MINISTRY OF HEALTH

KENYA HEALTH SECTOR REFERRAL STRATEGY

Ministry of Health

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Kenya Health Sector Referral Strategy (2014– 2018)

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LIST OF ABBREVIATIONS

CCC	Comprehensive Care Clinic
CHEW	Community health extension worker
CHMT	County Health Management Team
CHW	Community health worker
CQI	Continuous Quality Improvement
CU	Community Unit
DHIS	District Health Information System
EMR	Electronic Medical Record
EMT	Emergency Medical Technician
EQA	External Quality Assurance
FBHCS	Faith-Based Healthcare Services
FBO	Faith Based Organisation
FP	Family Planning
HSP	Health Service Providers
IATA	International Air Transport Association
ICC	Interagency Coordinating Committee
ICD	International Classification of Disease
ICT	Information and Communication Technology
ILRN	Integrated Laboratory Referral Network
IQC	Internal Quality Control
KEMSA	Kenya Medical Supplies Agency
KEPH	Kenya Essential Package for Health
Ksh	Kenya Shilling
M&E	Monitoring and Evaluation
MCH	Maternal and Child Health
MDG	Millennium Development Goal
MOH	Ministry of Health
MOU	Memorandum of Understanding
MTP	Medium-Term Plan
NLRN	National Laboratory Referral Network
OJT	On –Job Training
OPD	Out Patient Department
QA	Quality Assurance
SCHMT	Sub-County Health Management Team
SOP	Standard operating procedure
TB	Tuberculosis
TWG	Technical Working Group
USAID	United States Agency for International Development
WHO	World Health Organization

FOREWORD

The Government is committed to the improvement of access and equity to essential health care services and to ensure that the health sector plays its role in the realization of the Kenya Vision 2030. As a signatory to the Millennium Development Goals, Kenya has expressed its commitment to the achievement of these goals. Other guiding policy documents to the health sector in the delivery of health services include the Second Medium Term Plan (2013-2017) of Vision 2030, Kenya Health Policy 2013-2030, and the Kenya National Health Sector Strategic and Investment Plan (2013-2017).

The need to have efficient delivery of health care services at the different levels in terms of rational use of health care services and equitable services to the rural and the poor populations cannot be over-emphasized. Due to inadequate knowledge on the organisation of services and the perceived low quality of services offered at lower levels, clients often by-pass available services at those lower levels where services could be provided more cost-effectively.

In order to provide health services equitably and cost-effectively, there is need to strengthen the referral system. The Kenya Health Sector Referral Strategy has been developed in response to this need. The process of developing the strategy was consultative and participatory under the stewardship of a Referral System Technical Working Group. The process also involved desk review of relevant documents, situation assessment of the referral system, development of goals, objectives, priorities and implementation framework for the strategy.

The Referral Strategy aims to provide guidance to health sector on how to build an effective referral system that responds to the needs of Kenyans. It also provides the strategic interventions needed to improve efficiency and responsiveness of a referral system. The Strategy is useful to health managers and service providers, among others, as it provides useful information on principles of a well-functioning referral system. However, it is noted that the successful implementation of this Strategy requires coordinated efforts of many sectors and participation of all stakeholders in the health sector.

It is my sincere hope that the implementation of this Referral Strategy will contribute to the improvement in access to essential health services, especially to the poor, women and children as well as contribute to efforts towards universal health coverage.

> “For all the health care service delivery levels to provide the much needed health services equitably and cost-effectively, the referral system needs to be strengthened.

James Macharia

Cabinet Secretary

Ministry of Health

ACKNOWLEDGEMENT

The development of the Kenya Health Sector Referral Strategy was undertaken in a consultative and participatory process involving series of meetings and workshops with stakeholders from relevant institutions and organizations. The process was initially started by a working group with stewardship from the Technical Planning and Monitoring department, before being taken up by the Referral and Ambulance Services Unit and the Referral System Technical Working Group (TWG). Members drawn from different stakeholders including the County Health Departments supported, defined, and developed the referral strategy. The process involved review of relevant documents, desk situation assessment of the referral system, and development of goals, objectives, priorities, and an implementation framework for the strategy. The draft strategy was shared with health sector stakeholders including all counties, private and faith based health care providers, whose comments were incorporated into the final strategy.

We would like to acknowledge the commitment of the members of the Technical Working Group, under whose stewardship the Strategy was developed. The members were drawn from various directorates of the Ministry of Health and County level, the World Health Organization, MEASURE Evaluation PIMA, Moi University and Kenyatta National Hospital. In particular, we would like to thank Dr. John Odondi, Dr. Simon Kibias, Dr. David Kiima, Mrs. Susan Otieno, Ms. Peninah Muteti, Mr. Aaron Kimeu, Dr. Wycliffe Mogoa, Dr. Wilson Gachari, Mr. Josephat Yundu, Dr. Isabella Maina, Mr. Geoffrey Kimani, Dr. Esther Ogara and Mr. Onesmus Kamau from MOH, Dr. Humphrey Karamagi from WHO and Dr. Caroline Gitonga, Ms. Kate Mbaire and Ms. Sarah Kedenge from MEASURE Evaluation PIMA for their leadership and contribution to the development of the referral strategy. We also wish to thank the people listed in annex 5, who have contributed in various ways in the development of the strategy.

We wish to acknowledge the efforts and time the health sector partners and stakeholders put in the development of this Strategy. We further wish to appreciate the financial and technical support received from the USAID funded MEASURE Evaluation PIMA Project and the World Health Organization together with DFID (through WHO and EHS program) in the development and finalization of the strategy.

Prof. Fred H.K. Segor

Principal Secretary

Ministry of Health

EXECUTIVE SUMMARY

Background

The health sector is committed to improving equitable access to quality health services to all Kenyans as one of the means of reversing the declining health indicators. The delivery of the Kenya Essential Package for Health (KEPH) health services at the six levels of service delivery is seeks to improve the quality of health services. An effective referral system is one of the strategies to improve access and equity to KEPH, especially to the rural and poor populations.

The overall goal of the Kenya Health Sector Referral Strategy is to improve client access to referral. The objectives of the strategy are to realise improved capacity of health providers to identify clients who require referral, develop protocols that will lead to referral system efficiency and effectiveness, and promote and facilitate information and communication technology (ICT) to manage referrals, improve care, enhance capacity of the referral system in Kenya, provide communication and related equipment, and promote research and innovation for referrals.

The Kenya Health Sector Referral Strategy provides the overall policy and strategic framework for operation of the referral system. Kenya's overall government policy direction is outlined in its Vision 2030. The health sector is also guided by the Millennium Development Goals (MDGs) and the Kenya Health Policy 2012–2030. The policy direction is translated into 5-year medium-term strategic objectives outlined in the Second Medium-Term Plan (MTP) 2013–2017 for the overall government and the Kenya Health Sector Strategic and Investment Plan (2013–2017) for the health sector. The referral strategy will guide the sector in building an effective referral system that responds to the health needs of the Kenyan population, thereby contributing to the realisation of Vision 2030, MDGs, and universal health coverage

The Strategy Development Process

The strategy was developed through stewardship of the Referral Technical Working Group, that drew membership from the Ministry of Health (MOH) at both the national and county levels and stakeholders involved in supporting and implementing the referral system. The process involved a review of relevant documents; an assessment of the referral system in eight counties in Kenya, which was undertaken by MEASURE Evaluation PIMA; and the development of goals, objectives, priorities, and a strategy implementation framework. The draft strategy was shared with health sector stakeholders, which included all the county health departments and representatives of private health providers and faith-based organisations (FBOs), whose comments were incorporated into the final strategy.

Financing and Resource Mobilisation

The implementation of the strategy will involve both the national and county governments in line with the schedule four of the Constitution which outlines the functions for each level of government. It is, expected that at the national and county levels, sufficient financial commitment will be given to investments in the Referral Strategy. The national and county governments will play a complementary role in the design and implementation of the strategy and jointly own the outcome of such collaborative efforts. The main cost components of the strategy are the movements involved in referral services for clients, services and expertise, and specimens, which can be attributable to capital inputs, vehicles for patient transport, medical equipment to ensure conformity with the Health Service Norms and Standards, and medical commodities inherent in the services.

The framework for the implementation of the health referral strategy provides the basis for planning and monitoring and evaluation (M&E) of the strategy roll-out. The key goals, inputs, outputs and indicators for the implementation of the four framework areas: (1), client movement, (2) specimen movement, (3) parameter movement, and (4) service or expertise movement, are outlined in the strategy.

The Monitoring and Follow-up Process

An M&E plan has been developed to track progress of the health referral strategy implementation. Specific output indicators have been identified for monthly, quarterly, and annual monitoring of scaling-up client, expertise, and specimen and client parameters. Seven core outcome indicators for monitoring this strategy have been developed, and impact indicators for mid-term and end-term evaluations have been identified. The information will be collated and reported through the annual operational planning process.

DEFINITION OF TERMS

Client movement: The actual client seeking an appropriate level of care at which his or her health needs are best addressed.

Client parameters movement: An indirect referral involving movement of client information for supportive diagnosis and management guidance to appropriate levels of the system. The scale-up of innovative ICT in the health services, particularly in the context of e-health scale-up, directly facilitates this form of referral.

Consultation: A process of seeking specialised services by clients or health providers.

Counter-referral: A process of re-directing the referred patient back to the originating unit once the reason for referral has been resolved.

Emergency referrals: Referrals for emergency conditions that threaten life, limb, or eyesight.

Expert: A trained health care provider who is an authority in a specific area of expertise.

Initiating facility: Also referred to as the referring facility, an organisation, service, or community unit that prepares an initial outward referral to communicate the client's condition and status.

Non-urgent or routine referrals: Referrals for a second opinion, higher level investigation, and routine admission or management of a patient.

Receiving facility: Organisation, service, or community unit, that accepts the referred clients or specimens from the initiating facility.

Referral system: A mechanism to enable clients' health needs be comprehensively managed using resources beyond those available where they access care.

Expertise referral: The system of rotation and facilitation of health care providers' movement to reach patients in need of care in situations where it may be more efficient and cost effective. Expert referrals, including out-reaches, are used especially for non-emergency (scheduled) cases.

Specimen movement: A form of referral that involves movement of a specimen, usually for investigative purposes.

Transfer: A process by which a client is moved from one facility to another for purposes of management.

Urgent referrals: Referrals for conditions that may not threaten life, limb, or eyesight but require urgent attention to prevent them from becoming a serious risk to health.

CHAPTER 1. INTRODUCTION

1.1 Background

The health sector, through international declarations, key policy, and strategic documents, is committed to providing equitable access to quality health services for all Kenyans as one of the means of reversing declining health indicators. A comprehensive service delivery approach, based on the availability of adequate guidance for service standards, service inputs (human resource, infrastructure, and equipment), and cross-linkages of services across different levels of care, has guided delivery of the existing services. This comprehensive strategic approach has guided development of referral guidelines to ensure comprehensive, harmonised, and measurable health services for the people of Kenya.

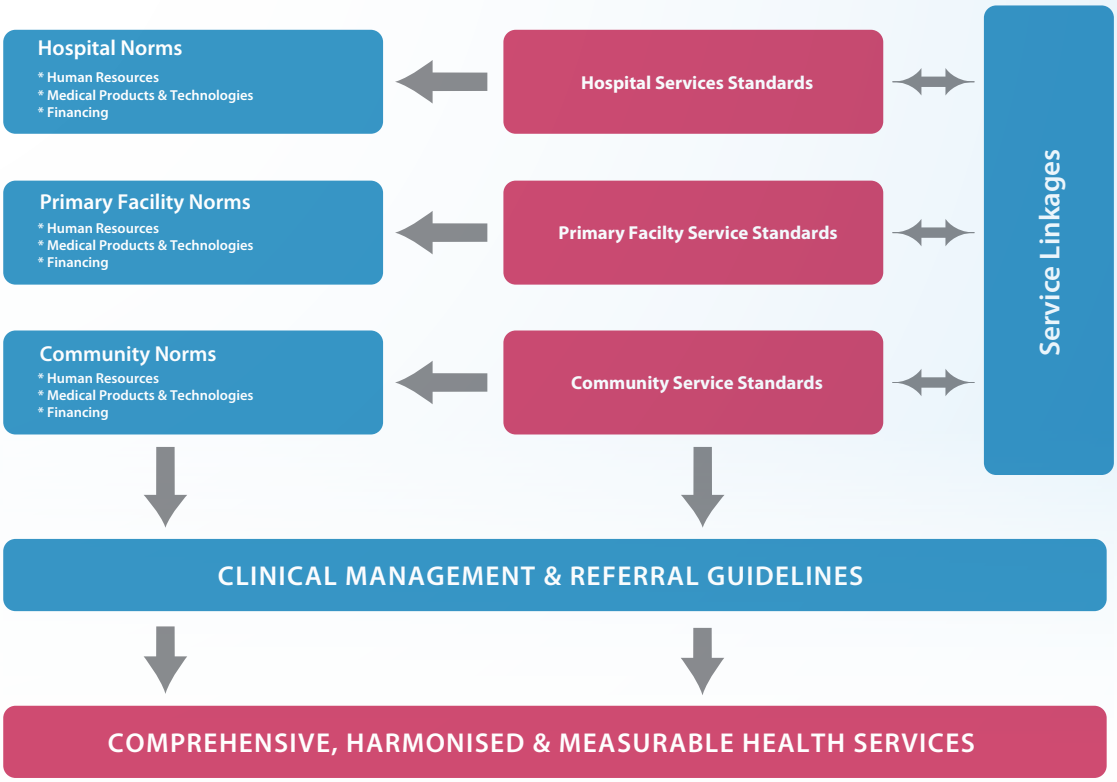
1.2 Comprehensive Service Delivery Approach

The Kenya Essential Package for Health (KEPH) and the Health Service Norms and Standards were defined to guide service standard definitions and service norms for various inputs at each level of care. However, guidance on the linkage of services and continuity of care across the different levels has been inadequate. Consequently, the health sector developed this referral strategy. Figure 1.1, shows the relationship among the KEPH, Health Service Norms and Standards, and Clinical Management Guidelines.

The referral strategy will guide the sector in building an effective referral system that responds to the health needs of the Kenyan population, and thus contribute to the realisation of the Vision 2030, MDGs, and universal health coverage.

The first section of the referral strategy reviews the overall policy and strategic framework that governs the operation of the referral strategy. The overall government policy direction for Kenya is outlined in the Vision 2030. The Kenya Health Policy 2012–2030 guides the health sector and is in tandem with the MDGs. The policy direction is translated into five-year medium-term strategic objectives that are outlined in the Second Medium-Term Plan (2013–2017) for the overall government and the Kenya Health Sector Strategic and Investment Plan (2013–2017) for the health sector. The subsequent sections outline the priorities for service delivery in each of these documents.

Figure 1.1: Linkages among KEPH, Health Service Norms and Standards, and the Clinical Management and Referral Guidelines



1.3. Health Service Delivery in Policy and Strategic Documents

1.3.1 Health Service Delivery Priorities in Policy Documents

The Constitution of Kenya guarantees the right to the highest attainable standard of health, which includes the right to health care services such as reproductive health care. The Constitution further states that no person should be denied emergency medical treatment. The right to the highest attainable standard of health in a hierarchical health system can be possible only through an effective health referral system. The Fourth Schedule of the Constitution on the distribution of functions between the national and county governments assigns the management of national referral health facilities, health policy development, capacity building to counties, and disaster management to the national government. The provision of health services at all other levels is assigned to county governments.

As a signatory of the Millennium Declaration, Kenya is committed to achieve the targets of MDGs 4–6:

- Reduce child mortality by two thirds
- Reduce maternal mortality ratio by three quarters
- Combat human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDs), malaria, tuberculosis (TB), and other diseases

Vision 2030 is Kenya's vehicle for accelerating transformation of the country into a rapidly industrialised, middle-income nation by 2030. It specifies strategies for achieving specific economic, social, and governance targets. The vision for health is to provide equitable and affordable health care at the highest affordable standard to all citizens, which involves, among other things, the restructuring of the health delivery systems to shift the emphasis to preventive and promotive health care. Key focus areas of access, equity, quality, capacity, and institutional framework will be achieved through a devolution approach that will allocate funds and responsibility for delivery of health care to the counties.

Both the Kenya Health Policy 2012–2030 and the Kenya Health Sector Strategic and Investment Plan 2013–2017, underline the need to pursue the principles of primary health care in improving the health status of the Kenyan population. It sets out the following policy objectives:

- Eliminate communicable conditions
- Halt and reverse the increase in non-communicable conditions
- Reduce the burden of violence and injuries
- Provide essential medical services
- Minimize exposure to health risk factors
- Strengthen collaboration with health-related sectors

1.3.2. Service Delivery Priorities in Strategic Plans

At the strategic level, Kenya's overall strategic plan, the Second Medium-Term (MTP) Plan of Vision 2030, elaborates policies, reform measures, projects, and programmes for implementation from 2013 to 2018. For the health sector, the Second MTP outlines the following strategic objectives:

- Reduce the under-age 5 years mortality rate from 74 to 35 per 1,000 live births.
- Reduce the maternal mortality ratio from 488 to150 per 100,000 live births.
- Reduce the infant mortality rate from 52 to 30 per 1,000 live births.
- Reduce the adult HIV prevalence from 5.6% to 4.0%.
- Increase immunisation coverage for children under age 1 year from 83% to 90%.
- Reduce malaria inpatient case fatality from 15% to 5%.

The achievement of the strategic objectives in the Second MTP will be accelerated through investments in key flagship projects. The Second MTP flagship projects for health encompass country-wide high-impact interventions in community health; improvement of access to referral systems; construction of model level 4 hospitals; provision of health care grant subsidies for social health protection; re-engineering of human resources for health; provision of health products and technologies; establishment of e-health hubs in health facilities; mainstreaming of research and developments in health; promotion of health tourism and locally derived natural health products; and modernization of Kenyatta National Hospital and Moi Teaching and Referral Hospital.

1.4. Key Components of the Kenya Service Delivery Approach

The Kenya Health Policy 2012–2030 has defined the approach to strengthen comprehensive service delivery in the country. It emphasises the elaboration of service delivery solutions across the six levels of care from the community health services (level 1), primary care services (levels 2 and 3), county health services (levels 4 and 5), and the national referral services (level 6).

1.4.1. The Kenya Essential Package for Health

The main focus of KEPH is the delivery of services across the different levels of health service for the five age cohorts derived from the human life cycle. The KEPH has the following key characteristics:

- Focuses health rather than disease, on rights rather than needs, and on community empowerment to exercise their rights.
- Identifies and redefines distinct functional levels of care. The community level is recognized as the first level of care, where major decisions are made and interventions have a far-reaching impact.
- Focuses on the promotion of family practices to preserve and promote health.
- Focuses on revitalizing health promotion and preventive care
- Defines health needs at each level of human development—from birth to old age—and identifies comprehensive, cost-effective interventions required at each stage of the human life cycle.
- Recognises health services to be provided by public and private care providers.

KEPH is expected to improve the focus and quality of service networking of providers and facilities at the different levels of the health system to ensure continuity of care to clients that need services provided at higher levels of the system.

> “The referral strategy will guide the sector in building an effective referral system that responds to the health needs of the Kenyan population.

1.4.2. Service Standards and Norms

To provide KEPH services, norms and standards for health service delivery (2013 - 2017) have also been defined. These are statements of the human resource, infrastructure, equipment and financing inputs necessary to ensure efficient and effective delivery of the KEPH services to the population in Kenya. Service delivery standards relate to the expectations of each level of care with regard to service delivery and the types of human resources needed to provide these expectations. Service delivery norms define the quantities of these resource inputs needed to efficiently effectively and sustainably offer the service delivery package. These norms and standards are defined based on the following principles:

- ***Units of service delivery:*** The focus is on the function rather than the physical level because the function also may be provided by a higher-level facility.
- ***Equity in access and utilisation:*** All inhabitants of the country and its respective counties have an equal right to access health services and also to use them equally for equal need.

- ***Relevance and acceptability:*** Health care needs will be rooted in the cultural and social reality of the communities and include user satisfaction in the health care delivery equation.
- ***Continuity of care:*** Care should be viewed in a continuum, from onset of an illness or risk episode until its resolution, regardless of level where care is sought. This means that a functional referral and counter-referral system should exist to make sure that services are available.
- ***Integration of care:*** Every contact is used to ensure that a comprehensive set of defined services is made available.
- ***A comprehensive or holistic approach:*** Health services need to consider all dimensions of a person and his or her environment and maintain a permanent interaction and dialogue with clients.
- ***The involvement of individuals, households, and communities:*** This means people taking responsibility for their own health and therefore involvement provides them with a sense of ownership of all they undertake for their health.

1.4.3. Referral Services in the Service Delivery Approach

The organisation of service delivery into six levels of care is intended to rationalise the delivery of health services within the health system for efficient use of existing resources. This categorization also means that a client's direct access to health service delivery may not be able to adequately manage the client's health needs. The referral system is what facilitates continuity of care across the different levels of care.

> *A **referral system** is a mechanism to enable comprehensive management of clients' health needs through resources beyond those available where they access care.*

The referral system is based on the premise that, while capacity for health service delivery needs to be rationalised for different levels of care, those health services should not be determined only by the services available at the point of access, but rather by the full scope of care that the health system can provide. An effective referral chain, therefore, provides the linkages needed across different levels of health system care, as shown in Figure 1.2. These linkages ensure that a client's health needs can be addressed, regardless of the level of the health system where the client physically accesses care. The referral system acts as a building elevator or lift to facilitate forward and backward management of a client's needs across different floors, or levels of care.

Figure 1.2: Kenya's referral system divides services delivery into six levels

CHAPTER 2. KENYA'S REFERRAL SYSTEM AND THE CHALLENGES OF PROVIDING REFERRAL SERVICES

2.1. Organisation of Health Care in Kenya

The health system in Kenya is organised around six levels of care based on the scope and complexity of services offered. The first level comprises community units (CUs) that are a collection of households staffed by volunteer community health workers. Activities at the community unit level focus mainly on promotive health through health education, treatment of minor ailments, and identification of cases for referral to health facilities.

Levels 2 (dispensaries) and 3 (health centres) offer primary health care services. These levels of care form the interface between the community and the higher level facilities. These facilities offer basic outpatient care, minor surgical services, basic laboratory services, maternity care, and limited inpatient facilities. They also coordinate the community units under their jurisdiction.

Levels 4 and 5, the secondary referral facilities, form the county referral facilities. They offer a broad spectrum of curative services, and some are also health training centres.

Level 6 constitutes the tertiary referral facilities that offer specialised care and specialised training to health workers. The national government manages these facilities, but they are semi-autonomous organisations.

2.2. Referral Services Challenges

2.2.1. Issues at the Policy and Strategic Levels

Transport policy for the health sector: Currently the health sector lacks a national transport policy that defines the type and number of vehicles required for an effective, efficient transport system at the different levels of health service delivery; a maintenance programme; procedures for the safe and economical use of vehicles, including ambulances; and guidelines for vehicle replacement.

Bypass policy: Incentives exist to use lower-level facilities, such as provision of services free of charge in levels 2 and 3 facilities, but Kenya does not have a referral bypass policy. It has no policy to require clients to report at levels appropriate for the management of their health needs, which often results in inappropriate self-referral to higher levels of care.

Coordination of referral services: No coordination structure exists for the oversight of the implementation of the referral strategy at the national and county levels.

Quality assurance: A lack of quality standards and performance monitoring tools for referral services affects the auditing of the referral system and development of continuing education for referral service providers.

Financial: Kenya lacks a written policy on health financing. No policy guidelines specify who is responsible for financing the referral service or the care provided at a receiving facility. Health policy established in 1994 alludes to a financing strategy to increase financial flows, and previous attempts to undertake fundamental reforms have only been partially successful. Without considerable discussion and planning, Kenya should use caution before embarking on fundamental reforms of financing policy and strategy that might usher in universal access through a new system of social protection in health.

2.2.2. Implementation-level Issues

Ineffective networking of the different levels: Currently no health facilities in the sector work as a coordinated network, and relationships between facilities are poor. The linkages among different levels of the health system and different providers of health services are unclear to providers and the general public.

Bypassing of lower level facilities: Patients often refer themselves to higher levels of care bypassing lower level facilities. Some of the possible reasons that may cause clients to bypass lower level facilities include:

- Lack of awareness on where to get cost-effective health services for different conditions. The referral system lacks guidelines for service providers and the general public to guide them in rational health care decisions before seeking care.
- Perception is that lower levels of care provide lower quality of care for uncomplicated health conditions.
- The system delays referrals to the next level of care in cases when complications require an emergency intervention.
- Lack of primary care facilities within geographical reach of the clients.

Inappropriate referrals: Even when clients seek care at a level appropriate for their conditions, problems of inappropriate referrals to higher levels occur. Inappropriate referrals include unnecessary referral, poor quality of referral documentation, lack of communication, and improper destination of the referral. These inappropriate referrals usually result from a lack of knowledge and skills, and sometimes from insufficient tools and supplies that are required to diagnose and treat. These inappropriate referrals result in inefficient use of scarce resources and contribute to referral non-compliance by clients. The lack of knowledge and skills also results in the inability to recognise signs and symptoms of complications that require emergency interventions, and thus produce delays in the referral of cases and loss of lives.

Inadequately resourced facilities according to norms and service standards: Many health facilities provide inadequate services for their level of care, and they have insufficient human resources and infrastructure for their service norms and standards. These deficits affect the efficient management of referrals.

Lack of effective referral system monitoring: The national, county, and facility levels lack effective referral monitoring systems that promote system appraisal, feedback, and accountability for provider actions. As an integral part of the health care system, referrals must be included in the health sector performance M&E system; and therefore, a system of maintaining records and information should be mandatory. Current routine MOH registers do not provide for the collection of referral data. Where data are collected, the quality is poor and the data rarely are used. The system needs standardised referral tools to communicate referrals and capture referral data. These tools would include referral forms, referral registers, data collection and update forms, patient tracking forms, feedback forms, and a directory of services. Currently accountability is absent and referral data collection is not a priority at the facility level.

Inadequate communication and transport systems: Even when service providers have made a timely decision to refer a client's case, the actual transfer of the client or a specimen often is delayed because of a lack of communication or transport at the referring facility. Most facilities in rural areas lack a means of communication to call for an ambulance or to discuss with a higher level facility a case or examine a specimen. There is a lack of coordinated ambulance management systems and clear communication channels among facilities in a referral network. Most health facilities also lack new technology and infrastructure for e-referrals, including telemedicine.

Poor road infrastructure and terrain, bad weather, a lack of ambulances and communication between facilities result in referral delays. This situation is worsened by the absence of standardisation of ambulances.

Ineffective referral and feedback system: No mechanism exists to track referral completion and receive feedback from receiving facilities. When a referred case is discharged from a higher level of care, service providers who referred the case do not receive feedback. This feedback information is crucial for clinical auditing and continuing education for the referring service providers.

Lack of referral coordinating forums and review meetings: No provision is made for referral coordinating forums and review meetings to share experiences, improve coordination, and encourage accountability.

Issues of financing: Inadequate financing for operations and maintenance of referral services poses a serious challenge in ensuring proper functioning of the referral system. The overall objective of the health care financing system, according to the International Labour Organisation, is to achieve universal social health protection coverage, defined as effective access to affordable health care services of adequate quality and financial protection in case of sickness. The finalisation and implementation of the health care financing strategy are crucial for effective referral services.

Lack of integration: Although some facilities have electronic medical records (EMRs), these records are stand-alone and rarely are integrated to make it easier to refer clients. The absence of unique patient identifiers impedes the function of e-referral systems, even if the systems were integrated. The system is also hindered by a lack of a clear policy on patient confidentiality when patient records are transmitted electronically from one provider to another.

CHAPTER 3. FRAMEWORK FOR THE IMPLEMENTATION OF THE REFERRAL SYSTEM

The referral approach in Kenya is designed to put in place efficient health service delivery system linkages across the levels of care to ensure effective management of health needs for the population in Kenya. The system ensures linkages across the entire health sector, not just the public health services. A good, functioning referral system ensures clients' health needs are managed comprehensively through use of health sector resources beyond those available where they access care.

3.1. Rationale for Developing the Referral Strategy

The Kenya Health Sector Referral Strategy will accomplish the following objectives:

- Ensure coordination and standardisation in the provision of referral services.
- Ensure continuity of care across the different levels of care.
- Ensure cost effectiveness of health services provided to Kenyan citizens.
- Promote universal coverage and equity in the provision of health services.
- Enable health care planning.

3.2. Goal and Objectives of the Referral Strategy

3.2.1. The Referral Strategy Goal

The overall goal of this strategy is to guide the establishment of an efficient referral system with linkages across levels of care in Kenya.

3.2.2. The Referral Strategy Objectives

The following objectives will ensure implementation of an effective referral strategy:

- To increase access to and utilisation of referral services in Kenya.
- To improve service provider's capacity to offer services and appropriately refer at each level of the health care system.
- To enhance the system's ability to transfer clients, specimens, services, and client parameters between the different levels of the health care system.
- To improve performance monitoring of the referral system to ensure efficient management of the referral system across the country.
- To provide evidence-based quality emergency health services regardless of the ability to pay.

3.3. Implementation Priorities

An effective referral strategy focuses on the following priorities:

- Establishment of standards of service and care at different levels of care based on the Service Norms and Standards for essential health services.
- Creating public awareness about the rational use of health facilities.

- Reinforcing the implementation of the referral system by introducing a bypass fee at the receiving hospital, except for emergency cases.
- Developing a clinical services support programme for lower levels of the health care system. The higher levels of care in the health system support the lower levels of care; that is, the national referral hospitals will provide support to county hospitals, which, in turn, will provide support to primary facilities and also establish an outreach programme to level 1 facilities.
- Improving the capacity and attitude of service providers at all levels of the health system.
- Improving the efficiency and effectiveness of referral system logistics, such as the communication, transparency, and strengthening of direction of the information flow.
- Strengthening mutually beneficial referral systems among public, private, and faith-based and mission hospitals.
- Introduce new technology of e-health, such as telemedicine, e-referrals, and e-mail, to improve the referral system within and outside country.
- Improve health information systems through development of standard referral forms, referral registers, and referral indicators in the District Health Information Systems (DHIS) and improve the use of referral data.
- Improve research and collaboration with other organisations and stakeholders to improve evidence-based planning.

3.4. Framework for Health Referral Services

The full scope of referral services expected of the health services includes movement of clients, expertise movement, specimen movement, and client parameters movement, as shown in Figure 3.1.

Client and service or expertise movement involves the actual movement of individuals within the health system that eventually leads to management of the clients' legitimate health needs.

Client movement: The actual client seeking an appropriate level of care at which their health needs are best addressed. This is the most recognized form of referral service expected of the health system, and is what most persons equate to a referral system. Adequate investments shall be made in the system to effectively manage movement of clients.

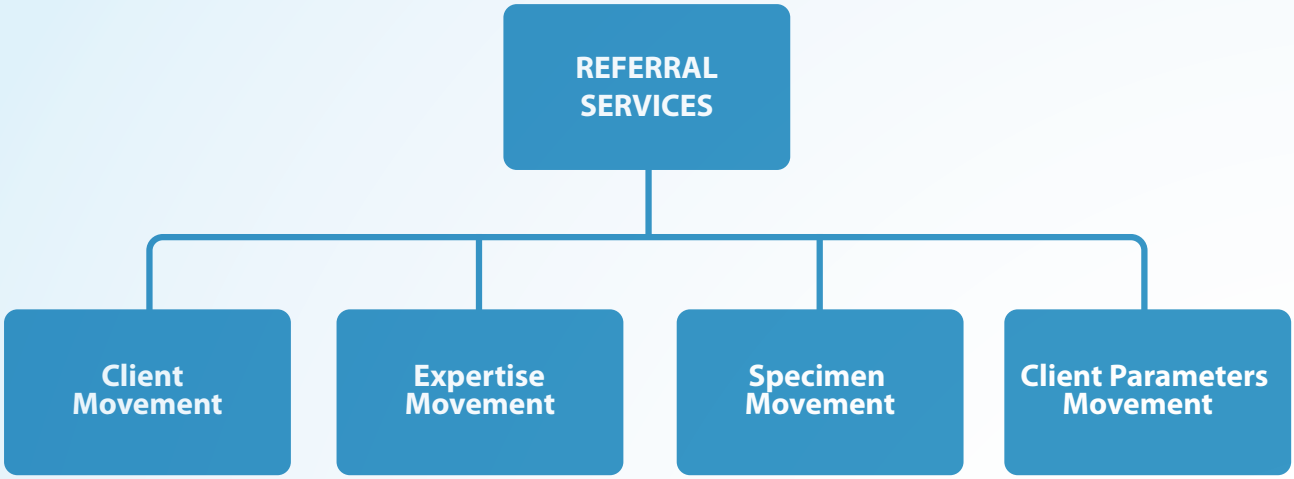
Expertise movement: There are some instances when it may be more efficient for movement of given expertise or services. This is particularly so for non-emergency management of clients. Required expertise in this case could be drawn down either on a regular basis, or on an ad hoc basis if feasible. Specific clinics or specialist services can be established at a lower level of care. The system of rotation and facilitation of expertise movement would be strengthened.

In some other instances, it may not be cost-effective for both the client and the health system to move individuals. In this case additional expertise is sought for only a part of the management of the client, through specimen referrals or through client parameters referrals.

Specimen movement: Movement of just a specimen, usually for investigative purposes is one form of referral considered. Biopsies or samples for notifiable conditions would best be managed through this referral approach. It avoids having to actually move the client within the health services.

Client parameters movement: This type of referral is helpful in avoiding difficult or disruptive movement of clients, when a significant part of the management process can be provided at the level the client has presented. Client information can be sent for supportive diagnosis or management guidance to appropriate levels of the system. The scale up of innovative Information Communication Technology (ICT) in health services, particularly in the context of e-health scale up directly facilitates this form of referral.

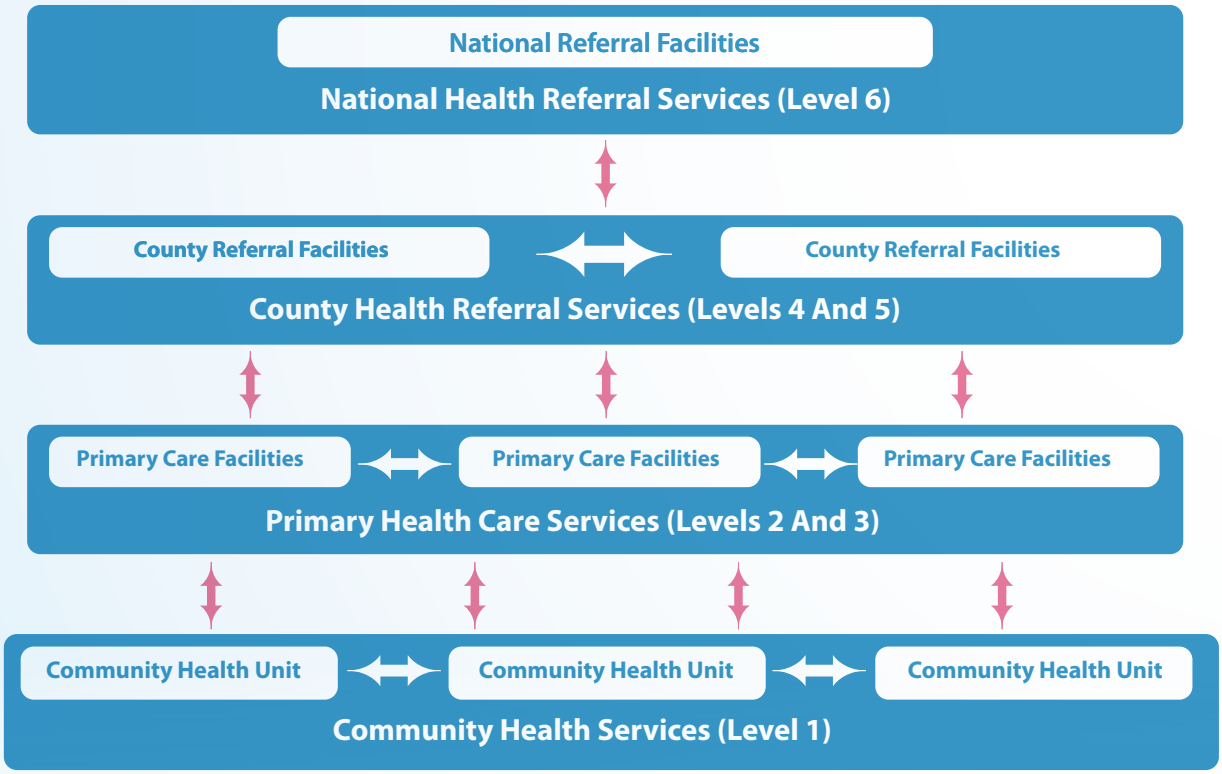
Figure 3.1. Framework for health referral services in Kenya



3.5. The Referral Chain

The referral system links up the different levels of care based on the expected services being provided through the system. Figure 3.2 shows the overall referral chain.

Figure 3.2. The overall referral chain



The levels of care can be classified based on the functions proposed in the health policy, and the tiers of the system are defined as community, primary care, county referral services, and national referral services.

Community services (level 1) comprise all community-based demand-creation activities, organised around the Comprehensive Community Strategy defined by the health sector. Community-based referral mechanisms should exist to facilitate linkage with primary care services.

Primary care services (levels 2 and 3) comprise all dispensaries, health centres, and maternity homes for public and non-public providers. Their capacity will be upgraded to ensure they can provide the appropriate demanded services. Primary care services should manage referrals from communities and facilitate referrals to the nearest county referral facility.

County referral services (levels 4 and 5) include all levels 4 and 5 facilities that operate in a county and that are managed by the county and non-state actors. Together, all the facilities in a county form the county referral system, with specific services shared among the existing county referral facilities to form a virtual network of comprehensive referral services. Referrals are received from the following sources:

- Primary care facilities within the county referral area of responsibility
- Other county referral facilities in the county (horizontal referral)
- Community units that are linked to the county referral facility and for which the county referral facility provides primary care services

National referral services (level 6) include facilities that provide national referral services with specialised health care services, including hospitals, laboratories, blood banks, and research institutions. These facilities operate with a defined level of autonomy.

CHAPTER 4. KEY GUIDING PRINCIPLES FOR THE IMPLEMENTATION OF THE REFERRAL SYSTEM STRATEGY

4.1. Requirements for Effective Referral Services

For effective functioning of the referral system, the overall health system needs to have basic provisions to adequately respond to referral needs. Table 4.1 lists some of the requirements for the health system building blocks to facilitate effective referral response:

- **Quality health services:** Design and deliver systems that provide effective, safe, high-quality personal and non-personal health interventions when and where needed.
- **A well-performing health workforce:** Retain sufficient, competent, responsive, and productive health staff.
- **A well-functioning health information system:** Produce, analyse, disseminate, and use reliable and timely information.
- **An efficient system of access:** Ensure availability of essential medical products, vaccines, and technologies of assured quality, safety, efficacy, and cost-effectiveness, and their scientifically sound and cost-effective use.
- **A good health financing system:** Make available adequate funds for health in ways that ensure people can use needed services and are protected from financial catastrophe or impoverishment associated with needing to pay for them.
- **Leadership and governance:** Ensure the existence of clear, comprehensive guidance to service delivery combined with effective oversight, coalition building, regulation, attention to system design, and accountability.
- **Health infrastructure:** Develop physical infrastructure, equipment, transport, and technology required for effective access of health services for each level of care.

Table 4.1: Health system requirements for effective functioning of the referral system

Health System Building Blocks	Requirements
Health services	Strong linkages between facilities Emergency preparedness and response systems in all facilities Service standards for each level of care Clinical guidelines and referral protocols
Health workforce	Adequate human resource norms by level Appropriate skills for management of referral
Health information system	Functional health information system to allow for monitoring and evaluation of the referral system for planning and decision making IT solutions through e-referrals Tools for management of referral (referral forms and referral registers)
Essential products and technologies	Sufficient commodities and supplies according to the norms and standards for each level of care to manage referrals
Health financing	Dedicated operational finances for maintaining an effective referral system Adequate funds for emergency referrals Allocated contingency funds for mass casualty management

Health System Building Blocks	Requirements
Leadership and governance	Adequate management and referral guidelines Capacity building and technical assistance Regular supportive supervision, provider accountability, and feedback Appropriate regulation and regulatory systems
Health infrastructure	Evidence-based infrastructure investments, maintenance, and replacement Investment in health infrastructure to increase access to the health services Necessary logistical support, including transport, communication, and IT to establish effective referral systems Strong regulations to enforce standards for health infrastructure and medical devices

A well-functioning referral system must establish clear quality standards that will guide policymakers, managers, service providers, and clients to design an effective referral system. The quality standards could be influenced by the following determinants:

- **Health system determinants:** Capabilities of lower levels, availability of specialised personnel, training capacity, organisational and coordination arrangements, cultural and political issues, and traditions
- **General determinants:** Population size and density, terrain and distances between urban centres, pattern and burden of disease, and demand for referral care and an ability to pay for it

4.2. Expectations of Clients and Service Providers

Clients and service providers have defined expectations they must attain to have an effective referral system. The following sub-sections enumerate these standards.

4.2.1. Client Standards

- The health provider should educate clients on appropriate health-seeking behaviour that enables timely, accurate recognition of their referral needs. Inappropriate health-seeking behaviour will affect the health referral system in the following ways:
    - Delay in seeking care places more strain on the referral system.
    - Inadequate health-seeking knowledge and behaviour make it more difficult for the health system to recognise and manage referral clients.
- Clients should actively seek information on the reasons and importance of the referral, risks of non-referral, how to get to the receiving facility, location and transport to the receiving facility, who to see, what is likely to happen, and follow-up on return.

4.2.2. Service Provider Standards

- Service providers at higher levels should provide adequate clinical support to health care givers at lower levels through on-job training, mentorship, continuous medical education and updates. This support will enable higher levels to regularly pass on new information and changes in management to lower-level service providers.
- A clinical services support programme should be established with specific objectives, resources, and activities. This programme will enable specialists to work and share joint clinics across the country on a scheduled basis. These special clinics will involve joint patient reviews, operations, and continuous medical education.
- All referred emergency cases shall be accompanied by appropriate health personnel including nurses, Emergency Medical Technicians (EMTs), Clinical Officers among others.

- Clients brought in by the referral system shall receive priority attention at the receiving facility.
- The providers shall at all times respect clients' rights and confidentiality.
- Providers shall inform clients of the reasons and importance of the referral, risks of non-referral, and how to get to the receiving facility—location and transport, who to see, what is likely to happen, and follow-up on return.
- Providers at the receiving facilities shall receive the referred clients, assess them and provide the necessary interventions and inform the referring facilities of referrals received and the outcome of such referrals.
- For emergency referrals, it shall be the responsibility of health care providers and ambulance crews to ensure client safety in transit, monitoring, and documenting.
- For referrals outside the country, a mechanism shall be put in place to consult the MOH or national referral institutions on the benefits, indication, and options for the referrals. Such arrangements may be initiated by the client or a private or public facility. MOH shall develop guidelines on indications for referrals outside the country.

4.2.3. Expected organization and management of specimen referral.

- To ensure effectiveness and efficiency in service delivery, the management of laboratory referral shall be done through coordination teams in both the county and national governments. Tools shall be developed to operationalize the referral network, including preparation of a tests menu within a referral chain in a particular county or region.
- Quality assurance and quality control systems shall be put in place to ensure reliability of test results in all levels of service delivery. To ensure performance in the referral system, a monitoring and evaluating system shall be instituted in the county and national health referral networks. All levels of health care shall have defined roles and responsibilities in the management of referral services, including support supervision in the lower levels of health care service delivery.
- The satellite and nodal sites shall sign memoranda of understanding to bind the institutions in working together as partners in the improvement of health services through referral services in the counties.
- The Integrated Laboratory Referral Network (ILRN) shall include health facilities in the National, County governments, Private health institutions and Faith Based Organizations (FBOs).
- To oversee the operations of the laboratory referral network, technical committees under the National Laboratory Interagency Coordinating Committee (Lab ICC) shall be formed in both the national and county governments. These committees shall be responsible for the management of referral network and will make recommendations to the Laboratory ICC.

4.2.4. Expected organization and management of client parameters referral.

- An e-referral system shall be implemented in accordance with the Kenyan e-health strategy to improve and increase the efficiency of the referral system. This system will require establishing web portals, software modules, and call centres, as well as developing e-referral guidelines and standard operating procedures. The e-referral strategy should embrace telemedicine and m-health technology during the implementation phase.
- It is envisioned that the e-referral system would be linked to the existing electronic medical records, laboratory services, hospital billing systems, and health information systems. Such linkages will promote efficiency in the referral system. For example, the linkages with ambulance services will promote effective transportation and coordination of referred patients to the appropriate level. This system also will facilitate tracking of ambulances and referral patients.
- At the community level, an e-referral system would be implemented through the m-health strategy by using mobile phones to ease referral communication, tracking completion, and collecting health data for decision making. The community health extension workers (CHEWs) and community health workers (CHWs) will be trained on how to identify referral cases, refer to the next appropriate levels using e-referrals, and track performance of the referral system.

4.3. Logistics in Support of Referral

In the implementation of a successful referral strategy the following logistics will need to be in place.

- All physical health facilities should have effective means of communication with each other and with health services management. Communication devices should be fixed for the facility and hand-held for designated personnel for referral management.
- Each physical facility should maintain comprehensive functional infrastructure, including transport that is necessary to facilitate referral services.
- Appropriate referral transport should be available for referral services only, not for other routine activities. Ambulance transport should adhere to minimum ambulance requirements.[1]
- The national and county levels should establish ambulance services to effectively manage emergency referrals.
- An appropriate service and maintenance programme should be instituted to ensure referral logistics are functioning fully and in line with MOH transport and infrastructure policies.
- Appropriate transportation systems and financing should be instituted to allow for expertise and specimen movement.
- Appropriate e-referral systems and health specialists should also be in place to provide for clients parameters movement from the primary care providers to the specialists.
- A system for expertise movement should be in place

4.4. Referrals Organisation and Management

- Each referral facility should have a defined area for emergency services. Identifiable maternity cases that arrive by ambulance should be taken directly to the team and labour ward. Other emergency cases should be taken to the casualty department.
- Referred clients should receive priority attention.
- Each physical health facility shall always have designated personnel to coordinate referral services. Primary care services should be the responsibility of the in-charges. A duty officer should be responsible for referral of medical, paediatric, obstetric, and surgical services.
- Every referral facility should have an emergency preparedness team that operates according to emergency response guidelines.
- A specific team with clearly outlined roles and skills should be designated to manage and support referral transport. The roles and responsibilities for team members are outlined in the ambulance services guidelines.
- A standardised referral form (electronic or paper) should be used for all referral cases, as provided in the referral guidelines. This form will ensure that the same essential information is provided when a referral is initiated. The referral form facilitates communication in both health facility directions. The initiating facility completes the top part or the outward referral. Every patient referred out should be accompanied by a written record of the clinical findings, the treatment given before referral, and a specific reason for making the referral. The referral form should accompany the client, and often is carried by the client. The form should clearly designate the facility where the patient is being sent. A carefully completed referral form can help a client receive timely attention at the receiving facility. Client confidentiality must be maintained at all times.
- A standardised referral feedback form should be used to follow up on referral case management. The receiving facility should complete the lower part of the referral form, which contains information on special investigations, findings, diagnosis, and treatment given by the higher level facility, as well as follow-up that is expected from the lower-level facility. The client can deliver the feedback form to the initiating facility, or the form can be sent by fax or post. This feedback assures proper patient care and follow-up and provides continuing education to the initiating facility and their staff.
- Information on referrals should be tracked at each service point in a referral register. Information from the register is used to monitor referral patterns and trends.

[1] Kenya Bureau of Standards (2013). Minimum ground ambulance requirements.

CHAPTER 5. MANAGEMENT OF REFERRALS

This chapter discusses the management of referrals for clients, expertise, specimen services, and client parameters. Referrals are classified based on the case category to be referred and the client's condition. A referral can be categorized as an emergency, urgent, or non-urgent case. Emergency referrals apply in emergency conditions that threaten life, limb, or eyesight. Referrals for conditions that may not threaten life, limb, or eyesight but require urgent attention to prevent them from becoming a serious risk to health are considered urgent referrals. Non-urgent or routine referrals are referrals for second opinions, higher level investigations, and routine admission or management of a patient.

5.1. Client Movement

Client movement is when the actual client seeks an appropriate level of care at which his or her health needs are best addressed. This is the most recognised form of referral service expected of the health system and is what most persons equate with a referral system. Adequate investments shall be made in the system to effectively manage movement of clients.

5.1.1. Organisation of Client Movement

Client movement referrals from lower levels to higher levels are initiated by CHWs from community units or by the clients themselves from households or health facilities. Clients also may be counter-referred from higher-level facilities to lower-level facilities and community units. Client movement also can be among facilities of the same capacities (horizontal referral) or different capacities (vertical referral).

Transport for emergency referrals of clients could be done through the use of innovative community methods such as bicycles, motorcycles, or air, water, or ground ambulances, depending on the context and the available means of transport. Coordination of client movement, initiation of the referral, safe transport, safety in transit, and clinical responsibility are complex parts of the process that require guidelines to ensure successful referrals. Ideally, coordination of referrals may be achieved at various levels within and outside of Kenya.

Strategies are needed to achieve the following capabilities:

- Provide a toll-free number for ambulance service that is connected to other emergency services throughout the country.
- Establish a command centre in every county to coordinate referrals and referral transport.
- Maintain a minimum number of ground ambulances in each county to adequately serve the population.
- Procure water ambulances for regions with water masses.
- Acquire air ambulances for remote, underserved areas.
- Develop standardised documentation for referrals.
- Mobilise resources to compensate for ambulance service and medical care needs in transit and receiving facilities.
- Improve capacity to triage during emergencies and mass casualty incidences.
- Convene a forum at health facility or county levels to exchange information and perform audits.
- Institute routine referral performance monitoring and feedback mechanisms.

5.1.2. Client Movement Logistics

The basic logistics needed to facilitate client movement at different levels of care are transport, communication, human resources, and commodities. The following requirements shall be necessary for the effective management of client movement:

- There shall be established a command, control and coordination Unit at every county with linkage to other sectors such as fire services and police.
- Every county shall establish a County Ambulance Services to manage ambulance services in the county. For guidance, see the ***Concept Paper on the Proposed National Ambulance Service.***
- The Ministry of Health shall ensure training, licensing of appropriate health workers to manage and command ambulances.
- The national Ministry of Health shall develop guidelines to guide the client referral process.
- The County Health Department shall ensure that the necessary human resource, communication equipment and materials, commodities and infrastructure for effective client movement are available at the county level.

5.2. Expertise Movement

One way to address the lack of experts and to make their specialised services accessible and affordable is by moving them around to areas where their services are required. Experts can be drawn from public, private, faith-based, or external facilities. Expertise in the health care system encompasses medical doctors, pharmacists, dentists, nurses, laboratory specialists, clinical officers and nutritionists and all other specialties in the health sector.

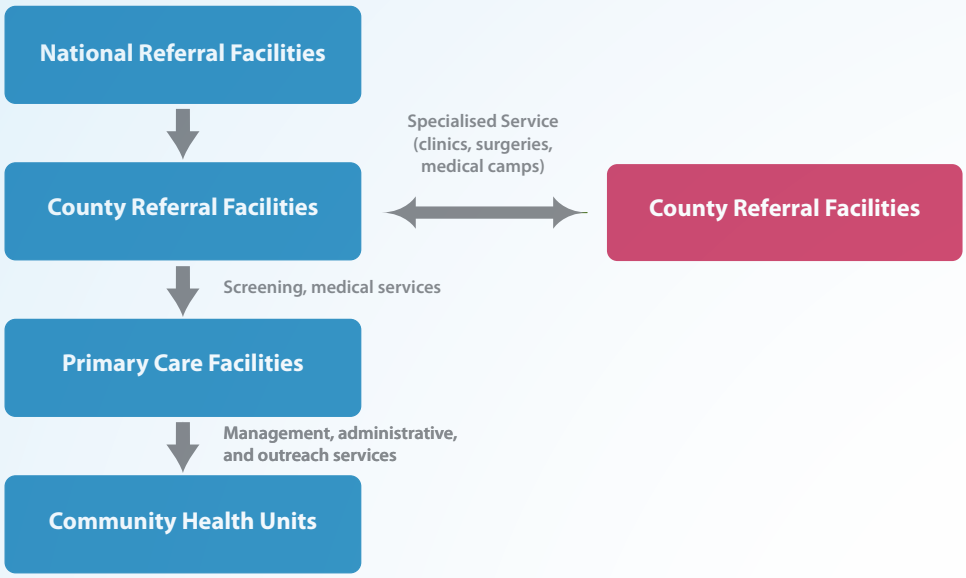
Expertise movement should be encouraged as a cost-effective referral practice and to help in knowledge transfer to personnel in lower levels of care; however, a regular needs assessment should be conducted to monitor the need for expertise movement and the type of experts required. This practice ultimately will reduce the cost of service delivery, improve client satisfaction, and build confidence in the health delivery system.

5.2.1. Orientations of Expertise Movement

The areas of responsibility for each level of referral shall be based on the existing administrative structures. Figure 5.1 shows the service and expert referral chain. Experts from the national referral facilities shall support all county referral facilities in the country, through carrying out specialized clinics, surgeries and organizing medical camps in areas requiring specialized care. Experts at county referral facilities shall be responsible for offering the following support functions:

- Support other county referral facilities that lack the given specialisation, as part of the virtual county referral system.
- Offer scheduled visits by expert teams and their services to other hospitals and facilities within their zones.
- Promote screening services at primary care facilities in the area of responsibility of their county referral facility.
- Primary care facilities shall provide management, administrative support and outreach services to community units.

Figure 5.1. Services and expert referral chain



An inventory of health experts from the public and private sectors and FBOs will be the basis for a pool of experts as a source for expertise services. National and county levels will be responsible for coordinating the expertise movement process. The respective health professionals' regulatory bodies will be responsible for vetting and regulating experts from outside the country.

For effective delivery of services through expertise movement, recipient facilities will be required to mobilise and screen clients in readiness for the visiting experts. A facility must have effective communication technology, backup staff for specialised surgical and medical care, adequate support staff, necessary equipment, resources to meet the needs of the experts (e.g., meals, accommodations, and ground transportation), effective waste management, and necessary infrastructure.

5.2.2. Logistics for Expertise Movement

Table 5.1 shows the key requirements needed to manage the movement of expertise at different levels of care.

Table 5.1. Logistics needed for movement of expertise

Services From	Services To	Basic Logistics Needed for Expertise Movement		
		Facilities & Equipment	Human Resources	Commodities and Supplies
Primary Care Units	Community units	Motorized transport	Clinical officers, nurses, CHEWS, and other health cadres as necessary	Planning and reporting tools, pharmaceutical and non-pharmaceutical supplies
County Hospital	Primary care units	Screening equipment, diagnostic kits	Specialists, medical officers, nurses, medical laboratory technologists, rehabilitation team	Non-pharmaceuticals, laboratory reagents, medicines
County Hospital	County hospital	Utility vehicle, communication gadgets, physiological monitors, diagnostic kits	Surgical specialists, medical specialists, pathologists, radiologists, medical laboratory technologists, nurses and others	Pharmaceutical supplies (e.g., anaesthetic drugs, analgesics, and antibiotics) Non-pharmaceuticals (e.g., syringes, surgical blades, and sutures), chemicals, and laboratory reagents

Services From	Services To	Basic Logistics Needed for Expertise Movement		
		Facilities & Equipment	Human Resources	Commodities and Supplies
County Referral Hospital	Other county hospitals	Utility vehicle, communication gadgets, fully equipped theatre with anaesthetic machine, vacuum machine, surgical sets, physiological monitors, theatre tables, diagnostic kits	Medical and surgical specialists, physiotherapists, medical laboratory technologists, nurse specialist, bio-medical engineering personnel, drivers, diagnostic imaging personnel, dentists, clinical officer specialists	Pharmaceutical (anaesthetics drugs, analgesics), non-pharmaceuticals (syringes, surgical blades, sutures, chemicals, and laboratory reagents)
National Referral Hospital	County referral hospital	Utility vehicle, communication gadgets, fully equipped theatre with anaesthetic machine, vacuum machine, surgical sets, physiological monitors, theatre tables, specialised sets, diagnostic kits	Surgical specialists, obstetricians, gynaecologists, neurosurgeons, orthopaedic surgeons, plastic surgeons, cardiothoracic surgeons, paediatric surgeons, oral maxillofacial surgeons, uro-surgical specialists, ophthalmologists, ENT specialists, anaesthetists, medical specialists, diabetic specialists, neuro physicians, cardiac specialist, psychiatrists, urologists, dermatologists, respiratory and infectious disease specialists, paediatric subspecialists, Medical Laboratory technologists (specialists), pathologists, radiologists	Pharmaceutical supplies (anaesthetic drugs, analgesics, antibiotics, etc.), non-pharmaceuticals (e.g., syringes, surgical blades, and sutures), chemicals, and laboratory reagents

5.3. Specimen Movement

Medical laboratory services form part of an integrated patient management and care in health service delivery system. They enable clinicians in making the appropriate decision in clinical diagnosis and require constant updates in diagnostic procedures to strengthen and improve testing for patient care, disease surveillance and control. Specimen movement is an indirect referral mechanism for patients to ensure access to laboratory services from other facilities for investigative purposes and should be integrated to minimize transportation costs of specimens. An Integrated Laboratory Referral Network system should be well-coordinated to ensure effectiveness and efficiency in service delivery.

To ensure performance, all levels of health care should have defined roles and responsibilities in the management of the referral networks.

In a laboratory referral network, the referring facility (satellite site) collects and refers the specimens to the receiving facility (nodal site) which analyses and issues a report. A laboratory may function as both a nodal and satellite sites depending on the services that it provides. A satellite laboratory may use several referral laboratories for different tests.

5.3.1. The Integrated Laboratory Referral Network (ILRN)

The goal of the ILRN is to ensure high-quality, accurate, and timely laboratory-based information for clinical management of patients, forensic diagnosis and for public health decisions to direct effective disease prevention, control and surveillance. The ILRN should include health facilities in both National and County governments, private health institutions and Faith Based Organizations (FBOs).

5.3.2. Coordination of the Integrated Laboratory Referral Network

Specimen referral network is a strategy to achieve health programmes service goals. A coordination mechanism should provide an oversight for the networks and monitor their performance. The coordination of ILRN shall be at three levels of health care service delivery: national level, county level and primary facility level.

In the County Health Management Teams (CHMT) or Sub-County Health Management Teams (SCHMT), a senior medical laboratory technologist shall be a member of the county health referral team. He or she will be the chairperson and coordinator of laboratory referral activities in the county and will be answerable to the chairperson of the CHMT. Each laboratory within the referral network shall have an appointed medical laboratory technologist to manage the specimens' movement from either satellite sites or nodal sites. She or he shall be answerable to the laboratory manager. A suitable room shall be allocated within the laboratory for handling and documentation of specimens for referral.

5.3.2.1. National Level

A technical committee under the National Laboratory Interagency Coordinating Committee (Lab ICC) shall be formed. This committee shall be responsible for the coordination and management of the referral network and for making recommendations to the Laboratory ICC on the following needs:

- Update of the national laboratory test menu and referral mapping directory
- Knowledge exchange promotion within the network through stakeholder meetings to share experiences and prepare newsletters
- Promotion of best practices in network operations
- Collaboration with referral laboratories to ensure optimal use of referral systems
- Promotion of public and private participation in the growth and maintenance of the referral network
- Development of indicators to monitor progress in the network and the use of M&E data to inform measures to improve specimen referral networks for enhanced sustainability

5.3.2.2. County Level

A county Laboratory ICC shall be formed to coordinate the referral networks in each of the counties. This committee will advise and make recommendations to the County Health Referral Team on matters related to laboratory specimen referral networks.

5.3.2.3. Health Facility Level

Each laboratory facility should have a designated person for coordinating the management of specimen referral services at the facility.

5.3.3. Organisational structure of laboratory services in Kenya.

The organisational structure of laboratory specimen referral networks follow the national health delivery structure based on the Kenya Essential Package for Health (KEPH), which is supported by the norms and standards for health services delivery. This approach enables the laboratory referral system to be entrenched into the national health delivery model and the ministry's health funding structure, thus ensuring sustainability of the networks with three levels of care. This organization ensures efficiency in the use of existing resources.

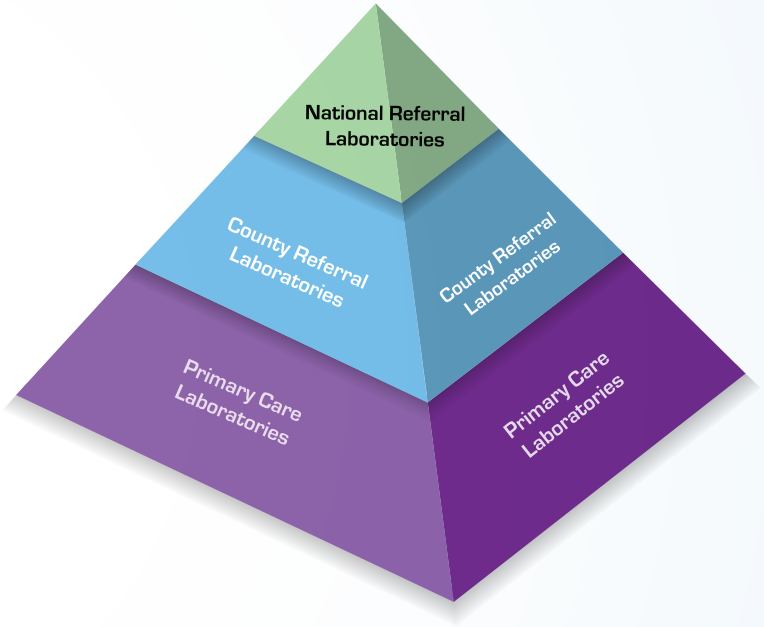
The Laboratory network is organized in a hierarchal pyramidal structure, consisting of national reference laboratories, county referral laboratories and primary healthcare laboratories including private health institutional laboratories and Faith Based Organizations.

To ensure sustainability of the referral system, the laboratory organizational structure shall be strengthened in the national health delivery model in the national and county governments' institutional health financing mechanisms.

The Laboratory services shall be provided in the context of an overall laboratory network in all laboratories irrespective of the controlling agency. It shall consist of the following as shown in Figure 5.2:

- National Reference Laboratories (Level 6)
- County Referral Laboratories (Levels 4 and 5)
- Primary Healthcare Laboratories (Levels 2 and 3)

Figure 5.2: Organisational structure of laboratory services in Kenya.



5.3.3.1. National Referral Laboratories

National referral laboratories will function as national-level resource laboratories for specific areas of support. The reference laboratories will provide specialised laboratory diagnosis, build capacity of county-based laboratory services, provide support for quality control and benchmarking, and manage referred samples. They include national reference laboratories in the National Public Health Laboratory Services at Kenyatta National Hospital Grounds, Kenyatta National Hospital Laboratories, Moi Teaching and Referral Hospital, Eldoret, Mathari Referral Hospital, National Spinal Injury Hospital and Kenya Medical Research Institute.

5.3.3.2. County Laboratory Services

These laboratories will operate from the county referral hospitals (level 4 and 5) to provide comprehensive laboratory diagnosis and supportive supervision to the primary care laboratory services in the county. They shall be provided the capacity to facilitate specimen movement to higher-level (vertical) laboratories and provide a horizontal referral network within the same level of the hierarchy when such need arises. Their responsibilities will include management and diagnostic services.

5.3.3.3. Primary Care Laboratory Services

These services will operate from primary care facilities (levels 2 and 3) to provide basic laboratory diagnosis for

clients that come to the facility. They also will coordinate and collect specimens during community conditions that require laboratory diagnosis, such as notifiable diseases. They should have the capacity to facilitate specimen packaging and transportation to higher laboratories.

5.3.4. Policy to Support the Laboratory Referral Network Orientations

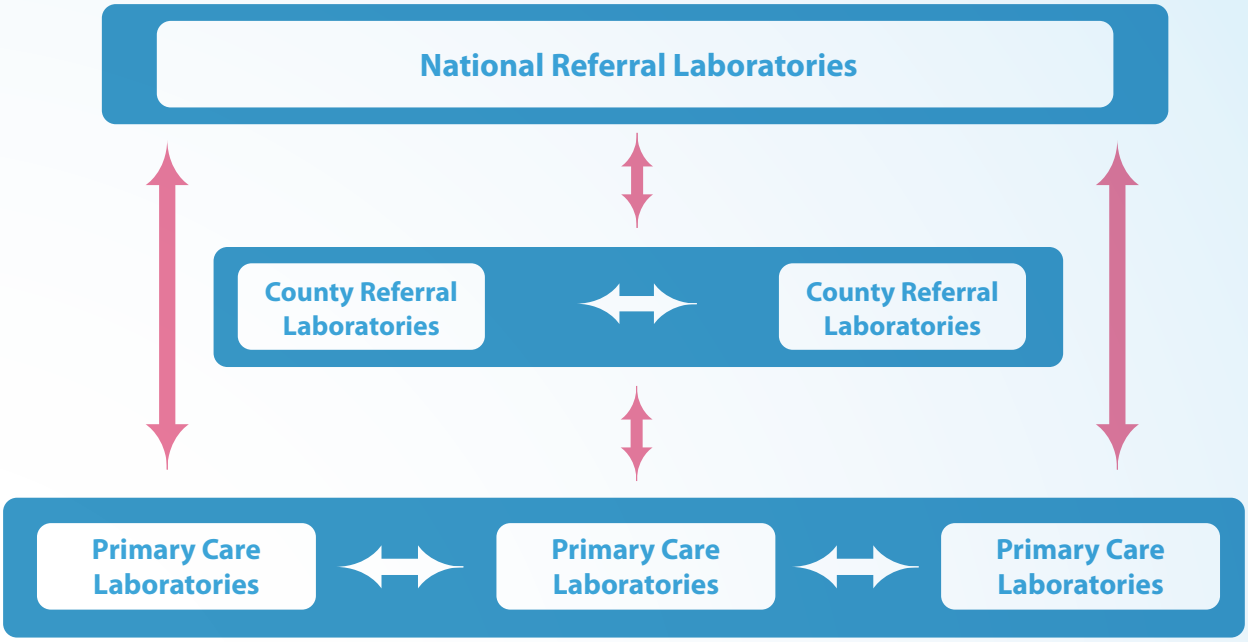
Policies provide directions for planning and resource allocation. A policy framework to support and strengthen integrated laboratory referral networks will be put in place. The policy framework will define the following:

- Service standards and standard operating procedures for different levels
- Policies to ensure strengthening National Public Health Laboratory Services to function as reference laboratories for communicable and non-communicable diseases to enhance disease control and surveillance
- Guidelines for county referral hospital laboratories to be reference laboratories for clinical diagnosis and client management
- Policy guidelines on specimen movement from one facility to another, specifically coming to or from outside the country
- Inter-linkages across laboratory services at different levels to facilitate efficient specimen movement
- Integration of laboratory referral services in the networks
- Private–public partnership collaboration in the referral system
- Human capacity in laboratories at all levels of health care service delivery to attain expected service standards
- Laboratory commodity management procurement processes that will allow placement, outsourcing, and service contracts
- Outreach programme services from higher to lower levels to strengthen capacity for laboratory diagnosis
- Effective, efficient transport system for specimen movement
- Mechanism to strengthen feedback and follow- up specimen movement in the referral network system
- Referral network validation process to ensure quality of laboratory services

5.3.5. Specimen movement:

The laboratory referral network will allow vertical or horizontal movements of specimens as shown in Figure 5.3. Vertical movement will have specimens referred from lower levels to higher levels of health service delivery, for example from primary care laboratories to county reference laboratories or from county reference laboratories to national reference laboratories. Horizontal movement will have inter-level movement of specimens that is from laboratories of the same level of health care service delivery.

Figure 5.3: Specimen movement and reporting system in the referral networks



5.3.6. Specimen collection and handling

To ensure consistency in laboratory performance, Standard Operational Procedures (SOPs) should be developed for all activities in the referral networks, including specimen collection, storage, and transportation. Specimens should be handled according to disease specification. The packaging and transportation of specimens shall be in accordance with Kenyan Law and International Air Transport Association (IATA) Instruction 650-Diagnostic Specimens.

5.3.7. Quality Assurance (QA)

Laboratories in the referral network should adhere to good laboratory practices. A QA system consisting of internal quality control (IQC), external quality assurance (EQA), and continuous quality improvement (CQI) should be an integral part of the referral network system. Establishing a QA system reduces the chances of variability in the laboratory processes, testing and reporting. The QA system should be supported by budgetary provisions from each individual health institution.

5.3.8. Biosafety and Biosecurity

The process of laboratory specimen referral involves transportation of specimens, which poses a risk to the specimen handlers and the environment. Good bio-safety and bio-security practices ensure that the laboratory worker and the environment are protected from potentially hazardous microorganisms. Bio-safety measures in referral networks shall comply with the universal safety precautions, waste segregation, and disposal protocols. Laboratories should carry out bio-risk assessments to identify risk factors associated with the integrated specimen referral Networks. Each laboratory in the network shall have a bio- safety officer who will coordinate all matters pertaining to biosafety and biosecurity practices including safety audits using standard checklists.

5.3.9. Documentation during Specimen Referral

Documentation requirements should be defined and applied, including the satellite laboratory, the courier, and the nodal laboratory. The specimen referral forms should be completed accurately.

5.3.10. Communication within Referral Networks

Effective communication is needed in the referral networks to ensure performance. All facilities in the network should have a modern, effective means of communication with each other and respective health facility management.

5.3.11. Specimen Movement Logistics

Table 5.2 lists the key logistics needed to manage specimen movement at different levels of care.

Table 5.2. Logistics needed to manage specimen movement

Service Unit	Basic Logistics Needed for Specimen Movement		
	Human Resources	Commodities, Supplies, Equipment	Means of Communication
Community Units	Community Health Extension Workers	• Standard operating procedures for specimen collection, package, and movement • Personnel protective clothing • Appropriate specimen containers and transport media	Motorised bicycle and motorbike, telephone costs
Primary Care	Medical laboratory technologist and technician	• Standard operating procedures for specimen collection, package, and movement • Personnel protective clothing, • Basic laboratory supplies • Appropriate specimen containers and transport media	Motorbike and bicycle, pre-paid and contractual courier services, telephone costs
County Referrals	Medical laboratory technologist, health records, and information officers	• Standard operating procedures for specimen collection, package, and movement • Personnel protective equipment • Comprehensive laboratory supplies • Appropriate specimen containers and transport media • IT infrastructure and capability	Motorbike and utility vehicle, pre-paid and contractual courier services, telephone costs
National Referrals	Laboratory technologist, health records, and information officers	• Personnel protective equipment • Comprehensive laboratory supplies • Appropriate specimen containers and transport media • IT services (movement of results and reports)	Motorbike and utility vehicle, international courier, telephone costs

5.4. Movement of Client Parameters

The strengthening of health systems through e-health reinforces fundamental human rights by improving equity, solidarity, quality of care, and life care. Through the national e-health strategy, the government is strengthening the use of ICT solutions to support health service delivery. In line with this, an e-health approach has been defined in the health sector to support sharing of information, patient management, e-consultation, and e-learning using ICT solutions. At present, health information is increasingly being managed using ICT solutions.

The e-health approach aims to take the use of ICT further, including management of health problems. Client parameters can be shared with other service units for supportive diagnosis, management, or sharing of information while maintaining client privacy and confidentiality. This implies that experts physically located in a

different service point can be consulted and participate in the management of the client. The added value is that ICT removes the need for experts to be present physically in the health facility. Experts can be based anywhere if access is available through defined ICT infrastructure and connectivity.

5.4.1. Orientations for Client Parameter Movement

Client parameter movement would be implemented through an e-referral system and would require the following key strategies:

- Health workers will be trained and mentored on the use of ICT, the e-referral tools, and guidelines.
- The system will use the ICT backbone infrastructure and connectivity set up by the government and other stakeholders.
- County governments will be encouraged to scale-up deployment of ICT infrastructure and connectivity to the primary health care facilities.
- The system will use two primary approaches:
    - E-Referral Call Centres: Call centres will have the ability to handle a considerable volume of calls simultaneously, screen calls, and forward them to assigned specialists and other qualified health care providers to handle the problem. These call centres will be used to support inter-linkages in the system.
    - Digitisation of clinical management and referral guidelines: Initially the clinical management and referral guidelines will be digitised using appropriate systems and software, particularly to support automated management support where expertise may be difficult to access or utilise.
- The e-referral system approach will include private, public, and faith-based health facilities.
- A system is needed to vet expert specialists and other qualified clinicians at each level to provide support.
- Adequate training is needed to build capacity at different levels in the use of e-referral services.

5.4.2. Logistics for Client Parameter Movement

Table 5.3 shows the key logistics needed to manage client parameter movement at the different levels of care.

Table 5.3. Logistics needed to manage client parameter movement

Referral Levels	Basic Logistics Needed for Client Parameter Movement			
	Equipment	Human Resources	Commodities and Supplies	Infrastructure
Community Level	Mobile phones for CHWs and CHEWs consultation Computers Digitised guidelines and referral forms Bicycles, motorcycles for transport	CHWs, CHEWs	Airtime, fuel, first aid kits	Community designated meeting points
Primary Care	Mobile phones, desktop computers, laptops, printers, scanners, photocopiers, PDAs VHF access for communication	All health and ICT professionals	Software, hardware, and connectivity	Premises with ICT infrastructural gadgets
County Referrals	Mobile phones, desktops, laptops, printers, scanners, photocopiers, PDAs, specialised digital medical equipment, video conferencing equipment Digital cameras	All health and ICT professionals	Software, hardware, and connectivity	Premises with ICT infrastructural gadgets
National Referrals	Video conferencing equipment Digital cameras	ICT engineers (software and hardware), health professionals	Connectivity, airtime, and software	Premises with ICT infrastructural gadgets

CHAPTER 6: IMPLEMENTATION FRAMEWORK

6.1. Implementation Overview

The implementation of the referral strategy will be phased with the sector medium term planning processes. This Referral Strategy will be implemented during the 2014-2018 period and thereafter reviewed. Given the time horizon over which Referral Strategy will be delivered implementation will be through annual work plans (AWP).

There is significant demand on the Kenya health sector to show a tangible efficient referral system. Considering the complexity of the environment in which the strategy will be rolled out (devolved system of government), the Strategy defines clear lines of responsibility for the implementation.

The implementation of the strategy falls under the national and county governments in line with the schedule four (4) of the constitution which provides the functions for each level. It is expected that at the national and county levels, sufficient commitment will be given to the investment in the Referral Strategy. Therefore, the national and county governments will play complementary roles in the design and implementation of the strategy and jointly own the outcome of such collaborative efforts.

Key consideration will be given to innovation and the adoption of appropriate efforts that will enable improved health outcomes. It is recognized that for a successful implementation of the referral strategy there will be need for continuous engagement of a broad range of interests representing public and private sector providers, professional and community groups.

6.2. The Roadmap for Implementation

In order to deliver on the referral strategy in the short and medium term, four key areas will be addressed. These are:

- Scaling up client movement,
- Scaling up client parameter movement
- Scaling up expertise movement and,
- Scaling up of specimen movement

6.2.1. Scaling up client movement

The overall goal of client movement is the effective and efficient identification and movement of clients within the health service levels, for the management of their health needs. The key outputs to be attained during the period of this referral strategy are:

- Improved capacity of health providers to identify clients for referral
- Efficiency and effectiveness of referral system improved

Table 6.1 Scaling up client movement

Output	Output indicator	Interventions
Improved capacity of health providers to identify client for referral	Proportion of health facilities with referral strategy document	Dissemination and distribution of referral strategy document highlighting linkages to national, county and primary health facility managers, Faith Based Organizations (FBO) and community.
	Proportion of health facilities with Revised clinical guidelines	Dissemination and distribution of the Revised clinical guidelines for all level of care
	Proportion of counties with capacity needs assessment reports for referral services	Carry out needs assessment on referral services
	Proportion of public facilities with number of staff as per staffing norms	Recruitment and deployment of staff for each level of care as per the health service norms and standards
	Number of health service providers (HSPs) sensitized on referral services	Training/updating/OJT sensitization of staff on referral services (as per needs)
	Proportion of facilities provided with technical assistance for referrals in each county	Provision technical assistance at all levels in the counties
	Number of national referral facilities provided with technical supportive supervision for referrals	Supportive supervision conducted at all national level facilities
Efficiency and effectiveness of referral system improved	Proportion of facilities with referral guidelines	Dissemination and distribution of referral guidelines to all facilities
	Number of health workers trained on the new referral guidelines	Training of Health workers on the new referral guidelines
	Proportion of clients referred using correct procedures according to the referral guidelines	Training of health workers and dissemination of the new referral guidelines. Provision of ambulances, skilled HSPs, equipment, supplies, referral tools, communication, Proper data management, finances among others
	Number of counties with mapped health referral zones (GIS mapping)	Mapping of health referral zones
	Proportion of staff trained in leadership and management of the referral system	Training staff in management and leadership of the health referral system
	Number of functional ambulance services for referral per county	Procurement of ambulances, procurement of communication gadgets, equipment / supplies, recruitment of technical staff
	Median waiting time for decision to refer	Survey to assess waiting time
	Median time between decision to refer and leaving the Health Facility	Survey to assess waiting time
	Median waiting time at the receiving facility for referred emergency clients	Survey to assess waiting time
	Proportion of counties or referral zones with referral monitoring systems	Establish Referral monitoring systems in each county or referral zones
	Proportion of counties with established ambulance command centres	Establishment of Ambulance command centres in each county
	Proportion of counties with equipped ambulance command centres	Equipping each county with Ambulance command centres
	Proportion of counties with functional command centres	Establishing and functional ambulance command centres in each county Establishing linkages between the command centres and other relevant sectors
	A national and county referral coordination unit established	Establishment of National referral coordination unit and technical working group at the national level Establishment of Referral coordination units or teams d at the county level

6.2.2. Scaling up expertise movement

The overall goal is the provision of effective expert support to where specialized services are required to facilitate their comprehensive management of clients accessing services. Table 6.2 presents the key outputs to be attained during the period of this referral strategy.

Table 6.2: Expertise/specialists movement

Output	Output indicator	Interventions
Establish nominal roll of certified and active experts from regulatory bodies by county	Number of counties with established nominal roll of certified and active experts from regulatory bodies	Mapping of the available registered health specialists in each county and update regularly.
	Number of counties with an expertise movement framework procedure and agreements between facilities.	Conducting expertise needs assessment Establishment expertise movement framework in each county Establishment of SOPs for expertise movement for each county
County referral hospitals operationalized	Proportion of facilities providing services according to service norms and standards	Conducting assessment in all National and County health Resourcing of health facilities according to health service norms and standards.
Logistics to facilitate movement of specialists in place and functional	Number of counties with a budgetary provision to support expertise movement	Allocate budget for expertise movement for National and County levels
	No. of vehicles available for expertise movement	Procured or leased Utility vehicles for expertise movement
Facilitated movement of specialists	Number of expertise movement sessions undertaken per county per year (categorize by type and county)	Recording the sessions undertaken in each county

6.2.3. Scaling up of Specimen movement

The aim is to provide an effective system to facilitate movement of specimens for diagnosis through the various levels of the health system. The key outputs to be attained outlined in table 6.3.

Table 6.3: Specimen movement

Output	Output indicator	Interventions
Functioning integrated laboratory referral networks	Number of laboratory personnel trained on ILRN	Training Laboratory staff on ILRN at the national and county levels
	Proportion counties with integrated laboratory referral networks	Establishing ILRN in each county
	Number of counties using laboratory referral guidelines	Disseminate and distribute Laboratory referral guidelines to all laboratories at the county level
	Number of national and county laboratory referral coordinators appointed	Appointing Laboratory referral coordinators at the national and county levels

Output	Output indicator	Interventions
Developed ILRN tools	Number of Lab ICCs formed in national and county governments	Form Laboratory referral ICC at the national and county levels
	Number of counties having signed MOUs between laboratories within the networks	Signed MOUs among laboratories within the referral networks in each county
	Number of copies for SOPs on specimens packaging developed and printed	Developed and printed SOPs for specimens packaging
	Number of SOPS on quality assurance developed	Developed SOPs for quality assurance
	Number of checklist copies developed and printed	Developed and printed Checklist copies
	Number of referral request forms developed and printed	Developed and printed Laboratory referral request forms
Prepared laboratory tests menu for ILRN.	Number of counties with prepared laboratory tests menu	Developed Laboratory test menus at the county level for all laboratories
Contracted courier services for transport transportation	Number of counties with contracted courier services	Contracted or established Courier services for the transportation of referred specimens and feedback results between laboratories
Trained personnel on biosafety and bio safety	Number of laboratory workers trained on bio-safety.	Trained Laboratory employees bio-safety
	Number of courier employees trained on bio-safety	Trained Courier employees on bio-safety
Contracted services for equipment maintenance	Number of laboratories with equipment service contracts in each county	Leased Laboratory equipment as per the need at the county level

6.2.4. Scaling up client parameter movement

The overall goal is the provision of an effective system to facilitate upwards and downwards movement of client parameters through the health system. Table 6.4 shows the key outputs and output indicators to be attained during the period of this referral strategy.

Table 6.4: Client parameter movement

Out put	Output indicator	Interventions
Established Web portal (incl. Inventory of personnel/ specialists, master rota etc.) and software module developed	Number of counties with hosted web portals that include inventories of health specialists, master rotas for client parameter movement and e-referral software modules	developed and hosted Web portals , master rotas for client parameter movement and e-referral software modules at the county level
Established call centres to support e-referral system (Public – 7 and 3 FBO)	Number of call centres established	Established call centres
Operationalized call centres	Functional call centres	Established functional call centres
Ethical guidelines (confidentiality of patient information), e-referral guidelines & SOPs Developed and Dissemination	Number of e-referral guidelines and SOPs developed	Develop and Disseminate e-referral guidelines and SOPs

Out put	Output indicator	Interventions
Printing Guidelines, protocols, Procedures	Number of e-referral guidelines Protocols and Procedures printed	Printing e-referral guidelines Protocols and Procedures
Skilled health workers in client exchange parameters for e-referral	No. Health workers trained in use of e-referral system	Training Health workers on the use of the e-referral systems and the guidelines for e-referral
Use of e-referral guidelines	Proportion of health facilities using the e-referral guidelines	Disseminate e-referral guidelines to health facilities
Digitized clinical management and referral guidelines	Proportion of facilities supplied with digitized clinical management and referral guidelines	Digitization clinical management and referral guidelines in health facilities
Health facilities deployed with fibre optic cable/ Infrastructure	Number of facilities in which the fibre optic cable and Infrastructure has been deployed	Deployment of fibre optic cable/Infrastructure in health facilities

6.3. Funding

It is recognized that both the national and county governments have ultimate accountability for funding the referral strategy and the delivery of health care outcomes. Both levels of government will, therefore, be responsible for funding, implementing and operating referral health infrastructure. While several methods will be used for mobilizing the required resource, the national and county governments will be expected to make provisions within their budgets for key actions that relate to their assigned functions. Funding will be sought to cover investments areas such as capacity development programmes, printing of the strategy and other relevant documents as well other activities. The budget allocations will depend on the expected outputs for each of the referral frameworks, the inputs required and the yearly implementation targets. Annex 5 provides a target setting and budgeting template.

The two levels of government will also be expected to stimulate and encourage other players to develop quality referral systems that are scalable, standards compliant and aligned with national priorities.

CHAPTER 7. MONITORING AND EVALUATION

The referral system's protocols and guidelines form a critical and important part of the health system and contribute to the quality and continuity of health care. The efficiency of the referral system has an impact on health outcomes and the health outcomes form a good indicator of the functioning of the health system.

In this strategy, the monitoring and evaluation section looks at the two levels of performance. The first level is the performance in the implementation of the strategy, as outlined in Chapter 6. Specific results are outlined in the strategy that must be implemented to make the referral system functional. After the results are achieved and functional, and the performance of units in the routine operations in the referral system is stabilized, the second level routine performance monitoring must be undertaken to ensure quality, compliance with protocols and guidelines, documentation, client satisfaction, and responsiveness to clients and system needs.

7.1. Coordination and Management of Referral System Strengthening

The responsibility for referral, as outlined in earlier chapters, rests with the health services and clients; however, leadership in improving the referral services is to be provided through the national and county health management levels. This arrangement should provide adequate guidance in prioritisation of investments to ensure that the investments are done in harmonisation with investments in other areas of the comprehensive service delivery approach. Prioritisation of investments is to be done as part of the Annual Work Plans. Agreed priorities will be included in the respective national and county strategic investment plans for the health sector.

Investments in strengthening the referral system will aim for universal coverage. These, however, can be spread through the period of this referral strategy. The phasing-in approach to the implementation of the referral strategy aims to put in place fully functional referral services, starting with the areas of greatest need, rather than scattering the investments across the whole country and limiting their impact.

To ensure adequate linkages with the delivery of health services, investments need to be prioritised in both the national and counties governments in the following manner:

- Priority will be given to the highest disease burden and all other health emergencies.
- Existing investments in the different aspects of the referral system as described in this strategy will ensure priority for those that require minimal investments to attain full functionality.
- Existing partners will support different aspects of the strengthening of the referral system in the selected health referral zones and counties.

Investments and support will be managed as units of investment, rather than focusing on inputs. The entire county or zonal referral system will be considered as a unit. This is to ensure that investments are all available to support each other's functioning to attain a fully functional referral unit. Assessment, costing, and, therefore, investment in strengthening referral units will be based on strategy.

To support guidance of investments, each county health department will perform the following tasks:

- Assess its capacity to provide the comprehensive referral services.
- Identify gaps for all the different aspects of the referral system.
- Cost the referral system as one unit of investment.
- Invest mobilised resources to address all the weaknesses in a given referral unit. Each county will, therefore, have a costing of required investments for strengthening its referral system.

7.2. Monitoring and Evaluation Indicators

To inform the implementation of the referral strategy and the functioning of the health referral system, monitoring and evaluation systems will need to be established at the national and county levels. Referral system stakeholders

will derive the following benefits from the results of continual referral system monitoring and evaluation:

- Availability of data and information for decision making to improve the referral system
- Availability of data for planning and investment in the referral system
- Availability of data to ensure accountability in the referral system

It is unlikely that all the relevant information needed to assess the functioning of a referral system will be captured through monitoring. Depending on the outcome to be studied, an evaluation or special study may be needed, but such studies should be based on need and resource availability. A relatively robust monitoring system based on routinely collected information is, therefore, desirable. This strategy prescribes that the information will be collected, collated, and reported through the health sector routine health information reporting system.

7.2.1. Core referral system indicators for client referrals

The following is a list of some of the generic core indicators that will be used to monitor the referral system performance:

Indicator 1: Health service utilisation rate for referring service (number of clients seen divided by the size of the facility or service catchment population)

Indicator 2: Referral rate from referring service (number of clients referred divided by the number of clients seen)

Indicator 3: Referral uptake rate (number of referred clients seen at receiving service divided by the number of clients referred)

Indicator 4: Counter-referral rate (number of clients received back at original referring service with counter-referral information from receiving service divided by the number of clients referred)

Indicator 5: Median delay in completion of referral (median time in days from referral to capture of the referral at the receiving service)

Indicator 6: Emergency referral waiting time (median time in minutes taken after decision was made to refer to capture of the referral at the receiving service)

Indicator 7: Client satisfaction (number of referred clients satisfied with service divided by the number of referred clients interviewed)

Table 7.1. Summary of core indicators for monitoring client referrals

Indicator	Numerator	Denominator	Why Track This?	Data Source
Utilization rates for services received	Number of clients seen at the referring services	Total population in catchment area of the referring services	When utilization rates is lower than expected, this may indicate client perception of low quality of care at receiving service or some other barriers	Register at service (OPD-MCH/FP, CCC, special clinics, laboratory)
Referral rate from referring service	Number of clients referred out of referring services	Total number of clients seen for that service	Indicates if all necessary referrals are being made from the referring services Appropriate benchmarks depend on client and service characteristics	Register at service and the referral tracking slips
Referral uptake rate	Number of clients who complete referral	Number of clients referred	A barometer of referral success (if low, should trigger further investigation into barriers: cost, distance, stigma, locus of control, perception of low disease severity)	Registers at referring and receiving facilities

Indicator	Numerator	Denominator	Why Track This?	Data Source
Counter-referral rate	Number of clients who return to the referring facilities with counter-referral information	Number of clients referred	Indicates health provider compliance to the counter-referral protocols	Register at receiving facility
Median delay in completing referral	Median number of days from referral to completion	Not applicable	Essential when considering emergency referral Calls for dates to be recorded in referral registers and slips Use of median is desirable because a normal distribution is unlikely	Referral register of receiving facility
Emergency referral waiting time	Median time taken after decision was made to refer to referral completion	Not applicable	Essential in assessing the efficiency of the referral system	Referral register
Client satisfaction with referral	Number of clients reporting that they were satisfied with the referral service	Number of referred clients Interviewed	Should be used as an outcome of referral and not be deferred to an evaluation Client satisfaction data can be collected in facilities routinely or through surveys	Customer satisfaction form Periodic surveys

The referral monitoring system should not monitor only the performance of the referral system; it also should have the following characteristics:

Data quality assurance: Mechanisms to ensure the quality of data collected

Client confidentiality: Functioning mechanisms to protect the confidentiality of clients.

Low burden: The documentation and monitoring system should be of low burden for service providers

Data use: Mechanisms to facilitate the use of the collected information for improvement of the network and its referral system

All referring and receiving facilities in the referral zone or network must have in place the referral data collection tools to effectively track the flow of referrals through the referral system and ensure safety and quality of care. The health staff and managers should be trained on the core referral system indicators, the methods of documentation, data retrieval, analysis, and presentation for decision making.

7.2.2. Monitoring and Evaluation of specimen referral networks

Laboratory specimen referral, as an integral part of the health care system, requires monitoring and evaluation. It incorporates routine collection and tracking of key data on the performance of a system to help identify problems in time for prompt correction. The identification of key network performance indicators and maintenance of records and information at all levels in the referral system is mandatory to ensure effective implementation of planned activities. Performance indicators of the referral network should routinely be monitored to establish the efficiency and effectiveness of the network. Evaluation of data is useful in decision making and quality improvements.

The main indicators in the laboratory referral networks to assess the function and determine nodal site saturation include:

Indicator 1: Network effectiveness: The number of specimens sent from satellite sites, the number of new nodal or satellite sites established in support of care and treatment for priority diseases and number of new tests added to the test menu in the nodal sites.

Indicator 2: The referral costs and turnaround time for results

Indicator 3: ***Quality assurance***: The specimen rejection rate, Internal Quality Control (IQC) and External quality assurance (EQA) performance, the accuracy of data collection and reporting

Indicator 4: Nodal site saturation: The workload analysis. The volume of specimens referred to the nodal site for testing per given period of time, usually one year versus the staff establishment in the facility.

Table 7.2. Summary of core indicators for monitoring specimen referrals

Indicator	Numerator	Denominator	Why track?	Data source
Proportion of satellite sites referring specimens to a nodal site	Number satellite sites referring specimens to a nodal sites in a county	Total number of satellite sites in the county the referral network	To monitor referral network effectiveness	Laboratory referral register in the nodal site
Proportion of new satellite sites established in a network	New satellite sites established in support of care and treatment for priority diseases in the counties	Number of counties with established new satellite sites in support of priority diseases	To monitor increase in access of laboratory services	Office of the County laboratory Referral coordinator
Proportion of laboratories with signed MoUs in county	Laboratories with signed memoranda of understandings (MoUs) within the network	Number of laboratories with signed MoUs in the network	To streamline network operations	Health facility Administration
Proportion of test results received within specified time in a facility in a network	Number of test results received within specified turn-around time in a facility	Total number of test results received in a facility in a specified time	To assess the waiting time for the client to receive the test results.	Laboratory Referral register in the nodal site
Proportion of laboratories with contracted means of transport in the network	Number of health facilities with contracted means of transport for specimens referral in the county	Total number of health facilities with contracted means of transport for specimen referral in the county	To effect specimens transportation	Health facility Administration office
Proportion of laboratories in the network with LMIS in the county	Number of laboratories in the referral network with laboratory information management system(LIMS) in the county	Total number of laboratories in the referral network with LIMS in the county	To have an effective means of communication in the network.	Health facility Administration office
Proportion of laboratories in the network with budget allocation in the county	Number of health facilities with a budget allocation mechanisms for the specimen referral in the county	Total number of laboratories in the counties with a budget allocation for specimen referral in the county	To sustain specimen referral activities in the counties	Health facility Administration office
Proportion of laboratories participating in the network countyin	Number of laboratories participating in external quality assurance (EQA) in the county	Total number of laboratories participating in EQA in the network in a county	To improve quality laboratory services in the in the network in a county	Office of the County Referral Coordinator or laboratories in the network

7.2.3. Monitoring and evaluation of client parameter referral.

At present, health information is increasingly being managed using ICT solutions to facilitate service provision. The e-health approach aims to take the use of ICT further, including management of health problems. Client parameters can be shared with other service units for supportive diagnosis, management, or sharing of information while maintaining client privacy and confidentiality. This implies that experts physically located in a different service point can be consulted and participate in the management of the client. The added value is that ICT removes the need for experts to be present physically in the health facility. Experts can be based anywhere if there is access to defined ICT infrastructure and connectivity.

The indicators below will be used to monitor the progress of the implementation of patient parameter movement.

Indicator 1: Proportion of counties with enabling ICT infrastructure to support referrals

***Indicator 2*:** Proportion of health facilities with e-health hubs established

Indicator 3: Proportion of counties with web portals established

Indicator 4: Proportion of counties with functional call centres to support e-referrals

Indicator 5: Proportion of health facilities with access to e-referral guidelines and SOPs

Indicator 6: Proportion of health facilities linked to a functional fibre optic cable

Table 7.3. Summary of core indicators for monitoring client parameters referrals

Indicator	Numerator	Denominator	Why Track This?	Data Source
Proportion of counties with enabling ICT infrastructure to support referrals	Number of counties with enabling ICT infrastructure	All counties	For identification of counties with ICT infrastructure. ICT infrastructure can support the e-referral system	County Health Facility Infrastructure inventory Survey
Proportion of health facilities with e-health hubs established	Number of Health Facilities with linkage to e-hubs	All health facilities	e-hubs are enablers in communication but are costly to establish e-hub has ICT solutions to support e-referral system	Routine Reports Surveys
Proportion of counties with web portals established	Number of counties with web portals	All counties	Web portals are important for access to health promotion and communication materials, health related downloads and transmission of client information	Reports Performance contract reports
Proportion of counties with functional call centres to support e-referrals	Number of counties with functional call centres to support e-referrals	All counties	Call centres facilitate timely referral Promote coordination in referral Provide feedback and follow up. Can be used for communication, despatch, monitoring and tracking	Routine reports
Proportion of health facilities with access to e-referral guidelines and SOPs	Number of facilities with SOPs	All health facilities	Monitor quality of care Guide operations Provide standardized procedures	In health facilities
Proportion of health facilities linked to a functional fibre optic cable	Number Health facilities using fiber optic cable	All health facilities	Support communication Downloads Promotes speed of internet	Count ICT report Surveys Development Index report

ANNEXES

Annex 1: Forms and Documents Needed for a Well-functioning Referral Network

Form or document	Minimum data elements needed to construct proposed key indicators	
Mapping, Directory of Service Providers	Geographic locations of providers	
	Contact information of providers, hours of operation of providers, services provided	
Client-held Referral Form	Name of client	
	Name of referring provider	
	Date of referral	
	Name and location of receiving provider	
	Reason for referral	
Referral Tracking Slip	Client name, date, and reason for referral	
Register at Referring and Receiving Services	*Referring Service*	*Receiving Service*
	Name of client	Name of client
	Date of service	Date of service
	Referred? (+ reason for referral)	Date referred
	Counter-referred?	
Summary Reports from Service Providers to Central Authority	*Referring Service*	*Receiving Service*
	Number of clients seen	Number of clients seen (utilisation)
	Number of clients referred (referral rate)	Summary of referral delay data
	Summary of counter-referral rate	
	Client satisfaction data	
Summary Analytical Report of Central Authority (County or National)	Key indicators, calculated from data elements reported from service provider summary reports	

Annex 2: Basic Emergency Medicines and Medical Supplies

Hospital emergency preparedness implies a state of readiness and alertness to deal with emergencies when they strike. Establishing a list of essential drugs and other medical supplies helps ensure that the team can act precisely and effectively. A well-organised emergency trolley will expedite this process and reduce stress and wastage of time during an emergency. The following table provides a suggested list of the most basic emergency drugs and materials for an emergency trolley; however, every health facility should be in a position to develop a standardised list of essential emergency supplies for every ward and unit in the health facility.

Item Description	Unit	Quantity
Adrenaline injection	ampoules	10
Hydrocortisone injection	vial	10
Atropine injection	ampoules	10
Tramal injection	ampoules	10
Paracetamol injection	vial	10
Diclofenac injection	ampoules	10
Pethidine injection	ampoules	4
Mannitol	bottle	2
5% dextrose	bottle	2
50% dextrose	bottle	2
Normal saline solution	bottle	2
Dextran 70%	bottle	2
Darrows solution	bottle	2
Surgical blades (assorted sizes)	pieces	2
Surgical gloves (assorted sizes)	pairs	10
Non sterile gloves (assorted sizes)	1 box of 50 pairs	1
Fluid-giving set	pieces	5
Airway guedel (assorted sizes)	pieces	3 each
Alcohol swabs	pieces	10
Suction tubes, assorted sizes	pieces	2 each
Blood-giving set	pieces	3
Endotracheal tubes, cuffed and non-cuffed, assorted sizes	pieces	2 each
Betadine solution	bottle	1
Oxygen key in case a cylinder is being used	pieces	1
Strapping	roll	1
Gauze bandages in assorted sizes	dozens	2 each
Sutures	pieces	10
Syringes, 2cc, 5cc, 20cc	pieces	10
Needles, G 23, 21	pieces	10
Brannulars, G18, 20, 22, 24	pieces	10
Cut-down tray	kit	1
NOTE: Ensure that the emergency trolley is always available and replenished as necessary. For accountability, a transferrable checklist that indicates item description, amount, and date of expiration should be made and countersigned by the officers concerned during the transfer of the checklist.		

Annex 3: Supervision Checklist for Referral Services

Annex 3.1: General supervision checklist for referral services

Sections		Area	Check as appropriate
A	PATIENT IDENTIFICATION		
	1.	**Is the patient identification complete and legible?**	
		1.1 Patient's name is complete	
		1.2 Patient's Address is complete (house number, street, city, and district)	
		1.3 Date of birth, age, and gender are present	
		1.4 Name of next of kin (or responsible person in case of minors)	
		1.5 Telephone number and address of next of kin	
		1.6 All information is legible	
	2.	**Is the information on the referring health provider or unit complete?**	
		2.1 Provider's name, title, and signature	
		2.2 Referring unit address and telephone number	
		2.3 Referral number	
		2.4 All information is legible	
B	REASON FOR REFERRAL		
	1.	**Is the reason for referral complete and clearly stated?**	
		1.1 The reason for referral is stated	
		1.2 It includes a clinical diagnosis	
		1.3 The reason for referral is clinical	
		1.4 The reason for referral is administrative	
		1.5 The referral contains a brief summary of history and clinical findings	
		1.6 Vital signs are recorded	
		1.7 Treatment given is clearly stated	
		1.8 All information is legible	
C	TRANSFER INFORMATION		
	1.	**The transfer was executed in compliance with the established protocols?**	
		1.1 The receiving physician or unit was previously contacted by phone	
		1.2 The patient referral form was faxed or mailed to the receiving unit prior to arrival	
		1.3 Instructions for transfer are attached to the patient referral form and were explained to the transfer team	
		1.4 All information is legible	
D	TRANSFER RECEPTION		
	1.	**Was the referral reception completed in compliance with established protocols?**	
		1.1 Vital signs were recorded at reception	
		1.2 Patient was received by professional personnel (physician or nurse)	
		1.3 The transfer or reception form is signed and attached to the patient referral form	
		1.4 All information is legible	
E	COUNTER- REFERRAL		
	1.	Was a counter-referral form completed and sent?	
	2.	Was a counter-referral form received by the referring unit?	
	3.	Was the general information complete?	
		3.1 Consultant's name and signature	
		3.2 Consultant's clinic address and phone number	
	4.	**Consultant's comments are relevant and clearly stated**	
		4.1 A final diagnosis using ICD-10 classification is present	
		4.2 Treatment and follow-up instructions are present and clearly stated	
F	REFERRAL SYSTEM MANAGEMENT		
	1.	Are referral guidelines and protocols available?	
		Are communication systems such as telephone and radios available?	
		Are standard referral forms available?	
		Are routine registers that allow for collection of referral data available?	
		Are referral data routinely analysed and discussed at the facility level?	
		Does the facility have access to a fully equipped, functional ambulance and personnel trained on emergency care?	
		Is a disaster management plan in place and is it known to all staff?	
		TOTAL POINTS	

Annex 3.2: Integrated laboratory specimen referral checklist for support supervision

Name of County: …… Name of Sub-County: ……..								
Name of facility: ……. Postal Address: …….. Facility email address: ……								
Name of laboratory manager: …….. Phone number:…….. Laboratory manager's email address: ……								
Laboratory Level (Tick one) VI V IV III II								
Number of sites referring specimen to the laboratory by level	VI	V	IV	III	II			
Number of specimens received from satellite sites per discipline	Hematology	Microbiology	CD4	EID	TB	Biochemistry	Histology	Parasitology
Number of other specimen received from satellite sites(Specify)								
Means of transport of referral specimens:								

All elements of a question must be present in order to indicate yes for a given question and thus award the corresponding points.

Y= Yes, receives **2** points, **P= Partial,** receives **1** point, **N= No** ,receives **0** point,NA=Not applicable

When marking "P**" or "**N,**" make notes in the column marked '**comments**' to explain why they were not fulfilled.**

Network efficiency						
	Y	**P**	**N**	**NA**	**Comments**	**Score**
Does the laboratory have recording and reporting registers for all tests?						
Is all the information required in the register captured?						
Does the laboratory maintain a separate register for referral tests to be used for tracking the activity? Standard information should be captured in the register including date, number of specimens brought, whether acceptable or rejected, name and designation of person bringing the specimens and mode of transport used.						
Does the laboratory/facility have a centralized sample referral dispatch area (DBS,IDSR,TB, Histopathology)						
Does the laboratory have a demarcated area for specimen collection?						
Does the laboratory document the time when the result are dispatched						
Are specimens packaged appropriately according to local and or international regulations and transported to referral laboratories within acceptable timeframes?						
Are specimens stored appropriately prior to testing?						
Does the laboratory meet the standard turnaround time for indicator tests?						
CD4 count						
Heamogram						
EID for HIV						
Biochemistry						

TB						
Microbiology						
Histology						
Network efficiency						
	Y	**P**	**N**	**NA**	**Comments**	**Score**
Does the laboratory have standardized communication mechanism with satellite/nodal sites? (internal/ external)						
Does the facility have agreed on financing mechanisms for specimen referral?						
Has the facility distributed its test menu to the satellite facilities?						
Quality Assurance						
Does the laboratory record and track specimen rejection rate for referred specimen?						
Dose the laboratory participate in EQA programs for all specimens referred?						
Is internal quality control performed and documented?						
Total score ***(Scale: 0-20=poor, 21-30=Average, 31-42=Good)***						
Discussion with laboratory manager						
1. State the strengths and challenges discussed during this visit a). Main strengths: i) …… …… …… …… ii) …… …… …… …… iii)…… …… …… …… b**).**Main challenges**:** i) …… …… …… …… ii) …… …… …… …… iii)…… …… …… ……						

Remedy				
List in the first column of the table each of the problems from item 1 above and then complete the rest of the table.				
Problem	Causes	Action(s) to be taken	Responsible person	Time frame
1.				
2.				
3.				
4.				
5.				
Name: ……. Signature: …….. Date: __ __/__ __/__ __ (Laboratory manager)				
Name: ……. Signature: …….. Date: __ __/__ __/__ __ (Supervisor)				

** **The checklist to be filled in Duplicate** (a copy should be left with the laboratory manager)

Annex 4: Mandatory Equipment and Requirements for Referral Logistics

Equipment for Different Forms of Ambulances

	Ambulance Type	Mandatory Equipment and Requirements
1	4 X 4 WD vehicle	• Registration as an ambulance • A red beacon light • An adjustable floodlight at the top of the vehicle • A rear door for placement and removal of a patient • An approved siren • White paint and blue crosses on the sides and back • Means of communication with both the base and the referral health facility such as radio or dedicated cell phone • Fitted and stocked first aid box • Fixed bed for the patient being transported and a seat for a nurse • Folding stretcher • An attachment for IV fluid drip • A functional oxygen supply unit • Delivery kit, in case of maternity cases • Waste disposal buckets • Functional running water supply unit • First Aid equipment (functional suction unit, defibrillator, BP machine, patient monitors, oral airways, splints, neck collars, and ambu-bags)
2	Motorized bicycle and motorcycle	• Patient carrier complete with a hood for protection from adverse weather • Clear marking as an ambulance • A functional bell • Headlight (blue light) • Red taillight and reflectors • First aid kit with protective gear, as prescribed by the traffic regulations
3	Motorized boat	• With a hood for protection from adverse weather with Lifesaving equipment in case of an accident • Clear marking as an ambulance • A functioning bell • Headlight (blue light). • Red taillight and reflectors • Resuscitation equipment • Means of communication with the base and the referral health facility, such as a radio or dedicated cell phone

Equipment for Level Referral Facilities (National and County)

Facility Area	Mandatory Equipment
Operating Theatre	• 2 operating tables • 2 anaesthesia machines • Oxygen generator and cylinders • 2 suction machines • Full physiological (BP, HR, oxygen saturator, ECG) • Surgical sets • Protective gear • Specialised sets • Operating microscopes • 2 operating lights • Scrubbing area • Emergency trolley • Orthopaedics table and equipment • C-arm machine (image intensifier) • Portable X-ray Recovery ward • 2 oxygen sets • 2 physiological monitors • 1 suction operators • Heater • 2 recovery trolleys with drip stands • 1 nurse to 2 patients • Emergency trolley
Critical Care Units	• 5 fully functional critical care beds • 5 ventilators • Physiological monitors • 20 infusion pumps (4 per bed) • Back-up lab (for blood gas analysis) and electrolytes • 1 nurse to 1 patient (5 shifts) • Physiotherapist (1 shift) • Support staff • 1 lab technologist (1 shift)
Specialised Areas	Renal • 5 renal beds with 5 renal machines • Water treatment plant • 5 oxygen sets • Back-up lab with electrolytes, urea • 1 nurse to 2 patients • 1 lab technologist • 1 clinical counsellor Cardiology • 12-lead ECG machine • Echo machine Others • Specialised X-rays (CT scan, fluoroscopy) • Ultrasound scanning • Fully functional haematology, biochemistry, microbiology, and immunology laboratory

Equipment for Specimen Movement

	Commodities, Supplies, Equipment
Physical Laboratory	• Standard operating procedures for specimen collection and movement • Personnel protective equipment (gloves, tourniquet, alcohol swabs, syringes, safety needles) • Specimen containers (cryovials, biopsy container, vacutainer, swabs, urine and stool culture containers, filter papers, slides, aspirate containers) • Cool-boxes, icepacks, temperature monitors • Specimen racks • Slide carrier boxes • Transport media (blood culture media), fixative(10% formal saline, ethyl alcohol), specimen tracking forms, leak-proof specimen carrier envelops, biohazard labels, cotton gauze, desiccants, humidity indicators, sealable bags, and glycine envelops • Results report forms

Annex 5: Template for target setting and budgeting for the implementation of the referral strategy

Referral type	Output	Output indicator	Interventions	Baseline values	Targets	Budget						
					2014 - 2015	2015 - 2016	2016 - 2017	2017 - 2018	2014 - 2015	2015 - 2016	2016 - 2017	2017 - 2018
Client movement	Improved capacity of health providers to identify client for referral	Proportion of health facilities with referral strategy document	Dissemination and distribution of referral strategy document highlighting linkages to national, county and primary health facility managers, Faith Based Organisations (FBO) and community.									
		Proportion of health facilities with Revised clinical guidelines	Dissemination and distribution of the Revised clinical guidelines for all level of care									
		Proportion of counties with capacity needs assessment reports for referral services	Carry out needs assessment on referral services									
		Proportion of public facilities with number of staff as per staffing norms	Recruitment and deployment of staff for each level of care as per the health service norms and standards									
		Number of health service providers (HSPs) sensitized on referral services	Training/ updating/OJT sensitization of staff on referral services (as per needs)									
		Proportion of facilities provided with technical supportive supervision for referrals in each county	Supportive supervision conducted at all levels in the counties									

Referral type	Output	Output indicator	Interventions	Baseline values	Targets	Budget						
		Number of national referral facilities provided with technical supportive supervision for referrals	Supportive supervision conducted at all national level facilities									
	Efficiency and effectiveness of referral system improved	Proportion of facilities with referral guidelines	Dissemination and distribution of referral guidelines to all facilities									
		Number of health workers trained on the new referral guidelines	Health workers trained on the new referral guidelines									
		Proportion of clients referred using correct procedures according to the referral guidelines	Training of health workers and dissemination of the new referral guidelines. Provision of ambulances, skilled HSPs, equipment, supplies, referral tools, communication, finances among others									
		Number of counties with mapped health referral zones (GIS mapping)	Mapping of health referral zones									
		Proportion of staff trained in leadership and management of the referral system	Train staff in management and leadership of the health referral system									
		Number of functional ambulance services for referral per county	Procurement of ambulances, procurement of communication gadgets, equipment / supplies, recruitment of technical staff									

Referral type	Output	Output indicator	Interventions	Baseline values	Targets	Budget						
		Median waiting time for decision to refer	Survey to assess waiting time									
		Median time between decision to refer and leaving the Health Facility	Survey to assess waiting time									
		Median waiting time at the receiving facility for referred emergency clients	Survey to assess waiting time									
		Proportion of counties or referral zones with referral monitoring systems	Referral monitoring systems established in each county or referral zones									
		Proportion of counties with established ambulance command centres	Ambulance command centres established in each county									
		Proportion of counties with equipped ambulance command centres	Ambulance command centres appropriately equipped in each county									
		Proportion of counties with functional command centres	Established and functioning ambulance command centres in each county Established linkages between the command centres and other relevant sectors									

Referral type	Output	Output indicator	Interventions	Baseline values	Targets	Budget						
		A national and county referral coordination unit established	National referral coordination unit and technical working group established at the national level Referral coordination units or teams established at the county level									
Expertise movement	Establish nominal roll of certified and active experts from regulatory bodies by county	Number of counties with established nominal roll of certified and active experts from regulatory bodies	A census of the available registered health specialists conducted in each county and the register regularly updated									
		Number of counties with an expertise movement framework (procedure and agreements between facilities.	Expertise movement needs assessments conducted and an expertise movement framework established in each county SOPs for expertise movement for each county established.									
	County referral Hospitals operational	Proportion of facilities providing services according to service norms and standards	All facilities at the national and county levels resourced according to the health service standards ad norms for each level of care									
	Logistics to facilitate movement of specialists in place and functional	Number of counties with a budgetary provision to support expertise movement	Budgets allocated for expertise movement according to need at the national and county levels									
		No. of vehicles available for expertise movement	Utility vehicles for expertise movement procured or leased									

Referral type	Output	Output indicator	Interventions	Baseline values	Targets	Budget						
	Facilitated movement of specialists	Number of expertise movement sessions undertaken per county per year (categorize by type and county)	Expertise movement sessions to provide services as per the population needs undertaken at the county level									
Specimen movement	Functioning integrated laboratory referral networks	Number of laboratory personnel trained on ILRN	Laboratory staff trained on ILRN at the national and county levels									
		Proportion counties with integrated laboratory referral networks	ILRN established in each county									
		Number of counties using laboratory referral guidelines	Laboratory referral guidelines disseminated and distributed to all laboratories at the county level									
		Number of national and county laboratory referral coordinators appointed	Laboratory referral coordinators appointed at the national and county levels									
		Number of Lab ICCs formed in national and county governments	Laboratory referral ICC formed at the national and county levels									
		Number of counties having signed MOUs between laboratories within the networks	MOUs signed between laboratories within the referral networks in each county									
	Developed ILRN tools	Number of copies for SOPs on specimens packaging developed and printed	SOPs for specimens packaging developed and printed									

Referral type	Output	Output indicator	Interventions	Baseline values	Targets	Budget						
		Number of SOPS on quality assurance developed	SOPs for quality assurance developed									
		Number of checklist copies developed and printed	Checklist copies developed and printed									
		Number of referral request forms developed and printed	Laboratory referral request forms developed and printed									
	Prepared laboratory tests menu for ILRN.	Number of counties with prepared laboratory tests menu	Laboratory test menus developed at the county level for all laboratories									
	Contracted courier or transport services	Number of counties with contracted courier services	Courier services contracted or established for the transportation of referred specimens and feedback results between laboratories									
	Trained personnel on biosafety	Number of laboratory workers trained on bio-safety.	Laboratory employees trained bio-safety									
		Number of courier employees trained on bio-safety	Courier employees trained on bio-safety									
	Contracted services for equipment maintenance	Number of laboratories with equipment service contracts in each county	Laboratory equipment leased as per the need at the county level									

Referral type	Output	Output indicator	Interventions	Baseline values	Targets	Budget						
Client parameters movement	Established Web portal (incl. Inventory of personnel/ specialists, master rota etc.) and develop software module	Number of counties with hosted web portals that include inventories of health specialists, master rotas for client parameter movement and e-referral software modules	Web portals that include inventories of health specialists, master rotas for client parameter movement and e-referral software modules developed and hosted at the county level									
	Established call centres to support e-referral system (Public – 7 and 3 FBO)	Number of Call centres established	Call centres functional									
	Operationalized call centres	Functional call centres	Call centres established and fuctional									
	Ethical guidelines (confidentiality of patient information), e-Referral guidelines & SOPs and Dissemination	Number of e-referral guidelines and SOPs developed	E-referral guidelines and SOPs developed									
	Printing Guidelines, protocols, Procedures	Number of e-referral guidelines and SOPs printed	E-referral guidelines and SOPs printed									
	Skilled health workers in client exchange parameters for e-referral	No. Health workers trained in use of e-referral system	Health workers trained on the use of the e-referral systems and the guidelines for e-referral									
	Follow up the use of e-Referral guidelines	Proportion of health facilities using the e-referral guidelines	E-referral guidelines disseminated to health facilities									
	Digitized clinical management and referral guidelines	Proportion of facilities supplied with digitized clinical management and referral guidelines	Digitized clinical management and referral guidelines availed to health facilities									

Referral type	Output	Output indicator	Interventions	Baseline values	Targets	Budget						
	Last mile for fibre Optic deployment to Health Facilities	Number of facilities in which the Fibre Optic Cable and Infrastructure has been deployed	Deploy Fibre Optic Cable/ Infrastructure									

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MINISTRY OF HEALTH

KENYA HEALTH SECTOR REFERRAL STRATEGY

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