPC enables healthcare organizations to track key performance indicators and identify trends and patterns in the process performance. By monitoring these indicators, healthcare organizations can identify opportunities for improvement and take corrective actions to improve the quality of healthcare services (LLoYD P. Provost, 2022).

Identify and address variations: Variations in the process performance can lead to quality issues and patient safety concerns. SPC helps healthcare organizations to identify and address these variations by providing a data-driven approach to monitoring and controlling the process (Langabeer, 2018).

Improve patient outcomes: SPC helps healthcare organizations to improve patient outcomes by ensuring that the quality of healthcare services is consistent and reliable. By monitoring the process using SPC, healthcare organizations can reduce errors and improve the overall quality of healthcare services (Stahl, 2012).

Enhance patient satisfaction: Patients expect high-quality healthcare services that are delivered efficiently and effectively. By incorporating SPC in their project monitoring practice, healthcare organizations can improve the quality of healthcare services, reduce wait times, and enhance patient satisfaction (Moen, Nolan and P.Provost, 2012).

2.1.9. Types of Statistical Process Control

There are two main types of Statistical Process Control:

Variables Control Charts

Variables control charts are used to monitor processes that produce continuous measurements, such as weight, length, and time. These charts use statistical techniques to monitor and control the process performance by analysing the distribution of the measurements (LLoYD P. Provost, 2022).

Attribute Control Charts

Attribute control charts are used to monitor processes that produce discrete measurements, such as the number of defects or the number of patients who wait more than 30 minutes. These charts use statistical techniques to monitor and control the process performance by analysing the proportion of defective items or events (Langley *et al.*, 1997).

In healthcare quality improvement projects, variables control charts are commonly used to monitor continuous variables such as patient wait times, while attribute control charts are used to monitor discrete variables such as medication errors or patient falls (Kuula and Haapasalo, 2017).

In conclusion, Statistical Process Control plays a critical role in project monitoring practice of healthcare quality improvement projects. It allows healthcare organizations to monitor and control critical processes, identify and address variations, improve patient outcomes, and enhance patient satisfaction. By incorporating SPC in their project monitoring practice, healthcare organizations can achieve better outcomes and provide high-quality healthcare services to their patients (Boaden *et al.*, 2014).

2.2. Empirical Review

2.2.1. Global Perspective

Project monitoring is a critical component of healthcare service quality improvement projects, and it is essential to evaluate its effectiveness to ensure the successful implementation of these projects. Several studies have examined project monitoring practices in healthcare settings globally. For example, a study conducted in the United States found that effective project monitoring practices were associated with improved patient outcomes and reduced costs (Black *et al.*, 2011). Another study conducted in Australia highlighted the importance of stakeholder engagement in project monitoring, as it can help identify barriers to successful implementation and ensure project outcomes align with stakeholder priorities (Smith, J., Lacey, J., & Thomas, 2015).

2.2.2. Regional Perspective

In the African region, including Ethiopia, healthcare service quality improvement projects face unique challenges related to resource constraints, lack of infrastructure, and limited access to healthcare services. Despite these challenges, several studies have highlighted the importance of project monitoring in healthcare service quality improvement projects in the region. For example, a study conducted in Nigeria found that effective project monitoring

practices were associated with improved healthcare service delivery and increased patient satisfaction (Adekola, O., & Adekunle, 2017). Another study conducted in Uganda highlighted the importance of stakeholder engagement in project monitoring, as it can help build trust between healthcare providers and the community and ensure project outcomes align with community needs (Kigozi, J., Jaffar, S., Asiimwe, S., Ssengooba, F., Makumbi, F., Okui, O., ... & Pariyo, 2016).

2.2.3. Local Perspective

In Ethiopia, healthcare service quality improvement projects have been prioritized by the government to improve the quality of healthcare services provided to the population. However, there is limited research on project monitoring practices in healthcare service quality improvement projects in regional hospitals in Addis Ababa. One study conducted in Ethiopia found that effective project monitoring practices were associated with improved healthcare service delivery and increased patient satisfaction (Gashaye, W., Kitila, S. B., & Mekonnen, 2019). However, the study was conducted in a single hospital and did not examine the impact of organizational culture and stakeholder engagement on project monitoring practices.

In Ethiopia, the Ministry of Health (MoH) is responsible for the development and implementation of healthcare policies and strategies, including quality improvement initiatives. The MoH has introduced a number of initiatives to improve healthcare quality, including the Ethiopian Hospital Reform Implementation Guideline, which aims to standardize hospital management and improve quality of care (Berhanu, D., Taddesse, T., & Mariam, 2019).Additionally, the Ethiopian Health Sector Transformation Plan (HSTP) 2015-2020 aims to improve the quality of health services through various initiatives, including strengthening health information systems and improving the capacity of health workers to monitor and evaluate healthcare quality (FMOH. Federal Democratic Republic of Ethiopia, 2015).

In the context of project monitoring practices in healthcare quality improvement projects, a study conducted in Addis Ababa, Ethiopia, identified several challenges that hinder the effective implementation of such projects. The study found that there is a lack of clarity in project objectives, poor communication and coordination among stakeholders, inadequate funding, and limited capacity of project teams to effectively monitor and evaluate project progress (Tadesse, T., Gashaw, BT., & Mariam, 2018). Similarly, another study conducted in a public hospital in Addis Ababa found that poor project planning, lack of training and

support for project teams, and limited resources were key barriers to the successful implementation of quality improvement projects (Abebe, T., Gebremedhin, G., & Mekonnen, 2019).

Furthermore, a study conducted in Jimma, Ethiopia, found that poor documentation and reporting practices, inadequate resources, and limited participation of stakeholders were major challenges to the effective implementation of quality improvement projects in healthcare (Desta, A., Dagnew, B., & Tadesse, 2020). Another study conducted in three hospitals in the Amhara region of Ethiopia found that a lack of commitment from hospital management, inadequate resources, and limited stakeholder engagement were key barriers to the successful implementation of quality improvement projects (Gashaw, BT., Tafere, TE., & Gizaw, 2018).

These studies suggest that the effective implementation of project monitoring practices in healthcare quality improvement projects in Ethiopia is hindered by a range of factors, including limited resources, poor communication and coordination, inadequate planning and training, and limited stakeholder engagement. Addressing these challenges is critical to improving the quality of healthcare services in the country.

Overall, project monitoring is an essential component of healthcare service quality improvement projects, and its effectiveness should be evaluated to ensure the successful implementation of these projects. Effective project monitoring practices have been associated with improved patient outcomes, reduced costs, and increased patient satisfaction globally and in the African region. In Ethiopia, limited research has been conducted on project monitoring practices in healthcare service quality improvement projects in regional hospitals in Addis Ababa, highlighting the need for further research to understand the impact of organizational culture and stakeholder engagement on project monitoring practices.

CHAPTER THREE

METHODOLOGY

3.1. Research approach

A quantitative research design was used to assess the project monitoring practices in health care service quality improvement projects in regional hospitals in Addis Ababa, Ethiopia. data was collected through the Likert-scale questionnaire to gather numerical data on the health care quality improvement projects structural, process and outcome monitoring practice, effectiveness of health care quality improvement projects monitoring practice, challenges of health care quality improvement projects monitoring practice and overall label of project management practices.

3.2. Research design

A cross-sectional study design was be used to assess the project monitoring practices in health care service quality improvement projects in regional hospitals in Addis Ababa, Ethiopia.

3.3. Population

Target population

- All health care providers working in regional public hospitals of Addis Ababa as well as all health care service quality improvement projects in the region. The target population included project managers, project team members, stakeholders, and other personnel involved in the planning, implementation, and monitoring of these projects in the past one year.

Study population

- The study population for this study was all healthcare service quality improvement projects for the past one year's includes all on-going and completed projects aimed at improving the quality of healthcare services in the regional hospitals. As well as selected health care providers in regional hospitals in Addis Ababa, Ethiopia who participated in the quality improvement projects during the study period.

3.4. Eligibility criteria

Inclusion criteria

- Personnel involved in healthcare service quality improvement projects in regional hospitals in Addis Ababa, Ethiopia.

- Personnel involved in planning, implementation, and monitoring of healthcare service quality improvement projects in the selected hospitals.
- Personnel who have worked on these projects for a specific period, (at least six months)
- Personnel who have adequate knowledge about the project monitoring practices and the quality improvement projects being undertaken.

Exclusion criteria

- Personnel who have not involved in healthcare service quality improvement projects.
- Personnel who have been involved in quality improvement projects in other settings outside of the selected regional hospitals.
- Personnel who have worked on the projects for less than six months.
- Personnel who lack sufficient knowledge about the project monitoring practices and the quality improvement projects being undertaken.

3.5. Study variables

Independent variables

- Sociodemographic variables
- General information
- Items under structural monitoring practice
- Items under process monitoring practice
- Items under outcome monitoring practice

Dependent variables

- Overall Project monitoring practices
- Healthcare service quality improvement projects monitoring practice effectiveness
- Healthcare service quality improvement projects monitoring practice Challenges
- Healthcare service quality improvement projects process monitoring practice
- Healthcare service quality improvement projects structural monitoring practice
- Healthcare service quality improvement projects outcome monitoring practice

3.6. Data sources

Primary data sources

- ❖ Structured and validated Likert scale questionnaire for organizational culture, stakeholder engagement, project management practice, and project monitoring practices.
- ❖ Direct observation of project monitoring practices
- ❖ Document review of project reports, meeting minutes, and other relevant documents.

Secondary data sources

- ❖ Hospital records for information on the type of healthcare service quality improvement projects, hospital size, and location.

The primary data sources provided the detailed information needed to analyze the relationships between the independent variables, dependent variables. The secondary data sources provided contextual information about the healthcare service quality improvement projects and hospitals, which helped in understanding the findings from the primary data sources.

3.7. Sampling techniques and sample size

Sampling Technique and procedure for the projects

All health care quality improvement projects in the past one year was included in the study.

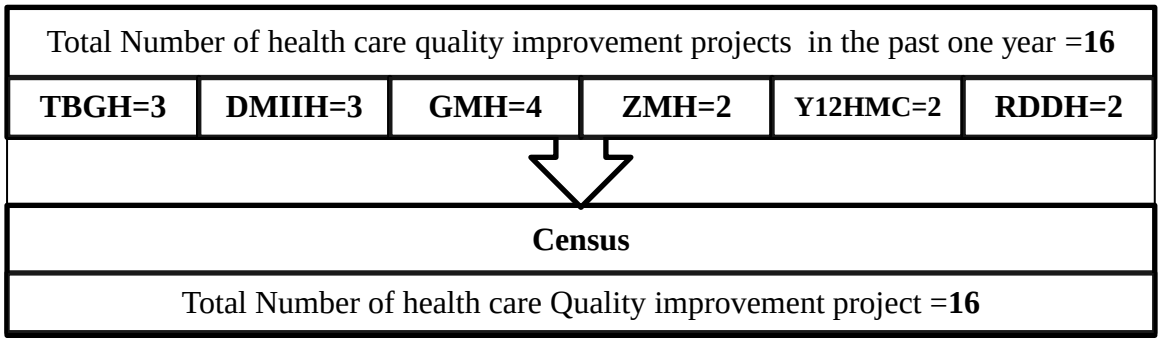

Figure 1.Sampling procedure for the quality improvement projects

Sample size calculation for the study participants

$$n = \frac{\mathrm{N}}{1 + Ne^2}$$

Where N=Population size, n=sample size, e=margin of error

The taking N=85, e=0.05, n will become **70**

Sampling Technique and procedure for the study participants

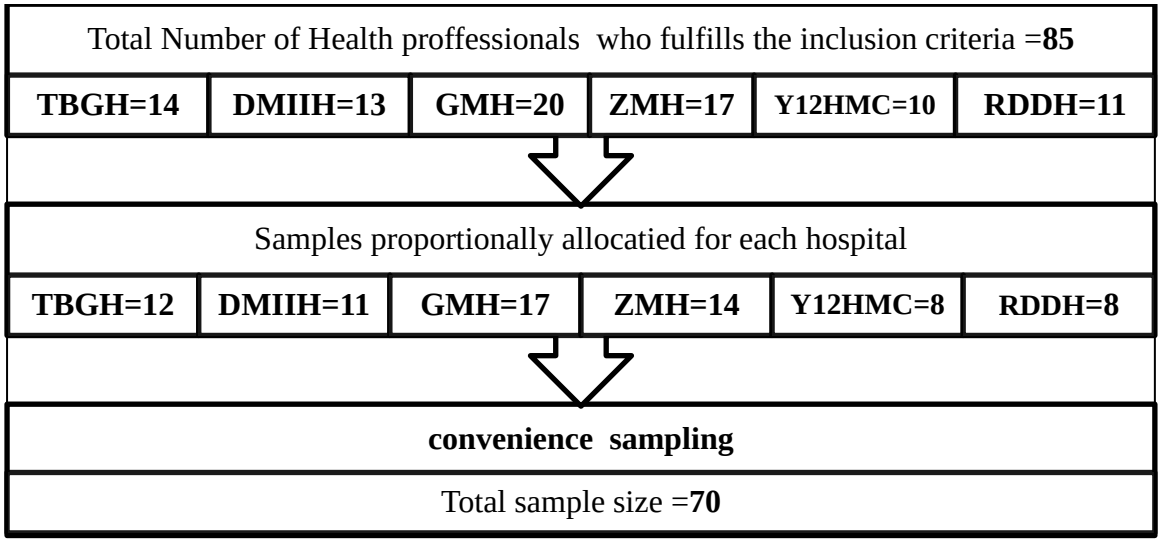

Figure 2.Sampling procedure for selecting study participants

3.8. Data collection methods, tools and process

Data collection methods

The Likert scale questionnaire developed based on the conceptual framework was used to collect data from the study participants. The questionnaire was self-administered to the participants to minimize any potential bias from the presence of a researcher. And participants were key informants such as project managers, quality improvement officers, and hospital administrators. In addition, direct observation of on-going quality improvement projects was done to assess project monitoring practices. The researchers observed the process of data collection, analysis, and reporting in the on-going projects.

The data collection process

The questionnaire and interview guide was pilot-tested with a small sample of the study participants to ensure the clarity, consistency, and relevance of the questions. The self-administered questionnaires and interviews were conducted with the selected participants. The researchers conducted direct observation of on-going quality improvement projects. Overall, the data collection methods and process was designed to ensure the validity and reliability of the study findings.

3.9. Data analysis and processing

The data collected for the study was analysed using SPSS version 25. The data analysis process involved cleaning, coding, and transforming the data as needed. Descriptive statistics such as mean, standard deviation, frequency, and percentage was used to summarize the data. Inferential statistics such as independent sample t-test was used to test the hypothesis and

assess the relationship between variables. The results of the data analysis were presented in tables, graphs, and charts. The findings were discussed in the context of the study objectives and research questions. The limitations of the study were also discussed, and recommendations for future research were made. Overall, the data analysis process will be conducted with rigor and transparency to ensure the validity and reliability of the findings.

3.10. Data quality assurance

Data quality assurance is a critical component of any research study as it ensures that the data collected is accurate, reliable, and valid. The research instrument was pre-tested on a small sample of participants to assess their clarity, comprehensiveness, and applicability. The research team was trained on how to collect data consistently and accurately. This included training on how to approach respondents, ask questions, and record responses. Data collection activities was closely monitored and supervised to ensure that the data was being collected appropriately. After data collection, the data was cleaned to identify and correct any errors, inconsistencies, or missing values. The data was analysed using appropriate statistical software to ensure the accuracy and validity of the findings. The findings were cross-checked with the research objectives and questions to ensure that they were consistent with the study objectives. The research findings were reviewed by experts in the field to ensure that the research methods, analysis, and results were accurate and valid.

3.10.1. Measuring tool Validity Report

The research measurement questionnaire used in this study underwent face and content validity assessment by two health care quality improvement experts. The understandability index, clarity index, and readability index were also measured, with scores of 1, 1, and 0.93, respectively. These results imply that the questionnaire items were clear, understandable, and easily readable, making them suitable for use in this study. The questionnaires were reviewed by these experts to ensure that the questions were relevant and appropriate for the intended study. The overall expert consensus suggested that the questionnaire had sufficient content validity to be useful for the purposes of this study. Thus, based on the face validity assessment conducted by the two experts and the understandability, clarity, and readability indices, it can be concluded that the questionnaire used in this study has acceptable face validity and content validity.

3.10.2. Measuring tool Reliability Report

The internal consistency of the questionnaire used in this study was assessed using Cronbach's alpha. The scale's overall Cronbach's alpha value was found to be 0.805, indicating high internal consistency. In addition, the value ranges for the questionnaire domains were 0.725 to 0.767. These results demonstrate that the questionnaire used in this study has high reliability for measuring the study's constructs. The high internal consistency value indicates that the scale's items were homogenous and consistent in measuring the same construct. The value range for the questionnaire domains similarly indicates that the domains were reliable in measuring the constructs they sought to assess. Thus, based on the Cronbach's alpha analysis, it can be concluded that the questionnaire used in this study has high reliability, making it a suitable instrument for measuring the study's constructs.

3.11. Ethical Consideration

Ethical approval was sought from the Institutional Research Review Boards (IRBs) of AAU school of commerce and Addis Ababa public health research and emergency management directorate. Then, a formal letter of permission and support was written to GMH, ZMH, TGBH, RDDH, Y12HMC, and DMIIH, hospitals' administrations. Participation in the study was being on voluntary basis. After a detailed explanation of the study purpose, written informed consent was sought from participants. Confidentiality and privacy of the participant was maintained throughout the process of data collection.

3.12. Plan for dissemination of findings

The result of the study is going to be presented for research defence and a formal report will be submitted to school of commerce and the regions. Furthermore, the findings of this study will be disseminated for publication in national or international peer reviewed reputable journal. The study will also be presented during various research symposiums, conferences or on seminars.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1. Introduction

This chapter comprises of data analysis, presentation and interpretation of the findings. The data presented includes response rate, Sociodemographic information of the respondent and background information of the regional hospitals, Health care Quality improvement project information and presentation of findings based on each objectives of the study. The data was analysed based on responses to the items in the questionnaires. Results are shown in form of tables showing frequencies, percentages, Mean and standard deviation

4.2. Socio demographic characteristics of participants

A total of 64/70 participants currently working in regional hospitals of Addis Ababa were participated in research project which gave response rate of (91.4%).The mean age for the overall population was found to be 35.34 years with ± 7.98 standard deviations (SD) years. And the mean age is comparable for male and female. Majority of participants are male 39 (60.9%), and female 25(39.1%). The mean years of experience for the overall population were found to be 10.36 years with ± 3.94 standard deviations (SD) years. Details of Sociodemographic characteristics are shown in table 1 and table 2 below.

Table 1: Sociodemographic characteristics for continuous variables

Variable	Response	Mean ± SD
Age in years (N=64)	Overall	35.34 ± 7.98
	Male	35.97 ± 8.37
	Female	34.4 ± 7.38
Years of Experience(N=64)	Overall	10.36 ± 3.94
	Male	10.56 ± 3.89
	Female	10.04 ± 4.08

Table 2: Sociodemographic characteristics for categorical variables

Variable		Response	Frequency	Percentage
Sex (N=64)		Male	39	60.9
		Female	25	39.1
Profession (N=64)		Physician	21	32.8
		Health Officer	13	20.3
		Nurse	17	26.6
		Midwives	7	10.9
		Pharmacy	4	6.3
		Environmental Health	2	3.1
Place of working (N=64)	Gandhi Memorial Hospital		10	15.6
	Zeweditu Memorial Hospital		10	15.6

	Ras Desta Dametew Memorial Hospital	8	12.5
	Tirunesh Beijing General Hospital	9	14.1
	Yekatit 12 Hospital Medical College	15	23.4
	Dagmawi Minilik II Hospital	12	18.8

4.3. General Information about the Healthcare Quality Improvement collaborative projects

The Healthcare Care Service Quality Collaborative Project on Perinatal Mortality Reduction in Regional Hospitals, Addis Ababa, Ethiopia, was a joint effort between the Institute of Health Improvement (IHI) and the Addis Ababa Regional Health Bureau. The primary objective of the project was to address the critical issue of perinatal mortality, focusing on reducing the number of deaths among new-borns and foetuses from 28 weeks of pregnancy until 28 days after delivery.

In order to achieve this goal, each regional hospital within Addis Ababa was assigned the responsibility of designing and implementing service quality improvement projects specifically targeting the reduction of perinatal mortality. This approach ensured that the initiatives developed were tailored to the unique needs and challenges faced by each hospital, while also fostering a spirit of collaboration and knowledge sharing among the participating facilities. The project spanned duration of nine months, allowing for comprehensive data collection and analysis, as well as sufficient time for the implementation and evaluation of improvement measures. This timeframe enabled the teams involved to effectively measure the impact of their interventions, identify areas of success, and address any obstacles encountered along the way. Throughout the course of the project, a range of strategies were employed to enhance the quality of healthcare services provided by the regional hospitals and consequently reduce perinatal mortality rates

In summary, the Healthcare Care Service Quality Collaborative Project on Perinatal Mortality Reduction in Regional Hospitals, Addis Ababa, Ethiopia, was a ground-breaking endeavour undertaken by the IHI and the Addis Ababa Regional Health Bureau. Through the implementation of targeted service quality improvement projects within each regional hospital, the project aimed to reduce perinatal mortality rates and improve the overall health outcomes of mothers and new-borns. With a focus on evidence-based practices, collaboration, and continuous learning, this project aimed to pave the way for enhanced healthcare services and better maternal and child health in Ethiopia.

4.4. Health Care Quality Improvement Projects Process Monitoring level

The mean level of agreement among the participants is categorized on the scale; Strongly Agree (4.3 or greater); Agree (3.50 – 4.2); Neither Agree nor Disagree (2.7 – 3.4); Disagree (1.9 – 2.6); and, strongly Disagree (1.8 or less).To determine monitoring practice level the mean level of agreement is transformed to percentage based of the following formula

$$\text{Monitoring practice level \%} = \frac{\text{Mean response}}{5} X100$$

Overall health care quality projects process monitoring practice level includes the risk monitoring, stakeholder monitoring, schedule monitoring, communication monitoring, cost monitoring and quality monitoring. The overall level of agreement to the questions that assesses process monitoring is determined by the items in each component and the mean level of it was taken to determine whether the participants in the study agreed to the questions or not. Thus, the mean level of agreement for each component of process monitoring practice is shown below in ascending order starting from risk monitoring with the lowest mean level of agreement (3.656 ± 0.890) to quality monitoring with the highest mean level of agreement (4.125± 0.471).And the overall process monitoring practice is presented with mean level of agreement of (3.822± 0.393).Details of project process monitoring practice agreement level is shown in table 3.

Table 3: Health care quality improvement projects process monitoring practice agreement level in regional hospitals Addis Ababa, Ethiopia June 2023

Health Care Quality Improvement Projects Process Monitoring level					
	N	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Risk Monitoring	64	1.50	5.00	3.656	0.890
Stakeholder Monitoring	64	2.50	5.00	3.664	0.835
Schedule Monitoring	64	3.00	5.00	3.682	0.713
Communication Monitoring	64	3.00	4.50	3.859	0.483
Cost Monitoring	64	2.50	5.00	3.945	0.812
Quality Monitoring	64	3.50	5.00	4.125	0.471
Process monitoring	64	3.17	4.50	**3.822**	**0.393**

The components of health care quality improvement project process monitoring practice level is shown below in ascending order starting from risk monitoring (73.12%) to quality monitoring (82.50%),as such the overall health care quality improvement project process monitoring practice level is 76.44%.Details of process monitoring practice level along with its components are shown below in table 4.

Table 4: Health care quality improvement projects process monitoring practice level in regional hospitals Addis Ababa, Ethiopia June 2023

	N	Project Process Monitoring practice Level
Risk Monitoring	64	73.12%
Stakeholder Monitoring	64	73.28%
Schedule Monitoring	64	73.64%
Communication Monitoring	64	77.18%
Cost Monitoring	64	78.90%
Quality Monitoring	64	82.50%
Process monitoring	64	**76.44%**

Among the respondents 89% of them responded that they used run chart as a tool to monitor the process activities in the health care quality improvement projects they know .About 42%, 22% and 11 % of them responded that they used line graphs, control charts and story board respectively. The monitoring tools are shown in figure 4 below.

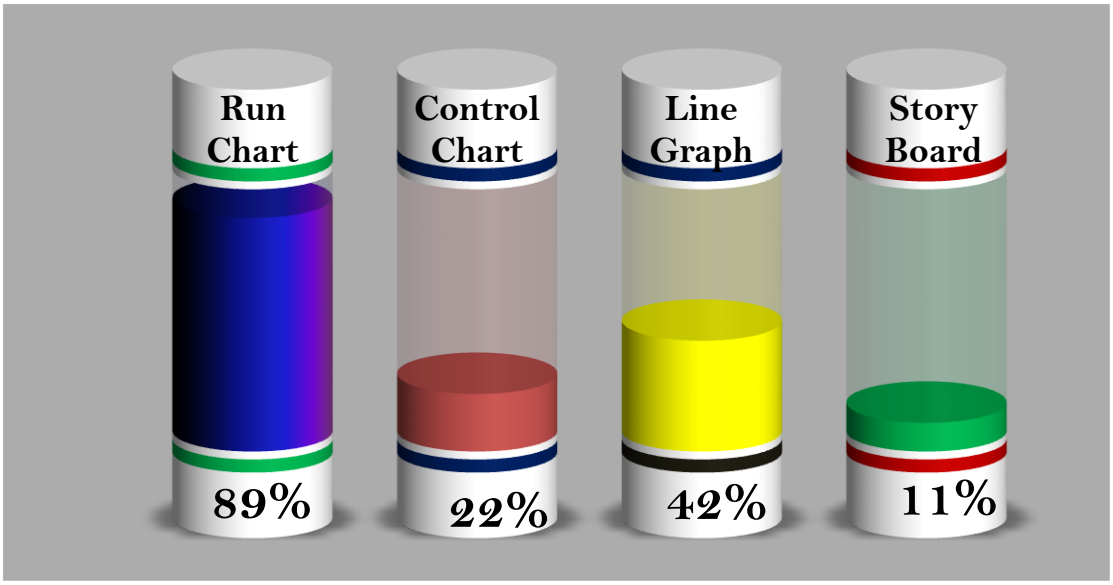

Figure 3: Health care quality improvement projects process monitoring tools in regional hospitals Addis Ababa, Ethiopia June 2023

Overall health care quality improvement projects process monitoring agreement level is shown below in descending order staring from Zeweditu memorial hospital with the highest with mean agreement level of (3.881 ± 0.474) to the lowest mean agreement level (3.778 ± 0.482) to the questions measuring process monitoring practice level in Tirunesh being hospital. Details of process monitoring mean agreement level for each regional hospital are shown below in table 5.

Table 5: Health care quality improvement projects process monitoring practice agreement level in each regional hospital Addis Ababa, Ethiopia June 2023

Health Care Quality Improvement Projects Process Monitoring agreement level					
Regional Hospitals	**N**	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Zeweditu Memorial Hospital	10	3.17	4.50	3.881	0.474
Gandhi Memorial Hospital	10	3.17	4.50	3.858	0.500
Ras Desta Dametew Memorial Hospital	08	3.17	4.50	3.833	0.437
Dagmawi Minilik II Hospital	12	3.42	4.50	3.810	0.318
Yekatit 12 Hospital Medical College	15	3.42	4.17	3.798	0.278
Tirunesh Beijing General Hospital	09	3.17	4.50	3.778	0.482

Overall health care quality improvement projects process monitoring practice level is shown below in descending order staring from Zeweditu memorial hospital with the highest health care quality improvement projects process monitoring practice level of (77.62%) to the lowest health care quality improvement projects process monitoring practice level of (75.56%) in Tirunesh being hospital. Details of health care quality improvement projects process monitoring practice levels are shown below in table 6.

Table 6: Health care quality improvement projects process monitoring practice level in each regional hospital Addis Ababa, Ethiopia June 2023

Regional Hospitals	**N**	**Project Process Monitoring practice Level**
Zeweditu Memorial Hospital	10	77.62%
Gandhi Memorial Hospital	08	77.16%
Ras Desta Dametew Memorial Hospital	12	76.66%
Dagmawi Minilik II Hospital	15	76.20%
Yekatit 12 Hospital Medical College	09	75.96%
Tirunesh Beijing General Hospital	10	75.56%

Based on the descriptive for multiple responses for monitoring tools given in table 7.Most respondents (>78%) responded that their facility used run chart as a monitoring tools for monitoring health care quality improvement projects process or activities regional hospitals. About (<30%) of participants in each facility responded that their facility used control chart for monitoring health care quality improvement projects process.Deatils of use of monitoring tools for each hospitals are shown in table 7 below.

Table 7: Health care quality improvement projects process monitoring tools for each regional hospital Addis Ababa, Ethiopia June 2023

Regional Hospitals	**Run Chart**	**Control Charts**	**Line Graphs**	**Story Board**
Zeweditu Memorial Hospital	10(100%)	3(30%)	5(50%)	2(20%)
Gandhi Memorial Hospital	8(80%)	2(20%)	6(60%)	2(20%)
Ras Desta Dametew Memorial Hospital	8(100%)	2(25%)	1(12.5%)	2(25%)
Dagmawi Minilik II Hospital	10(83%)	2(16.7%)	4(33.3%)	0(0%)
Yekatit 12 Hospital Medical College	14(93%)	3(20%)	4(26.7%)	0(0%)

Tirunesh Beijing General Hospital	7(78%)	2(22.2%)	6(66.7%)	29(2.2%)

4.5. Health Care Quality Improvement Projects Structural Monitoring level

Overall health care quality projects structural monitoring practice level includes the Organizational monitoring, Input monitoring, Compliance monitoring, and documentation monitoring. The overall level of agreement to the questions that assesses structural monitoring is determined by the items in each component and the mean level was taken to determine whether the participants in the study agreed to the questions or not. Thus, the mean level of agreement for each component of structural monitoring practice is shown below in descending order starting from organizational monitoring with the lowest mean level of agreement (3.664 ± 0.939) to documentation monitoring with the highest mean level of agreement (4.125± 0.519).And the overall structural monitoring practice is presented with mean level of agreement of (3.912 ± 0.518).Details of structural project monitoring practice agreement level is shown in table 8.

Table 8: Health care quality improvement projects process monitoring practice agreement level in regional hospitals Addis Ababa, Ethiopia June 2023

Health Care Quality Improvement Projects Structural Monitoring level					
	N	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Organizational Monitoring	64	1.50	5.00	3.664	0.939
Input Monitoring	64	2.50	5.00	3.914	0.829
Compliance Monitoring	64	2.50	4.50	3.945	0.708
Documentation Monitoring	64	3.00	4.50	4.125	0.519
Structural Monitoring	64	3.00	4.75	**3.912**	**0.518**

The components of health care quality improvement project structural monitoring practice level is shown below in ascending order starting from organizational monitoring (73.28%) to Documentation monitoring (82.50%),as such the overall health care quality improvement project structural monitoring practice level is 78.24%.Details of structural monitoring practice level along with its components are shown below in table 9.

Table 9: Health care quality improvement projects process monitoring practice level in regional hospitals Addis Ababa, Ethiopia June 2023

	N	**Project Structural Monitoring practice Level**
Organizational Monitoring	64	73.28%
Input Monitoring	64	78.28%
Compliance Monitoring	64	78.90%
Documentation Monitoring	64	82.50%
Structural Monitoring	**64**	**78.24%**

Overall health care quality improvement projects structural monitoring agreement level is shown below in ascending order staring from Zeweditu memorial hospital with the lowest with mean agreement level of (3.775 ± 0.669) to the highest mean agreement level (4.021 ± 0.365) to the questions measuring process monitoring practice level in Dagmawi Minilik II Hospital. Details of structural monitoring mean agreement level for each regional hospital are shown below in table 10.

Table 10: Health care quality improvement projects structural monitoring practice level in each regional hospital Addis Ababa, Ethiopia June 2023

Health Care Quality Improvement Projects Structural Monitoring agreement level					
Regional Hospitals	**N**	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Zeweditu Memorial Hospital	10	3.00	4.75	3.775	0.669
Ras Desta Dametew Memorial Hospital	08	3.00	4.75	3.859	0.561
Gandhi Memorial Hospital	10	3.00	4.75	3.888	0.644
Tirunesh Beijing General Hospital	09	3.00	4.75	3.917	0.621
Yekatit 12 Hospital Medical College	15	3.25	4.38	3.958	0.377
Dagmawi Minilik II Hospital	12	3.25	4.75	4.021	0.365

Overall health care quality improvement projects structural monitoring practice level is shown below in ascending order staring from Zeweditu memorial hospital with the lowest health care quality improvement projects structural monitoring practice level of (75.50%) to the highest health care quality improvement projects structural monitoring practice level of (80.42%) in Dagmawi Minilik II Hospital. Details of health care quality improvement projects structural monitoring practice levels are shown below in table 11.

Table 11: Health care quality improvement projects structural monitoring practice level in each regional hospital Addis Ababa, Ethiopia June 2023

Regional Hospitals	**N**	**Project Structural Monitoring practice Level**
Zeweditu Memorial Hospital	10	75.50%
Ras Desta Dametew Memorial Hospital	08	77.18%
Gandhi Memorial Hospital	10	77.76%
Tirunesh Beijing General Hospital	09	78.34%
Yekatit 12 Hospital Medical College	15	79.16%
Dagmawi Minilik II Hospital	12	80.42%

4.6. Health Care Quality Improvement Projects Outcome Monitoring level

Overall health care quality projects outcome monitoring practice level includes the performance monitoring, and result monitoring. The overall level of agreement to the questions that assesses outcome monitoring is determined by the items in each component

and the mean level was taken to determine whether the participants in the study agreed to the questions or not. Thus, the mean level of agreement for each component of outcome monitoring practice is shown below in ascending order starting from performance monitoring with the lowest mean level of agreement (3.578 ± 0.506) to result monitoring with the highest mean level of agreement (3.789 ± 0.519).And the overall outcome monitoring practice is presented with mean level of agreement of (3.684 ± 0.389).Details of outcome project monitoring practice agreement level is shown in table 12.

Table 12: Health care quality improvement projects outcome monitoring practice level in regional hospitals Addis Ababa, Ethiopia June 2023

Health Care Quality Improvement Projects Outcome Monitoring level					
	N	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Performance Monitoring	64	2.50	4.00	3.578	0.506
Result Monitoring	64	2.50	4.50	3.789	0.596
Outcome monitoring	64	3.00	4.25	**3.684**	**0.389**

The components of health care quality improvement project outcome monitoring practice level is shown below in ascending order starting from performance monitoring (71.56%) to result monitoring (75.78%),as such the overall health care quality improvement project outcome monitoring practice level is 73.68%.Details of outcome monitoring practice level along with its components are shown below in table 13.

Table 13: Health care quality improvement projects outcome monitoring practice level in regional hospitals Addis Ababa, Ethiopia June 2023

	N	**Project Outcome Monitoring practice Level**
Performance Monitoring	64	71.56%
Result Monitoring	64	75.78%
Outcome monitoring	64	**73.68%**

Overall health care quality improvement projects outcome monitoring agreement level is shown below in ascending order staring from Zeweditu memorial hospital with the lowest with mean agreement level of (3.600 ± 0.489) to the highest mean agreement level (3.771 ± 0.345) to the questions measuring process monitoring practice level in Dagmawi Minilik II Hospital. Details of outcome monitoring mean agreement level for each regional hospital are shown below in table 14

Table 14: Health care quality improvement projects structural monitoring practice level in each regional hospital Addis Ababa, Ethiopia June 2023

Health Care Quality Improvement Projects Outcome Monitoring agreement level					
Regional Hospitals	**N**	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Zeweditu Memorial Hospital	10	3.00	4.25	3.600	0.489
Gandhi Memorial Hospital	10	3.25	4.25	3.650	0.376
Yekatit 12 Hospital Medical College	15	3.00	4.00	3.667	0.397
Ras Desta Dametew Memorial Hospital	08	3.00	4.25	3.688	0.417
Tirunesh Beijing General Hospital	09	3.25	4.25	3.722	0.384
Dagmawi Minilik II Hospital	12	3.25	4.25	3.771	0.345

Overall health care quality improvement projects outcome monitoring practice level is shown below in ascending order staring from Zeweditu memorial hospital with the lowest health care quality improvement projects outcome monitoring practice level of (72%) to the highest health care quality improvement projects outcome monitoring practice level of (75.42%) in Dagmawi Minilik II Hospital. Details of health care quality improvement projects outcome monitoring practice levels are shown below in table 15.

Table 15: Health care quality improvement projects outcome monitoring practice level in regional hospitals Addis Ababa, Ethiopia June 2023

Regional Hospitals	**N**	**Project Outcome Monitoring practice Level**
Zeweditu Memorial Hospital	10	72.00%
Gandhi Memorial Hospital	10	73.00%
Yekatit 12 Hospital Medical College	15	73.34%
Ras Desta Dametew Memorial Hospital	08	73.76%
Tirunesh Beijing General Hospital	09	74.44%
Dagmawi Minilik II Hospital	12	75.42%

4.7. Health Care Quality Improvement Projects overall Monitoring practice level

Overall health care quality improvement projects overall monitoring agreement level is shown below in ascending order staring from Zeweditu memorial hospital with the lowest with mean agreement level of (3.752 ± 0.457) to the highest mean agreement level (3.863 ± 0.245) to the questions measuring overall monitoring practice level in Dagmawi Minilik II Hospital. Details of health care quality improvement projects overall monitoring mean agreement level for each regional hospital are shown below in table 16.

Table 16: Health care quality improvement projects overall monitoring practice level in each regional hospital Addis Ababa, Ethiopia June 2023

Health Care Quality Improvement Projects Overall Monitoring agreement level					
Regional Hospitals	**N**	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Zeweditu Memorial Hospital	10	3.22	4.50	3.752	0.457
Ras Desta Dametew Memorial Hospital	08	3.22	4.50	3.793	0.380
Gandhi Memorial Hospital	10	3.22	4.50	3.799	0.448
Tirunesh Beijing General Hospital	09	3.22	4.50	3.806	0.458
Yekatit 12 Hospital Medical College	15	3.56	4.07	3.808	0.191
Dagmawi Minilik II Hospital	12	3.56	4.50	3.863	0.245
Overall	**64**	**3.22**	**4.50**	**3.806**	**0.348**

Overall health care quality improvement projects overall monitoring practice level is shown below in ascending order staring from Zeweditu memorial hospital with the lowest health care quality improvement projects overall monitoring practice level of (75.04%) to the highest health care quality improvement projects overall monitoring practice level of (77.26%) in Dagmawi Minilik II Hospital. In conclusion the health care quality improvement projects overall monitoring practice level in regional hospitals of Addis Ababa is 76.12% Details of health care quality improvement projects overall monitoring practice levels are shown below in table 17.

Table 17: Health care quality improvement projects overall monitoring practice level in regional hospitals Addis Ababa, Ethiopia June 2023

Regional Hospitals	**N**	**Project Overall Monitoring practice Level**
Zeweditu Memorial Hospital	10	75.04%
Ras Desta Dametew Memorial Hospital	08	75.86%
Gandhi Memorial Hospital	10	75.98%
Tirunesh Beijing General Hospital	09	76.12%
Yekatit 12 Hospital Medical College	15	76.16%
Dagmawi Minilik II Hospital	12	77.26%
Overall	**64**	**76.12%**

Based on the results, independent sample t-test was done to see if there is a difference between the highest and the lowest monitoring practice level for structural monitoring, process monitoring, outcome monitoring and overall monitoring for each regional hospital and the result showed that there are no statistically significant differences between the highest performing hospital and the lowest performing hospitals. Details of independent sample t-test are shown in table 18 below.

Table 18: Summary of independent sample t-test for Health care quality improvement projects overall monitoring practice level differences between the highest and the lowest monitoring level for each category in each regional hospital Addis Ababa, Ethiopia June 2023

Health Care Quality Improvement projects Monitoring level	t-value	Mean difference	95%CI		p-value
			Lower	Upper	
Structural Monitoring	-1.096	-0.2458	-0.714	0.222	0.286
Outcome Monitoring	-0.960	-0.1708	-0.542	0.201	0.349
Process Monitoring	0.455	0.10278	-0.374	0.579	0.655
Overall Monitoring	-0.732	-0.11157	-0.429	0.207	0.473

4.8. Effectiveness of Project Monitoring Practices in Healthcare Quality Improvement Projects

Frequency of project monitoring activities

About 58%, 31% and 11% of respondents in regional hospitals responded that project monitoring activities conducted irregularly, quarterly and monthly respectively in their facilities. Details are shown in figure 5

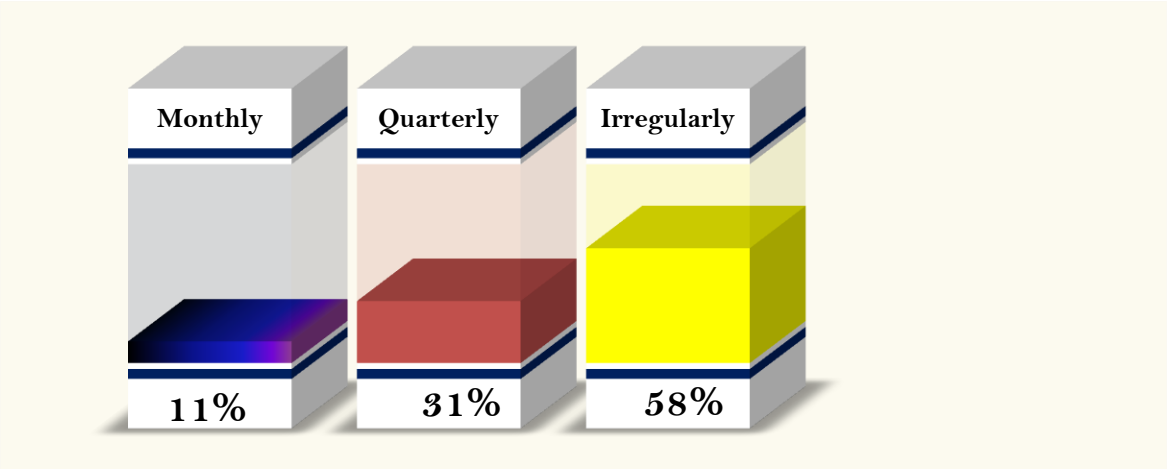

Figure 4: Health care quality improvement projects frequency of monitoring in regional hospitals Addis Ababa, Ethiopia June 2023

Methods for Health care Quality improvement project monitoring

About 54.2%, 47.5%, 33.9%, 32.2% and 30.5% of respondents in regional hospitals responded that project monitoring methods are regular progress meeting and reporting, data collection and analysis ,site visits and observation ,documentation review and combination methods respectively in their facilities. Details are shown in figure 6.

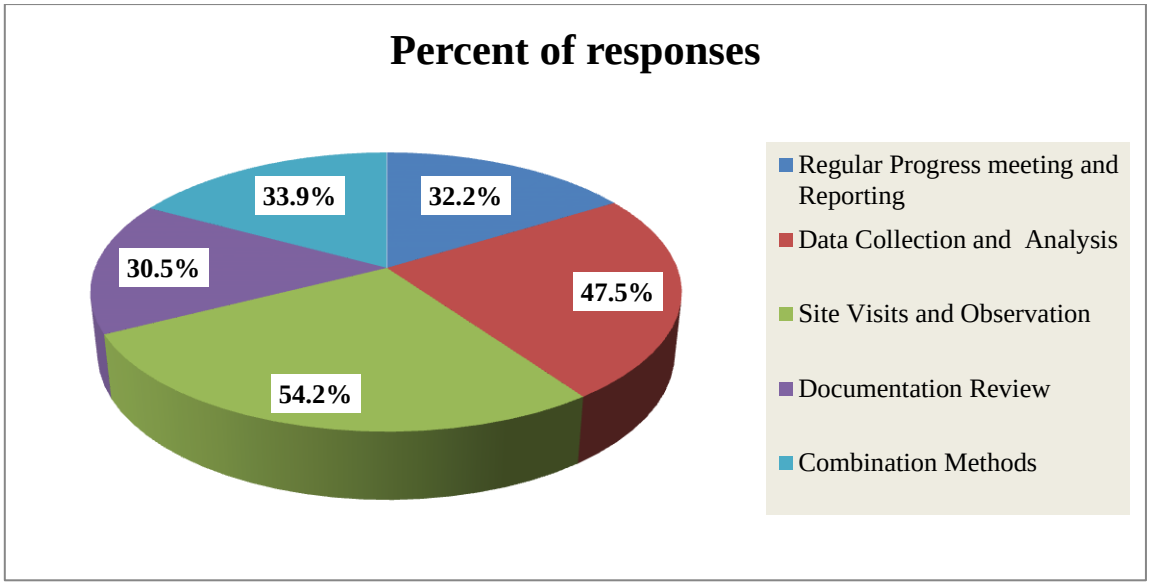

Figure 5: Health care quality improvement projects methods of monitoring in regional hospitals Addis Ababa, Ethiopia June 2023

Healthcare Quality Improvement Projects Monitoring practice Effectiveness in Identifying and Addressing Potential risks and Issues.

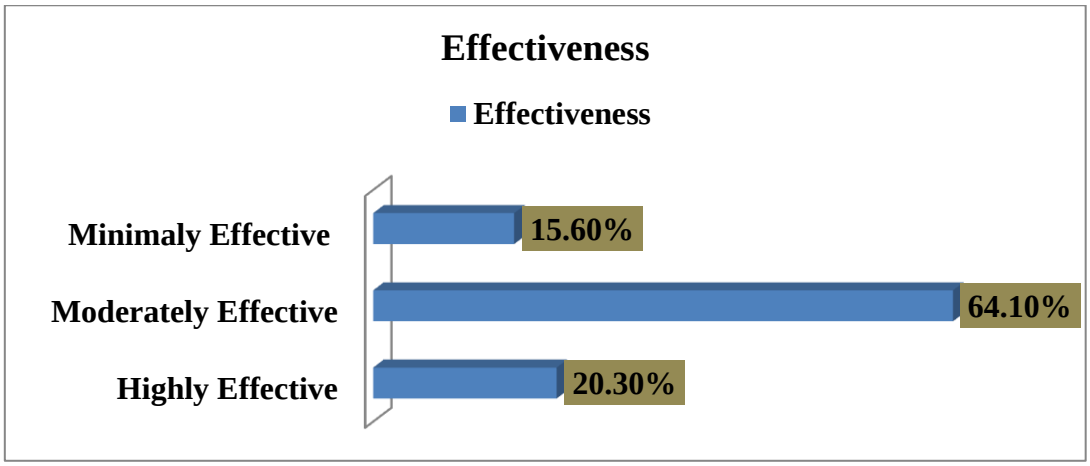

Figure 6: Health care quality improvement projects monitoring practice effectiveness in identifying and addressing potential risks and issues in regional hospitals Addis Ababa, Ethiopia June 2023

About 64.10%, 20.30%, 15.60%, of respondents in regional hospitals responded that health care quality improvement project monitoring practice was, moderately, highly, minimally effective , in identifying and addressing potential risks and issues respectively. Details are shown in figure 7 above.

Project monitoring practices compliance with healthcare quality standards and guidelines in the regional public hospitals

About 64%, 20%, 16%, of respondents in regional hospitals responded that health care quality improvement project monitoring practice was, moderately, highly, minimally effective in compliance with healthcare quality standards and guidelines in the regional public hospitals. Details are shown in figure 8 below.

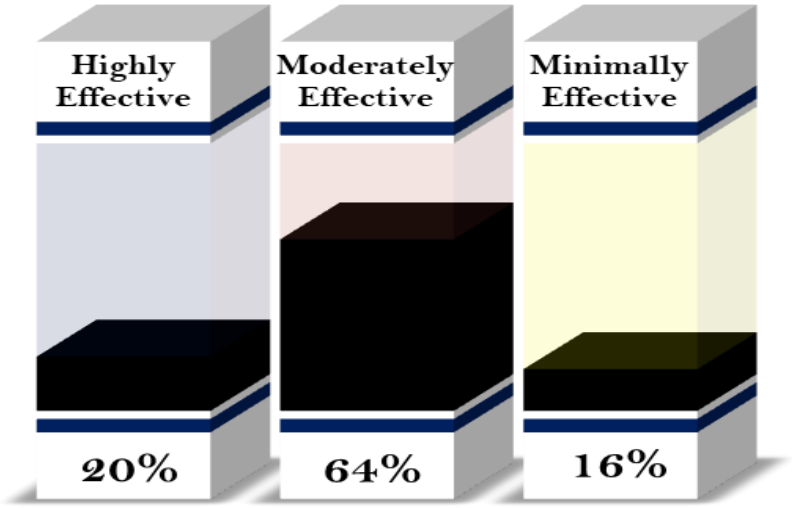

Figure 7: Health care quality improvement projects monitoring practice compliance with healthcare quality standards and guidelines in the regional public hospitals Addis Ababa, Ethiopia June 2023.

Stakeholder's satisfaction with the overall effectiveness of project monitoring practices in healthcare quality improvement projects

About 42.2%, 39.1%, 18.8%, of respondents in regional hospitals responded that health care quality improvement project monitoring practice was, neutral, somewhat, and very satisfied with the overall effectiveness of project monitoring practices in healthcare quality improvement projects. Details are shown in figure 9 below.

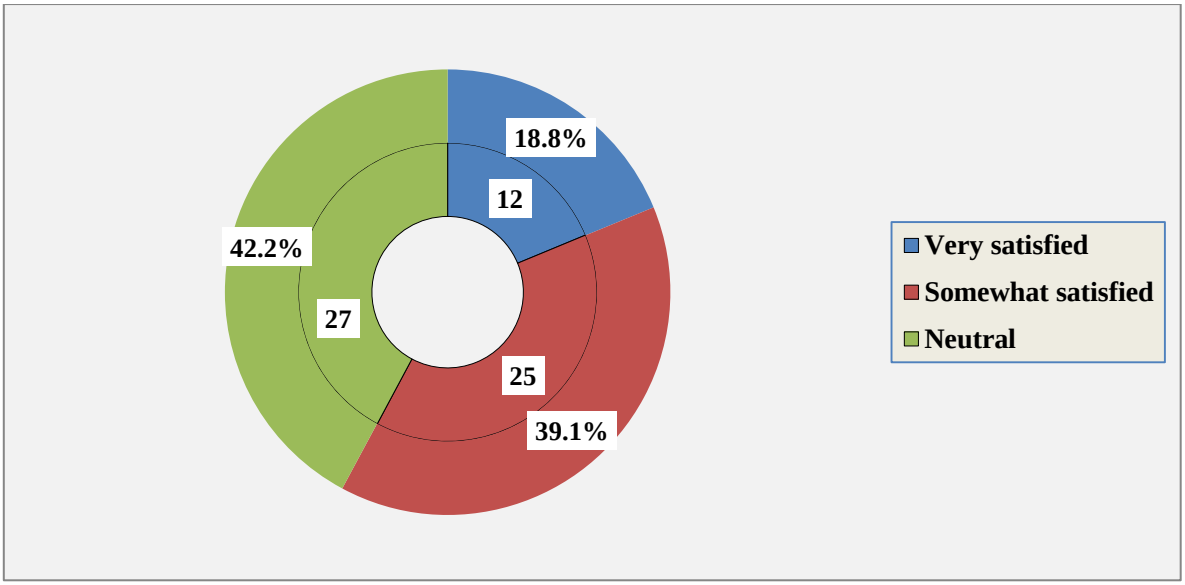

Figure 8: Stakeholder's satisfaction with the overall effectiveness of project monitoring practices in healthcare quality improvement projects in the regional public hospitals Addis Ababa, Ethiopia June 2023.

4.9. Challenges of project monitoring practices in healthcare quality improvement projects

Main challenges faced in effectively implementing project monitoring practices in healthcare quality improvement projects

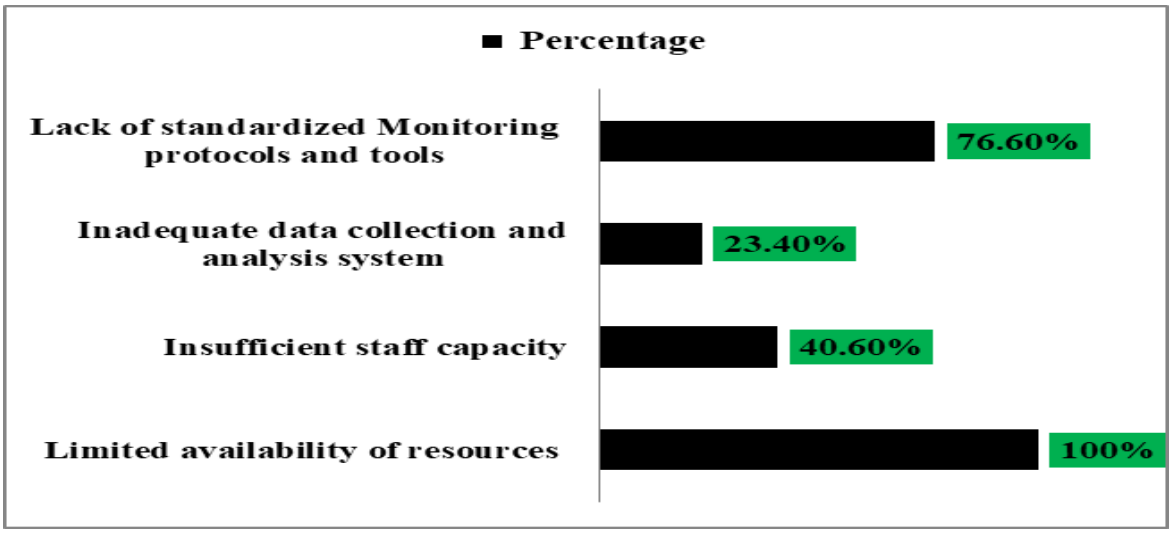

Figure 9: Main challenges faced in effectively implementing project monitoring practices in healthcare quality improvement projects in the regional public hospitals Addis Ababa, Ethiopia June 2023.

About 100%, 76.6%, 40.6%, and 23.4% of respondents in regional hospitals responded that Main challenges faced in effectively implementing project monitoring practices in healthcare

quality improvement projects in their facility is limited availability of resources, lack of standardized monitoring protocols and tools ,insufficient staff capacity and in adequate data collection and analysis system respectively. Details are shown in figure 10 above.

Factor that poses the greatest obstacle to timely and accurate data collection for healthcare quality improvement projects monitoring

About 92.2%, 53.1%, 50%, and 48.4% of respondents in regional hospitals responded that factor that poses the greatest obstacle to timely and accurate data collection for project monitoring in healthcare quality improvement projects in their facility is insufficient training on data collection process, high workload and time constraint on staff for data collection, incomplete or inconsistent data documentation by health professionals and limited data collection tools and technology respectively. Details are shown in figure 11 below

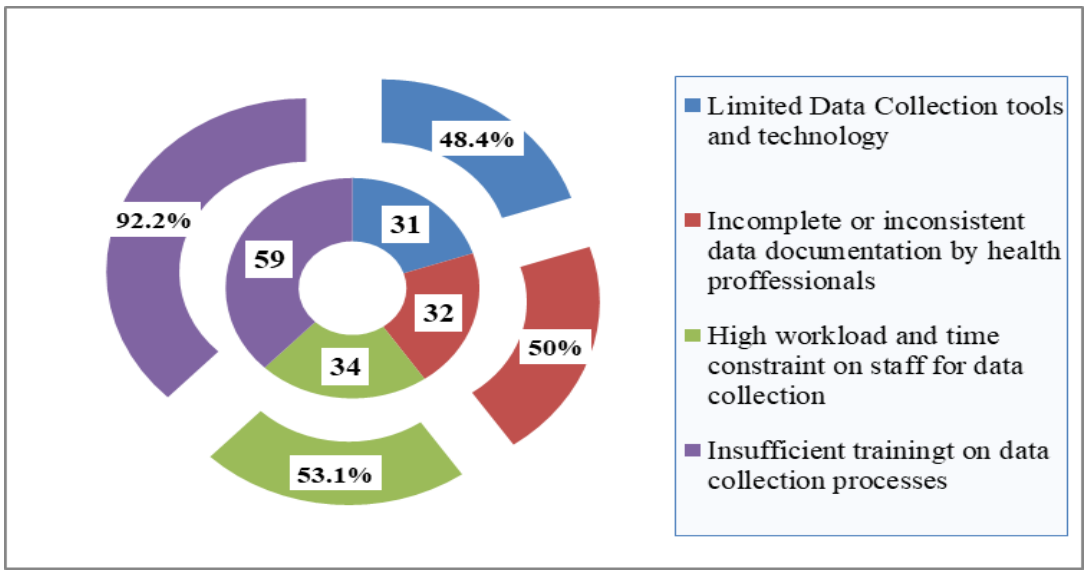

Figure 10: Factor that poses the greatest obstacle to timely and accurate data collection for healthcare quality improvement projects monitoring in the regional public hospitals Addis Ababa, Ethiopia June 2023.

Primary challenge in utilizing monitoring data to inform decision-making and quality improvement actions in healthcare quality improvement projects

About 89.1%, 57.8%, 37.5%, and 10.9% of respondents in regional hospitals responded that Primary challenge in utilizing monitoring data to inform decision-making and quality improvement actions in their facility is Inadequate communication and dissemination of monitoring findings, Challenges in integrating monitoring data into existing quality improvement processes, Lack of clarity on how to translate data into actionable improvement

measures and limited data collection tools and technology respectively. Details are shown in figure 12 below.

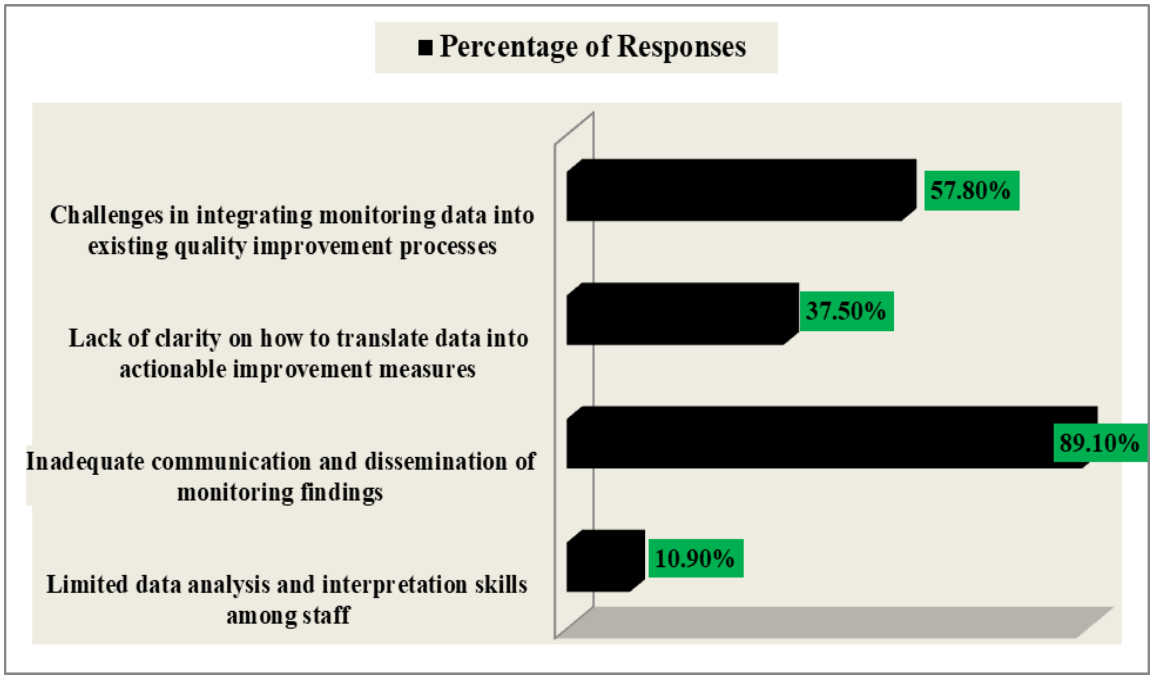

Figure 11: Primary challenge in utilizing monitoring data to inform decision-making and quality improvement actions in the regional public hospitals Addis Ababa, Ethiopia June 2023.

An aspect that presents the biggest hurdle in ensuring effective collaboration and coordination among stakeholders involved in healthcare quality improvement projects monitoring

About 70.3%, 62.5%, 56.3%, and 53.1% of respondents in regional hospitals responded that an aspect that presents the biggest hurdle in ensuring effective collaboration and coordination among stakeholders involved in healthcare quality improvement projects monitoring in their facility is insufficient coordination and alignment with other hospital initiatives, resistance to change and lack of stakeholder buy-in, limited communication and information-sharing mechanisms and fragmented responsibilities and unclear roles respectively. Details are shown in figure 13 below.

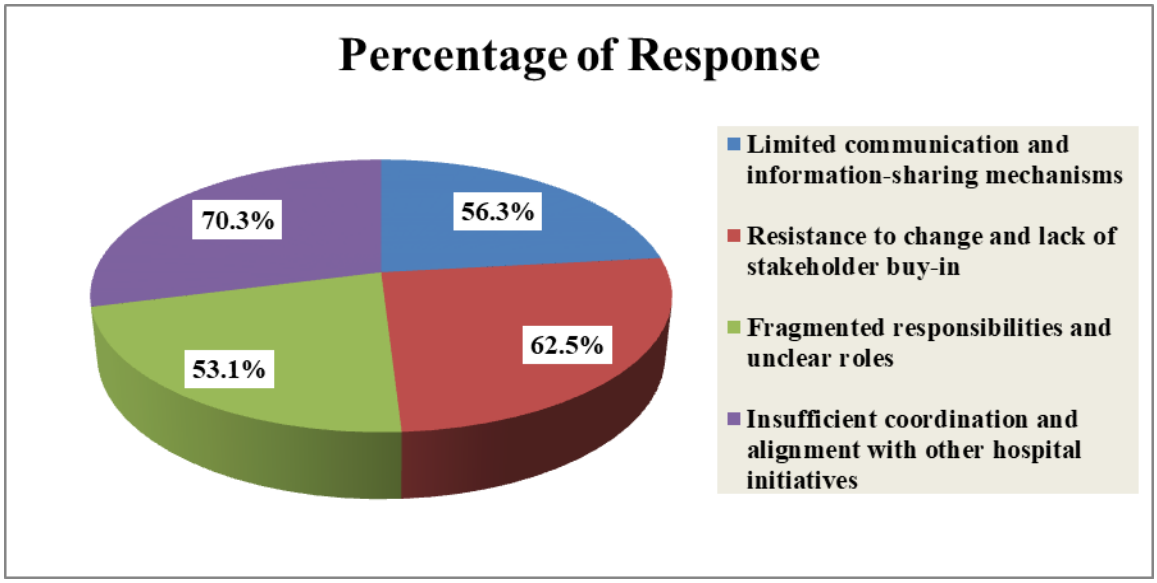

Figure 12: An aspect that presents the biggest hurdle in ensuring effective collaboration and coordination among stakeholders involved in healthcare quality improvement projects monitoring in the regional public hospitals Addis Ababa, Ethiopia June 2023.

Key challenge in sustaining project monitoring practices over time and ensuring continuous quality improvement

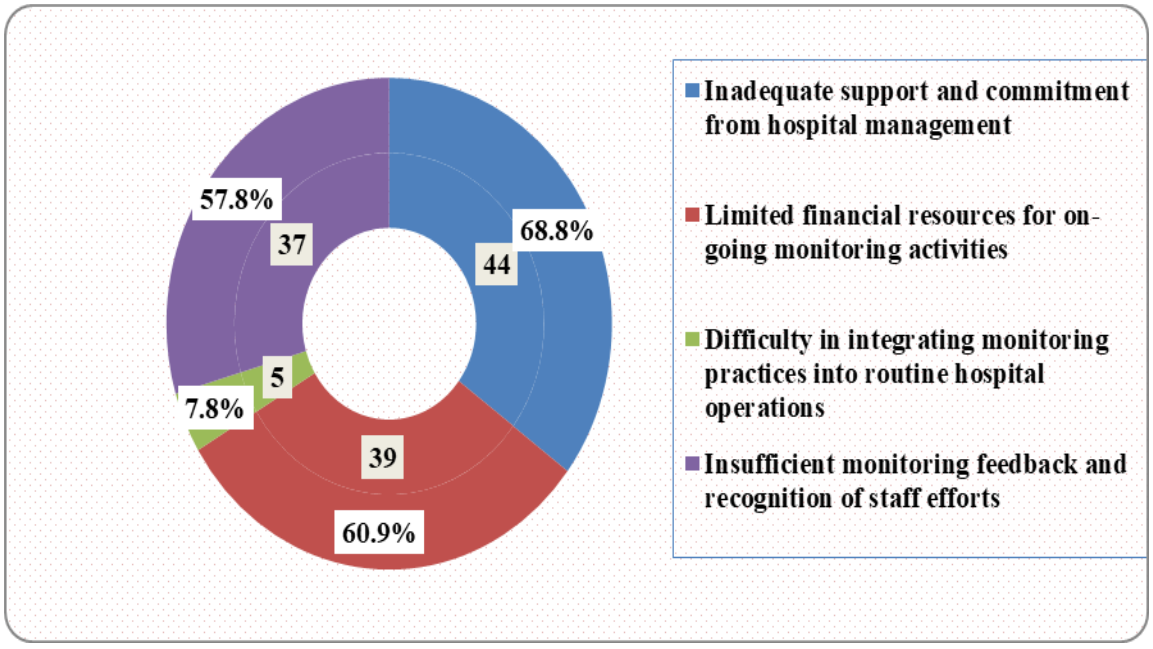

Figure 13: Key challenge in sustaining project monitoring practices over time and ensuring continuous quality improvement in the regional public hospitals Addis Ababa, Ethiopia June 2023.

About 68.8%, 60.9%, 57.8%, and 7.8% of respondents in regional hospitals responded that key challenge in sustaining project monitoring practices over time and ensuring continuous quality improvement in their facility is Inadequate support and commitment from hospital management, limited financial resources for on-going monitoring activities, insufficient monitoring feedback and recognition of staff efforts and Difficulty in integrating monitoring practices into routine hospital operations respectively. Details are shown in figure 14 above.

Primary challenge in ensuring effective integration of project monitoring activities with the overall quality improvement strategy of the hospital

About 71.9%, 57.8%, 46.9%, and 40.6% of respondents in regional hospitals responded that Primary challenge in ensuring effective integration of project monitoring activities with the overall quality improvement strategy in their facility is limited awareness and understanding of the importance of project monitoring among healthcare professional, Inadequate feedback and accountability mechanisms for monitoring outcomes, Insufficient communication and coordination between project teams and quality improvement committees and Lack of clear alignment between project monitoring and organizational goals respectively. Details are shown in figure 15 below

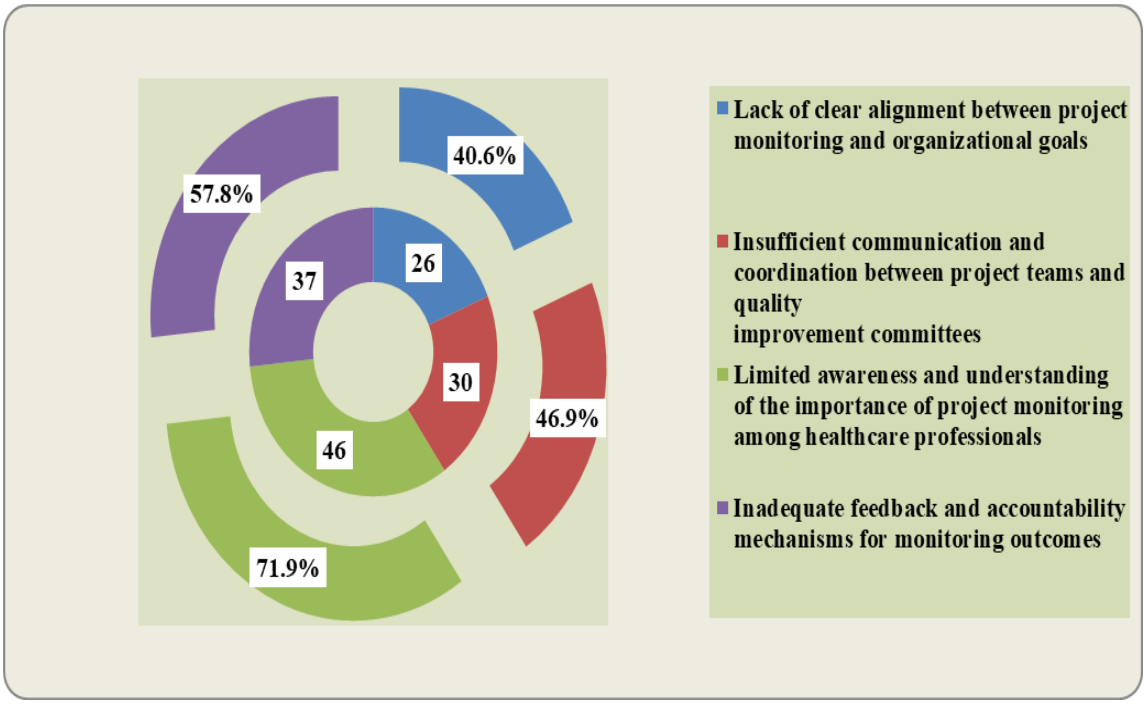

Figure 14: Primary challenge in ensuring effective integration of project monitoring activities with the overall quality improvement strategy in the regional public hospitals Addis Ababa, Ethiopia June 2023.

The biggest factor in effectively addressing identified issues and implementing corrective actions based on project monitoring findings

About 70.2%, 52.6%, 42.1%, and 42.1% of respondents in regional hospitals responded that the biggest factor in effectively addressing identified issues and implementing corrective actions based on project monitoring findings in their facility is Challenges in tracking and monitoring the progress of implemented corrective actions, Inadequate support and resources for implementing improvement initiatives, Resistance to change and lack of organizational culture that promotes continuous improvement and Limited knowledge and skills in quality improvement methodologies among healthcare professionals respectively. Details are shown in figure 16 below

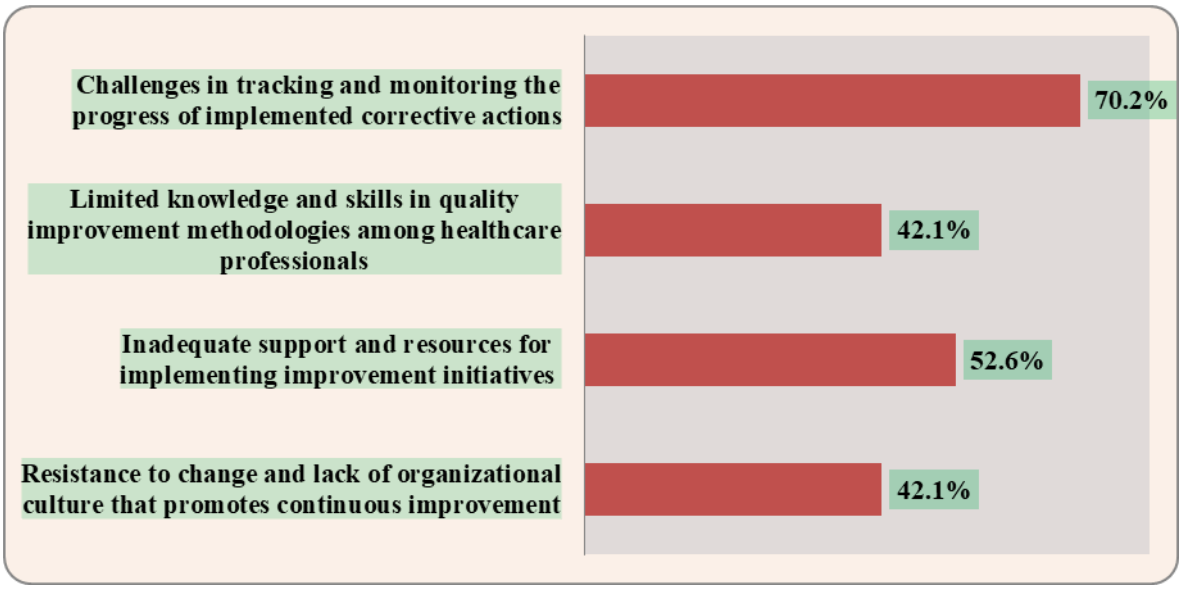

Figure 15: The biggest factor in effectively addressing identified issues and implementing corrective actions based on project monitoring findings in the regional public hospitals Addis Ababa, Ethiopia June 2023.

Main challenge in ensuring timely and effective communication of project monitoring results to relevant stakeholders

About 73.4%, 64.1%, 60.9%, and 59.4% of respondents in regional hospitals responded that the Main challenge in ensuring timely and effective communication of project monitoring results to relevant stakeholders in their facility is Insufficient mechanisms for sharing monitoring findings across different hospital departments or units, Inadequate dissemination of monitoring results to external partners and stakeholders, Limited feedback and follow-up mechanisms for addressing identified issues and Lack of standardized reporting formats and guidelines respectively. Details are shown in figure 17 below

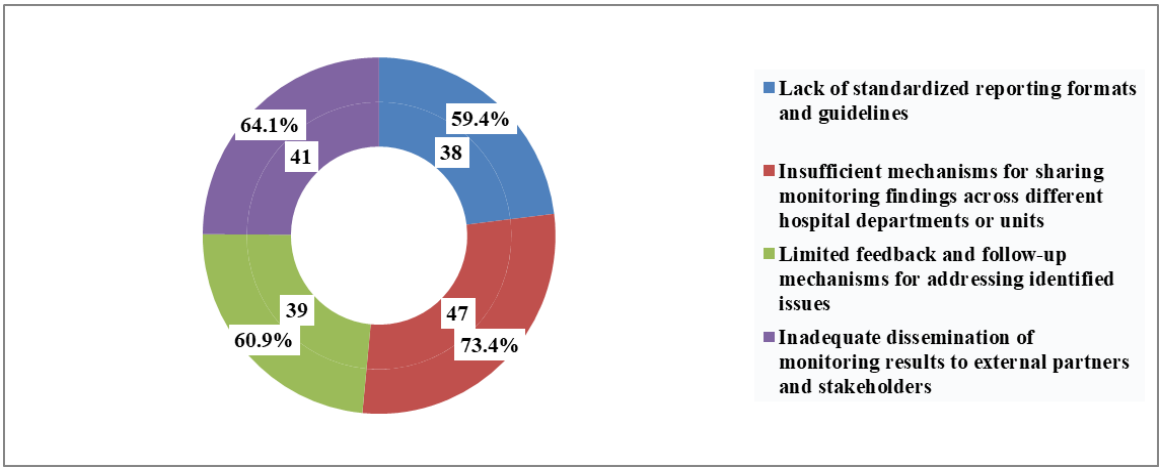

Figure 16: Main challenge in ensuring timely and effective communication of project monitoring results to relevant stakeholders

The greatest obstacle in promoting a culture of continuous monitoring and quality improvement among healthcare professionals

About 84.4%, 62.5%, 56.3%, and 37.5% of respondents in regional hospitals responded that the greatest obstacle in promoting a culture of continuous monitoring and quality improvement among healthcare professionals in their facility is Resistance to change and reluctance to adopt new monitoring practices, Limited awareness and education on the importance of project monitoring and quality improvement, Lack of incentives and recognition for staff engagement in monitoring activities and Insufficient training and capacity-building opportunities for quality improvement skills respectively. Details are shown in figure 18 below

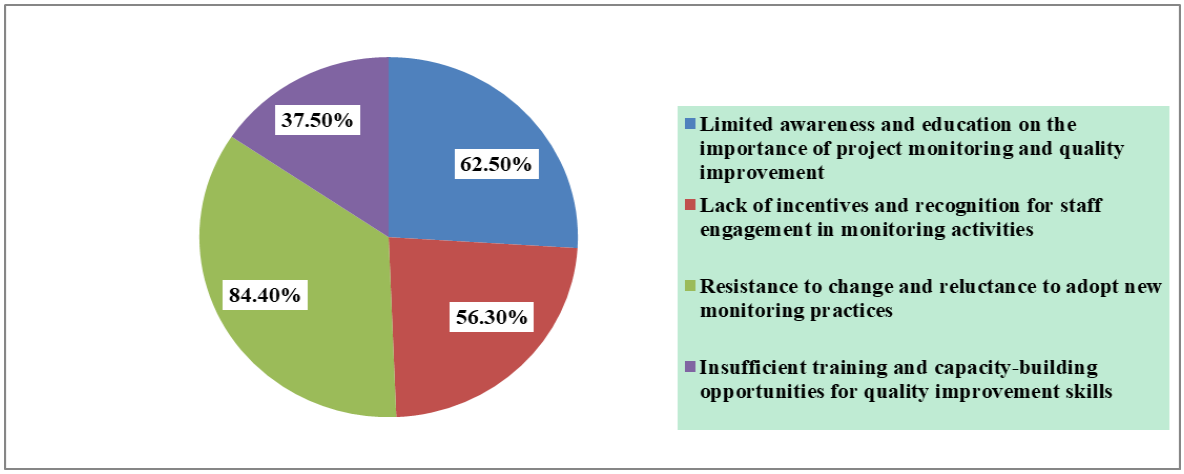

Figure 17: The greatest obstacle in promoting a culture of continuous monitoring and quality improvement among healthcare professionals

Primary challenge in leveraging technology and data systems to support efficient and effective project monitoring in healthcare quality improvement projects

About 67.2%, 64.1%, 64.1%, and 60.9% of respondents in regional hospitals responded that the Primary challenge in leveraging technology and data systems to support efficient and effective project monitoring in healthcare quality improvement projects in their facility is Inadequate data security and privacy measures for monitoring data, Limited availability and access to reliable technology infrastructure, Challenges in integrating data from multiple sources and systems and Insufficient training and support for using monitoring software and data management systems respectively. Details are shown in figure 19 below.

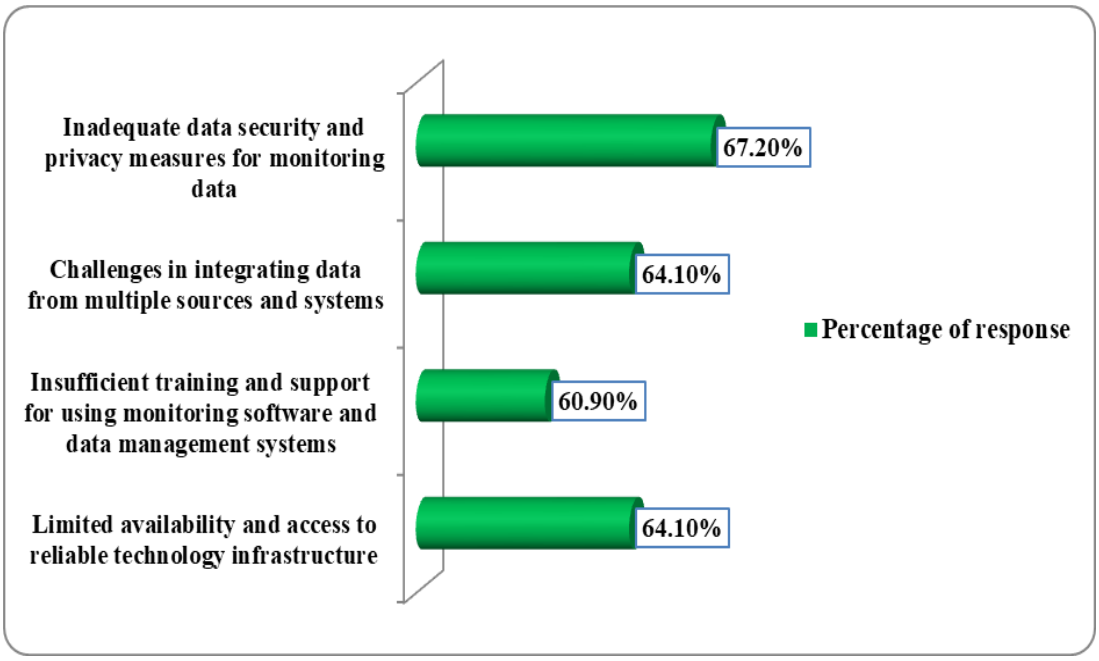

Figure 18: Primary challenge in leveraging technology and data systems to support efficient and effective project monitoring in healthcare quality improvement projects

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1. Summary of findings

A total of 64/70 participants currently working in regional hospitals of Addis Ababa were participated in research project which gave response rate of (91.4%).The mean age is comparable for male and female. Majority of participants are male 39 (60.9%), and female 25 (39.1%). The mean years of experience for the overall population were found to be 10.36 years with ± 3.94 standard deviations (SD) years.

Overall health care quality projects process monitoring practice level includes the risk monitoring, stakeholder monitoring, schedule monitoring, communication monitoring, cost monitoring and quality monitoring. The mean level of agreement for each component of process monitoring practice ranges from risk monitoring with the lowest mean level of agreement (3.656 ± 0.890) to quality monitoring with the highest mean level of agreement (4.125± 0.471).And the overall process monitoring practice is presented with mean level of agreement of (3.822± 0.393).And project process monitoring practice level ranges from risk monitoring (73.12%) to quality monitoring (82.50%),as such the overall health care quality improvement project process monitoring practice level is 76.44%.

Among the respondents 89% of them responded that they used run chart as a tool to monitor the process activities in the health care quality improvement projects they know .About 42%, 22% and 11 % of them responded that they used line graphs, control charts and story board respectively.

Overall health care quality improvement projects process monitoring agreement level ranges from Zeweditu memorial hospital with the highest with mean agreement level of (3.881 ± 0.474) to the lowest mean agreement level (3.778 ± 0.482) in Tirunesh being hospital. And quality improvement projects process monitoring practice level was ranging from Zeweditu memorial hospital with the highest health care quality improvement projects process monitoring practice level of (77.62%) to the lowest health care quality improvement projects process monitoring practice level of (75.56%) in Tirunesh being hospital.

Most respondents (>78%) responded that their facility used run chart as a monitoring tools for monitoring health care quality improvement projects process or activities regional

hospitals. About (<30%) of participants in each facility responded that their facility used control chart for monitoring health care quality improvement projects process.

The mean level of agreement for each component of structural monitoring practice was starting from organizational monitoring with the lowest mean level of agreement (3.664 ± 0.939) to documentation monitoring with the highest mean level of agreement (4.125± 0.519).And the overall structural monitoring practice is presented with mean level of agreement of (3.912 ± 0.518).And The quality improvement project structural monitoring practice level was starting from organizational monitoring (73.28%) to Documentation monitoring (82.50%),as such the overall health care quality improvement project structural monitoring practice level is 78.24%.

Overall health care quality improvement projects structural monitoring agreement level was ranging from Zeweditu memorial hospital with the lowest with mean agreement level of (3.775 ± 0.669) to the highest mean agreement level (4.021 ± 0.365) to the questions measuring process monitoring practice level in Dagmawi Minilik II Hospital. And projects structural monitoring practice level was also staring from Zeweditu memorial hospital with the lowest health care quality improvement projects structural monitoring practice level of (75.50%) to the highest health care quality improvement projects structural monitoring practice level of (80.42%) in Dagmawi Minilik II Hospital.

The mean level of agreement for each component of outcome monitoring practice was ranging from performance monitoring with the lowest mean level of agreement (3.578 ± 0.506) to result monitoring with the highest mean level of agreement (3.789 ± 0.519).And the overall outcome monitoring practice is presented with mean level of agreement of (3.684 ± 0.389).Project outcome monitoring practice level was starting from performance monitoring (71.56%) to result monitoring (75.78%),as such the overall health care quality improvement project outcome monitoring practice level is 73.68%.

Overall health care quality improvement projects outcome monitoring agreement level was ranging from Zeweditu memorial hospital with the lowest with mean agreement level of (3.600 ± 0.489) to the highest mean agreement level (3.771 ± 0.345) in Dagmawi Minilik II Hospital. Projects outcome monitoring practice level was also staring from Zeweditu memorial hospital with the lowest health care quality improvement projects outcome monitoring practice level of (72%) to the highest health care quality improvement projects outcome monitoring practice level of (75.42%) in Dagmawi Minilik II Hospital.

Overall health care quality improvement projects overall monitoring agreement level was found in ascending order staring from Zeweditu memorial hospital with the lowest with mean agreement level of (3.752 ± 0.457) to the highest mean agreement level (3.863 ± 0.245) to in Dagmawi Minilik II Hospital. Overall health care quality improvement projects overall monitoring practice level is in ascending order staring from Zeweditu memorial hospital with the lowest health care quality improvement projects overall monitoring practice level of (75.04%) to the highest health care quality improvement projects overall monitoring practice level of (77.26%) in Dagmawi Minilik II Hospital. In conclusion the health care quality improvement projects overall monitoring practice level in regional hospitals of Addis Ababa is 76.12%

Based on the results, independent sample t-test was done to see if there is a difference between the highest and the lowest monitoring practice level for structural monitoring, process monitoring, outcome monitoring and overall monitoring for each regional hospital and the result showed that there are no statistically significant differences between the highest performing hospital and the lowest performing hospitals.

About 58%, 31% and 11% of respondents in regional hospitals responded that project monitoring activities conducted irregularly, quarterly and monthly respectively in their facilities. About 54.2%, 47.5%, 33.9%, 32.2% and 30.5% of respondents in regional hospitals responded that project monitoring methods are regular progress meeting and reporting, data collection and analysis ,site visits and observation ,documentation review and combination methods respectively in their facilities. About 64.10%, 20.30%, 15.60%, of respondents in regional hospitals responded that health care quality improvement project monitoring practice was, moderately, highly, minimally effective , in identifying and addressing potential risks and issues respectively. About 64%, 20%, 16%, of respondents in regional hospitals responded that health care quality improvement project monitoring practice was, moderately, highly, minimally effective in compliance with healthcare quality standards and guidelines in the regional public hospitals. About 42.2%, 39.1%, 18.8%, of respondents in regional hospitals responded that health care quality improvement project monitoring practice was, neutral, somewhat, and very satisfied with the overall effectiveness of project monitoring practices in healthcare quality improvement projects.

About 100%, 76.6%, 40.6%, and 23.4% of respondents in regional hospitals responded that Main challenges faced in effectively implementing project monitoring practices in healthcare quality improvement projects in their facility is limited availability of resources, lack of

standardized monitoring protocols and tools ,insufficient staff capacity and in adequate data collection and analysis system respectively. About 92.2%, 53.1%, 50%, and 48.4% of respondents in regional hospitals responded that factor that poses the greatest obstacle to timely and accurate data collection for project monitoring in healthcare quality improvement projects in their facility is insufficient training on data collection process, high workload and time constraint on staff for data collection, incomplete or inconsistent data documentation by health professionals and limited data collection tools and technology respectively.

About 89.1%, 57.8%, 37.5%, and 10.9% of respondents in regional hospitals responded that Primary challenge in utilizing monitoring data to inform decision-making and quality improvement actions in their facility is Inadequate communication and dissemination of monitoring findings, Challenges in integrating monitoring data into existing quality improvement processes, Lack of clarity on how to translate data into actionable improvement measures and limited data collection tools and technology respectively. About 70.3%, 62.5%, 56.3%, and 53.1% of respondents in regional hospitals responded that an aspect that presents the biggest hurdle in ensuring effective collaboration and coordination among stakeholders involved in healthcare quality improvement projects monitoring in their facility is insufficient coordination and alignment with other hospital initiatives, resistance to change and lack of stakeholder buy-in, limited communication and information-sharing mechanisms and fragmented responsibilities and unclear roles respectively.

About 68.8%, 60.9%, 57.8%, and 7.8% of respondents in regional hospitals responded that key challenge in sustaining project monitoring practices over time and ensuring continuous quality improvement in their facility is Inadequate support and commitment from hospital management, limited financial resources for on-going monitoring activities, insufficient monitoring feedback and recognition of staff efforts and Difficulty in integrating monitoring practices into routine hospital operations respectively. About 71.9%, 57.8%, 46.9%, and 40.6% of respondents in regional hospitals responded that Primary challenge in ensuring effective integration of project monitoring activities with the overall quality improvement strategy in their facility is limited awareness and understanding of the importance of project monitoring among healthcare professional, Inadequate feedback and accountability mechanisms for monitoring outcomes, Insufficient communication and coordination between project teams and quality improvement committees and Lack of clear alignment between project monitoring and organizational goals respectively.

About 70.2%, 52.6%, 42.1%, and 42.1% of respondents in regional hospitals responded that the biggest factor in effectively addressing identified issues and implementing corrective actions based on project monitoring findings in their facility is Challenges in tracking and monitoring the progress of implemented corrective actions, Inadequate support and resources for implementing improvement initiatives, Resistance to change and lack of organizational culture that promotes continuous improvement and Limited knowledge and skills in quality improvement methodologies among healthcare professionals respectively. About 73.4%, 64.1%, 60.9%, and 59.4% of respondents in regional hospitals responded that the Main challenge in ensuring timely and effective communication of project monitoring results to relevant stakeholders in their facility is Insufficient mechanisms for sharing monitoring findings across different hospital departments or units, Inadequate dissemination of monitoring results to external partners and stakeholders, Limited feedback and follow-up mechanisms for addressing identified issues and Lack of standardized reporting formats and guidelines respectively.

About 84.4%, 62.5%, 56.3%, and 37.5% of respondents in regional hospitals responded that the greatest obstacle in promoting a culture of continuous monitoring and quality improvement among healthcare professionals in their facility is Resistance to change and reluctance to adopt new monitoring practices, Limited awareness and education on the importance of project monitoring and quality improvement, Lack of incentives and recognition for staff engagement in monitoring activities and Insufficient training and capacity-building opportunities for quality improvement skills respectively. About 67.2%, 64.1%, 64.1%, and 60.9% of respondents in regional hospitals responded that the Primary challenge in leveraging technology and data systems to support efficient and effective project monitoring in healthcare quality improvement projects in their facility is Inadequate data security and privacy measures for monitoring data, Limited availability and access to reliable technology infrastructure, Challenges in integrating data from multiple sources and systems and Insufficient training and support for using monitoring software and data management systems respectively.

5.2. Conclusion

Project process monitoring practice level ranges from risk monitoring (73.12%) to quality monitoring (82.50%) as such the overall health care quality improvement project process monitoring practice level is 76.44%.

Most of the facilities used run chart but there is a gap in using control chart and storyboard. And there is no statistically significant difference in health care quality improvement projects process monitoring practice between the lowest and the highest result.

The quality improvement project structural monitoring practice level was starting from organizational monitoring (73.28%) to Documentation monitoring (82.50%) as such the overall health care quality improvement project structural monitoring practice level is 78.24%.And there is no statistically significant difference in health care quality improvement projects structural monitoring practice between the lowest and the highest result.

Project outcome monitoring practice level was starting from performance monitoring (71.56%) to result monitoring (75.78%), as such the overall health care quality improvement project outcome monitoring practice level is 73.68%. There is no statistically significant difference in health care quality improvement projects outcome monitoring practice between the lowest and the highest result.

In conclusion the health care quality improvement projects overall monitoring practice level in regional hospitals of Addis Ababa is 76.12% .Based on independent sample t-test result showed that there are no statistically significant differences between the highest performing hospital and the lowest performing hospitals.

Majority of project monitoring activities conducted irregularly. And mostly regular progress meeting and reporting along with data collection and analysis was used as project monitoring methods. In most of the time quality improvement project monitoring practice was, moderately effective in identifying and addressing potential risks and issues. In many instances health care quality improvement project monitoring practice was moderately highly effective in being compliant with healthcare quality standards and guidelines in the regional public hospitals.

Majority of respondents in regional hospitals are neither satisfied nor dissatisfied with the overall effectiveness of project monitoring practices in healthcare quality improvement projects.

Limited availability of resources and lack of standardized monitoring protocols and tools, along with insufficient staff capacity and in adequate data collection and analysis system were identified as a Main challenges faced in effectively implementing project monitoring practices in healthcare quality improvement projects.

Insufficient training on data collection process, high workload and time constraint on staff for data collection, incomplete or inconsistent data documentation by health professionals and limited data collection tools and technology were identified to be factor that poses the greatest obstacle to timely and accurate data collection for project monitoring in healthcare quality improvement projects.

Inadequate communication and dissemination of monitoring findings, Challenges in integrating monitoring data into existing quality improvement processes, and Lack of clarity on how to translate data into actionable improvement measures and limited data collection tools and technology were responded to be Primary challenge in utilizing monitoring data to inform decision-making and quality improvement .

Insufficient coordination and alignment with other hospital initiatives, resistance to change and lack of stakeholder buy-in, limited communication and information-sharing mechanisms and fragmented responsibilities and unclear roles are aspect that presents the biggest hurdle in ensuring effective collaboration and coordination among stakeholders involved in healthcare quality improvement projects monitoring.

Inadequate support and commitment from hospital management, limited financial resources for on-going monitoring activities, as well as insufficient monitoring feedback and recognition of staff efforts are key challenge in sustaining project monitoring practices over time and ensuring continuous quality improvement.

Limited awareness and understanding of the importance of project monitoring among healthcare professional, Inadequate feedback and accountability mechanisms for monitoring outcomes, Insufficient communication and coordination between project teams and quality improvement committees and Lack of clear alignment between project monitoring and organizational goals are Primary challenge in ensuring effective integration of project monitoring activities with the overall quality improvement strategy.

Challenges in tracking and monitoring the progress of implemented corrective actions, Inadequate support and resources for implementing improvement initiatives, Resistance to change and lack of organizational culture that promotes continuous improvement and Limited

knowledge and skills in quality improvement methodologies among healthcare professionals are the biggest factor in effectively addressing identified issues and implementing corrective actions based on project monitoring findings.

Insufficient mechanisms for sharing monitoring findings across different hospital departments or units, Inadequate dissemination of monitoring results to external partners and stakeholders, Limited feedback and follow-up mechanisms for addressing identified issues and Lack of standardized reporting formats and guidelines are the Main challenge in ensuring timely and effective communication of project monitoring results to relevant stakeholders.

Resistance to change and reluctance to adopt new monitoring practices, Limited awareness and education on the importance of project monitoring and quality improvement, Lack of incentives and recognition for staff engagement in monitoring activities and Insufficient training and capacity-building opportunities for quality improvement skills are the greatest obstacle in promoting a culture of continuous monitoring and quality improvement among healthcare professionals.

Inadequate data security and privacy measures for monitoring data, Limited availability and access to reliable technology infrastructure, Challenges in integrating data from multiple sources and systems and Insufficient training and support for using monitoring software and data management systems are the Primary challenge in leveraging technology and data systems to support efficient and effective project monitoring in healthcare quality improvement projects.

5.3. Recommendations

External Partners and Stakeholders and Addis Ababa Regional Health Bureau

- ❖ Ensure standardized reporting formats and guidelines to facilitate effective communication of project monitoring results.
- ❖ Establish mechanisms for timely dissemination of monitoring results to external partners and stakeholders.
- ❖ Encourage feedback and follow-up mechanisms to address identified issues collaboratively.

Hospital Board and Senior Management team

- Establish standardized monitoring protocols and tools to promote consistency and accuracy in data collection and analysis
- Provide adequate support and commitment to project monitoring practices by allocating sufficient financial resources and ensuring staff availability.
- Foster a culture of continuous improvement by recognizing and rewarding staff efforts in project monitoring activities.
- Encourage regular communication and dissemination of monitoring findings to relevant stakeholders, both internal and external.

Clinical Governance and Quality management Directorates

- ✓ Promote effective communication and coordination between different hospital departments or units to share monitoring findings and address identified issues.
- ✓ Establish feedback and accountability mechanisms to track the outcomes of monitoring initiatives.
- ✓ Facilitate the integration of project monitoring activities with the overall quality improvement strategy.
- ✓ Provide clear guidance on translating monitoring data into actionable improvement measures

IT and Data Management and HMIS Departments

- ▪ Improve availability and access to reliable technology infrastructure to support efficient data collection, analysis, and reporting.
- ▪ Facilitate the integration of data from multiple sources and systems to provide comprehensive insights for project monitoring.

- Provide training and support for healthcare professionals in using monitoring software and data management systems effectively.

Healthcare Professionals

- Enhance awareness and understanding of the importance of project monitoring in improving healthcare quality.
- Provide training and capacity-building opportunities to healthcare professionals on data collection, analysis, and quality improvement methodologies.
- Foster collaboration and coordination between project teams and quality improvement committees to align monitoring activities with organizational goals.
- Promote a culture of continuous monitoring and quality improvement by incentivizing staff engagement in monitoring activities.

By implementing these recommendations, stakeholders can address the challenges identified in the conclusion and promote effective project monitoring practices in healthcare quality improvement projects. This will lead to improved healthcare quality, timely identification of risks and issues, informed decision-making, and continuous quality improvement in regional hospitals of Addis Ababa.

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ANNEXES

Annex I: Informed Consent form

Research Title: Assessment of Project Monitoring Practice In health care service quality improvement Projects in Regional hospitals in Addis Ababa, Ethiopia

Principal Investigator (PI): Biniam Yohannes Wotango (MD.)

Part I: Information Sheet

1. Introduction

The objective of the study is to determine Project Monitoring Practice In health care service quality improvement Projects in Regional hospitals in Addis Ababa, Ethiopia. This study will be helpful to improve the health care quality of services given to clients in health facilities. The interview takes between 10-20 minutes to complete.

2. Description

You have been asked to participate in a research study, which will assess Project Monitoring Practice In health care service quality improvement Projects in Regional hospitals in Addis Ababa

3. Aim of the study

The information you provide will not only contribute to the success of the study, but will also contribute significantly to getting the right information to improve the service.

4. Procedure

This study will involve a questioner being filled by interviewer through. To study the assessment of Project Monitoring Practice In health care service quality improvement Projects in Regional hospitals in Addis Ababa, Ethiopia.If you are willing to participate in the study, you have to understand before you are asked the questions. If there is anything unclear, you can ask. For the study, you are expected to answer the questions voluntarily. All the information you give will be kept private

5. Participant selection

We are inviting all clients who fulfil the inclusion criteria for the study in public hospitals participate in the research on assessment of Project Monitoring Practice In health care service quality improvement Projects in Regional hospitals in Addis Ababa, Ethiopia.

6. Voluntary Participation

Your participation in this research is entirely voluntary. It is your choice whether to participate or not. You may change your mind later and stop participating even if you agreed earlier.

7. Risks and Benefits

There is no any risk in participating in the research. If you participate in the study, you may not get direct benefit, but you will have an opportunity to contribute for the improvement of quality of health care service in the country.

8. Rights

You do not have to take part in this research if you do not wish to do so and refusing to participate will not affect you in any way. You will still have all the benefits that you would otherwise. You may stop participating in the research at any time that you wish without losing any of your rights as a client here.

9. Confidentiality

The information collected from this research project will be kept confidential and all records and other information obtained will be kept strictly confidential and your health information will not be used without permission. All data collection tools will be identified by number or otherwise coded to protect any information that could be used to identify your child.

10. Number of Participants

Total of 70 clients who fulfils the inclusion criteria will be the participants of the study.

11. Whom to Contact

The participants have full right to ask information that is not clear about the research before they decide to participate. You can contact the principal investigator for any doubt that you want to clear. This research will be reviewed and approved by Addis Ababa University School of Commerce institutional review board. If you want more information and check about this study, you can contact the following person.

Biniam Yohannes Wotango: phone +251937112027

This Informed Consent form is for those who have been in GMH, ZMH, TBGH, RDDH, DMIIH and Y12HMC. Who we are inviting you to participate in research project on Project Monitoring Practice In health care service quality improvement Projects in Regional hospitals

in Addis Ababa, Ethiopia. The title of my research project is “Project Monitoring Practice In health care service quality improvement Projects in Regional hospitals in Addis Ababa, Ethiopia”.

My name is_____. I am here on behalf of Biniam Yohannes, who is currently a Master of Arts in project management student in Addis Ababa university school of commerce who is now going to conduct a survey. I would like to interview you about health care quality improvement projects you participated on in the past on year. The objective of the study is assessing Project Monitoring Practice In health care service quality improvement Projects in Regional hospitals in Addis Ababa, Ethiopia. The interview takes between 10-20 minutes to complete.

Annex II: English version of data collection instrument.

Questionnaire No: _____ Date: _____Data collector's name:_____

Please answer the questions in this survey about your stay at the hospital named on the cover letter. Do not include any other hospital stays in your answers.

Socio Demographic variables						
001	Age	In years ----------				
002	Sex	1.Male 2.Female				
003	Profession	----------				
004	Years of experiences	----------				
005	Name of Facility	----------				
Section 1:General information						
101	How many employees work within your organization?					
102	What is the approximate annual budget of your organization?					
103	How many patients receive services from your organization within a year?					
104	How many years has your organization tried to use total quality management (continuous quality improvement) or similar methods of improvement?					
105	Project title in which you were involved?					
106	What role did you have in this project?	1.Team member 2. Project sponsor 3. Facilitator or consultant 4. Team leader 5. Other, specify				
107	How did the organization identify the improvement opportunity measures of performance?	1.Employee suggestions 2.Benchmarking against peer organizations 3. Customer suggestions 4.Examining internal				
Section 2: Health care Quality Improvement Projects Process Monitoring						
	Schedule Monitoring	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
201	The project milestones and deadlines are clearly defined and communicated.	1	2	3	4	5
202	Progress against the project schedule is regularly tracked and monitored.	1	2	3	4	5
203	Timely action is taken to address any schedule deviations or	1	2	3	4	5

	delays.					
	Cost Monitoring	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
204	Variance between actual project costs and the budget is regularly analyzed.	1	2	3	4	5
205	Corrective measures are implemented to address cost overruns.	1	2	3	4	5
	Quality Monitoring	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
206	Regular inspections and quality checks are conducted to ensure compliance	1	2	3	4	5
207	Identified defects or deviations from quality standards are promptly addressed.	1	2	3	4	5
	Risk Monitoring	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
208	Appropriate risk mitigation strategies are in place.	1	2	3	4	5
209	Risk indicators and triggers are regularly monitored and reviewed.	1	2	3	4	5
	Stakeholder Monitoring	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
210	Effective communication channels are established with stakeholders.	1	2	3	4	5
211	Issues or concerns raised by stakeholders are addressed in a timely manner	1	2	3	4	5
	Communication Monitoring	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
212	Project team members receive timely and accurate information.	1	2	3	4	5
213	Communication among team members and stakeholders is effective.	1	2	3	4	5
Section 3: Health care Quality Improvement Projects Structural Monitoring						
	Compliance Monitoring	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

301	Regular audits are conducted to ensure compliance.	1	2	3	4	5
302	Corrective actions are taken to address any non-compliance issues.	1	2	3	4	5
	Documentation Monitoring	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
303	Documentation accurately reflects project plans and activities.	1	2	3	4	5
304	Project records are well-maintained and organized.	1	2	3	4	5
	Organizational Monitoring	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
305	Project-related decisions and actions are consistent with the organization's strategic direction	1	2	3	4	5
306	The project team regularly reports project progress to senior management or relevant stakeholders.	1	2	3	4	5
	Input Monitoring	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
307	Any resource gaps or constraints are promptly identified and addressed.	1	2	3	4	5
308	The project team ensures that the necessary inputs are provided to meet project requirements.	1	2	3	4	5
Section 4: Health care Quality Improvement Projects Outcome Monitoring						
	Performance Monitoring	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
401	Project performance is regularly measured and evaluated	1	2	3	4	5
402	Areas of underperformance or exceeding expectations are identified and addressed.	1	2	3	4	5
403	Which of the following did the team use to monitor the projects ?(Multiple response is possible)	1.Run chart 3.Line graph		2.Control chart 4.Story board		
	Outcome Monitoring	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
404	Progress towards achieving the project's outcomes is regularly assessed and measured	1	2	3	4	5
405	The project team takes corrective actions to ensure the desired outcomes are achieved.	1	2	3	4	5
Section 5: Effectiveness of project monitoring practices in healthcare quality improvement projects?						
501	*How frequently are project monitoring activities conducted in healthcare quality*					

	improvement projects in the regional public hospitals? a) Daily b) Weekly c) Monthly d) Quarterly e) Irregularly
502	*What methods are primarily used for project monitoring in healthcare quality improvement projects? (Multiple response is possible)* a) Regular progress meetings and reporting b) Data collection and analysis c) Site visits and observations d) Documentation review e) Combination of multiple methods
503	*To what extent do project monitoring practices effectively identify and address potential risks and issues in healthcare quality improvement projects?* a) Highly effective - risks and issues are proactively identified and addressed b) Moderately effective - some risks and issues are identified and addressed c) Minimally effective - few risks and issues are identified and addressed d) Ineffective - risks and issues are rarely identified and addressed e) Not sure/Not applicable
504	*How well do project monitoring practices ensure compliance with healthcare quality standards and guidelines in the regional public hospitals?* a) Highly effective - strict adherence to standards and guidelines b) Moderately effective - partial adherence to standards and guidelines c) Minimally effective - limited adherence to standards and guidelines d) Ineffective - non-compliance with standards and guidelines e) Not sure/Not applicable
505	*How satisfied are the stakeholders (e.g., healthcare professionals, hospital management) with the overall effectiveness of project monitoring practices in healthcare quality improvement projects?* a) Very satisfied b) Somewhat satisfied c) Neutral/Neither satisfied nor dissatisfied d) Somewhat dissatisfied e) Very dissatisfied
Section 6: Challenges of project monitoring practices in healthcare quality improvement projects?	
601	*What are the main challenges faced in effectively implementing project monitoring practices in healthcare quality improvement projects?(Multiple response is possible)* a) Limited availability of resources (e.g., funding, equipment) b) Insufficient staff capacity and expertise c) Inadequate data collection and analysis systems d) Lack of standardized monitoring protocols and tools e) Other (please specify) _____
602	*Which factor poses the greatest obstacle to timely and accurate data collection for project monitoring? ?(Multiple response is possible)* a) Limited data collection tools and technology b) Incomplete or inconsistent data documentation by healthcare professionals c) High workload and time constraints on staff for data collection d) Insufficient training on data collection processes e) Other (please specify) _____
603	*What is the primary challenge in utilizing monitoring data to inform decision-making*

	and quality improvement actions? ?(Multiple response is possible) a) Limited data analysis and interpretation skills among staff b) Inadequate communication and dissemination of monitoring findings c) Lack of clarity on how to translate data into actionable improvement measures d) Challenges in integrating monitoring data into existing quality improvement processes e) Other (please specify) _____
604	*Which aspect presents the biggest hurdle in ensuring effective collaboration and coordination among stakeholders involved in project monitoring?(Multiple response is possible)* a) Limited communication and information-sharing mechanisms b) Resistance to change and lack of stakeholder buy-in c) Fragmented responsibilities and unclear roles d) Insufficient coordination and alignment with other hospital initiatives e) Other (please specify) _____
605	*What is the key challenge in sustaining project monitoring practices over time and ensuring continuous quality improvement?(Multiple response is possible)* a) Inadequate support and commitment from hospital management b) Limited financial resources for on-going monitoring activities c) Difficulty in integrating monitoring practices into routine hospital operations d) Insufficient monitoring feedback and recognition of staff efforts e) Other (please specify) _____
606	*What is the primary challenge in ensuring effective integration of project monitoring activities with the overall quality improvement strategy of the hospital?(Multiple response is possible)* a) Lack of clear alignment between project monitoring and organizational goals b) Insufficient communication and coordination between project teams and quality improvement committees c) Limited awareness and understanding of the importance of project monitoring among healthcare professionals d) Inadequate feedback and accountability mechanisms for monitoring outcomes e) Other (please specify) _____
607	*Which factor presents the biggest obstacle in effectively addressing identified issues and implementing corrective actions based on project monitoring findings?(Multiple response is possible)* a) Resistance to change and lack of organizational culture that promotes continuous improvement b) Inadequate support and resources for implementing improvement initiatives c) Limited knowledge and skills in quality improvement methodologies among healthcare professionals d) Challenges in tracking and monitoring the progress of implemented corrective actions e) Other (please specify) _____

608	*What is the main challenge in ensuring timely and effective communication of project monitoring results to relevant stakeholders?(Multiple response is possible)* a) Lack of standardized reporting formats and guidelines b) Insufficient mechanisms for sharing monitoring findings across different hospital departments or units c) Limited feedback and follow-up mechanisms for addressing identified issues d) Inadequate dissemination of monitoring results to external partners and stakeholders e) Other (please specify) _____
609	*Which aspect poses the greatest obstacle in promoting a culture of continuous monitoring and quality improvement among healthcare professionals (Multiple response is possible)?* a) Limited awareness and education on the importance of project monitoring and quality improvement b) Lack of incentives and recognition for staff engagement in monitoring activities c) Resistance to change and reluctance to adopt new monitoring practices d) Insufficient training and capacity-building opportunities for quality improvement skills e) Other (please specify) _____
610	*What is the primary challenge in leveraging technology and data systems to support efficient and effective project monitoring in healthcare quality improvement projects? (Multiple response is possible)* a) Limited availability and access to reliable technology infrastructure b) Insufficient training and support for using monitoring software and data management systems c) Challenges in integrating data from multiple sources and systems d) Inadequate data security and privacy measures for monitoring data e) Other (please specify) _____