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REPUBLIC OF KENYA

MINISTRY OF HEALTH

Accelerating Progress Towards

Clinical Guidelines for Management and Referral of Common Conditions at Level:

Level 1: **Community Health Services**

Universal Health Coverage

Volume

1

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List of Abbreviations

ACT	Artemisinin combination treatment
AIDS	Acquired immune deficiency syndrome
APGAR	Appearance, pulse, grimace, activity, respiration
ART	Anti-retroviral therapy
ATLS	Advanced trauma life support
ARV	Anti-retroviral drug
BCC	Behaviour Change communication
CBO	Community-based organization
CHA	Community health assistants
CHEW	Community health extension worker
CHP	Community health promoters
CRHS	Child and Reproductive Health Services
CSHP	Comprehensive School Health Programme
CSOM	Chronic Suppurative Otitis Media
DCT	Diagnostic Counselling and Testing
DEH	Division of Environmental Health
DLTLD	Division of Leprosy, Tuberculosis and Lung Diseases
DOMC	Division of Malaria Control
DON	Department of Nursing
DOTS	Directly observed therapy, short-course
FP	Family planning
GOK	Government of Kenya
GORD	Gastro-oesophageal reflux disease
GUD	Genital ulcer disease
GYN	Gynaecology
HAART	Highly active anti-retroviral therapy
HAPAC	HIV/AIDS Prevention and Care Project
HFA	Health For All
HIV	Human immunodeficiency virus
HSV	Herpes simplex virus
IEC	Information, education and communication
INH	Isoniazid
ITN	Insecticide-treated net
IUCD	Intrauterine contraceptive device
IUFD	Intrauterine foetal death
JRA	Juvenile rheumatoid arthritis
KCCT	Kaolin cephalin clotting time
KEPH	Kenya Essential Package for Health
KMC	Kangaroo mother care
KOH	Potassium hydroxide solution
LBW	Low birthweight
MDGs	Millennium Development Goals
MDR-TB	Multiple drug-resistant TB
MOA	Ministry of Agriculture
MOEST	Ministry of Education, Science and Technology

MOH	Ministry of Health
MOPW	Ministry of Public Works
MOU	Memorandum of understanding
MOWI	Ministry of Water and Irrigation
NASCOP	National AIDS/STD Control Programme
NCD	Non-communicable disease
NGO	Non-governmental organization
NHSSP II	Second National Health Sector Strategic Plan2005–2010
OB	Obstetrics
PEP	Post-exposure prophylaxis
PHC	Primary healthcare
PID	Pelvic inflammatory disease
PLWHA	Person/people living with HIV/AIDS
PMTCT	Prevention of mother-to-child transmission (of HIV)
POP	Plaster of Paris
PSC	Patient support centre
PTI	Prothrombin Time Index
PUD	Pyrexia (fever) of unknown origin
SFP	School feeding programme
SHN	School health and nutrition
SHP	School health programme
STI	Sexually transmitted infections
TAH	Total abdominal hysterectomy
TB	Tuberculosis
TOF	Tracheoesophageal fistula
TT2	Tetanus toxoid
TURP	Transurethral resection of the prostate
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
UTI	Urinary tract infection
VCT	Voluntary counselling and testing
WHO	World Health Organization

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Preface

These guidelines summarize current medical knowledge, weigh the benefits and harms of diagnostic procedures and treatments, and give specific recommendations based on credible information. In addition, these guidelines aim at supporting the clinical decisions of health care professionals on interventions for specific clinical conditions, discouraging inappropriate practices and improving coordination between different providers. This updated edition of the guidelines takes cognizance of the Kenya Essential Package for Health (KEPH), emphasizing distinct levels of care – including the community – to be provided to defined cohorts of the human life cycle. Specifically, the guidelines have been updated in relation to the following:

- Defining care protocols by the service delivery level, recognizing that the skills and facilities for care differ at the different levels of health care.
- Providing greater elaboration of the identification and preparation for referral of clients in case the presenting condition or state doesn't allow for management at the level where the client has presented.
- Updating management protocols to address current conditions and potential threats to the health of Kenyans.
- Including a process for monitoring and reviewing the guidelines.

For ease of reference and use, the guidelines are presented in 3 volumes:

Volume 1: Management Guidelines for Level 1 (Community)
Volume 2: Management Guidelines for Levels 2 and 3 (Primary Care)
Volume 3: Management Guidelines for Levels 4–6 (Hospitals).

The healthcare sector hopes that these guidelines will serve the users well as a guide for the appropriate care expected to be delivered at each level in the health system, thus facilitating the realization of Universal Health Coverage (UHC). Any information that could improve the management protocols is welcome and can be provided directly to the Office of the Director General for Health.

This collaborative effort has brought together health workers from all sectors - our universities, private and government facilities. We look forward to health workers using these guidelines to improve the quality of care given to all Kenyans as we strive towards a healthy and productive nation

Dr Patrick Amoth, EBS
Director General for Health
MINISTRY OF HEALTH

Acknowledgement

These Clinical Guidelines for the management and referral of common clinical conditions have been developed through the contribution of many individuals and institutions committed to improving health outcomes. In particular, we are grateful to the Heads of Directorates, Departments, Divisions and programmes, and the County Health Management Teams that provided support.

The Ministry of Health wishes to thank all the contributing authors, led by the National Medicines and Therapeutics Committee (NMTC) and the Technical Working Group (TWG), for their expertise and time in writing these guidelines.

I take this opportunity to appreciate the effort of the secretariat and the team of experts indicated in the list of contributors.
I acknowledge the tremendous support the World Health Organization (WHO) provided towards finalizing these guidelines.

Finally, the Ministry would like to thank all those we have not enumerated who were either consulted during the development and review of the clinical guidelines or who contributed to this process in one way or another. This work would not have been possible without their contributions, and we are greatly indebted.

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Introduction

The main objective of the health sector in Kenya is to prevent ill health. However, when this objective is not met, the medical and social implications of the resulting ill health are addressed. Clinical management relates to this objective by ensuring efficient and effective management of the impact of ill health. Clinical management complements public health services by ensuring that a specified quality of essential medical care is made available as needed, when needed, and in appropriate amounts.

Rationale for Revision of Clinical Guidelines

The last time clinical guidelines in the health sector were revised was in 2002. Back then, the guidelines defined management approaches for the key conditions expected to affect the Kenyan population. However, the guidelines in 2002 had some weaknesses, including the following:

- The health sector lacked a clear, comprehensive, evidence-based approach to service delivery. Such an approach is crucial as it provides the overall guidance for the services the sector intends to provide, plus the process for delivering the services.
- The mechanism for monitoring and updating the clinical guidelines was not clear. As a result, new management protocols that have come up since the guidelines were developed have not been incorporated. Examples of these protocols include such as for avian influenza, management of multi-drug-resistant tuberculosis (MDR/XDR TB), use of artemisinin combination treatment (ACT) for management of malaria, use of anti-retroviral drugs (ARVs) in HIV management, non-communicable diseases, and injuries/violence management, among others.
- Guidelines for the preparation and management of clients for referral were not included.

Besides these innate shortcomings, the clinical guidelines predated the approach to service delivery grounded in the framework of 6 life-cycle cohorts and 6 levels of care, as set out in the Kenya Health Sector Strategic Plan (KHSSP – 2018–2023). Thus, the 2002 guidelines did not consider the new approach that calls for different capacities and functions at the different service levels in the country. Significantly, there was no guidance on the management of services at community level, and the lack of a referral framework is a drawback that has become more apparent as the care-level approach has become institutionalized. The current updated guidelines attempt to address these shortcomings. In addition, they are aligned with the comprehensive, multilevel service delivery approach defined by the Essential Package for Health (KEPH).

Comprehensive Service Delivery Approach

The review of the Kenya Health Sector Strategic Plan (KHSSP 2018-2023) highlighted stagnating or downward trends in health indicators, especially in key maternal, newborn, and child health areas. To respond to this worrying trend, the health sector in Kenya initiated an accelerated reform process to halt and reverse this trend.

The reform process is enshrined in Kenya Health Policy (2014-2030) which states the midterm goal of the health sector as "To reduce health inequalities and reverse the downward trends in health-related outcome and impact indicators". The defined strategic objectives of the plan are to:

- Increase equitable access to health services.
- Improve the quality and responsiveness of services in the sector.
- Improve the efficiency and effectiveness of service delivery.
- Foster partnerships in improving health and delivering services; and
- Improve financing of the health sector.

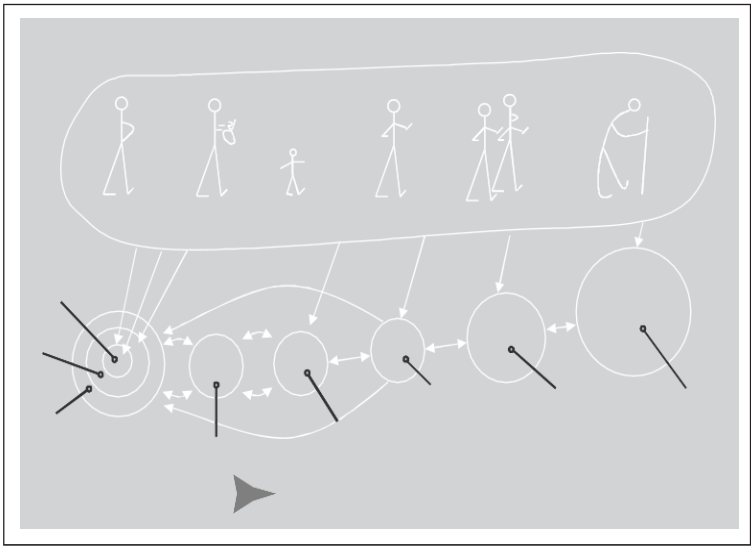
As part of the reform process, the sector elaborated clear operational approaches to achieve its strategic objectives and health service norms and standards.[3] Investment plans now guide multi-year investment priorities for different key areas of the sector. [4] The comprehensive service delivery approach is one of these operational approaches (refer to Figure A).

A comprehensive service delivery approach is based on the provision of guidance – at community, dispensary/health centre, and hospital levels of care – on services to be provided, service standards to be attained, service inputs (human resource, infrastructure, equipment) to be applied, and cross-linkages of services. This comprehensive approach guides the investment priorities for service delivery at the administrative level and the form and content of clinical management.

The services for each level of care are defined in the Kenya Essential Package for Health (KEPH). A particular focus of the package is the community level.[5] The service linkages are defined in the Sector's Referral Strategy. These documents describe the overall strategic approach for the sector and are further elaborated.

The Kenya Essential Package for Health

KEPH is a life-cohort-based approach to the delivery of health care services. Its main focus is to define the priority services that will ensure a healthy population at 6 distinct levels of the health system–from the community level up to tertiary hospitals – for each of 6 defined life cohorts. As a result, it describes, in a comprehensive manner, the services the sector is to prioritize to maintain health at all the different stages of life.



The diagram in Figure B illustrates the 6 life-cycle cohorts defined by KEPH: pregnancy and the newborn (up to 2 weeks); early childhood (to 5 years); late childhood (6–12 years); adolescence and youth (13–24 years); adulthood (25–59 years); and the elderly (60+ years). The diagram also illustrates the linkages of the 6 levels of care that KEPH defines:

- Level 1: Community: Village/households/families/individuals
- Level 2: Dispensaries/clinics
- Level 3: Health centres, maternities, nursing homes
- Level 4: Primary hospitals – County and subcounty hospitals
- Level 5: Secondary hospitals – Regional referral hospitals
- Level 6: Tertiary hospitals – National hospitals

The expected services to be provided are described in Table A. The KEPH has the following key characteristics:

- It emphasizes health (rather than disease), rights (rather than needs), and community empowerment to exercise their rights.
- It identifies and redefines 6 distinct functional levels of care. The community level is the first level of care, where significant decisions are made, and interventions that have an immediate impact are done. The focus at the community level is on the promotion of family practices that preserve and promote health
- Its overall thrust is revitalizing health promotion and preventive care at the first 3 KEPH levels.
- It defines health needs at each level of human development – from birth to old age–and identifies comprehensive and cost-effective interventions required at each stage of the human life cycle.
- It recognizes the packages of health care services per level of care to be rendered by public and private health service providers.

KEPH is expected to improve the quality of services at levels 1–4 so that clients have confidence in these levels of care. This will result in increased client utilization of the lower-level health facilities. KEPH is also expected to improve the networking of providers and facilities at the different levels of the health system, thereby ensuring continuity of care for those who need the services provided at the higher levels of the system.

Table A 1 Table A 1 KEPH Strategic Interventions, by Level and Life-Cycle Cohort

LeveL 1 (Community)	Level 2 (Dispensary/ clinic)	Level 3 (Health Centre)	Level 4 (Primary/County/ Sub-County Hospital	Level 5 (Secondary/ Regional Referral Hospital	Level 6 (Tertiary/National Hospital)
Cohort 1: Pregnancy, delivery and newborn (to 2 weeks)					
Equip targeted communities with current knowledge and facilitate appropriate practices and attitudes leading to safe pregnancy and delivery of a healthy newborn	Ensure that health facilities are equipped to provide very basic ANC and refer all deliveries (regardless of risk analysis)	a) Ensure health centres are equipped to provide basic essential obstetric care b) Enhance health systems to support delivery of quality obstetric and newborn care c) Establish a functional supportive supervision system Develop outreach programmes to serve "hard-to- reach" population	Ensure that facilities are equipped to provide essential comprehensive obstetric care	Ensure that facilities are equipped to provide essential obstetric care	Ensure provision of facilities to adequately manage mothers and newborn referred from lower levels

Cohort 2: Early childhood (0–5years)

LeveL 1 (Community)	**Level 2 (Dispensary/ clinic)**	**Level 3 (Health Centre)**	**Level 4 (Primary/County Sub-County Hospital**	**Level 5 (Secondary/ Regional Referral Hospital)**	**Level 6 (Tertiary/National Hospital)**
Equip the community and health care providers with knowledge about the preventions of common child hood diseases and disabilities; and facilitate appropriate practices and attitudes leading to healthy child growth and development	a) Develop an outreach programme for 'hard to reach' populations. b) Strengthen promotion/ prevention of common childhood illnesses/disabilities c) Strengthen case management and surveillance of common childhood illness d) Establish supportive supervision systems to ensure quality assurance	a) Strengthen prevention of common childhood illnesses, and disabilities. b) Strengthen case. management & surveillance of common childhood illnesses. c)Enhance the health systems support for delivery of quality child health services d) Establish a functional supportive supervision system to ensure quality assurance e) Develop outreach programmes to serve the "Hard-to-reach" populations	Ensure availability of facilities to diagnose and appropriately manage sick children	Recognize and appropriately manage a sick child	Ensure provision of facilities to adequately manage children referred from lower levels

LeveL 1 (Community)	Level 2 (Dispensary/ clinic)	Level 3 (Health Centre)	Level 4 (Primary/County/ Sub-County Hospital	Level 5 (Secondary/ Regional Referral Hospital	Level 6 (Tertiary/National Hospital)
Cohort 3: Late childhood 6–12 years)					
Equip the child with relevant knowledge and skills that promote a healthy lifestyle, including psychosocial development	a. Develop an outreach programme to serve hard to-reach populations b. Strengthen the promotion and prevention of common illnesses, impairments, and disabilities in late childhood. c. Strengthen the case management and surveillance of common late childhood illnesses d. Establish a functional supportive supervision system to ensure quality assurance	Facilitate and support caregivers and community in the provision of a safe environment for child survival, growth and development	a. Ensure that the health regional team is able to diagnose and recognize and appropriately manage sick child and where necessary refer b. Facilitate rehabilitative care for disabilities and integration of children with disabilities.	Strengthen hospitals to manage complicated childhood medical and surgical conditions	Ensure the provision of facilities to adequately manage children referred from lower levels
Cohort 4: Adolescence and youth (13–24 years)					
Equip the youth with knowledge and life skills, and facilitate creation of a supportive environment to enhance adoption of healthy lifestyles for themselves and the community	Create an enabling environment for young people that discourages harmful practices, encourages psycho-social development, and prevents disease and injuries	Create an enabling environment for young people that discourages harmful practices and prevents disease and injuries	a) Ensure availability and access to quality youth-friendly services to encourage appropriate care seeking amongst the youth b) Ensure provision of rehabilitative services for substance abusers	a) Ensure provision of comprehensive rehabilitative services for youth drug abusers b) Ensure access to quality youth-friendly referral services for management of complicated medical and surgical conditions	

En sur e pro visi on	of facilities adequa tely manag e	to	yout h refer red from lowe	r lev els	*Continued*

Level 1 (Community)	Level 2 (Dispensary/ clinic)	Level 3 (Health Centre)	Level 4 (Primary/County/ Sub- County Hospital	Level 5 (Secondary/ Regional Referral Hospital)	Level 6 (Tertiary/National Hospital)
Cohort 5: Adulthood (25–59years)					
Equip adults with knowledge and skills to facilitate creation of a supportive environment to enhance adoption of healthy lifestyles for themselves and the village	Provide information on and Encourage utilization of recommended services for disease/injury prevention and facilitate creation of supportive environment to enhance adoption of healthy lifestyles	Equip health facilities with accessibility staff who can conduct. general medical and reproductive care assessment, disease/injury prevention and refer complicated cases to the county hospital	Ensure access to quality curative services for adults with acute chronic conditions	Ensure access to quality services for the diagnosis and management of complicated and surgical	Ensure provision of facilities to adequately manage seriously ill adults referred from lower levels
Cohort 6: Elderly (60+years)					
Equip the elderly persons, the community and health care providers with relevant knowledge on common old age diseases, impairments, and disabilities in old age; and how to improve quality of life and enhance longevity	a) Provide information on and encourage utilization of recommended services for disease/injury prevention b) Refer complex cases to health centre	a) Provide information on and encourage utilization of recommended services for disease/ injury prevention b) Refer cases to county hospital	a) Ensure early recognition and appropriate management of acute and chronic illnesses/injury as per recommended guidelines. b) Provide appropriate comprehensive and special rehabilitation to older persons with chronic illnesses and disabilities at all levels	Ensure provision of facilities for the diagnosis and management of severe illnesses in old age	Ensure provision of facilities to adequately manage seriously ill older persons referred from lower level

Sector Norms and Standards

Norms and standards defined to guide the provision of KEPH services are a statement of the human resource, infrastructure, equipment, and financing inputs. These services are necessary to ensure efficient and effective delivery of health care services to the Kenyan population. Service delivery standards relate to the expectations of each level of care concerning service delivery and the types of human resources needed to provide these expectations. Service delivery norms define the quantities of these resource inputs required 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, as opposed to the physical level, as a higher-level facility may provide the function.
- ***Equity in access and utilization:*** All inhabitants of the country and its respective counties have an equal right to access health services and use them equally for equal needs.
- ***Relevance and acceptability:*** Healthcare must be rooted in the communities' cultural and social reality and include user satisfaction in the healthcare delivery equation.
- ***Continuity of care:*** Care should be viewed in a continuum, from the start of the illness or the risk episode until its resolution, irrespective of the level at which care is sought. This means that a functional referral and counter-referral system should exist to ensure services are available.
- ***Integration of care:*** Every contact is used to ensure that a comprehensive set of defined services is available.
- ***A comprehensive/holistic approach:*** Health services must consider all the dimensions of the persons and their environment and maintain a permanent interaction and dialogue with clients.

- ***The involvement of individuals, households, and communities:*** *Involvement is expressed* in people taking up responsibility for their health; it provides them with a sense of ownership of all they undertake relating to their health

Process of Elaborating the Clinical Management Guidelines

The current revision of clinical management guidelines has been carried out through an extensive 3-year consultative process between 2018 to 2022. The process has been coordinated by the top management in Government in the Ministry of Health through the Director General for Health.

Technical coordination of the revisions was structured around the key disciplines of Medicine, Surgery, Obstetrics/Gynaecology, and Paediatrics. A lead technical specialist from each of these areas was in charge of coordinating the internal consultation process in each of these areas. In addition, specialists in pharmacy reviewed and guided the definition of the medicines and medical products included in the management protocols, ensuring that these protocols are harmonized with the Essential Medicines List.

Four stakeholder consultations were held over the 3 years to ensure that the management protocols being defined were in line with the overall policy direction from the programme and Ministry levels and that their implementation was feasible. This involved management and technical specialists from the public and non-public sectors in each respective area.

Description of the Revised Clinical Management Guidelines

In line with the process described above, this new addition to the clinical management guidelines is based on the latest orientation for each condition expected to afflict the population in Kenya. These are both for conditions in existence and conditions recognized as threats to the population.

Management descriptions are comprehensive, based on the expected capacity at each level of care. Descriptions of each condition are set out in terms of how it presents, physical and laboratory investigations for diagnosis, and the appropriate management, including when a referral has to be made.

The referral management includes:

- Identifying signs during client management that indicate referral should be considered.
- Preparing the client for a referral.
- Arranging the required logistics for a referral at the referring and receiving facility, plus during transport.
- Ensuring the receipt and emergency management of the client who has been referred.
- Managing the referred client by the referring facility when they return.

For relevance, alignment with the service delivery approach, and ease of use, the guidelines are presented in 3volumes representing the major levels of care:

- Volume I: Clinical Management and Referral Guidelines for Community Care– Corresponding to level 1 of the health care system
- Volume II: Clinical Management and Referral Guidelines for Primary

Care– Corresponding to levels 2 and 3 of the health care system

- Volume III: Clinical Management and Referral Guidelines for Hospital Care – Corresponding to levels 4–6 of the health care system

Referral Strategy

Categorizing KEPH into the 6 levels of care is primarily meant to rationalize the delivery of health services within the health system for efficiency in using existing resources. However, the implication is that a client in the health service delivery unit may have direct access to or be unable to adequately manage their health care needs. The referral system is intended to address this shortcoming. A referral system is defined as a mechanism to enable clients' health needs to be comprehensively managed using resources beyond those available where they access care. It is based on the premise that while capacity for health service delivery has to be rationalized around different levels of care, the services received by clients should not be determined only by the services available where they access care but rather by the full scope of care the health system can provide in the country.

An effective referral chain provides the linkages needed across the different health system levels – from level 1 (community) to level 6 (national hospitals). These linkages ensure that a given healthcare need of a client can be addressed irrespective of the level of the health system at which the client first physically accesses care. The referral system can thus be likened to an "elevator/lift" in a multistorey building: facilitating forwards and backward management of clients across different floors (levels of care).

The referral strategy thus guides the sector in building an effective referral system that responds to the needs of rural and poor populations, thereby contributing to the realization of Vision 2030 and the Sustainable Development Goals.

The community level consists of household caregivers, community health promoters (CHP) and community health assistants (CHAs) who are linked to a primary healthcare facility for referral. These providers are trained to identify illness, determine its severity and provide prompt management or referrals, when they cannot treat or if there is need for a continuum of care at higher-level health facilities. CHPs must refrain from carrying out procedures beyond their level of proficiency as guided by their training,

The Process of Physical Referral

Input category	Type of input	Description of needs	Number
Equipment	Emergency tray Emergency room 4x4 ambulance Motorized bicycle		
Staff			
Supplies		Referral forms	3-month supply

Referral Instruments

1. **Preparation of a client for referral**

1.1 Referral for a pregnant mother
1.2 Referral of a child with a medical problem
1.3 Referral for a child with a surgical problem
1.4 Referral for an adolescent, adult, or elderly patient for a medical problem
1.5 Referral for an adolescent, adult, or elderly patient for a surgical problem

2. **Handling of a client during referral**

2.1 Referral for a pregnant mother
2.2 Referral of a child with a medical problem
2.3 Referral for a child with a surgical problem
2.4 Referral for an adolescent, adult, or elderly patient for a medical problem
2.5 Referral for an adolescent, adult, or elderly patient for a surgical problem

3. **Receipt and emergency management of a client who has been referred**

3.1 Referral for a pregnant mother
3.2 Referral of a child with a medical problem
3.3 Referral for a child with a surgical problem
3.4 Referral for an adolescent, adult or elderly patient for a medical problem
3.5 Referral for an adolescent, adult or elderly patient for a surgical problem

4. **Follow up of a client who has been referred back**

4.1 Referral for a pregnant mother
4.2 Referral of a child with a medical problem
4.3 Referral for a child with a surgical problem
4.4 Referral for an adolescent, adult, or elderly patient for a medical problem
4.5 Referral for an adolescent, adult, or elderly patient for a surgical problem

1. OVERVIEW OF LEVEL 1 SERVICES

1.1 Organization and Delivery of the Kenya Essential Package for Health (KEPH)

Guidelines for clinical management and referral at the community level are based on key principles of Kenya's Health Policy 2014-2030 and the Kenya Health Sector Strategic Plan (KHSSP 2018-2023).

Service delivery places human capital development and a human rights approach at the core of its interventions The Kenya Essential Package for Health (KEPH),[2] a key plank of KHSSP, defines 6 levels of service delivery targeting the health needs of individuals through 6 defined cohorts of the human life cycle. The foundation of this 6x6 approach is level 1, the community.

The KEPH intends to reduce fragmentation and improve continuity of care. It emphasizes the inter-connectedness of the various phases in human development, as attention during pregnancy improves the chances of a good delivery and a well-performed delivery puts the baby in an optimal state to face the challenges of that phase of life. This inter-connectedness equally applies to all the other phases in human life. Each phase requires a different complex of care interventions to respond to its specific needs. Each level of the health care system has its role in delivering those interventions according to its technical capacity.

These guidelines focus on the services summarized in Table 1.1, with additional comments that help provide a complete picture of expected management. Each chapter is devoted to a phase in the life cycle and presents key health messages, preventive and promotive care, and curative and referral care that is possible at the community level, based on their capacity for care.

[1] MOH, *Reversing the Trends – The Second National Health Sector Strategic Plan of Kenya: NHSSP II – 2005–2010*. Ministry of Health, Nairobi, Kenya, 2005.
[2] MOH, *Reversing the Trends: The Second National Health Sector Strategic Plan of Kenya – The Kenya Essential Package for Health*, Ministry of Health, Nairobi, Kenya, 2007.

The community level of care is the foundation of the service delivery priorities, particularly those defined by the communities. The primary focus at this level is health promotion and disease prevention, first aid and home-based care based on capacity. The community level care must be linked to and supported by the facility-based health system. This interface is managed by

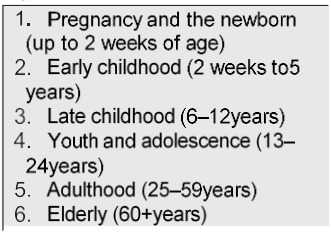


Figure 1:1 The KEPH Life Cycle Cohorts

Table 1:1 Services needed during the life cycle of an individual

Pregnancy and the newborn (up to 2 weeks of age)	ANC, nutritional care, IPT, TT2, BCG, PNC, breastfeeding, supplementary feeding FP services ITN promotion and use IPT and indoor spraying PMTCT Micronutrient supplements Hygiene, water, and sanitation	Birth plan for household preparedness Waiting for arrangements to increase access to adequate delivery care Timely referral and transport system Use of skilled birth attendants, clean delivery, perinatal care, newborn care
Early childhood (2 weeks – 5 yrs)	ITN use, appropriate nutrition, expanded breastfeeding Growth monitoring EPI and vitamin A/Zn Psychological stimulation Physical/cognitive development	Community IMCI, home care of the sick child (pneumonia, malaria, diarrhoea, malnutrition, first aid) Recognition of danger signs, early care seeking, referral
Late child-hood (6–12years)	Essential school health programme Adequate nutritional care ITN promotion and use	Treatment and care of common ailments Appropriate feeding, timely treatment of infectious and parasitic diseases
Youth and adolescence (13–24 years)	RH and FP TT2 in schools HIV/AIDS/STI counselling Adequate nutritional care Prevention of accidents and drug abuse	First aid, treatment of common ailments DOTS, STI, and opportunistic infections Danger signs and referral
Adulthood (25–59 years)	Annual screening and medical examinations RH services, accident prevention Healthy lifestyles (exercises, recreation, nutrition)	First aid Treatment of common ailments ART and palliative care DOTS
Elderly (60+ years)	Annual screening and medical examinations Exercise and the promotion of general hygiene	Access to drugs for degenerative illnesses Danger signs and referral home care of chronically ill

linkages described in the Community Strategy:[3] Community Health Committees (CHCs)are linked to the Health Facility Management Committees and the Health Stakeholder Forums through which households and individuals can participate and contribute to their health and that of their village.

Figure 1.2 illustrates the levels of care from the community to the most complex tertiary care in the national teaching and referral hospitals.

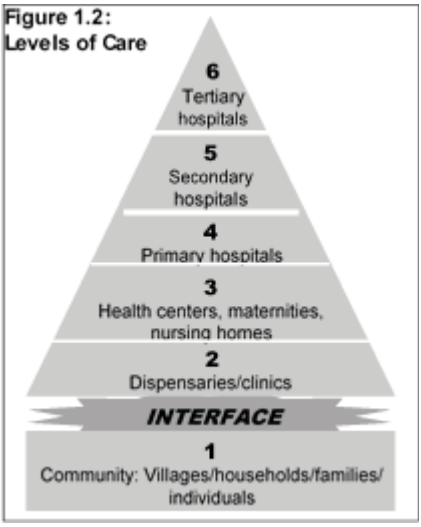


Figure 1:2 Levels of Care

1.2 KEPH Objectives and Strategies

The objectives of the KEPH are part of the overall policy objectives of the NHSSP II and intend to:

- Increase access to healthcare services by targeting part of its interventions at the community level,
- Integrate the different programmes in a client-centred orientation,
- Enhance the promotion of individual and community health, and
- Improve the quality of care to build client satisfaction.

Strategies to attain these objectives are the following:

- Revitalizing community health structures with an emphasis on prevention, health promotion, and promotion of healthy lifestyles.
- Implementing the Community Strategy as defined by the Ministry of Health.
- Building capacity of clinical and public health workers at the community level.[4]
- Supporting and guiding FBOs and NGOs to scale up their community and preventive interventions.

[3] MOH, *Taking the Kenya Essential Package for Health to the Community: A Strategy for the Delivery of LEVEL ONE Services*. Ministry of Health, Nairobi, Kenya, 2006.

[4] MOH, *Enhancing Community Health Systems- Partnership in Action for Health: A Manual for Training Community Health Extension Workers*; *Linking Communities with the Health System: The Kenya Essential Package for Health at Level 1-A Manual for Training Community Health Worker Key Health Messages for Level 1 of the Kenya Essential Package for Health-A Manual for Community Health Extension Workers and Community Health Workers,* all by Ministry of Health, Kenya, 2007

- Providing relevant and culturally adapted information to the users of the health services.
- Reducing the barriers to health care experienced by the destitute through pre-payment schemes and waivers for essential services.
- Strengthening the referral system at the community level.

As indicated in Table 1.1, the top priorities at the community level include reproductive and child health, malaria, HIV/AIDS, STIs, and TB. Other focal areas are environmental health, health promotion, mental and dental health, rehabilitation, and home-based care. The "threats" affecting the pregnant mother and the newborn child during stage 1 of the life cycle that should be recognized in the community and managed or referred to are maternal infections, anaemia, malaria, complicated and unsupervised deliveries, nutritional deficiencies, and postpartum haemorrhage. In response to these threats, KEPH calls for the following activities: the use of long-lasting impregnated bed nets (LLITN), essential antenatal (tetanus vaccine – TT2 – and intermittent preventive treatment for malaria – IPT) and postnatal care, family planning and child spacing, the use of skilled birth attendants, and general health education.

During the second phase, early childhood (age 2 weeks to 5 years), the child's environment poses serious health threats. Malaria, diarrhoeal disease, upper respiratory infections and TB, worm infestations, and malnutrition all contribute to high mortality and morbidity figures. The community level integrated management of childhood illness (IMCI) approach provides a comprehensive package with proven efficacy for this cohort. It includes promotion of insecticide treated bed nets (ITNs), exclusive breastfeeding up to 6 months, appropriate nutrition advice, immunization, child weighing clinics, treatment of common conditions, and vitamin A distribution. Baseline figures are available from the 2003 Kenyan Demographic and Health Survey (KDHS).

The third phase of the life cycle brings challenges to the health of children aged 6–12 years that are similar to those of adults. However, these children are still susceptible to malaria infections, suffer from worm infestations, and have a relatively high risk for trauma and associated injuries. Therefore, the KEPH for this age group provides mainly school health programmes (deworming), health education, and the promotion of physical activity (sports and various social activities).

During the phase of adolescence, new threats to the healthy development of individuals emerge. These are in particular related to behaviour changes like:

- Sexuality (STI, HIV/AIDS and risk of early pregnancy),
- Drug and substance abuse (alcohol and tobacco), and
- General professional development (school attendance).

KEPH services specifically targeted for this age group entail the provision of contraceptives, VCT centres for testing HIV prevalence, and promotion of anti-tobacco and anti-drinking habits.

In adulthood, health is threatened both by well-known infections like malaria, TB, STIs, and HIV and by non-communicable diseases such as heart disease, diabetes, and cancer, forming the so-called "diseases of affluence", as well as by trauma/accidents and stress. It is for this age group that KEPH emphasizes the necessity to adopt a healthy lifestyle, including:

- Stopping smoking.
- Doing exercises or sports.
- Eating a balanced diet healthy regularly.
- Avoiding Managing stress.
- Avoiding unsafe sexual encounters.

The elderly suffer from various ailments -— chronic diseases like hypertension, disabilities (eyes, ears), degenerative conditions (problems with walking, backaches, etc.), and mental disorders. For this cohort, KEPH at community level stresses regular medical screenings, promotion of a healthy lifestyle (exercise, sports, social activities), and access to drugs for degenerative illnesses.

1.3 Service Providers at Level 1

NHSSP II identifies the community level of care – beyond the dispensary – as part of the national health system. The Community Strategy identifies Community Health promoters (CHPs) and their supervisors, the newly commissioned Community Health Assistants (CHAs), as the appropriate providers at this level. The CHPs strengthen the household- based caregivers and link to the CHAs, who are linked to level 2 and 3 facilities, thus creating a bridging or interface between the household and the formal health system.

Providinglevel1servicesforallcohortsandsocio-economic groups, including

- The intention is to improve the health status of Kenyan communities by: the "differently-abled", taking into account their needs and priorities.
- Building the capacity of the CHAs and CHPs to provide services at level 1.
- Strengthening health facility–community linkages through effective decentralization and partnership to implement level 1 services.
- Strengthening the community to progressively realize their rights to accessible and quality care and to seek accountability from facility-based health services.

Outside the formal health system, households have important responsibilities for addressing members' health needs at all stages in the life cycle. Among these are health promotion, disease prevention, contributions to the governance and management of health services, and knowing and claiming their rights to quality health services. The 2 community-level health worker cadres work with household members to achieve these aims, as itemized below.

Health Promotion

Health promotion comprises the following:

- Demonstrating a healthy diet for people at all stages in life to meet nutritional needs.
- Providing guidance on social capital to ensure mutual support in meeting daily needs and coping with life shocks.
- Encouraging demand for quality health care and social entitlements as citizens.
- Monitoring health status for early detection of problems for timely action.
- Having individual physical exercises regularly.
- Ensuring gender equity.
- Using available services to monitor nutrition, chronic conditions, and other causes of disability.
- Encouraging emergency preparedness.

Disease Prevention

Disease prevention comprises the following:

- Controlling communicable diseases (HIV/AIDS, STI, TB, malaria) through behaviour change, lifestyle modification, and formation of healthy practices.
- Providing first aid and emergency preparedness services, treating injuries, and nursing common ailments.
- Practising good personal hygiene in terms of washing hands, using latrines, maintaining a clean home and environment, etc.
- Ensuring access to water treatment for safe drinking water.
- Demonstrating and encouraging integrated vector control measures.
- Ensuring adequate shelter and protection against disease vectors.
- Preventing accidents and abuse and taking appropriate action when they occur.
- Promoting dialogue on sexual behaviour to prevent transmission of STIs.

Care Seeking and Compliance with Treatment and Advice

- Providing appropriate home care for sick household members.
- Completing scheduled immunizations of infants before their first birthday.
- Recognizing and acting on the need for referral or seeking care outside the home.
- Complying with recommendations by health workers with treatment, follow up, and referral.
- Ensuring that every pregnant woman receives antenatal and maternity care services.

Governance and Management of Health Services

- Attending and taking an active part in meetings to discuss trends in coverage, morbidity, resources, and client satisfaction.
- Giving feedback to the service system either directly or through representation.

Claiming Rights

- Knowing what rights communities have in health.
- Building capacity to claim these rights progressively.
- Ensuring that healthcare providers in the community are accountable for effective health service delivery and resource use and, above all, are functioning in line with the Citizen's Health Charter.

1.4 Structure of Service Provision at Level 1

As KEPH and the Community Strategy envisioned, one level 1 service "unit" is designed to serve 5,000 people and will work with promoter CHPs identified by the community and trained and supported by the CHAs. Accordingly, the implications of norms and standards for community services are that:

- 1 CHP will serve 20 households or 100 people.
- 1CHA will supervise and support 20 CHPs.
- 1 level 1 unit will serve 5,000 people and will require
  - 10 CHPs
  - 2 CHAs

CHVs, with the support of the CHAs, have an important role in health promotion, disease control, respect for human rights, and the governance and management of health services. They also have additional responsibilities in such areas as expanding family planning, maternal, child, and youth services, promoting good hygiene and environmental sanitation, and monitoring care-seeking and compliance with treatment and advice.

Family Health Care to Expand FP, Maternal, Child, and Youth Services

- Promoting MCH/FP, maternal care, seeking trained obstetric care, immunization, nutrition, and community based IMCI.
- Promoting improved adolescent reproductive health through household and community-based dialogue targeting behaviour formation, modification, and change.
- Facilitating the organization of community-based day-care centres.
- Supporting a community-based referral system, particularly in emergencies.
- Paying for first-contact health services provided by CHPs.

Hygiene and Environmental Sanitation

- Providing IEC (information, education and communication) for water, hygiene, sanitation, and school health.
- Demonstrating and promoting safe, effective disposal of excreta/solid waste.
- Improving water sources to ensure access to safe drinking water.
- Demonstrating and practising good food hygiene.
- Demonstrating good personal hygiene.
- Developing kitchen gardens.
- Organizing community dialogue and health day

2. PREGNANCY AND THE NEWBORN (BIRTH TO 2 WEEKS)

Every year around the world, over 515,000 women die from problems linked to pregnancy and childbirth. Some 1,400 women die every day from problems related to pregnancy and childbirth. Tens of thousands more experience complications during pregnancy, many of which are life-threatening for the women and their infants or leave them with severe disabilities. For every woman who dies, approximately 30 more develop serious disabling problems.

The dangers of childbearing can be greatly reduced if a woman is healthy and well-nourished before becoming pregnant. The danger is further reduced if she has a health check-up by a trained health worker at least 4 times during every pregnancy and if the birth is assisted by a skilled birth attendant such as a doctor, nurse, or midwife. The woman should also be checked 12 hours after delivery and 6 weeks after giving birth.

More than 100 million women in developing countries who are married or living with men report that their needs for contraception remain unmet. Access to family planning services for everyone, including adolescents, would help prevent many maternal and child deaths and disabilities. In addition, too many births, too close together, and births to adolescent girls endanger women's and their children's lives. Delaying the first pregnancy until a girl is at least 18 years of age will help ensure safer pregnancy and delivery and reduce the risk of her baby being underweight.

2.1 Key Messages

>***Key Message 1*** **–** Every household should make plans, organize resources, and have funds for quickly getting the pregnant woman, at any hour, to where a skilled birth attendant can help her deliver. If possible, the woman should temporarily stay at a place closer to a health facility or hospital as the delivery time nears so that she is within reach of medical help and ready to take action in case a danger sign is identified.

Although it is impossible to know ahead of what sort of birth one will have, it is worth thinking about some options a household might face when a woman goes into labour. A household must make some decisions about what to do during labour and how the woman will be cared for. Making a plan will help household members consider what factors will make this birth an enriching and positive experience for the mother and the family.

Having a skilled birth attendant assist at the delivery in a health facility and check on the mother 12 hours after delivery reduces the likelihood of either the mother or the baby becoming ill or dying. During delivery, the skilled attendant knows:

- When labour has gone on for too long (over 12 hours) and an intervention is necessary.
- How to reduce the risk of infection (clean hands, clean instruments, a clean delivery area).
- What to do if the baby is in the wrong position.
- What to do if the mother is losing too much blood.
- When to cut the umbilical cord and how to care for it.
- What to do if the baby does not begin breathing right away.
- How to dry the baby and keep her or him warm after delivery.
- How to guide the baby to breastfeed immediately after delivery.
- Howtodelivertheafterbirthsafelyandcareforthemotherafterthebabyis born.
- How to put recommended eye medicine in the baby's eyes to prevent blindness.

After delivery, the skilled attendant will:

- Check the woman's health 12 hours after birth and 6 weeks after delivery.
- Advise her on how to prevent or postpone another birth.
- Advise her on how to avoid sexually transmitted infections such as HIV.
- Advise her on how to reduce the risk of infecting her infant.

>***Key Message 2 –*** A pregnant woman must be checked at a clinic or health facility by a clinical officer, nurse, or doctor at least 8 times during every pregnancy and sleep under an ITN to prevent malaria.

Every pregnancy deserves attention, as there is always a risk of something going wrong. These complications cannot always be predicted. Many dangers can be avoided if the woman goes to a health centre or a skilled birth attendant checks her when she is first suspected to be pregnant. She should then have at least 4 check-ups throughout each pregnancy and also be checked 12 hours and 6 weeks after delivery. A skilled birth attendant (such as a doctor, clinical officer or nurse) will help ensure a safer pregnancy and healthy baby by:

- Checking the progress of the pregnancy so that if problems arise, timely action can be taken.
- Checking for high blood pressure, which can be dangerous to both mother and child.
- Checking for anaemia and providing iron/folate supplements regularly.
- Giving the pregnant woman 2 injections to protect her and her newborn baby against tetanus.
- Giving antimalaria tablets (IPT) and using alternative preventive methods for those hypersensitive to sulphur.
- Preparing the woman for the experience of childbirth and giving advice on breastfeeding and caring for herself and her newborn.
- Providing voluntary and confidential HIV testing and counselling, and if HIV positive, providing treatment to prevent transmission of HIV to the baby. All women have the right to voluntary and confidential HIV testing and counselling.

All families need to know about special risk factors and be able to recognize the warning signs of possible problems such as bleeding or abdominal pain during pregnancy. The major warning signs are:

- Anaemia, paleness inside the eyelids, and easily becoming tired or out of breath.
- Swelling of legs, arms, or face.
- The foetus moves very little or not at all.
- Spottingorbleedingfromthevaginaduringpregnancyorprofuseorpersistent bleeding after delivery.
- Severe headaches.
- Severe or persistent vomiting.
- High fever.
- The water breaks before due time for delivery.
- Convulsions.
- Prolonged labour.

>***Key Message 3 –*** A pregnant woman needs the best foods available to the family: milk, fruits, vegetables, meat, fish, eggs, grains, and beans. All these foods are safe to eat during pregnancy.

Women will feel stronger and healthier during pregnancy if they eat foods rich in iron, vitamin A, and folic acid. As a result, their babies will be healthier as well. These foods include meat, fish, eggs, green leafy vegetables, and orange or yellow fruits and vegetables. Health workers can provide pregnant women with iron tablets to prevent or treat anaemia.

>***Key Message 4 –*** Every pregnant woman should receive confidential counselling and testing for HIV for appropriate action to avoid passing the infection to the baby.

HIV counselling and testing can help in early detection of HIV infection and in enabling those infected to get the support services they need, manage other infectious diseases they might have, and learn about living with HIV/AIDS and how to avoid infecting others.

Counselling and testing can also help those uninfected remain uninfected through safer sex practices. If the result of an HIV test is negative, this means the person tested is not infected, or it is too early to detect the virus. The HIV blood test may not detect the virus up to 6 months after infection. Therefore, the test should be repeated after 6 months.

Households and communities should demand and support confidential HIV/AIDS counselling, testing, and information to help protect adults and children from the disease. A HIV test can help couples decide whether to have children. If one partner is infected, he or she could infect the other while attempting to conceive. CHWs can prepare pregnant women to demand prevention of mother-to-child transmission (PMTCT)services at the clinic so they can make informed choices for the services. Among others, health workers can:

- Promote the use of dual methods of family planning.
- Facilitate exploration of infant feeding options and support systems.
- Encourage women to gain access to early medical care such as anti-retroviral drugs (ARVs), STD treatment, malaria treatment, TB therapy, and obstetric care.

Empowering women and promoting safer sex, condom use, and better detection andtreatmentofSTIscanreduceHIVinfectioninwomen.Ifawomandiscovers that she is HIV-positive, she needs emotional support and counselling to help her make decisions and plan for her future. Pregnant women need to know the following:

- That treatment with specified medicines during pregnancy can greatly reduce the risk of passing the infection to the infant.
- That special care during pregnancy and delivery can reduce the risks of passing the infection to the infant.
- There are different options for feeding their infants and the related risks. Health workers can assist in identifying a feeding method that can maximize the infant's chance of growing up healthy and free of HIV.
- Babies born to women infected with HIV and who have not received medication have about a 1 in 3 chance of being born with HIV, and more than 2/3 of the infants infected with HIV may die before they are 5 years old.

>***Key Message 5 –*** Pregnancy before age 18 and after 35 years of age or within 2 years of a previous delivery increases the health risks for the mother and her baby. The health risks of pregnancy and childbirth increase after 4 pregnancies.

A girl is not physically ready to begin bearing children until she is about 18 years of age. Childbirth is more likely to be difficult and dangerous for adolescents than adults. Babies born to very young mothers are much more likely to die in the first year of life. The younger the mother is, the greater the risks to her and her baby. Young women need special help to delay pregnancy. Young women

and their families should be given information about the risks of early pregnancy and how to avoid them.

The risk of death for young children increases by nearly 50% if the space between births is less than 2 years. One of the greatest threats to the health and growth of a child under the age of 2 is the birth of a new baby. Breastfeeding for the older child stops too soon, and the mother has less time to prepare the special foods a young child needs. In addition, she may not be able to provide the care and attention the older child needs, especially when the child is ill. As a result, children born less than 2 years apart usually do not develop as well, physically or mentally, as children born 2 years apart or more.

A woman's body needs 2 years to recover fully from pregnancy and childbirth. The risk to the mother's health is, therefore, greater if births come too close together. The mother needs time to get her health, nutritional status, and energy back before she becomes pregnant again. Men need to be aware of the importance of a 2-year space between births and the need to limit the number of pregnancies to help protect their family's health. If a woman becomes pregnant before she is fully recovered from a previous pregnancy, there is a higher chance that her new baby will be born too early and weigh less. Babies born underweight are less likely to grow well, more likely to become ill, and 4 times more likely to die in the first year of life than babies of normal weight.

A woman's body can easily become exhausted by repeated pregnancies, childbirth, breastfeeding, and caring for small children. After 4 pregnancies, especially if there have been less than 2 years between births, she faces an increased risk of serious health problems such as anaemia ('thin blood') and haemorrhage (heavy loss of blood). In addition, a baby is at greater risk of dying if the mother has had 2 or more pregnancies. Family planning is one of the most powerful ways of improving the health of women and children. Health clinics should offer advice to help people choose a family planning method that is acceptable, safe, convenient, effective and affordable.

Exclusive breastfeeding can delay the return of the mother's fertility for approximately 6 months after childbirth. Exclusive breastfeeding provides a woman with 98% protection from pregnancy, but only if her baby is under the age of 6 months, her menstrual periods have not returned, and the baby is breastfed on demand and exclusively.

>***Key Message 6 –*** Fathers/men should be involved in the family's reproductive health. Family planning is the responsibility of both men and women; every couple should decide on and use a family planning method to delay pregnancy, space births, and limit the number of children they have.

Men, as well as women, must take responsibility for preventing unplanned pregnancies. They should have access to information and advice from a health worker to know the various family planning methods available. Information can also be obtained from a doctor, nurse, teacher, family planning clinic, and youth or women's organization.

Delaying the next pregnancy using modern contraceptive methods allows complete recovery of the mother, enough space for the growth and development of the child born and the number of children a household can care for.

>***Key Message 7 –*** Physical abuse of women and children is unacceptable and a serious public health problem. Abuse during pregnancy is dangerous to both the woman and the unborn baby.

If a pregnant woman is abused, she and the foetus can be seriously harmed. In addition, pregnant women who are physically abused may be unable to have more children. Members of her family should be aware of these dangers, and she should be protected from her abuser.

>***Key Message 8 –*** Every woman has the right to health care, especially during pregnancy and childbirth. Healthcare providers should be available and should treat women with respect.

>***Key Message 9 –*** All pregnant women should be screened for disabilities and impairments and advised on the most suitable delivery methods.

All women have the right to the services of a skilled birth attendant, such as a doctor, nurse, or midwife, and emergency obstetric care if needed. Quality health care enables women to make informed decisions about their health by offering information and counselling. It should be easy for women who need maternal care to reach the health facility, and cost should not prevent women from using these services. Healthcare providers should have the skills needed to provide quality care. They should be trained to treat all women respectfully, be sensitive to cultural norms and practices, and respect women's right to confidentiality and privacy.

>***Key message 10 –*** Initiate breastfeeding at birth, within the first 1 hour of delivery, and breastfeed the infant exclusively for 6 months.

Do not give any fluid, even water, before 6 months. Refer any child with oral thrush as well as mothers with breast problems such as breast engorgement or breast abscess and cracked nipples. Teach new mothers how to position and attach the baby to the breast from birth.

- **Wash hands with soap before feeding or breastfeeding the baby,**

There should be support for HIV-positive women on safe breastfeeding for infants and proper nutrient uptake and production. Babies identified as malnourished should be provided with nutritious food and supplements for the first 6 months. An outcome of enhanced community sensitization will be reducing the stigma associated with exclusive breastfeeding and increasing the number of women visiting health facilities for HIV counselling and testing.

>***Key Message 11 –*** Ensure that the baby is immunized against tuberculosis at birth (BCG) and gets all the vaccines as per the Child Welfare Card Schedule.

>***Key Message 12 –*** Keep the baby's umbilical cord clean and dry after delivery and avoid any local applications to the umbilical cord. (Do not apply soot, ash, saliva, Vaseline, or soil)

Avoid dipping the baby in water until after the cord falls off. Instead, bathe the infant with a soft cloth dipped in warm water. Keep the infant warm always by wrapping him/ her in warm clothes. Keep the baby close to the body whenever possible. Avoid wrapping the infant with wet clothes and promptly change any soiled clothes.

>***Key Message 13 –*** Ensure a child's birth has been notified and registered and that the child has a birth certificate. In addition, the child health card is an important document that must be kept safe. It has all the information about child immunization and growth.

>***Key Message 14 –*** Follow instructions given at the health facility for each service.

>***Key Message 15 –*** All women should visit the health facility for a routine postnatal check-up and counselling 6 weeks after delivery.

>***Key Message 16 –*** All newborns should be screened for disabilities and impairments after delivery to plan corrective measures to aid the newborn.

After delivery, some newborns are found to have physical disabilities, e.g., cleft palates, blindness, and paralyzed legs or arms. Some disabilities or impairments are not evident immediately after birth, e.g., being deaf and mute. Newborns need to be screened for impairments using appropriate methods and tools. The earlier this happens after birth, the better it is for taking the appropriate corrective measures. This is another reason, among many others, that all pregnant women deliver at health facilities attended to by skilled health workers.

Some causes of disability and impairments

- Heredity
- Drugs consumed by their mothers during pregnancy
- Delayed births – the mother is over the age of 40

>***Key Message 17 –*** All newborn babies need to be protected from infections that may interfere with their growth and development by following good childcare practices.

The following childcare practices are recommended:

- Initiate breastfeeding at birth, within the first 1 hour of delivery.
- Breastfeed the infant exclusively for 6 months.
- Do not give any fluid, even water, before 6 months.
- Refer any child with oral thrush.
- Mothers with breast problems such as breast engorgement/breast abscesses and cracked nipples should seek immediate medical attention.
- Check for any congenital abnormality, and if present, seek medical attention.
- Ensure the infant is immunized against tuberculosis at birth (BCG).
- Ensure the infant is given an eye medicine at birth (tetracycline eye ointment).
- Ensure the child gets all the vaccines per the Child Welfare Card schedule.
- Take the child to the nearest facility for vitamin A starting at 6 months and then after every 6 months until the child is 5 years.
- Keep the child's umbilical cord clean and dry after delivery, and avoid any local applications to the umbilical cord. (Do not apply soot, ash, saliva, Vaseline, or soil).
- Avoid dipping the baby in water run until the cord falls off. Instead, clean the infant with a soft cloth dipped in warm water.
- Keep the infant warm always by wrapping him/her in warm clothes.
- Keep the baby close to the body whenever possible.
- Protect children from indoor air pollution.
- Dispose of children's faeces safely.
- Wash hands before preparing meals, eating, feeding the child, after handling the child's faeces, and visiting a restroom.
- Ensure drinking water is safe.
- Avoid cultural practices harmful to children.
- Take the child for deworming every 6 months from age 2 years.
- Ensure the child receives zinc supplements with every episode of diarrhoea.

The mother of a newborn baby needs to be taught how to position and attach the baby to facilitate successful breastfeeding. Follow the guide below:

- Teach correct positioning and attachment for breastfeeding:
  - The first lesson is to show the mother how to hold her infant. Proper holding of the infant is called correct positioning and has the following characteristics:
    - Infant's head and body are straight, with the infant facing her breast and with infant's nose opposite her nipple.
    - Infant's body is held close to the mother's body.
    - The mother holds the infant by supporting infant's whole body and not just the neck and shoulders.
    - Teach the mother how to correctly attach the child.
    - Let the mother demonstrate the correct attachment method after you have shown her.
    - Follow-up with a visit to reassess if the mother has correctly changed behaviour.

- This cord lesson shows the mother how to attach the infant to her breast and help her achieve the attachment.
- The correct attachment of the infant to the breast is achieved by following the following instructions:

- Touch her infant's lips with her nipple.
- Wait until her infant's mouth opens wide.
- Move her infant onto her breast, aiming the infant's lower lip well below the nipple.
- Ensure the chin of the baby touches her breast and that there is more areola above the mouth than below.
- Ensure that the lower lip of the baby is turned outward and that the infant is sucking effectively

♦ If breastfeeding seems impossible because of a problem for either the baby or the mother, refer to the nearest health facility for information on alternative feeding.

♦ If mother complains of problem with breast(s), assess:

- Dryness or cracking at or around the nipple.
- Swelling (engorgement) and/or pain of the breast.
- If any of these problems are present, the mother has a breast problem. Refer her immediately to the nearest health facility.

>***Key Message 18 –*** Some risk factors are associated with a worse outcome for pregnancy.

The following risk factors have been associated with poor outcomes of pregnancy:

♦ An interval of less than 2 years since an earlier birth.
♦ First pregnancy, especially for a mother under 18 or over 35 years.
♦ A woman who has had 4 or more deliveries.
♦ A woman with a previous premature birth or baby weighing less than 2kg at birth.
♦ A woman who has had a previously difficult or caesarean delivery.
♦ A woman who has had a previous miscarriage or stillbirth.
♦ A woman who weighs less than 38kg and measures less than 5 feet in height.
♦ A woman who has been through infibulation or genital cutting.

COMMUNICATION OF THE KEY MESSAGES

These messages should be communicated to the households through dialogue using the following framework:

♦ Assessment: Discuss with the client to identify their immediate needs. The need could also be obvious from the child's health card (weight for age, immunization, etc.) or observing behaviour
♦ Alternatives: Discuss what the client would do to improve the situation or reach the next level of care and assess the adequacy of or gaps in the proposed action.
♦ Options: Both the client and the caregiver suggest options.
♦ Options appraisal: Select the doable referral options based on available resources.
♦ Plan of action: Map out what is to be done.

- Action: Carry out the plan and follow up.
- Assessment and feedback: Assess action and feedback to the client and the caregivers through regular meetings.

2.2 Antenatal and Delivery Care

CHAs, CHP, and community members should stress the importance of all pregnant women attending antenatal care and having a skilled attendant at delivery. All pregnant women in the community should be identified and referred to the nearest health facility. Male partners and family members should be encouraged to support the pregnant women by providing adequate and nutritious food, ensuring adequate rest, and providing money for transport and the cost of ANC and delivery. Pregnant women should take nutritious foods and vitamin and mineral supplements provided at the antenatal clinic. The CHA, CHW, and community should recognize and refer when they notice danger signals during pregnancy, labour and delivery, and after delivery.

DANGER SIGNS IN PREGNANCY

Danger signs include the following:

- Any vaginal bleeding
- Severe headache or blurred vision
- Swelling in the face and hands
- Convulsions or fits
- High fever
- Heavy vaginal discharge
- Very pale palms of hands or nailbeds
- Premature labour or lower abdominal pains
- The baby is slowing in movement or not moving at all

DELIVERY

Danger signs in labour include:

- Labour pains for more than 12 hours
- Water breaks without labour for more than 12 hours
- Cord, arm, or leg prolapse – appearing first during delivery
- Other danger signs are those that have been cited under pregnancy:

- Any vaginal bleeding
- Severe headache or blurred vision
- Swelling in the face and hands
- Convulsions or fits
- High fever
- Heavy vaginal discharge
- Very pale palms of hands or nailbeds
- Premature labour or lower abdominal pains
- The baby is slowing in movement or not moving at all

2.3 Care of the Newborn Baby

CARE OF THE BABY AT DELIVERY

At delivery, dry the baby with a clean cloth. While drying, observe breathing, muscle tone, and colour. If all is normal, remove the wet cloth, wrap the baby in a dry one and give it to the mother to initiate breastfeeding. This should be within 1 hour of birth. Ensure good positioning and attachment. Cover the baby well to prevent overcooling. Keep baby warm next to the mother (skin-to-skin is the best way of keeping baby warm). Examine the baby carefully to exclude congenital malformation.

CARE OF A NEWBORN

Encourage exclusive breastfeeding (no water). Babies should be fed on demand at least 8 times in 24 hours. HIV-positive mothers who have chosen not to breastfeed should be encouraged to cuddle their babies. Observe the cord for bleeding and keep it clean. Give oral polio vaccine (OPV "0") and BCG All expectant mothers should be taught about cord care. They need to know that babies often acquire infection through the cord. If they deliver in the community, it is important to stress that the cord should be cut with a clean instrument. Harmful practices need to be discouraged. The cord should be kept dry until it drops off. The baby should be brought to the health facility immediately a problem is noticed, e.g., poor feeding or the skin turning yellow. A baby who has delayed crying after delivery should be brought urgently to a health facility for assessment and care.

SIGNS OF BACTERIAL INFECTION IN AN INFANT

Watch for the following signs that are often found in a sick young baby aged 0 to 2 months:

- Fever
- Being cold to touch
- Refusal to feed or poor feeding, including suckling
- Unable to suck or sucking poorly
- Skin yellow/blue
- Yellowness of the eyes or skin
- Red, swollen eyes or eye discharge
- Pus draining from the ear
- Fewer than normal movements
- Abnormal movement of any part of the body, convulsions
- Redness of the cord, umbilical discharge
- Fast breathing
- Rigidity of the body
- Bulging anterior fontanelle
- Having diarrhoea
- Having dehydration
- Having blood in stool

- **Refer infants with such signs to the nearest health facility.**

2.4 Congenital Abnormalities

For various reasons, babies may be born with certain types of abnormalities. Among these are:

- ♦ Windpipe and food pipe:
- This may present as an opening between the windpipe and the food pipe, leading to frothing at the mouth and choking during breastfeeding.
- What to do: Refer immediately to a health facility.
- ♦ Heart disease of the newborn:
- Recognition:
- Difficulty with feeding, coughing and choking while feeding
- Blue colouration of mouth and skin
- Failure to grow
- What to do: Refer to a health facility.
- ♦ Cleft lip and palate:
- Clefts of the lip and palate are the most encountered congenital malformations. When they are particularly severe, they may pose feeding problems for the affected babies right from birth.
- What to do: Refer to the health facility.
- ♦ Ano-rectal conditions:
- Recognition:
- Pain, painless bleeding, perianal mass, discharge, failure to pass stools after birth, passing stool through the penis, etc.
- What to do: Refer to a health facility.
- ♦ Ophthalmia neonatorum (conjunctivitis of the newborn)
- Recognition: Copious pus discharge from both eyes in the first month of life.
- What to do: Apply tetracycline eye ointment, then refer to the nearest health facility.

2.5 Oral Health

Community and health care providers should be equipped with knowledge about preventing common oral and dental diseases to facilitate appropriate practices and attitudes leading to good oral health. The most common conditions to look out for during pregnancy are hormone-induced gingivitis (epulis) and dental caries. In addition, key messages on oral hygiene instructions and when to refer to a health facility should be reinforced.

>***Key Message 19*** **—** A pregnant woman should minimize the amount of sugar eaten in the diet and the frequency of sugary, sticky intakes to prevent dental caries.

>***Key Message 20*** **–** A pregnant woman needs to maintain good oral hygiene by brushing at least twice a day: in the morning after breakfast and the evening before going to bed

3. EARLY CHILDHOOD (2 WEEKS TO 5 YEARS)

The first 5 years of a child's life, particularly the first 3 years, are the foundation of future health, growth, and development. During this period, children learn faster than at any other time. Babies and young children develop more rapidly and learn more quickly when they receive love and affection, attention, encouragement, and mental stimulation, as well as nutritious meals and good health care.

All children have the right to legal registration at birth, health care, good nutrition, education, and protection from harm, abuse, and discrimination. Parents and governments must ensure that these rights are respected, protected, and fulfilled.

A child who has completed immunization on time and has been given proper nutrition has a better chance of survival than one who has not and is more apt to interact, play, and learn. In addition, this will reduce the family's expenditure on health care, the child's absence from school due to illness, and the parent's loss of income when caring for a sick child.

>***Key Message 1 –*** Give affection, attention, and stimulation in addition to good nutrition for proper development. From an early age, children learn how to behave by imitating the behaviour of those closest to them.

3.1 Child Development

NORMAL DEVELOPMENT

Besides nutrition, children need appropriate stimulation to reach their development potential. Both parents and health workers need to know the typical developmental milestones while recognizing that these will vary from child to child. Parents can be taught how to make their children simple, culturally appropriate toys with materials available. Perhaps most important is that parents should be encouraged to spend time with their young children.

In the first 5 years of life, children develop 90% of their adult-size brains. Children may fall behind in both academic and social skills if, during these years, they are not exposed to the right kinds of stimulation. Unfortunately, this gap only gets wider as children grow older. They need lots of intellectual, emotional, and physical stimulation from an early age. Reading aloud and activities that develop speech and language can all benefit a child by encouraging mental and physical development. There are many ways to promote your child's early development. Parents need to recognize the importance of early education.

Skin-to-skin contact and breastfeeding within 1 hour after birth help babies

achieve better growth and development and establish a connection with their mother. Being kept close to the mother and breastfed on demand gives the infant a sense of security. The baby needs to suckle for comfort as well as nutrition.

Learning begins at birth, and care and affection during the first years help a child to thrive. Children's minds develop rapidly when they are talked to, touched, and cuddled and when they see familiar faces, hear familiar voices, and handle different objects. They respond to facial expressions, hugs, and positive interactions. They learn faster when they feel loved and secure from birth and frequently play and interact with family members. Children who feel secure do better in school and cope easily with life's difficulties. Touch, hearing, smell, sight, and taste are learning tools the young child uses to explore the surrounding world. Any loving, responsive, affectionate interactions will help your child develop normally.

The most important way children develop and learn is through interaction with others. Therefore, babies and small children should not be left alone for long periods, as this delays their physical and mental development. Caregivers can help children learn and grow by giving them new and exciting things to look at, listen to, hold, and play with. Parents or caregivers should talk, read, or sing to infants and young children. These early "conversations" develop their language and learning capacities even if children cannot understand the words. The more often parents and caregivers talk and respond to the child, the quicker they learn. Reading to your child fosters speech and language development.

All children – girls and boys – have the same physical, mental, emotional, and social needs. They have the same capacity for learning and need for affection,

attention and approval. All children need to be encouraged and praised when they learn to do and say new things. Children are often frightened of strangers or the dark. Children whose reactions are laughed at, punished or ignored may grow up shy and unable to express emotions normally. If caregivers are patient and sympathetic when a child expresses strong emotions, the child is more likely to grow up happy, secure, and well-balanced.

Physical punishment or displays of violence can harm the child's development. Children who are punished in anger are more likely to become violent themselves.

Clear explanations about what to do, firm rules about what not to do, and praise for good behaviour are more effective ways of encouraging children to become full and productive members of the family and community. Both parents, as well as other family members, need to be involved in caring for the children. The father's role is significant. The father can help meet the child's needs for love, affection, and stimulation and ensure the child receives a good quality education, good nutrition, and appropriate health care. The father can help ensure that the environment is safe and free of violence. Fathers can also

perform household tasks, particularly when the mother is pregnant or breastfeeding.

Teaching children in their mother tongue first helps them to develop their ability to think and express themselves. Children learn language quickly and easily through songs, family stories, rhymes, and games. Crying is a young child's way of communicating needs. Responding promptly to the child's cry by holding and talking soothingly will help establish a sense of trust and security. Children's emotions are real and powerful. They may become frustrated if they cannot do something or have something they want.

Early learning is facilitated by having toys and, if possible, books that can be used at different stages of development. All children need a variety of simple materials to play with that are suitable for their stage of development. Toys need not be expensive. Parents can make toys within the household using water, sand, cardboard boxes, empty tins, torn clothes, etc., which are just as good as toys bought from a shop.

From the age of 3 years, children can be enrolled into an early childhood development centre if available within the community, or parents can be assisted to form one. If not, attendance at a nursery school may also be helpful.

DEVELOPMENT MILESTONES

Parents and caregivers need to know the major milestones that show the child is developing normally. They also need to know when to seek help and how to provide a caring and loving environment for a child with a physical or mental disability.

The following guide gives parents an idea of how children develop, but they should know that there are differences in the growth and development of all children. The slow progress may be normal or may be due to inadequate nutrition, poor health, lack of stimulation or a more serious problem. Parents with specific concerns are encouraged to discuss the child's progress with a trained health worker or teacher. The healthcare provider should also check all children's development in their care.

BIRTH TO 1 MONTH

At this age, the baby:

- Exhibits survival reflexes of rooting, sucking, and swallowing.
- Can see and hear.
- Cries when in need of food or comfort.
- Responds when held.

Parents and caregivers should be advised about the following:

- Make skin-to-skin contact and breastfeed within 1 hour of birth.
- Support the baby's head when the baby is held upright.
- Massage and cuddle the baby often.
- Always handle the baby gently, even when one is tired or upset.
- Breastfeed frequently.
- Talk, read, and sing to the child as often as possible.
- Visit the health worker with the infant 6 weeks after birth.

Parents and caregivers should watch for the following warning signs:

- Poor suckling at the breast or refusing to suckle.
- Little movement of arms and legs.
- Little or no reaction to loud sounds or bright lights.
- Crying for long periods for no apparent reason.

BY 2–3 MONTHS

At this age, the baby can do the following:

- Smile.
- Know mother's face.
- Can hold (support) the head.
- Coo

BY 6 MONTHS

At this age, the baby:

- Reaches for and holds objects.
- Can turn over.
- Makes a lot of noise.
- Likes to be talked to.
- Knows many faces.
- Smiles at many people.
- Many can sit without support.
- Responds to own name.
- Explores objects with hands and mouth.
- Rolls both ways.

Advice that should be given to parents and caregivers:

- Lay the baby on a clean, flat, safe surface so they can move freely and reach for objects.
- Prop or hold the baby in a position to see what is happening nearby.
- Talk, read, or sing to the child as often as possible.

Warning signs to watch for:

- Stiffness or difficulty moving limbs.
- Little or no response to sounds, familiar faces, or the breast.
- Refusing the breast or other foods.

BY 9MONTHS

At this age, the infant:

- Can crawl.
- Stands supported.
- Rejects strangers (by crying).
- Understands when talked to.
- Can pick things up with thumb and forefinger.

Advice for parents and caregivers:

- Point to objects and name them.
- Talk and play with the child frequently.
- Use mealtimes to encourage interaction with all family members.
- If the child is developing slowly or has a physical disability, focus on the child's abilities and give extra stimulation and interaction. Do not leave a child in the same position for many hours.
- Make the area as safe as possible to prevent accidents.
- Help the child experiment with spoon/cup feeding.

BY 12 MONTHS

At this age, the infant:

- Stands unsupported and begins to walk.
- Has 1 or 2words.
- Gives things to other people.
- Understands simple instructions.
- Enjoys playing and clapping.
- Starts holding objects such as a spoon and cup and attempts self-feeding.

BY 15 MONTHS

At this age, the child:

- Can walk.
- Speaks at least 10 words and understand more.
- Points at known things.

BY 18 MONTHS

At this age, the child:

- Can pick up things from the ground.
- Can point at parts of the body.
- Knows names of family members.
- Asks for things.
- Speaks at least 15 words.

Immunizing baby

BY 2 YEARS

At this age, the child:

- Can run.
- Knows and says their name.
- Speaks simple sentences.
- Can feed self.
- Can be toilet trained.
- Scribbles on paper.
- Knows "hot" or its equivalent.
- Jumps with both feet.
- Imitates older people.
- Plays by himself.

Teach children early about personal hygiene

BY 3 YEARS

At this age, the child:

- Can balance on 1 foot.
- Talks with other people.
- Likes to help.
- Undresses without help.
- Begins to ask questions.

BY 4 YEARS

At this age, the child:

- Can jump on 1 foot.
- Can climb.

- Wants to play with other children.
- Can be helpful.
- Washes hands and cleans teeth.
- Enjoys listening to stories.

BY 5 YEARS

At this age, the child:

- Can listen and pay attention for extended periods.
- Makes friends with other children.
- Is responsible.
- Knows places around the home well.

and the importance of a healthy diet

Development in Children with Disabilities and Special Needs

Disabilities range from physical (involving limbs), eye (visual impairment) and ear (hearing impairment) problems to mental retardation and chronic organ dysfunction, e.g., heart. Some may be obvious at birth, but others may become apparent only over time. Warning signs at any age include the following:

- The child does not make sounds in response to others.
- The child does not look at objects that move.
- The child is listless and does not respond to the caregiver.

All children grow and develop in similar patterns, but individually they develop at their own pace. By observing young children to see how they respond to touch, sound, and sight, parents can identify signs of possible developmental problems or disabilities. If a child is developing slowly, parents and caregivers can help by spending extra time with the child, playing and talking with the child, and massaging the child's body. If the child does not respond to stimulation and attention, parents and caregivers need to seek help. Early action is crucial in helping children with disabilities reach their full potential. Parents and caregivers need to encourage the greatest possible development of the child's abilities.

A girl or boy with a disability needs extra love and protection. Like all children, such a child must be registered at birth or soon afterwards, breastfed, immunized, given nutritious food, and protected from abuse and violence.

Children with disabilities should be encouraged to play and interact with other children. A child who is unhappy or experiencing emotional difficulties may behave abnormally. Examples include suddenly becoming unfriendly, sad, lazy, unhelpful or naughty; crying often; becoming violent with other children; sitting alone instead of playing with friends, or suddenly having no interest in usual activities or school work and losing appetite and sleep.

Children who are anaemic, malnourished, or frequently sick may become fearful and upset more easily than healthy children and will lack the drive to play, explore, and interact with others. In addition, these children need special attention and encouragement to eat.

3.2 Child Nutrition

Nutrition means how food makes our bodies grow and protects us from illness. Thus, the body requires food to stay alive, repair and replace body tissues, grow and develop, and build immunity. Good nutrition makes those things possible. Children are not just little adults; their nutritional needs are different if they are to grow and thrive. All children, from conception onwards, require adequate nutrition for growth, development, and normal function. Both under and over-nutrition are undesirable and lead to disability. Currently, 35% of children less than 5 years in Kenya are stunted. It is known that poor nutrition leads to poor school performance. A brain not given enough food in the first 2 years does not function well later in life.

Sadly, the damage is not reversible. Therefore, ensuring that children are fed well from birth is essential. Nutritional needs vary according to the rate of growth.

Types of Food and Food Groups

All foods have a food value (nutrients). There are 3 food groups:

Energy-giving foods:

- These foods provide energy and warmth, e.g., sugar, honey, cassava, potatoes, maize, millet, rice, cooking oil, and butter.

Body building foods

- These foods are useful for growth and repair; examples are meat, chicken, fish, insects, eggs, groundnuts, beans, peas, and cereals.

Protective foods

- These are foods that protect the body against diseases and assist in digestion. These include vegetables and fruits.

— **Water is essential for blood, other body liquids and cells of the body, although it is not considered food.**

Factors Influencing the Availability and Absorption of Nutrients in the Body

The following factors influence the availability and absorption of food nutrients in the body:

- The way food is prepared: E.g., overcooking may destroy some vitamins.
- Quantity: The body must get enough of each nutrient.
- Balance: Some nutrients require other nutrients to function properly; e.g., calcium needs vitamin D to be absorbed effectively.
- Quality: E.g., protein from animal sources is better utilized by the body than from plants.
- Health condition of the individual: Some diseases prevent the absorption of food.
- Food characteristics: Something in the food may prevent the absorption of specific nutrients, e.g., phytates prevent iron and zinc absorption.

Feeding Children from Birth to 5years

Table 3.1 summarizes an appropriate approach to feeding infants and young children. Following this approach will ensure that these young children are well-fed. The subsequent sections look at the children's specific needs as they grow.

0–6 MONTHS: AGE OF EXCLUSIVE BREASTFEEDING

>***Key Message 2 –*** Breast milk ALONE is the only food and drink an infant needs for the first 6 months. No other food or drink, not even water, is needed during this period.

Having the baby start to breastfeed soon after birth stimulates the production of the mother's breastmilk. It also helps the mother's uterus contract, reducing the risk of heavy bleeding or infection for the mother. The baby should be allowed to breastfeed as often as they want. Colostrum, the thick yellowish milk the mother produces in the first few days after birth, is safe and the perfect food for newborn babies. It is very nutritious and helps protect the baby against infections. Breast milk is the best food a young child can have. Breast milk is easy for the baby to digest. It also promotes the best growth and development and protects against illness. Even in hot, dry climates, breastmilk meets a young baby's need for fluids. Water or other drinks are not needed during the first six months.

Table 3:1 How to feed young children well

Age of child	Type of feeding	How to feed
Birth to 6 months	Exclusive breast milk	Breastfeed as often as the child wants during the day and night; feed at least 8 times in 24 hours. No other food or milk, or fluid (including water) should be given for healthy babies except medicines, including ORS, when indicated.
6–12 months	Breastfeed on demand. Begin complementary foods	If not breastfeeding, give 500ml of milk. Introduce enriched complementary foods like "Uji" mixed with milk, oil, mashed green vegetables, and proteins (plant or animal sources). Also, give fresh fruit juice or mashed fruit. Feed 3 times a day if breastfed and 5 times a day if not.
13–24 months	Breastfeed on demand Family foods	As above. Continue energy-rich foods at least 5 times a day.
24–60 Months	Family foods	Continue energy-rich foods at least 5 times a day. 2 tea cups of milk daily.

Breast milk is the baby's "first immunization". Giving a baby any food or drink other than breast milk increases the risk of diarrhoea and other illnesses. The protection is most significant when breast milk alone is given for the first 6 months, and breastfeeding continues well into the second year and beyond.

Almost every mother can breastfeed successfully. Those who might lack the confidence to breastfeed need the encouragement and practical support of the baby's father and their family, friends, and relatives. Many new mothers need encouragement and help to begin breastfeeding. A community health worker, another woman who has successfully breastfed, or a member of a women's breastfeeding support group can help a mother overcome uncertainties and prevent difficulties. How the mother holds her baby and the baby takes the breast in the mouth are very important. Holding the baby in a good position makes it easier to take the breast well into the mouth and suckle. (This was discussed fully in Chapter 2)

Animal milk, infant formula, powdered milk, teas, sugar drinks, water, and cereal foods are inferior to breast milk. Commercially prepared breast milk substitutes are largely nutritionally adequate but are expensive. For example, feeding 1 baby for 1 year requires 20kg (about 40 tins) of infant formula. Therefore, breast milk substitutes, such as infant formula or animal milk, can threaten infants' health. This is particularly the case if parents cannot afford sufficient substitutes or do not always have clean water to mix them.

Sometimes the mother thinks she does not have enough breast milk because her baby is crying. Crying is not always a sign that the baby needs other foods or drinks. It normally means that the baby needs to be held and cuddled more. Some babies need to suckle the breast for comfort. More suckling will produce more breast milk. Mothers who fear not having enough breast milk often give their babies other foods or drinks in the first few months of life. This causes the baby to suckle less frequently, producing less breast milk. The mother will produce more milk if she does not give the child other food or drink and breastfeeds often.

For such a mother, the following is recommended:

- Check to see if the baby is growing well. For example, a baby gaining 0.5–1.0 kg per month is growing well and taking in enough breast milk.
- Reassure her that she is producing enough milk.
- She can continue breastfeeding exclusively.
- Advise her to feed as often and for as long as the baby wants, including during the night.

If regular weighing shows that a breastfed baby under 6 months is not growing well, however, advise on the following:

- The child may need more frequent breastfeeding. For example, at least 8–12 feeds during 24 hours may be necessary.
- Allow the baby to suckle at each breast as long as he wants.
- Check positioning and attachment.
- The mother should avoid giving other fluids or food. This is because water or other fluids may reduce breast milk intake.
- The child may be ill and should be taken to a trained health worker.

Bottles should not be given to breastfed babies because the sucking action for these is very different from suckling at the breast. Using bottles could cause the mother to produce less breastmilk and the baby to reduce or stop breastfeeding. Breastfeeding can provide an opportunity for a mother to rest. Fathers and other family members can help by encouraging the mother to rest quietly while breastfeeding the baby. They can also ensure the mother has enough food and help with household tasks.

>***Key Message 3 –*** Bottle feeding can lead to the illness and death of the baby. If a woman cannot breastfeed her infant, the baby should be fed with breast milk or a breast milk substitute from an ordinary clean cup.

Unclean bottles and teats cause diarrhoea and ear infections. Diarrhoea is deadly for babies. The best food for a baby who cannot be breastfed is milk from the mother's breast. Breast milk can be stored for up to 8 hours at room temperature without going bad. Keep it in a clean, covered container. The breast milk should be given from a clean, open cup. Even newborns can be fed with an open cup which is easy to clean. The best food for any baby whose mother's milk is not available is the breast milk of another healthy mother.

If breast milk is unavailable, a nutritionally adequate breast milk substitute should be fed to the baby by cup. Infants fed breastmilk substitutes are at greater risk of death and disease than breastfed infants. It is essential to boil and then cool the water and carefully follow the directions for mixing breastmilk substitutes. Feeding the baby breast milk substitutes can cause poor growth or illness if too much or too little water is added or the water is not clean.

6–24 MONTHS: AGE OF COMPLEMENTARY FEEDING

>***Key Message 4 –*** From 6 months to 2 years, children need to be fed other foods in addition to sustained breastfeeding.

Any infant older than 6 months of age needs other foods and drinks. However, breastfeeding should also continue until the child is 2 years or older because it is an important source of energy, protein and other nutrients such as vitamin A and iron. In addition, breast milk helps protect against disease for as long as the child breastfeeds.

From 6 months to 1 year, breastfeeding should be offered before other foods to be sure the infant takes plenty of breast milk daily. The child's diet should include vegetables, grains or any other staple food, nuts and pulses, fruit, and some oil, fish, eggs, chicken, meat, or dairy products to provide vitamins and minerals. Baby's food needs to be specially prepared for complementary feeding. Content (balance of nutrients), consistency and taste, as well as the frequency of meals, are important. In the second year, breastfeeding should be offered after meals and

at other times. A mother can continue breastfeeding her child for as long as she and the child wish.

The general guidelines for complementary feeding are:

- Continue to breastfeed on demand day and night and add other foods (2 meals a day at 6–8 months,3–4 meals a day at 8–12 months).
- From 12 to 24 months: Breastfeed frequently and give family foods 5 times a day.
- From 24 months onward: Continue breastfeeding if both mother and child wish and give family foods 5 times a day.
- Babies fall ill frequently as they begin to crawl, walk, play, and drink and eat foods other than breast milk. A sick child needs plenty of breast milk. Breast milk is a nutritious, easily digestible food when a child loses appetite for other foods.
- Breastfeeding can comfort a child who is upset.

HIV-infected mothers who choose to breastfeed should exclusively breastfeed for 6months. If the baby is not HIV-infected, usually, a mother is advised to wean the baby at the time of complementary feeding. A health worker should advise women infected on reducing the risk of infecting the child and ensure adequate nutrition for their babies. A child's stomach is smaller than an adult, so a child cannot eat as much at a meal. But children's energy and body-building needs are great. So, children must frequently eat to provide for all their needs. Foods such as mashed vegetables, a little chopped meat, eggs, or fish should be added to the child's food as often as possible. A small amount of oil may also be added.

Younger children may not get enough food if meals are served in a common dish. Young children should have their plate or bowl of food to ensure they can eat what they need, so the parent or caregiver can see how much they have eaten. Young children may need encouragement to eat and help handling food or utensils. A child with a disability may need extra help eating and drinking.

5 YEARS: AGE OF EATING FAMILY FOODS

>***Key Message 5 –*** The child needs to be fed nutritious food 5 times daily using family food with or without breastfeeding. The child still needs 2 teacups of milk if not breastfeeding.

Children this age are often on an adult diet, but it may not be nutritious enough for them. Besides, these children are often left to fend for themselves and do not get enough food for their needs. Parents need to recognize that at this age, the child is still growing and requires nutritious food. Food may not need special preparation, but it does need to be given frequently, and the parent/caregiver needs to monitor the intake. In addition, some of these children may have started nursery school and thus fit into existing early childhood development (ECD). Therefore, the ECD programmes should have a strong child-feeding component.

The Micronutrients

Children up to 5 years are prone to micronutrient deficiency, especially vitamin A, zinc, iron, and iodine.

VITAMIN A

It is necessary for all children up to 5 years to be given a vitamin A capsule obtained from a health worker at 6 monthly intervals starting at 6 months. If a child has not received vitamin A, the caregiver should be told the importance and advantages of vitamin A intake and given the national schedule for vitamin A supplementation. A child without vitamin A should be referred to a health facility.

IRON

Even mild anaemia in infants and young children can impair intellectual development. Anaemia in children under 2 years of age may cause problems with coordination and balance, and the child may appear withdrawn and hesitant. This can limit the child's interaction ability and may hinder intellectual development. Iron supplements given to pregnant women protect both the women and their babies. Malaria and hookworm can cause or worsen anaemia. Malaria can be prevented by sleeping under a mosquito net treated with a recommended insecticide. Children living in areas where worms are highly endemic should be treated 2 to 3 times a year with a recommended anthelminthic medication. Good hygiene practices prevent worm infestation.

IODINE

Iodized salt should be used to prepare children's food. Small children should not be given unsalted food. Salt will not harm them as long as not too much of it is used.

Factors That Promote Good Nutrition

GOOD AGRICULTURE

These include the following:

- Clearing the land at the right time.
- Planting sufficient food crops.
- Use of fertilizers and advice from instructors.
- Timely harvesting and proper storage of food to avoid losses to pests.
- Good transport system to get enough good food to all regions.
- Enough cultivatable land for sufficient food crops and also cash crops for income.

IN URBAN CENTRES

- Planning and budgeting for food.
- Buying a variety of food.
- Avoiding unhealthy food buys.

A HEALTHY ENVIRONMENT

- Safe and sufficient water for drinking, cooking, cleaning, etc.
- Enough fuel for adequate cooking.
- Use of latrines and raising the general standards of sanitation.

GOOD EDUCATION

- Spreading knowledge on good nutrition and child health in schools, families, and communities.
- Showing ways of improving present attitudes and practices. Special emphasis should be given to good nutrition.

A HEALTHY FAMILY LIFE

- Control of alcoholism to avoid waste of money and manpower.
- Family size. All the children will likely receive enough food and attention if the family is small.
- When parents are away from home for work, it is important to ensure that children get enough food.
- Care of children from broken or incomplete families

>***Key Message 6 –*** Children must continue eating and drinking regularly during an illness. After an illness, children need at least 1 extra meal every day for at least a week.

When children are sick, their appetite decreases, and their body uses the food they eat less effectively. If this happens several times a year, the child's growth will slow or stop. Therefore, it is essential to encourage a sick child to eat and drink. This can be difficult, as a child who is ill may greatly reduce appetite. It is important to keep offering foods the child likes a little at a time and as often as possible. Extra breastfeeding is especially important.

Dehydration is a serious problem for children with diarrhoea. Drinking plenty of liquids will help prevent dehydration. If illness and poor appetite persist for more than a few days, the child needs to be taken to a health worker. The child is not fully recovered from an illness until he or she weighs about as much as when the illness began

- **When recovering from diarrhoea or any other illness, children need at least 1 extra meal every day for 2 weeks to make up for what they have lost.**

Growth Monitoring and Promotion

More than half of all childhood deaths are associated with malnutrition. Malnutrition weakens the body's resistance to illness. Poor diet, frequent illness, and inadequate or inattentive care of young children can lead to malnutrition. If a woman is malnourished during pregnancy or her child is malnourished during the first 2 years of life, the child's physical and mental growth and development

may be slowed. This slowing of growth and development cannot be made up for when the child is older but rather will affect the child for the rest of his or her life. Children have the right to a caring, protective environment, nutritious food, and basic health care to protect them from illness and promote growth and development.

>***Key Message 7 –*** A child needs to be measured (weight and height) regularly from birth to the age of 5 years. Something is wrong if a child has not gained weight for about 2 months. A child who does not increase in height appropriately in the first 2 years will remain short (stunted) for the rest of his/her life.

Serial weight and height measurement and recording on the growth chart should be done as part of the maternal and child health (MCH) programme. All children up to age 5 years should be weighed and measured regularly. Regular increases in weight and height show that a child is growing and developing well. For the first year of life, a child should be monitored monthly. After that, at least every 2 months for the second and third years of life and less frequently until the age of 5. Each young child should have a growth chart marked every time the child is measured. A line is drawn that shows how well the child is growing. If the line goes up, the child is doing well. Parents are thus encouraged and should be happy that their child is doing well. On the other hand, a line that stays flat or goes down or goes too high is a cause for concern.

Parents and healthcare workers must understand the continued need for growth monitoring after the measles vaccine at 9 months. Unfortunately, this doesn't always happen. As the child grows bigger, it becomes more difficult to carry him/her to the clinic, and it may be that the mother has a new baby and the older child is no longer a priority for her. Growth monitoring at community level may help to reach all children. This can easily be done by the CHWs, who are encouraged to make community growth monitoring a strong component. The community health workers can be trained and supported to carry out this activity. Together with the parent, they need to visualise children's growth and seek help if the child is not growing appropriately.

If a child does not gain weight for 2 months, he or she may not be getting nutritious food, maybe sick or may need more attention and care. Parents and health workers need to act quickly to discover the cause of the problem

If a child is not regularly gaining weight or growing well, there are some important questions to ask:

- Is the child eating often enough? A child needs to eat 3 to 5 times a day. A child with disabilities may require extra help and time for feeding.
- Is the child receiving enough food? If the child finishes his or her food and wants more, the child needs to be offered more.
- Do the child's meals have too little "growth" or "energy" foods? Foods that help the child grow are meat, fish, eggs, beans, nuts, grains, and pulses. A small amount of oil will add energy.
- Is the child refusing to eat? If the child does not seem to like the taste of a particular food, other foods should be offered. New foods should be introduced gradually.
- Is the child sick? A sick child needs encouragement to eat small, frequent meals. After an illness, the child needs an extra meal every day for a week. In addition, young children need extra breast milk for at least a week. A trained health worker should check a child who is frequently ill.
- Is the child getting enough foods with vitamin A to prevent illness? Breastmilk is rich in vitamin A. Other foods with vitamin A are liver, eggs, dairy products, yellow and orange fruits and vegetables, and many green leafy vegetables. If these foods are not available in adequate amounts, a child needs a vitamin A capsule twice a year.
- Is the child being given breast milk substitutes by bottle? If the child is younger than 6 months, exclusive breastfeeding is best. However, from 6 to 24 months, breast milk continues to be the best as it is an important source of many nutrients. If other milk is given, it should be fed from a clean, open cup rather than a bottle.
- Are food and water kept clean? If not, the child will often be ill. Raw food should be washed or cooked. Cooked food should be eaten without delay. Leftover food should be thoroughly reheated. Water should come from a safe source and be kept clean. Clean drinking water can be obtained from a regularly maintained, controlled, and chlorinated piped supply. Clean water can also be obtained from protected springs or wells. Water drawn from ponds, streams, springs, wells, or tanks can be made safer by boiling or chlorinating. Are faeces put in a latrine or toilet or buried? If not, the child may frequently get worms and other sicknesses. A child with worms needs de-worming medicine from a health worker.
- Is the young child left alone much of the time or in the care of an older child? If so, the young child may need more attention from adults and stimulation, especially during meals.

The following advice is appropriate for mothers.

- Well babies under 6 months old need no other milk or food besides breastmilk.
- Adding oil, margarine or sugar, milk, egg, or well-chopped groundnuts makes *Uji* and other foods energy-rich and helps young children grow well.
- Feed often (at least 5 times a day) – small children have small stomachs.
- Feed older children at least 5 times a day.

- Feed sick children at least 1extra meal per day and continue for 1–2 weeks after recovery.
- Continue to take interest in what the child feeds on, even in the school years. Inform both parents and children of possible poor school performance if not fed well.
- Avoid overfeeding and limit non-nutritious snacks, especially if the child is overweight.

Table 3:2 Growth chart findings and appropriate Recommendation

Age	Growth chart shows	Recommendations
0–6 Months	Poor or no weight gain for 1 month	**Breastfeed as many times as possible, day and night. Check that mother is breastfeeding properly and that her diet is adequate.**
	Poor or no weight gain for 2 months	**As above. In addition, the mother should be encouraged to eat and drink enough. Refer the child for investigation. The child may have a hidden illness.**
7–12 months	Poor or no weight gain	**Breastfeed as often as the child wants. Give adequate servings of enriched complementary feed at least 3 times a day if breastfed and 5 times if not breastfed.**
13–24 months	No/poor weight gain for 1 month	**Continue breastfeeding. Check diet composition and how much the child takes. Advise on how to enrich the food. Feed 3 main meals. Give snacks at least 2 times between meals.**
	Poor or no weight gain for 2 months	**Continue feeding as above. Take history and refer.**
24 months and over	**Poor or no weight gain**	**The child should eat half as much food as the father. Children should be encouraged to eat with other children but should have an adequate serving of food served separately. Take history and refer.**

Food and Environmental Hygiene

>***Key Message 8 –*** Wash your hands thoroughly with soap or ash and water after contact with faeces and before touching food or feeding children.

Hands should always be washed with soap or ash and water after defecating, cleaning the baby's bottom, and immediately before feeding children, handling food, or eating. Young children frequently put their hands in their mouths, so it is important to keep the household area clean and to wash child- ren's hands often with water and soap or ash, especially before giving them food. In addition, the following hygiene measures can help to prevent diarrhoea:

- Food should be prepared and thoroughly cooked just before eating.
- All utensils used for food must be kept clean.

- Food left standing can collect germs that can cause diarrhoea.
- After 2 hours, cooked foods are unsafe unless they are kept hot or cold.
- Drinking water must be treated or boiled.
- All refuse should be buried, burned, or safely disposed of to stop flies from spreading disease.
- All households should have a toilet/latrine that everybody uses.

SUMMARY OF GOOD NUTRITION PRACTICES

Maternal Factors

- Good nutritional status of the mother.
- Avoid maternal depletion syndrome: The 4 too's: Too young (to have a baby), Too many(children), Too close (between subsequent deliveries), and too old (to have children).

Child Feeding Factors

- Breastfeeding initiated within an hour of birth unless the mother or baby is too sick.
- Exclusive breastfeeding for the first 6 months (without adding water).
- Advise mother in case of hiccups and ensure burping after breastfeeding. Introduction of complementary food after 6 months.
- Continue breastfeeding until the child is 2 years and above.
- Adequacy of diet involves quantity and quality of food. Variety is important.
- How the food is given: frequency and encouraging children to eat.
- Using food in its natural state: Processing and storing cooked foods may destroy nutrients. Therefore, children must be given freshly prepared foods if possible.
- Continued feeding during illness and giving extra after recovery from illness.

Food Security Factors

- Availability of food in terms of food production/wise buys.

Food Supplementation

- The foods we eat may not contain enough nutrients. This is because of lifestyle changes, where people consume more refined foods that lack important nutrients. In addition, the way the food is prepared may destroy the nutrients. e.g., overcooking. Supplementary feeding is, therefore, necessary. Children require supplementation with vitamin A, iron, and zinc.

- **Healthy household dialogue**

The CHW promotes key healthy practices through dialogue with the mother or caregiver. Dialogue should involve:

- Asking
- Praising
- Asking for alternative actions
- Identifying options
- Adding to those actions and
- Identifying doable options
- Summarizing
- Checking understanding and agreement

KEY HEALTH PRACTICES

For Growth Promotion and Development

- Breastfeed babies exclusively for 6 months.
- Introduce appropriate complementary foods from 6 months whilst breastfeeding up to 24 months.
- Promote mental and psychosocial development by responding to the child's needs for care and by playing, talking and providing a stimulating environment.
- Ensure that your child's birth is registered and receives a birth certificate.
- Ensure the child's growth is monitored monthly for up to 2 years. Then, continue monitoring till age 5 years.
- Take the child for de-worming after every 6 months from age 2 years.

For Disease Prevention

- Wash hands before preparing meals, feeding the child, handling the child's faeces and visiting the latrine.
- Dispose of faeces safely
- Treat or boil drinking water.
- Protect children from indoor air pollution.
- Protect children from malaria by ensuring they sleep under insecticide-treated bed nets (ITNs).
- Provide appropriate care for HIV/AIDS children.
- Prevent child abuse and neglect, and take action when it does occur.
- Take the child to complete the full course of immunization before the first birthday.
- Involve fathers in caring for their children and the mother's reproductive health.
- Take appropriate actions to prevent and manage childhood injuries and accidents.

For the Sick Child

- Continue to feed and offer more food and fluids when the child is sick.
- Give child appropriate home treatment for infections.
- Reduce fever by appropriate dressing and sponging.
- Follow instructions regarding treatment and advice.
- Recognize when sick children need treatment outside the home and seek care from an appropriate health worker.

3.3 Child Immunization

Many very serious diseases can be prevented by immunization, but only if the vaccine is given BEFORE the disease strikes. It is essential that infants complete the FULL number of immunizations – otherwise, the vaccines may not work. The immunizations are most effective if they are given at the ages specified or as close to those ages as possible. If a child has not had the full series of immunizations in the first year of life, it is extremely important to have the child fully immunized as soon as possible. National Immunization Days help to intensify the children's immunity.

One of the main reasons why parents do not bring a child for immunization is that the child has a fever, a cough, a cold, diarrhoea, or some other illness on the day the child is to be immunized. Each of these illnesses is considered a minor illness. It is safe to immunize a child who has a minor illness. It is safe to immunize all children, including those who are disabled or malnourished. After an injection, the child may cry or develop a fever, a minor rash, or a small sore at the injection site. This is normal, and the mother should not be worried. Meanwhile, breastfeed frequently or give the child plenty of liquids and food. A child who develops a high fever should be taken to the health care provider.

Childhood Vaccines

>***Key Message 9 –*** Immunization is urgent. Every child needs a series of immunizations during the first year of life. A child who is not immunized is more likely to suffer an illness, become permanently disabled, or become undernourished and die.

All parents must know why, when, where, and how often their children should be immunized. Parents also need to know that it is safe to immunize a child even if the child has an illness or disability or is suffering from malnutrition. Immunized children are protected from these dangerous diseases, which often lead to disability or death. All children (boys and girls) have the right to this protection. Half of all deaths from whooping cough, a third of all polio cases, and a quarter of all deaths from measles occur in children under 1-year-old. Children who survive these diseases are weakened, may not grow well or may be permanently disabled. In addition, they may die later from malnutrition and other illnesses. Children must be immunized early in life. The following diseases can be prevented by vaccination.

TETANUS

Pregnant women must be immunized to protect themselves and their infants from tetanus. Tetanus bacteria or spores, which grow in dirty cuts, can be deadly without a tetanus immunization. In certain situations, mothers give birth in unhygienic conditions. This puts both mother and child at risk of getting tetanus, a major killer of newborn infants. If a pregnant woman is not immunized against tetanus and tetanus bacteria or spores enter her body, her life will also be at risk. These germs can grow if the umbilical cord is cut with an unclean knife or if anything unclean touches the end of the cord. Any tool used to cut the cord should first be cleaned and then boiled or heated over a flame and allowed to cool. The baby's umbilical cord must be kept clean for the first week after birth. Immunizing a woman with at least 2 doses of tetanus toxoid before or during pregnancy protects her and her newborn for the first weeks of the baby's life. The vaccine is included in the doses the baby gets from 6 weeks.

- **All pregnant women should check to ensure they have been immunized against tetanus.**

-

POLIOMYELITIS

All children, everywhere, need to be immunized against polio. The signs of polio are a floppy limb or the inability to move. For every 200 children who are infected, one will be disabled for life.

WHOOPING COUGH

This is a severe disease if contracted early in life. Children cough for a long time. The cough is associated with vomiting. As a result, children develop malnutrition and may suffer brain damage. Immunization effectively protects children against this disease.

TUBERCULOSIS

Tuberculosis often presents as a cough of a long duration. The germs causing tuberculosis may spread from the lungs to the brain, bone, and other parts of the body. As a result, death and disabilities are common. Even though the child is not fully protected from getting tuberculosis, the severe forms of the disease are prevented by vaccination.

MEASLES

All children need to be immunized against measles. Measles is a major cause of malnutrition, poor mental development, and hearing and visual impairments. The signs that a child has measles are fever and rash that have lasted for 3 days or more, together with a cough, runny nose, or red eyes. Measles can cause death. Vaccination prevents the development of measles disease and its complications.

MENINGITIS

This infection around the brain is rapidly fatal and may be associated with severe sequelae for those who survive. Some of the causes of meningitis can now be prevented by vaccination. For example, Haemophilus influenza-b meningitis and Meningococcal meningitis can be vaccinated against.

HEPATITIS

Hepatitis is an infection of the liver that causes severe liver damage and is associated with liver cancer in some people infected with this organism. An effective vaccine can now be given to prevent this infection.

Nutrition and Immunity

Good nutrition boosts the body's response to infection. A malnourished child has poor immunity and thus gets infected very easily. Breast milk and colostrum (the thick yellow milk produced during the first few days after birth) protect against pneumonia, diarrhoea and other diseases. Protection lasts for as long as the child is breastfed. In addition, vitamin A helps children fight infections and prevents blindness. Vitamin A is found in breast milk, liver, fish, dairy products,

orange and yellow fruits and vegetables, and green leafy vegetables. In areas of vitamin A deficiency, children aged 6 months and older should be given vitamin A capsules or liquid when they are immunized. Vitamin A is also an important part of measles treatment.

IMMUNIZATION OF THE MOTHER: TETANUS

The mother should receive tetanus immunizations on the following schedule:

- 1st dose: As soon as she knows she is pregnant.
- 2nd dose: 1 month after the 1st dose and no later than 2 weeks before her due date.
- 3rddose: 6–12 months after the 2nd dose, or during the next pregnancy.
- 4th dose: 1 year after the 3rd dose or during a subsequent pregnancy.
- 5th dose: 1 year after the 4th dose or during a subsequent pregnancy.

IMMUNIZATION OF THE CHILD AND VITAMIN A

CHW checks the child's immunization and vitamin A status, and if incomplete, advises the mother accordingly and refers the child to the nearest health facility (see Table 3.3). There should be a follow-up of the child monthly until the status is adequately changed. The child's vitamin A status should also be checked.

For every vaccine, the caregiver should know the advantages of that vaccine and those for a fully immunized child. The child should be referred to a health facility for immunization. The caregiver should be commended for the vaccines given and should be advised about future vaccines. Consequently, the vaccination schedule could be as shown below:

Table 3:3 Immunization schedule

Type of Immunization	Age of child	Remarks
BCG: Against TB	Immediately after birth	***Or at*** first contact with the child after birth
Polio: Against poliomyelitis Birth polio	Birth polio given at birth	***Or at*** first contact with the child before 6 weeks ***Or at*** first contact with the child after 6 weeks ***Or at*** second contact with the child after 10 weeks ***Or at the*** third contact with the child after 14 weeks
1st polio	1st polio given at 6 weeks	
2nd polio	2nd polio given at 10 weeks	
3rd polio	3rd polio given at 14 weeks	
Pentavalent (DPT-HepB-Hib): Against 5 diseases 1stdose 2nd dose 3rdd ose	1st – given at 6 weeks 2nd – given at 10 weeks 3rd – given at 14 weeks	***Or at*** first contact with the child after6 weeks ***Or at*** 2nd contact with the child after10 weeks ***Or at*** 3rd contact with the child after 14 weeks
Measles: Against Measles	At 9 months	***Or at*** first contact with the child after 9 months

- At birth: BCG, OPV0
- At 2 months: OPV 1, DPT-HepB-Hib 1
- At 3 months: OPV 2, DPT-HepB-Hib 2
- At 4 months: OPV 3, DPT-HepB-Hib
- At 9 months: Measles, yellow fever (yellow fever vaccine is given in select counties).

VITAMIN A ADMINISTRATION

Vitamin A administration should be carried out at the following ages:

- 6 months
- 1 year
- 1 1/2years
- 3 years
- 3 1/2years
- 4 years
- 4 1/2years
- 5 years

All parents and caregivers should take their children to complete a full course of immunization before their first birthday. In addition, they should ensure that each of their children has a Clinic Card.

3.4 Care of Sick Children Aged 2 Months to 5 Years and Disease Prevention

>***Key Message 10*** – It is important that parents and caregivers recognize a child with severe illness and seek help from a trained healthcare worker as soon as possible.

Signs to Observe in an Infant 0–2 Months

When a young infant aged 0–2 months is sick, the following features may be observed in the infant:

- Either fever or feels cold
- Unable to suck or sucks poorly
- Rigidity or feels floppy
- Yellowness of the eyes or skin
- Bulging fontanelle
- Pus draining from the ear
- Pus draining from the eye
- Difficult or fast breathing
- Abnormal movements or convulsions

— An infant showing such features is sick and should be taken without delay to the nearest health facility for review and appropriate management by a trained health worker.

Recognizing a Sick Child

A mother needs to recognize when her child is sick. She needs to understand the seriousness of 3 major manifestations of illness: fever, difficulty breathing, and diarrhoea. Such a child may need to be urgently reviewed by a qualified health worker for appropriate management.

IMPORTANT SIGNS OF ILLNESS IN A CHILD TO BE NOTED BY THE CAREGIVER

⧫ Ask about the ***3 main features***:
- Cough or difficulty in breathing
- Diarrhoea
- Fever (which may be present in case of malaria, measles, pneumonia, or meningitis)

⧫ Signs that suggest that the ***child is in danger:***
- Child is not able to drink or breastfeed
- Child vomits everything
- Child has had convulsions
- Child is lethargic or unconscious

⧫ Signs that indicate that the ***child is seriously ill:***
- Cough, difficulty breathing or fast breathing (>50 per minute, chest in-drawing)
- Dehydration (skin pinch going back slowly), blood in stools
- Fever

⧫ Signs of ***other problems*** the child might have, including:
- Malnutrition and anaemia
- Immunization status
- Other problems the mother has mentioned.

WHAT TO DO

The 3 main features could represent 3 major disease groups responsible for severe illness in children. Mothers/caregivers have a very important role in preventing deaths due to these illnesses by seeking advice from the CHPs. Early recognition of these illnesses and prompt taking of the sick children to the health facility is vital to reduce severe illness and deaths among the children.

- **When a sick young child needs an urgent referral to the nearest health facility.**

The following signs of illness indicate a bacterial infection that requires prompt treatment:

⧫ Refusal to feed
⧫ Convulsions
⧫ Umbilical discharge
⧫ Yellowness of the eyes
⧫ Eye discharge

DEFINITION OF DIARRHOEA

This is a situation in which a person passes loose or watery stool more than 4 times in 24 hours. The more numerous the watery stools, the more dangerous the diarrhoea. A child with diarrhoea should be breastfed and given fluid often as possible until the diarrhoea stops. Drinking lots of liquids helps to replace the fluids lost during diarrhoea.

Danger signs in diarrhoea: A child with diarrhoea who is very ill may be:

- Unable to drink or breastfeed
- Lethargic or unconscious
- Vomiting everything

Without treatment, a child with these signs is likely to die within a short time. Therefore, the child should be taken to the nearest health facility urgently. It may be difficult, but the caregiver should try to give sips of ORS or any other fluid on the way to the health facility.

Features That Require Health Facility Care

The following signs show that the child has lost water (dehydrated) from the body and needs care at a health facility:

- Lethargy
- Sunken eyes
- Sunken fontanel
- Inelastic skin: The skin of the abdomen pinched goes back very slowly
- Irritable or restless

A child with 2 of these signs needs to get to a health facility as soon as possible. The caregiver should try to give sips of ORS on the way to the clinic, and continue breastfeeding

Diarrhoea with No Dehydration

A child with diarrhoea but none of the signs (no dehydration) given above has not lost as much water and can usually be managed at home. For such a child, the caregiver or mother should:

- Give locally available home-based fluids.
- Continue breastfeeding.
- Avoid giving aerated drinks, sweetened fruit, juices, spicy drinks, coffee because these are likely to worsen the diarrhoea.
- Give home available fluids by a cup or a spoon.
- Give small quantities at frequent intervals.
- Continue to feed the child with food as well.
- As far as possible, give a variety of fluids. This helps to balance the salt and sugar intake.
- Give oral rehydration salts (ORS) mixed with the proper amount of clean water.

EXAMPLES OF HOME-AVAILABLE FLUIDS

♦ The following fluids should be given during diarrhoea:
- Rice water
- Vegetable soup
- Soups of chicken, fish, meat
- Coconut water
- Milk
- Fresh fruit juice (not sweetened)

♦ The following fluids should not be given during diarrhoea:
- Aerated drinks like Coke, Fanta, etc.
- Fruit juices(sweetened)
- Coffee

While at home, the caregiver should watch out for the following signs that indicate that the child is getting worse:

♦ Passes several watery stools in 1 hour.
♦ Passes blood in the faeces.
♦ Vomits frequently.
♦ Has a fever.
♦ Not able to drink/breastfeed.
♦ Refuses to eat.
♦ Has sunken eyes.
♦ Looks weak or lethargic.
♦ Has had diarrhoea for more than 1 week.

- ***If there are any of these signs, the child should be taken to the nearest health facility as soon as possible.***

Diarrhoea usually stops after 3 or 4 days. However, if it lasts longer than 1 week, caregivers should seek help from a trained health worker. Give the child an extra meal daily while recovering from diarrhoea, for at least 2 weeks.

Preparation of ORS Solution

♦ Supplies needed include:
- Measuring jar (1/2 litre container has 500g of fluid)
- ORS packet (500g preparation)
- Spoon
- Bowl
- A big container to dissolve the ORS
- Clean boiled water
- Basin of water
- Soap for handwashing

♦ Steps required to make ORS:
- Wash your hands with soap and water, and dry them.
- Measure 1 litre of clean water.
- Pour water into the container.
- Pour all the ORS powder from 1 packet into the water.
- Mix well until the powder is completely dissolved.
- Taste the solution. It should be a bit sweet and no saltier than tears.

- Keep it for not more than 12 hours after preparation and throw away the unused solution. If more is needed, dissolve a new ORS packet for giving to the child.
- Once the ORS is mixed, give it to the child as follows (also see Table 3.5):

– Child under 2 years: 1/2 to 1 small cup for every loose stool.
– Child over 2 years: 1–2 small cups for every loose stool
– Continue to give ORS until the diarrhoea stops

- ***If a child vomits, wait 10 minutes and give it again.***

Caregivers should be told:

- ♦ Giving fluids can be lifesaving.
- ♦ To breastfeed more frequently and longer at each feeding, and not to stop giving other foods.
- ♦ Give frequent small sips from a cup or spoon or as much as the child will take. Use a spoon to give fluids to a young child.
- ♦ If the child vomits, to wait 10 minutes and then continue, but more slowly.
- ♦ Continue giving extra fluid until the diarrhoea stops.

On the other hand, the CHPs should teach and support the mothers and caregivers to:

- ♦ Give the child extra fluids as soon as diarrhoea starts as well as regular foods
- ♦ Give the child an extra meal a day while recovering from diarrhoea, for at least 2 weeks.
- ♦ Wash hands with soap before feeding or breastfeeding, after cleaning the baby's faeces or using toilet.
- ♦ Recognize danger sign and the lead action.

—Take the child to a health facility if not able to drink, becomes sicker, or develops fever.

FEEDING DURING DIARRHOEA LILLNESS

A child with diarrhoea loses weight and can quickly become malnourished. A child with diarrhoea needs all the food and fluid he or she can take. Food can help stop the diarrhoea and help the child recover more quickly. If the child is around 6 months or older, parents and caregivers should encourage the child to eat as often as possible, offering small amounts of soft, mashed foods or foods the child likes. These foods should contain a small amount of salt. Soft foods are easier to eat and contain more fluid than hard foods.

Recommended foods for a child with diarrhoea are well-mashed mixes of cereals and beans, fish, well-cooked meat, yoghurt and fruits. A teaspoon or 2 of oil can be added to cereal and vegetables. Foods should be freshly prepared and given.

Table 3:4 Guidelines for giving ORS to children with diarrhoea

Type of diarrhoea	Age of child	Amount of fluid to give
Diarrhoea with no dehydration	2–24mons	5–10 tablespoonfuls after every loose stool. Caregiver to receive packets of half-litre (500ml sachet) ORS
	2 yrs and above	10–20 tablespoonfuls after every loose
Diarrhoea with some dehydration	2–3mons	200–400ml over 4hours
	4–12mons	400–700ml over 4hours
	12–24mons	700–900ml over 4hours
	24 mon –5yrs	900–1,400ml

Note:

- Child to be given the solution while being prepared to be taken to a health facility and on the way to the health facility.
- Show caregiver the size of container that can measure the amount of fluid shown.

to the child 5 or 6 times a day. After the diarrhoea stops, extra feeding is vital for a full recovery. The child needs to eat an extra meal or breastfeed more every day for at least 2 weeks. This will help the child replace the energy and nourishment lost due to diarrhoea.

A child is not fully recovered from diarrhoea until he or she is at least the same weight as when the illness began. Vitamin A capsules and foods that contain vitamin A help a child recover from diarrhoea. Foods that contain vitamin A include breast milk, liver, fish, dairy products, orange or yellow fruits and vegetables, and green leafy vegetables. Diarrhoea usually cures itself in a few days. The real danger is the loss of fluid and nutrients from the child's body, which can cause dehydration and malnutrition.

A child with diarrhoea should never be given any tablets, antibiotics or other medicines unless a trained health worker has prescribed these. The best treatment for diarrhoea is to drink lots of fluids and oral rehydration salts (ORS) properly mixed with water.

- **Measles frequently causes severe diarrhoea. Immunizing children against measles prevents this cause of diarrhoea.**

PREVENTING DIARRHOEA

Children and adults can swallow germs that cause diarrhoea if faeces touch the household's drinking water, food, hands, utensils or food preparation surfaces. Flies that settle on faeces and then on food also transmit the germs that cause diarrhoea. Covering food and drinking water protects them from flies. All faeces,

even infants and young children, carry dangerous germs. If children defecate without using the latrine or toilet, their faeces should be cleaned up immediately and put down the toilet or buried. Keeping latrines and toilets clean prevents the spread of germs.

There are 4 steps to be taken to limit the spread of diarrhoea:

- Dispose of all faeces in a latrine or toilet or bury them
- Wash hands with soap or ash and water after contact with faeces
- Use treated water for drinking
- Wash, peel or cook all foods.

Child with Cough (Respiratory Infection)

Many respiratory infections – like the common cold – can be treated at home, but a cough can also indicate the presence of a serious disease. Therefore, caregivers need to be told how to assess a child with a cough and the signs to watch for that may indicate a more serious problem.

>***Key Message 12 –*** A child with a cough or cold should be kept warm and encouraged to eat and drink as much as possible. Suppose the child is breathing rapidly or has fever, take the child immediately to a health facility for treatment.

Children with coughs, colds, runny noses, or sore throats who are breathing normally can be treated at home and will recover without medicines. They must be kept warm but not over heated and given plenty to eat and drink. Medication should be used only if prescribed by a health worker. A child with a fever should be sponged or bathed with lukewarm water. In areas where malaria is common, the fever could be dangerous. Therefore, the child should be checked by a health worker immediately.

A child's nose with a cough or cold should be cleared often, especially before the child eats or goes to sleep. A moist atmosphere can make breathing easier, and it will help if the child breathes water vapour from a bowl of hot but not boiling water. A breastfed child with a cough or cold may have difficulty feeding. However, breastfeeding helps to fight the illness and is important for the child's growth therefore, the mother should continue to breastfeed often. If a child cannot suckle, the breast milk can be expressed into a clean cup and then fed.

Children not breastfed should be encouraged to eat or drink small amounts frequently. When the illness is over, the child should be given an extra meal every day for at least a week. The child is not fully recovered until he or she is at least the same weight as before the illness.

The CHPs teach and support the mothers and caregivers to:

- Keep child with cough or cold warm and continue normal feeding and drinking.
- Recognize fever and seek the attention of a health worker immediately.

♦ Recognize the following danger signs and take child urgently to a health facility:

- Not able to drink or breastfeed.
- Vomits everything.
- Convulsions.
- Not alert, not responding, uninterested in surroundings (lethargic or unconscious).

The child should be taken immediately to a health clinic or a trained health worker if any of the following are present:

♦ The child is breathing much more quickly than usual: for a child 2 to 12 months old–50 breaths a minute or more; for a child 12 months to 5 years old – 40 breaths a minute or more
♦ The child is breathing with difficulty or gasping for air.
♦ The lower part of the chest sucks in when the child breathes in, or it looks as though the stomach is moving up and down.
♦ The child has had a cough for more than 2 weeks.
♦ The child is unable to breastfeed or drink.
♦ The child vomits frequently.

These signs indicate a serious disease, like pneumonia or TB. Any child presenting with abnormal features must be taken to the health facility or a health worker. A child who has been coughing for 2 weeks or more should be immediately taken to the health facility for a TB test.

COMMON COLD (ACUTE RHINITIS, CORYZA)

This is an acute viral infection of the respiratory tract with inflammation of all the airways including the nose, paranasal sinuses, throat, larynx, and often the trachea and bronchi, usually without fever. There is nasal obstruction, watery running nose, sneezing, sore throat, cough, watery red eyes, headache, and general malaise. Young infants may have difficulty breastfeeding due to blocked nostrils.

What to do:

♦ Most colds resolve spontaneously in 7–10 days, so no medication is needed.
♦ Ensure adequate food and fluid intake, especially for the young infant who may have difficulty feeding.
♦ Keep the child warm, breastfeed frequently, and clear a blocked nose if it interferes with feeding.
♦ Avoid giving aspirin.
♦ Do not give antihistamines and cough depressants.
♦ Give paracetamol if there is a fever.
♦ Take child to health facility if breathing is difficult or feeding becomes a problem.
♦ Remember, antibiotics are of no value in viral infections.

- ***Refer all young infants (0–2 months) and any child who develops difficulty breathing to the nearest health facility.***

DIFFICULT BREATHING

The following features are noted in a child who has difficulty breathing:

- ♦ Chest in-drawing
- ♦ Fast breathing:

- 60 breaths or more in a baby under 2 months of age
- 50 breaths or more per minute in a child 2 months up to12 months
- 40 breaths or more per minute in a child 12 months to 5 years

- ***This means pneumonia, which is a severe disease. Refer urgently to the nearest health facility.***

Suppose a health worker provides antibiotics to treat pneumonia. In that case, it is important to follow the instructions and give the child all the medicine for as long as the instructions say, even if the child seems better.

>***Key Message 13 –*** If the child is coughing 1 or 2 weeks or more, she/he should be taken 1 or a TB test immediately. Early diagnosis and prompt treatment is the only way to control TB.

Tuberculosis (TB) is a disease caused by bacteria. The bacteria usually attack the lungs, but TB can attack any part of the body such as the kidney, spine, and brain. If not treated properly, TB disease can be fatal. TB is spread through the air from one person to another. The bacteria are put into the air when a person with active TB disease of the lungs or throat coughs or sneezes. As a result, people nearby may breathe in these bacteria and become infected.

TB in children is always contracted from an adult in close contact with the child. Therefore, all adults who have TB should have their children examined. Alternatively, if the child is diagnosed first, screen the adults in the household for TB. Though not all infected people become sick, babies and young children are more likely to get the active disease because they have weak immune systems. It is even more likely for children with HIV infection to get TB. Ensure that the adult with TB and on treatment is taking the drugs. The success of tuberculosis treatment depends on strict adherence to treatment. WHO DOTS (Directly Observed Treatment Short Course) can be used if adherence is uncertain.

Although not totally protective, BCG vaccination reduces the risk of severe/ complicated TB. Through dialogue with the mother or caregiver, it is important to:

- ♦ Ensure that the child is taken to a health facility where an accurate diagnosis can be made and treated.
- ♦ Trace the adult who infected the child and ensure that he/she is treated at the same time as the child.
- ♦ Remember that treatment for TB takes a minimum of 6 months.
- ♦ All the doses should be taken as prescribed. If this is not done, the disease will likely flare up, and the bacteria may be resistant.

Child with Fever

The presence of a fever means that a child has an infection. The common causes in young children are:

- Malaria
- Measles
- Pneumonia (with cough)
- Sepsis in young infants
- Ear infection

Children with a fever should be kept cool for as long as the fever persists by:

- Sponging or bathing with cool (not cold) water.
- Reducing covering of the child to only a few clothes.

BUT:

>***Key Message 14 –*** A child with a fever should be examined immediately by a trained health worker and receive appropriate treatment as soon as possible.

The following signs indicate danger in children with fever:

- History of convulsions or convulsion at the time of contact
- Lethargy or unconsciousness
- Child unable to breastfeed
- High fever
- Vomiting everything
- Stiff neck
- Cough with fast breathing or difficulty breathing

If child has any of the above signs, suspect any of the following,

- Very severe febrile disease
- Malaria
- Pneumonia
- Measles

Refer such a child urgently to the nearest health facility for appropriate management. Give paracetamol to relieve pain and fever but do not delay the referral.

MALARIA

A child with a fever believed to be caused by malaria needs immediate antimalaria treatment as a health worker recommends. If children with a malarial fever are not treated within a day, they might die. A health worker can advise on the best treatment and how long it should continue. A child with malaria needs to take the full course of treatment, even if the fever disappears rapidly. Malaria could become more severe and difficult to cure if the treatment is not completed.

Common complications of malaria include:

- Anaemia
- Enlarged spleen
- Convulsions

How to Deal with Malaria

- Refer to health facility for treatment.
- Child will be given courted tablets according to age and paracetamol for fever.
- Continue breastfeeding and feeding the child.
- Give fluids to the child.
- Follow up to ensure completion of course of treatment.

It is worth remembering that ***not all fevers are due to malaria.*** Consequently, take such children to the nearest health facility for diagnosis.

Malaria burns energy and the child loses a lot of body fluid through sweating. Therefore, the child should be offered food and frequently drink to help prevent malnutrition and dehydration.

Frequent breastfeeding prevents dehydration and helps the child fight infections, including malaria. That is why children with malaria ought to be breastfed as often as possible.

>***Key Message 15***–Malaria is transmitted through mosquito bites. Sleeping under a mosquito net treated with a recommended insecticide helps to prevent malaria. All children should sleep under a treated mosquito net.

All community members should be protected against mosquito bites, especially between sunset and sunrise when mosquitoes are most active.
Mosquito nets, curtains, or mats dipped in a recommended insecticide kill mosquitoes that land on them. Use special permanently treated mats, conventional nets, curtains, or mats dipped in insecticide regularly.
Usually, the conventional nets need to be re-treated when the rains begin, at least every 6 months, and after every third wash. New chemicals treat the nets and give them a protective effect for more than 6 months. Trained health workers can advise on safe insecticides and re-treatment schedules.
Babies and other small children should sleep under a treated mosquito net. Nets

are free from public clinics or highly subsidized from local shops in rural areas. The family should buy at least one big net, which the small children can sleep under. Breastfed babies should sleep with their mothers under a net. Treated mosquito nets should be used throughout the year, even when there are fewer mosquitoes.

>***Key Message 16 –*** Families and communities can prevent malaria by removing stagnant pools of water and cutting grass and bushes around their dwellings to stop mosquitoes from breeding.

Mosquitoes breed in selected non-polluted water pools, holes and streams – for example, in ponds, swamps, puddles, pits, clean water drains, open fields, and slow-running streams. Malaria affects the whole community. Everyone can work together to acquire and use a net and to organize regular treatment of mosquito nets with insecticide. Communities should ask all health workers and political leaders in their regions to help them prevent and control malaria.

Measures to prevent and control malaria include

- Destroying mosquito breeding sites by filling in or draining places where water collects.
- Draining all stagnant water around the living places.
- Clearing the compound includes cutting the vegetation short and destroying discarded containers that can hold water.
- Using high-spread oil on stagnant waters.
- Covering water containers or tanks.
- Using insecticides at household level (indoor residual spraying) and aerial sprays.
- Discouraging mosquitoes by:

  - Using mosquito nets
  - Using repellents – mosquito coil, jelly
  - Wearing clothes that cover the body and limbs in the evening.
- Treating the sick properly.

MEASLES

Measles is a viral infection characterized by a rash on the body and fever. It is extremely contagious. It is also preventable through immunization.

Mode of Transmission

It is an airborne and communicable disease which is spread through droplets. It generally occurs in epidemics among children.

Signs and Symptoms

- Severe cold with high fever
- Cough
- Watery red eyes (discharge)
- Nasal discharge
- General body rash
- White spots inside the mouth

Suspect measles if the child has a fever, feels hot now or in the last 3 days, and has generalized rash and any of the following: Cough, runny nose, red eyes.

Predisposing Factors

- Overcrowding
- Lack of measles immunization
- Measles outbreak

Prevention and Control

- Good nutrition
- Immunization
- Proper ventilation
- Referral of suspected cases

Measles immunization is given to infants 9 months or above, irrespective of whether they have suffered from measles/measles-like illness. Infants 6 months and above should be immunized against measles in the following circumstances:

- Siblings to a child with measles illness.
- Children living in crowded places, refugee camps, children's homes.
- Children admitted to hospital for any condition (age 6–9 months).
- Children in a locality with measles epidemic.

Complications

- Watery diarrhoea
- Sore mouth
- Otitis media

EAR INFECTION

The mother or caregiver can usually tell whether a child has an ear infection. Such a child could have 1 or more of the following:

- There is pain or swelling involving the ear.
- Child rubs or pulls the ear frequently.
- There may be fluid coming from the ear.

The following criteria can be used to interpret the signs in a child concerning ear infection:

- If none of the above features is present, then there is no ear infection.
- If 1 of the above signs is present, then an ear infection is a possibility.
- If there is swelling behind the ear, mastoiditis should be considered.

For a child with an ear infection, give 1 dose of paracetamol and take the child to the health facility urgently. If the ear has been discharging for more than 2 weeks, then chronic ear infection is considered.

If a child has a chronic ear infection, show the caregiver how to clean the ear by dry wicking using a clean cloth. Then, the child should be taken to the nearest health facility for appropriate management.

If there are no signs of chronic ear infection, the child will likely have an acute ear infection.

TYPHOID

Typhoid may present as persisting fever. Therefore, any child with a persisting fever should be taken to the nearest health facility for appropriate management.

The main strategies for preventing typhoid are hygienic practices, such as:

- Ensure safe drinking water through boiling or treatment with chlorine-based substances.
- Boil milk for home consumption.
- Practise hygienic waste disposal.

In addition, typhoid can be prevented by vaccine.

Malnutrition

Poor nutrition results when the body is not given the right food or when the body is not given enough food – or even too much food. Sometimes it is a result of chronic illness like TB, heart disease, and many other conditions

DETECTING MALNUTRITION

Many diseases relate to nutrition deficiencies. They range from mild, like being underweight, to severe forms like marasmus and kwashiorkor. A child suffering from these diseases can be identified during growth monitoring when the child health card shows weight loss or no weight gain. The child may begin to show visible wasting or oedema of both feet. Refer such a child urgently to the nearest health facility for appropriate management.

When there is poor nutrition, the child may be:

- Underweight or wasted: Lower weight than expected forage.
- Overweight or obese: Weight higher than expected forage.

- Stunted: Shorter than expected forage.

Serious types of malnutrition include:

- Kwashiorkor
- Marasmus
- Obesity

If weight loss or no weight gain shows after plotting the weight on the child health card graph, the CHP usually gives nutrition advice and checks on the household until weight gain is satisfactory. If there is no improvement after 1 month the child should be referred to a health facility for evaluation and appropriate management. The caregiver or mother needs to understand the problems noted and should be involved in decisions relating to the child's care.

WHAT ACTION TO TAKE

It is necessary to determine whether malnutrition is related to insufficient food (or too much) or nutrient deficiencies. To do this, assess breastfeeding practices, and what else the child is feeding on. Weigh the child every week. If the child has not gained weight for 2 consecutive weeks, refer to the nearest health facility.

If weight is not very low for age:

- Congratulate the caregiver.
- Show the mother how well the child is doing on the weight chart.
- Work out how to mix nutritious food from the 3 food groups with the mother.
- Show her how to provide sensory stimulation once child is over the acute phase of the illness and takes interest in her surroundings.

Advise all caregivers to take the child urgently to the nearest health facility if any of the following features occur:

- Visible wasting or (marasmus).
- Oedema of both feet (kwashiorkor).
- Very low weight for age.

KWASHIORKOR

Kwashiorkor is a disease caused by bad feeding. It usually occurs when the child stops breastfeeding and is given mostly carbohydrates and insufficient proteins.

Kwashiorkor is seen mostly in children between 6 months and 3 years of age, although it also occurs in older children.

A child with kwashiorkor:

- Has swelling of the legs.
- Also has hands and face that become swollen.
- Has skin that becomes light in colour.
- Sometimes has skin that peels.
- Has reddish hair that pulls out easily.
- Is uninterested in anything that goes on around him.
- Has weak, wasted muscles.

MARASMUS

Marasmus is a disease caused by starvation. The child does not get enough to eat. Marasmus develops as a result of lack of food and also as a result of chronic illness, e.g., tuberculosis.

A child with marasmus:

- Is thin and wasted.
- Has wrinkled skin over the bones.
- Has a face like that of an old man.
- Has bright eyes and is very alert.
- Is hungry and quickly accepts food.

The following factors have been found to contribute to the development of marasmus in a child:

- ♦ Break down in family structure. e.g., divorce/death of parents.
- ♦ Alcoholism.
- ♦ Lack of knowledge on proper diet.
- ♦ Problems relating to food availability:
  - Shortage of food
  - Selling of food reserve to outside markets
  - Poor production of food
  - Poor food storage and misuse of food
  - Cultural practices–Certain foods (often the most nutritious) reserved only for men, foods restricted during some illness, belief in bewitching.

Micronutrient Deficiency

Micronutrients are the vitamins and minerals the body requires to function properly. Sometimes the amount of the micronutrient can be very small, but even so can have a big impact if it is not included in the diet. Major micronutrients are vitamins A, B, C, and D, and minerals like iron. A few of these, and how to ensure that children get enough of them, are described below.

VITAMIN A DEFICIENCY

Vitamin A is a retinol ester that can either be ingested or synthesized within the body from plant carotene. Maintaining the integrity of the skin and body membranes, immunity, and night vision is important. Deficiency results in increased morbidity and mortality from infectious diseases. Vitamin A supplementation has resulted in 23–34% reduction of all childhood mortality (6–59 months), 50% reduction in measles mortality and 33% in diarrhoeal disease mortality.

- ***Vitamin A deficiency is a major cause of illness and blindness among poor communities worldwide.***

Eye Manifestations of Vitamin A Deficiency

Early during deficiency of vitamin, A there is reversible dry cornea and night blindness. Subsequently, irreversible cornea damage that may be associated with rupture and/or scarring occurs and results in blindness.

Preventing Vitamin, A Deficiency

The following strategies are recommended for preventing vitamin A deficiency in the community:

- ♦ Encourage families to consume vitamin A rich foods:
  - Animal products – Liver, milk, kidneys.
  - Plant sources – Dark green leafy vegetables, yellow fruits and vegetables.
- ♦ Provide vitamin A supplementation.

VITAMIN D DEFICIENCY

Vitamin D deficiency is common in some parts of the country. It usually occurs during the second half of the first year.

Manifestations of Vitamin D Deficiency

Children with vitamin D deficiency present with

- Poor growth.
- Delayed or regressed milestones.
- Recurrent respiratory infections in form of pneumonia.
- Weak or deformed bones (rickets).

Strategies for Preventing Vitamin D Deficiency

Strategies for prevention of vitamin D deficiency among children within the community include the following:

- Expose children to sunlight with minimal clothing for 30–60 minutes daily.
- Supplement diet with multivitamins containing vitamin D for infants born premature.
- Ensure children get adequate calcium and phosphate, usually in form of milk.

Managing Malnutrition Cases at Community Level

Community members should be helped to do the following:

- Identify the root cause.
- Assist the family to identify the cause of the problem and possible solutions.
- Set a plan of action with the family.
- Make a follow up.

CONSEQUENCES OF MALNUTRITION

The following are consequences of malnutrition in a child:

- Retardation of growth and development for the child.
- Child may not do well in school
- The child becomes vulnerable to common diseases.

PREVENTING MALNUTRITION

The following strategies are recommended at the community level for prevention of malnutrition:

- Educate the community on proper nutrition, encourage mothers to give eggs to their children instead of selling them.
- Immunize children within the community to prevent childhood infections such as measles.
- Ensure adequate and diversity of food production with emphasis on locally available foods.
- Encourage family planning within the community.
- Promote breastfeeding and proper complementary feeding within the community.
- Promote early detection and adequate treatment of acute and chronic infections and other diseases.

For more information, also refer to Section 3.2 on nutrition.

Anaemia

A child who is anaemic is weak and not able to play or learn well in school. Anaemia may be caused by not eating the right foods, infections such as malaria, or blood loss in the stool, especially if worms in the intestines suck blood from the child. Therefore, the first step to prevent anaemia is to ensure an adequate diet containing plenty of green leafy vegetables, meat, and eggs. In addition, it is necessary to protect the child from malaria and ensure cleanliness in the home environment to prevent worm infections.

The following advice should be given to mothers within the community:

- Give a healthy and adequate diet to all children. This should include iron and folate-containing foods like meat, fish, eggs, dark green leafy vegetables, and yellow fruits.
- Provide an adequate diet to prevent growth failure due to malnutrition.
- Check for anaemia:
- Look/Ask/Check for palmar pallor by comparing the child's palm with yours or the caregiver's. If anaemia is present, the child should be referred to a health facility for proper diagnosis and treatment.
- In case of severe palmar pallor, refer the child to the nearest health facility for appropriate management.

3.5 Home Accidents and Poisoning

>***Key Message 17 –*** Many serious injuries can be prevented if parents and caregivers watch young children carefully and keep their environment safe. Poisons, medicines, bleach, acid, and liquid fuels such as paraffin (kerosene) should never be stored in drinking bottles. All such liquids and poisons should be kept in clearly marked containers out of children's sight and reach.

Children between 18 months and 4 years old are at high risk of death and serious injury. Therefore, as much as possible, anything that may be dangerous for active young children should be stored safely away, out of their reach. The main causes of injuries in the home are:

- Burns from fires, stoves, ovens, cooking pots, hot foods, boiling water, steam, hot fats, paraffin lamps, irons, and electrical appliances.
- Cuts from broken glass, knives, scissors, or axes.
- Falls from cots, windows, tables, and stairs.
- Choking on small objects such as coins, buttons, or nuts.
- Poisoning from paraffin (kerosene), insecticide, bleach, and detergents.
- Electrical shock from touching broken electrical appliances or wires or poking pins or knives into electric outlets.

- ***Protect children from fires. Avoid leaving small children locked up in houses.***

Accidents

INJURIES

Every year, 750,000 children die from injuries. Another 400 million are seriously hurt. Many injuries lead to permanent disability and brain damage. Injuries are a major cause of death and disability among young children.

Falls, burns, drownings, and road accidents are the most common injuries. Most of these injuries happen in or near the home. Almost all can be prevented. However, many would be less serious if parents knew what to do when an injury happens.

Wells, tubs, and buckets of water should be covered. Families who live near rivers/lakes/seas must ensure that young children are not left alone or under the care of small children when playing near open waters. A small toddler can drown in just a basin or bucket of water.

Young children do not think before they run onto the road. Families need to watch them carefully. Children should not play near the road, particularly if they are playing with balls. Children should be taught to walk on the side of the road, facing traffic if possible. Children younger than 5 years shouldn't be left to cross a road unaccompanied by an older person.

When crossing the road, young children should be taught to:

- Stop at the side of the road.
- Look both ways for vehicles, bicycles, motorcycles, or other traffic.
- Hold the hand of another person.
- Walk and not run across the road.

Older children should be encouraged to look after younger children and to set a good example. Bicycle accidents are a frequent cause of injury and death among older children. Families can prevent bicycle accidents if they ensure that children with bicycles are trained in road safety. In addition, children should wear helmets or protective headgear when biking.

Children are at high risk of serious injury if they travel in the front seat of a car or are unsupervised in the back of a truck.

Burns and scalds are among the most common causes of serious injury among young children. Children must be prevented from touching cooking stoves, boiling water, hot foods, and hot irons. Burns often cause serious injury and permanent scarring, and some are fatal. However, the great majority of these are preventable.

Burns can be prevented by:

- Keeping young children away from fires, matches, and cigarettes.
- Keeping stoves on a flat, raised surface out of the reach of children. If an open

cooking fire is used, it should be made on a raised mound of clay, not directly on the ground.

- Turning the handles of all cooking pots away from the reach of children.
- Keeping petrol, paraffin, lamps, matches, candles, lighters, hot irons, and electric cords out of the reach of young children.

Falls commonly cause bruises, broken bones, and serious head injuries. However, serious falls can be prevented by:

- Discouraging children from climbing onto unsafe places.
- Using railings to guard stairs, windows, or balconies.
- Keeping the home clean and well lit.

Broken glass can cause serious cuts, loss of blood, and infected wounds. Glass bottles should be kept out of the reach of young children, and the house and play area should be kept free of broken glass. Young children should be taught not to touch broken glass; older children should be taught to safely dispose of any broken glass. Knives, razors, and scissors should be kept out of the reach of young children. Older children should be trained to handle them safely. Sharp metal objects, machinery, barbed wire, and rusty cans can cause badly infected wounds. Children's play areas should be kept clear of these objects. Household refuse, including broken bottles and old tins, should be disposed of safely. Other injuries around the home can be prevented by teaching children the dangers of throwing stones or other sharp objects and playing with knives or scissors.

In case of cuts and abrasions, the following is recommended:

- Clean well with soap and water.
- Take the child to the nearest health facility if the following occurs:
  - The cut becomes septic.
  - The child becomes weak or gets more sick.
  - The child shows no improvement within 2 days or gets more sick.

INHALATIONS

Children should be protected from inhalations – fumes, smoke, pesticide mist, etc. Some inhalations affect children's health. For example, indoor inhalation from smoke may lead to chest problems in young children, e.g., difficulty in breathing and wheezing, as in asthma.

FOREIGN BODIES IN THE EARS

How to recognize:

There is a history of foreign body insertion into the ear, pain, or discomfort in the ear. There may also be discharging ear, disturbing noise (insects), and bleeding (traumatic insertion). Bleeding from the ear and external evidence of trauma may suggest that a foreign body may have entered the middle ear.

FOREIGN BODIES IN THE WINDPIPE (CHOKING)

Play and sleeping areas should be free of small objects such as buttons, beads, coins, seeds, and nuts. Very young children should not be given g groundnuts(peanuts), hard sweets, food with small bones or seeds, or toys with small parts. Coughing, gagging, high-pitched, noisy breathing ***or the inability to make any sound*** indicates breathing difficulty and possible choking. Choking is a life-threatening emergency.

Caregivers should suspect an infant is choking when he or she suddenly has trouble breathing, even if no one has breathing, even if no one has seen the child put something in the mouth. And it is important to keep an eye on crawling babies and toddlers – you may not hear them choking. It is advisable that all people caring for small children be taught to dislodge foreign bodies in the throat (figures 3.1 and 3.2). This would save lives, as often a child dies as soon as there is complete blockage of the windpipe.

a) Back slaps

b) Chest thrusts

1. Lay the infant on your arms or thigh in a head down position.
2. Give 5 blows to the infant's back with heel of hand (Figure3.1a).
3. If obstruction persists, turn infant over and give 5 chest thrusts with 2 fingers 1 on top of the other, 1 finger breadth below nipple level in midline (Figure 3.1b).
4. If obstruction persists, check infant's mouth for any obstruction that can be removed.
5. If necessary, repeat the sequence with back slaps again.

Figure 3:1 How to Manage the Choking Infant

1. Give 5 blows to the child's back with heel of hand with the child sitting, kneeling, or lying (Figure3.2a).
2. If obstruction persists, go behind the child and pass your arms around the child's body. Form a fist with 1 hand. Immediately below the child's sternum place the other hand over the fist and quickly press upwards into the abdomen (Figure 3.2b). Repeat this Heimlich manoeuvre 5 times.
3. If obstruction persists, check child's mouth for any obstruction that can be removed.
4. If necessary repeat the sequence with back slaps again.

a) Slapping the back to clear airway obstruction in a choking child

b) Heimlich manoeuvre in a choking older child

Figure 3:2 How to Manage the Choking Infant

FOREIGN BODIES IN THE FOOD PASSAGE

The commonest objects are coins, fish or meat bones.

How to recognize:
There is usually pain in the chest (retrosternal) and/or in the back, painful swallowing, pooling saliva in the mouth, or regurgitation of food.

In such a situation, it is recommended that:
One should not try to remove the foreign body but take the affected child to the nearest health facility. There should also be community education about the dangers of children playing with foreign bodies in their mouths.

Poisoning

Poisoning is common in children under 3 years of age. Poisoning is a danger to small children. Bleach, insect and rat poison, paraffin (kerosene), and household detergents can kill or permanently injure a child. Some common poisons are paracetamol, aspirin, pesticides (organophosphates), and paraffin. Other poisons include drugs being taken by any member of the family. It does no good to wonder how a child could swallow something that tastes terrible – adults often urge children to eat foods or take medicines that taste bad to the child.

WHAT TO DO IN CASE OF POISONING

- Suspect poisoning when a previously well child suddenly falls sick.
- Try to identify the type of poison the child has taken.
- Carry the container to the health facility.
- Do not give the child anything to drink and make the child vomit.

♦ In the case of insecticides like diazinon, remove the child's clothing and bathe

the child.

- ***In all cases, take the child to a health facility as soon as possible.***

— ***Many poisons do not need to be swallowed to be dangerous. However, they can kill, cause brain damage, or cause blindness or permanent injury if they:***

- Are inhaled.
- Get onto the child's skin or into the eyes.
- Get onto the child's clothes.

PREVENTION OF POISONING

Keep dangerous items out of reach of young children. If poisons are put in a soft drink or beer bottles, jars or cups, children may drink them by mistake. All medicines, chemicals and poisons should be stored in their original containers, tightly sealed. Detergents, bleaches, chemicals and medicines should never be left where children can reach them. They should be tightly sealed and labelled. They should also be locked in a cupboard or trunk or on a high shelf where children cannot see or reach them.

Medicines meant for adults can kill small children. Medicine should only be given to a child if prescribed for that child and never be given to a child if prescribed for an adult or some other child. Medication should only be used as prescribed by the health worker. Aspirin is a common cause of poisoning. It should be kept out of the reach and sight of children.

3.6 Chronic Illnesses/Disorders

The important message here is adherence (compliance) to drugs prescribed for the illness. Support of the community will help such parents. This can be achieved by forming support groups of other community members who must cope with the same situation.

Allergic Rhinitis

This is characterized by seasonal sneezing, running nose, nasal congestion, itching, and often conjunctivitis and sore throat. Symptoms vary in severity from day to day or hour to hour.

Recommended Management Options

- Avoid the precipitating factor (whatever causes the allergic reaction).
- Give analgesics to control discomfort. Piriton, in severe cases, may be of value.
- All medications must be only at the direction of a trained healthcare provider.
- Take the child to the nearest link health facility for further management

Skin Conditions

Skin problems may result from allergies, parasites, bacteria, fungi, or virus infections.

ATOPIC ECZEMA

Atopic eczema often affects children in a family with a history of asthma and allergic rhinitis. The onset of this condition is usually in the first 2–3 months of life. After that, the child has itching, chronicity, or repeated attacks, rashes, scaling and change of skin colour. The lesions tend to be behind the knee or in front of the elbow joints.

Recommended Management Options

- Educating parents on the natural history of the disease,
- Avoiding predisposing factors known to bring about or aggravate the attack (food, clothing, soap, etc.).
- Keeping the skin moist by using an emulsifying ointment.
- Using Piriton to alleviate the itch.
- Using topical steroids for severe cases, but only be at the direction of a trained health care provider and generally for not more than 7 days.
- Taking the child to the nearest health facility for appropriate management.

SUPERFICIAL FUNGAL INFECTIONS

The most common superficial fungal infection in children affects the head but can also affect other parts of the body. It spreads within the family. Children with this condition are to be treated at a health facility. The parents should be made to know that for the treatment to be effective, it must be given over a long time. If more than 1 child is affected, all affected children should be treated simultaneously to avoid reinfection.

SCABIES

Scabies is caused by the human itch mite and spreads through intimate personal contact, facilitated by overcrowding and poor hygiene. Transmission via bedding or clothing is infrequent. It presents as intense itching that worsens at night or after a hot shower. Scabies occurs predominantly on the finger webs, wrists, and elbows but also affect the buttocks. In babies, the whole body may be affected. The secondary infection causes rashes that are often purulent.

Recommended Management Options

All family members are to be treated at the same time.

JIGGERS

Jiggers, also known as sand fleas, usually affect the feet and toes and can be extensive. They are common in some geographical areas. They grow on dusty floors, so it is important to keep floors free of dust. Anybody in the household with a few infestations should have them removed as soon as possible.

Heart and Blood Vessel Diseases in Children

Most heart diseases in young children are congenital, while those in older children may be either acquired or congenital. In addition, the heart may also be affected by other disorders like pneumonia, anaemia, and malnutrition.

SIGNS AND SYMPTOMS

A young baby who gets tired quickly or has to pause many times during breastfeeding looks breathless, is just not growing well, or has an unusual colour (blue) is suspected of having a heart problem and should be taken to a health facility for examination.

RECOMMENDED MANAGEMENT OPTIONS

The child should be taken to a health facility for proper diagnosis and care. At home, let the child regulate his/her physical activities. If the child is put on medication, caregivers should follow instructions. Ensure adequate feeding.

AVAILABLE PREVENTIVE STRATEGIES

Acquired diseases like rheumatic heart disease can be prevented by avoiding overcrowding as much as possible and early treatment of sore throats with effective antibiotics.

3.7 The Child with Disability

Common disabilities include physical disability, e.g., cerebral palsy, blindness, and hearing impairment. Therefore, young children must be screened for disabilities and impairments.

Cerebral Palsy

This disorder is caused by a defect or lesion of the developing brain of a foetus. Abnormalities associated with cerebral palsy include deafness, visual defects, speech difficulties, mental retardation, convulsions, low muscle tone and lack of balance, and growth retardation. Depending on the degree of the brain injury, the child will have delayed development. So the milestones outlined earlier may or may not be achieved. Common causes include a difficult childbirth (the child did not cry at birth) and infections in the brain. The child should be recognized as early as possible, and a trained physical therapist should initiate exercise of the affected limbs. These healthcare workers will work with the caregiver to assist the child's development. The main aim is to prevent contractures and abnormal patterns of movements and to train other movements and coordination. Depending on the degree of disability, the experienced therapist can train the child to attain some degree of independence. A home training programme for the parents is the most important part and should include anal sphincter control and stool softeners where necessary.

All the accompanying problems should be dealt with at the same time. A multidisciplinary approach is the best way to manage these children. Parents are

encouraged to bring their children early for care and not hide them from the public. The diagnosis should be discussed with the parents to prevent them from going to many different doctors. An adequate explanation should be given to the caregivers, and their role in the care should be spelt out. They also need to be informed that there is no cure but that many children who take the prescribed treatment are positively helped and, depending on the severity, may be able to lead an independent life.

Childhood Blindness

Causes of childhood blindness include congenital cataracts, corneal diseases, measles, congenital glaucoma, retinoblastoma, trachoma, refractive errors, vitamin A deficiency, and conjunctivitis.

INDICATIONS OF CHILDHOOD BLINDNESS

Features manifested vary depending on underlying conditions but may include:

- Poor vision – delayed smiling in infants
- Squint (lazy eye)
- White pupil
- Growth in the eye
- Protruding eyeball

RECOMMENDED MANAGEMENT OPTIONS

The following needs to be done for a child suspected of having childhood blindness:

- Take the child to the nearest health facility immediately for evaluation and appropriate management
- If eye is ulcerated, apply tetracycline eye ointments and take the child to the health facility urgently.
- Never use traditional eye medicines in the eye.
- Use no other medication without a prescription.

- ***A lot of eye conditions are preventable with good eye hygiene.***

Hearing Impairment

A child with hearing impairment does not respond to noises or when spoken to. Parents usually spot this early and bring the child to a health facility. If this happens, the parents' judgement should be taken seriously and not disregarded. On the other hand, some parents delay seeking help.

Children with hearing impairment can achieve a lot if expert care is taken. However, in either case, the child needs a referral to an institution dealing with hearing impairment.

Generalized Seizures (Epileptic Fits)

Management of a child having an epileptic attack includes the following:

- Place the patient on their side with head turned to the same side.
- Remove or loosen tight-fitting clothing around the neck.
- Do NOT attempt to insert any instrument into the mouth to avoid tongue biting, as this may have already happened
- Shield the patient from too many eager observers.
- Allow the seizure to complete its course without physically attempting to hold down the patient. However, remove the patient from danger, e.g., fire.
- After an attack, take the child to the nearest health facility for assessment and treatment.

In case of fever-related convulsions:

- Reduce the temperature, including tepid sponging and giving antipyretic.
- Anticonvulsant drug therapy is unnecessary unless the child is convulsing at the time of presentation.
- Educate parents that recurrences are common, but they can reduce them by using paracetamol and tepid sponging as soon as the child becomes feverish.

3.8 Oral Health

Newborn to 6 weeks

Common oral conditions at this age include denticles, natal teeth, neonatal teeth, oral thrush, cleft lip, and cleft palate. Reinforce oral hygiene instructions, diet counselling and referrals to a health facility for appropriate management.

>Key Message 18 – Clean the baby's gums and tongue using a clean, soft damp piece of cloth at least twice a day

6 weeks to 2 years

Common oral conditions at this age include denticles, natal teeth, neonatal teeth, oral thrush, and dental caries. Management in the community involves reinforcing oral hygiene instructions, diet counselling and referring to health facilities for appropriate management.

>Key Message 19 – Before eruption of teeth, clean the baby's gums and tongue using a clean, soft damp piece of cloth at least twice a day.
>Key Message 20 – After eruption of teeth, clean the child's tooth/teeth and tongue using a soft toothbrush and a pea-sized children's toothpaste at least twice a day.

>Key Message 21 – the child should visit the dentist at least once a year to review dental development and oral health.

>Key Message 22 – Reduce sugar intake to meal times and avoid sugary drinks in between meals.

2 years to 5 years

Common oral conditions include mobile deciduous teeth, shedding of deciduous teeth, dental caries, dental fluorosis, tongue thrusting, digit sucking, and habit-induced malocclusion. Management at the community involves reinforcing oral hygiene instructions, diet counselling and refer to health facilities for appropriate management.

>Key Message 23 – Clean the child's tooth/teeth and tongue using a soft toothbrush and a pea sized toothpaste at least twice a day.

>Key Message 24 – The child should visit the dentist at least once a year to review dental development and oral health.

>Key Message 25 – Reduce sugar intake to mealtimes and avoid sugary drinks in between meals.

3.9 Summary

Working with the Community to Care for Young Children

The following points summarize how to work with the community to care for the young children in the community:

- Educate family and community members on health promoting care of children.
- Breastfeed infant exclusively for 6 months.
- Introduce nutritious complementary foods to infants from the age of 6months, but breastfeeding should continue through the child's second year and beyond.
- Give children beyond 2 years nutritious foods and 2 cups of milk–a balanced diet in 3 meals a day and 2 snacks.
- For strong bones, expose all infants and young children to the sun for 30–60 minutes daily.
- Ensure that all children are given vitamin A supplementation every 6months.
- For all caregivers, try to give children stimulation and affection to ensure social, physical, and intellectual development.
- Monitor the growth of all children monthly from birth to age 2, and thereafter at least every 2–3 months until 5 years of age.
- Complete all immunizations by first year of birth.
- Keep child health cards and use to monitor child immunization and growth.
- Encourage fathers to be involved in the care of their children.
- Ensure all children sleep under a treated mosquito net to prevent mosquito bites.
- DO NOT keep poisons, medicines, bleach, acid, and liquid fuels such as paraffin in drinking bottles. Instead, store such liquids and materials in clearly marked containers out of children's sight and reach.
- Watch young children when playing and keep their environment safe to avoid accidents.
- Refer all children with disability and encourage the parents not to hide them.
- Foster community participation in all health-promoting activities.

Care of Sick Child and Health Care Seeking Behaviour

The features of a sick child need to be recognized and caregivers made aware of the urgency of taking such children to the nearest health facility to facilitate optimum care and favourable outcome:

- Recognize fever and seek the attention of a health worker immediately.
- Recognize the following danger signs and take the child to a healthcare facility urgently:
  - Not able to drink or breastfeed
  - Vomits everything
  - Convulsions
  - Not alert, not responding, disinterested (lethargic or unconscious)
  - Difficult breathing
  - Chest indrawing
- If convulsing now, show the caregiver how to position the child. Do not put any object into the mouth.
- Recognize warning signs showing that the child's growth and development are faltering and seek help as soon as possible.
- Support transportation of the child to the nearest health facility in any way.
- Support and ensure adherence to treatment of children with chronic diseases and encourage the formation of support groups.
- Encourage the community not to stigmatize specific conditions such as epilepsy, deafness, or HIV infection.

4. LATE CHILDHOOD (5–12 YEARS)

Having ensured a child's survival for up to 5 years, it is important to continue promoting healthy practices through late childhood. Improved health allows for better physical and cognitive development in children. It produces a more productive population, while sound education promotes the acquisition of knowledge, attitudes, and practices necessary for healthy living and better disease control and prevention. Ill health in this period is partly due to sanitation/water/hygiene-related factors, housing factors, parasitic infections, and macro- and micronutrient deficiencies. Therefore, Education For All (EFA), being one of the Sustainable Development Goals, cannot be achieved without urgent attention to the health of school-aged children.

Ideally, children aged 5–12 years spend most of their time in school but under parental control. Cooperation between parents and teachers is thus important to the care of these children. To ensure children's mental and psychological health, providing a positive and safe physical and psycho-social environment is essential. In addition, children need to be taught life skills early in their formative years. They also need good nutrition to prevent nutritional deficiencies that impede effective learning and realization of their full productive potential. This is the responsibility of the parents with the help of school health programmes.

4.1 School Health

School health programmes provide health education and some health services to promote children's overall health, hygiene, and nutrition. In addition, a "comprehensive health-promoting school" is a school that is constantly strengthening its capacity as a healthy setting for living, learning, and working.

A school health programme is an integrated set of planned school-based strategies, activities, and services designed to promote students' optimal physical, mental, social, and educational development and improve the community's health. Such a programme involves, supports, and works with the local community and is thus based on community needs, resources, standards, and requirements.

It is coordinated by several government ministries, especially health and education. To be comprehensive, these programmes must include the following aspects:

- Moral values and life planning skills
- Disease prevention and nutrition
- Food safety
- Water, environmental sanitation, and hygiene
- Special needs and rehabilitation.

The Objectives of a School Health Programme

Programme

The objectives of the school health programme are to:

- ♦ Promote health and nutrition in schools through positive lifestyle activities to enhance learning.
- ♦ Prevent nutritional deficiencies and promote the nutritional status of school children through nutritional interventions to improve concentration span and cognitive ability.
- ♦ Enhance enrolment, retention, and completion rates, particularly of girls and disadvantaged /vulnerable children (for example, those with disabilities).
- ♦ Facilitate safe and healthy environments conducive to learning and the development of well-rounded individuals.
- ♦ Enhance coordination of school health interventions among relevant Ministries and stakeholders.
- ♦ Promote access to school health interventions in educational institutions.
- ♦ Encourage the participation of teachers and school children as agents of change for good health practices in their schools, families, and communities
- ♦ Enhance the mobilization and coordination of resources for school health interventions.
- ♦ Promote disease surveillance in the school to facilitate early detection and treatment of disease and prevent disease complications. This is achieved by:
    - Training the key resource teacher on detecting simple ailments and injuries, how to manage them, and when to refer for further treatment.
    - Organizing outreach services from the nearest health facilities.
    - Treating minor ailments.
    - Providing first aid as well as facilities for emergency treatment in all schools. Boarding schools should have sick bays, while day schools should have a sanatorium.
    - Reporting episodes of diarrhoea and fevers to the nearest health facility.
    - Ensuring that all children enrolling in school are immunized against immunizable childhood diseases.
    - Facilitating the immunization of children who are not yet immunized.
    - Providing for routine immunization and any other immunization that may be deemed necessary for school children.

Strategies for Reaching School Health Objectives

The key strategy is to implement a skill-based health curriculum to impart the knowledge, values, and life skills a person needs to apply. At a minimum, it should address the following issues at all levels of education:

- Moral values and life planning skills
- Drug and substance abuse, HIV/AIDS prevention, gender issues, moral values, health and development, child rights, and protection.
- Water, environmental sanitation, and hygiene.
- Personal hygiene, food hygiene, vector and vermin control.
- Disease prevention and nutrition.
- All the preventable diseases, through health-seeking behaviour, disease surveillance, de-worming, screening and treatment of minor illnesses, first aid, nutrition/school feeding/micronutrient deficiency control, HIV/AIDS prevention, and behaviour and lifestyle.
- Special needs (autism, epilepsy, albinism, chronic illness, visual impairment, hearing impairment) and rehabilitation, including mental health and psycho-social health.
- School infrastructure and environment.
- Physical education, lighting/ventilation, personal safety/injury prevention, transport, management and sanitation facilities.

All the sections of the skills-based health curriculum should be directed and run by adequately trained key resource teachers.

4.2 Promoting the Health and Development of the School Age Child

Besides formal schooling, children learn by trying things, comparing results, asking questions, and meeting challenges. As long as the child is protected from danger, struggling to do something new and difficult is a positive step in the child's development. Both home and school are the venues for this learning.

Mental and Psychological Development

>***Key Message 1 –*** Promote mental and psychological development by responding to the child's need for care, playing, and talking with the child. Encourage children to play and explore because it helps them learn and develop socially, emotionally, physically, and intellectually.

Involve fathers in the care of their children. Play and interaction with the father help strengthen the bond between the father and the child. This interaction is also important for intellectual development.

Children play because it is fun, but playing is also key to their learning and development. Playing builds children's knowledge and experience and helps develop their curiosity and confidence. Children like to pretend. This should be encouraged as it develops the child's imagination. It also helps the child understand and accept the ways other people behave. Play develops the skills of language, thinking, planning, organizing, and decision-making. Parents can also encourage emotional development by playing games with their children. Stimulation and play are especially important if the child has a disability.

The examples set by adults and older children are the most powerful influences shaping a child's behaviour and personality. Children learn by copying what others do, not what others tell them to do. If adults shout and behave violently, children will learn this type of behaviour. Children will follow their example if adults treat others with kindness, respect, and patience. Family members and other caregivers can help children learn by giving them simple tasks with clear instructions, providing objects to play with, and suggesting new activities, but without dominating the child's play. Watch closely and follow the child's ideas. Children are constantly changing and developing new abilities. Caregivers should notice these changes and follow the child's lead to help her or him develop more quickly.

Moderate amounts of daily physical activity are recommended for people of all ages. A school programme should provide sports and physical activity for all children. Physical activities help to build and maintain healthy bones, muscles, and joints, prevent or delay the development of high blood pressure, and help reduce blood pressure in some children with hypertension. While promoting physical activity is important, this should be done in such a way as to avoid excessive amounts of physical activity that can lead to injuries and bone weakening. It should also consider the limitations on children with conditions such as sickle cell disease and heart ailments.

Discipline at home and school is essential for adequate socialization throughout a person's life. Kind but firm guidance is important in all areas. Excessive force must never be used as this may lead to grievous harm, and the child may rebel rather than follow the disciplinary measures used.

>***Key Message 2 –*** Introduce sex education at focal points (home, church, and school).

Children need to learn about their bodies and how to behave at different ages. This education is based on the age of the child. In addition, they need to learn about adults who may try to sexually harass or molest them.

Some cultural norms in this age period include circumcision of boys and genital cutting of girls. While circumcision of boys may be advantageous, female genital cutting can cause dangerous complications during childbirth and mental health problems for girls and women. The events in these ceremonies often include

information on how the child should behave sexually. Good behavioural practices should be encouraged, and harmful ones discouraged.

>***Key Message 3 –*** All children should attend school.

High quality education in these early years greatly impacts a child's life and future. Children who receive better early education are more likely to succeed in school and life. In school, consistent support from parents is crucial to sustaining confidence and a sense of achievement. In addition, parents and teachers need to create a conducive environment for learning.

Children must be protected from heavy labour and should never be expected to work long hours or do hazardous work that interferes with schooling.

Girls should be given the same opportunities in schooling as boys. Being able to read and write helps women protect their own and their family's health. Further, girls who have at least seven years of schooling are less likely to become pregnant during adolescence and are more likely to marry later than those with little or no education.

Nutrition for School Age Children

>***Key Message 4 –*** Ensure children receive a balanced diet in 3 or more meals daily. A good diet during this period is essential for better learning in school. Avoid junk food, which may lead to obesity and other ill health later in life.

Good nutrition is key to better learning and development of children. Conversely, disease and poor nutrition negatively affect learning and may result in disability or loss of life. Schools and parents should therefore take measures to prevent diseases and maintain good nutrition. To maintain good nutrition, the following is therefore important:

- Ensure that the food offered is nutritious, of good quality and in enough quantity.
- Carry out nutrition assessment and counselling.
- Encourage proper eating habits, with emphasis on locally available foods.
- Require regular health checks for food handlers at school.
- Ensure that the school feeding programme includes food provided by the school, a snack from home, and supplementary feeding.
- Involve the community in planning, mobilization of resources, and management of school feeding programmes.
- Promote hygienic food production, preparation, and safe storage.

Parents need to recognize the importance of a good diet for adequate growth and learning in school. As much as possible, a child should not go to school without eating anything. Organized feeding throughout the time the child is in school may help to prevent hunger that affects learning. Parents may pack food

for the child to eat at school or organize some form of school feeding programme; in all schools, food and snacks sold in school shops/ canteens should be healthy. Parents and teachers are responsible for this.

A nutritious diet includes beans and other pulses, grains, green leafy vegetables, red/yellow/orange vegetables and fruits. Milk or other dairy products, eggs, fish, chicken, and meat should be included whenever possible.

Worm Infestation

>***Key Message 5 –*** All children should be de-wormed at least twice a year.

Intestinal worms are extremely common. Children are particularly susceptible to intestinal worm infection and schistosomiasis through contaminated soil and water. Different types of worms live in the intestines and sometimes travel to other sites in the body, causing problems. Intestinal worm infestation and schistosomiasis can result in chronic, long-lasting health problems. Chronic infections can retard mental and physical development. Worm infections also often make children ill, leading to absenteeism and decreased school performance. Tapeworms or roundworms in the intestines may cause intestinal obstructions, while hookworms may cause anaemia. Pinworms may cause irritation and frequent itching of the anus. KEPH calls for annual de-worming of all school children. See Table 4.1 for a summary.

PREDISPOSING FACTORS FOR WORM INFESTATION

These are:

- Soil contaminated salads and other foods eaten raw.
- Contaminated soil that may be carried long distances on footwear into houses or vehicles.
- Consumption of uninspected meat.
- Indiscriminate disposal of faeces
- Lack of latrines.
- Walking barefoot.

CONSEQUENCES OF WORM INFESTATION

These are:

- Malnutrition
- Anaemia
- Intestinal obstruction
- Poor educational performance

Table 4:1 Summary of worms, modes of transmission, and prevention

Types	Mode of transmission	Prevention
Hookworm	Mature hookworm eggs passed in stool get into the soil, from where they gain entry into the human body when exposed to contaminated soil.	Using latrines Wearing shoes Not eating soil Washing hands with soap or sand
Roundworm	Eggs passed in stool may contaminate soil or uncooked vegetables. Human beings may swallow these eggs through contaminated food.	Using latrines Not eating soil Washing hands with soap or sand
Tapeworm	Eating raw or undercooked beef or pork	Cooking meats well
Bilharzia/ Schistosome	Snails near stagnant pools of water	Clear water sources, use Latrines

PREVENTION AND CONTROL OF WORM INFESTATION

These measures include the following:

- Wearing shoes will help prevent infestations, especially of hookworm.
- All people should use latrines, including small children.
- Latrines should be located well away from sources of water.
- All should wash their hands with soap after defecating, after changing the baby's nappy, before handling food, before feeding the baby, and before eating.
- Only inspected meat should be eaten.
- Households and school canteens should boil/cook food thoroughly, especially pork and beef.
- All raw fruit and vegetables should be thoroughly washed, rinsed, and dried.
- Per Ministry of Health guidelines, regular de-worming campaigns should be conducted in schools twice a year.
- All school age children should be treated, including those out of school.
- For effective worm control, the school curriculum should emphasize health promotion with emphasis on safe water, environmental sanitation and hygiene.

Malaria Control

Malaria contributes significantly to school absenteeism and poor academic performance. Therefore, all efforts should be made to ensure prevention and timely treatment of malaria in all schools.

All schools should maintain a stock of anti-malaria medication for treatment of fever. Indoor residual spraying (IRS) should be done in boarding and day schools within epidemic-prone counties. Children should sleep under ITNs to prevent malaria. School compounds should be cleared of brush and discarded containers, which can provide mosquitoes with breeding places.

Healthy Habits

>***Key Message 6 –*** Parents and teachers should encourage children to maintain good hygiene practices.

Personal hygiene refers to the steps you take to keep clean and healthy. Hygiene is what keeps and promotes the health of people and the community. Children from an early age should be taught how to care for themselves and their environment. Good personal hygiene protects people from falling ill by removing substances that allow bacteria to grow on and in their bodies.

KEEPING HANDS AND BODY CLEAN

The World Health Organization has recently launched World Hand Washing Day, believing that the most important thing people can do to prevent the spread of illness is to wash their hands. Practices that child should maintain include:

- Washing hands frequently, especially before eating and after visiting the toilet.
- Taking a bath at least once a day to remove dirt, dead skin cells, and body odour.
- Brushing teeth after every meal keeps your teeth and gums healthy and your breath odour free.
- Getting frequent exercise.
- Eating healthy foods.
- Having adequate sleep daily.
- Drinking only water boiled or treated with chlorine-based materials (Jik).

— **Washing hands involves more than dashing them in a sprinkle of water.** To wash hands properly: use soap, scrub the palms together, scrub the back of each hand, wash each finger and between the fingers, rinse in running water if available (or pour some clean water over your hands), and dry on a clean towel or allow to air dry. Also, scrub your fingernails with a small brush.

Oral Health

By the very nature of their dietary habits, children are especially vulnerable to poor oral health. However, good habits started in childhood will help to ensure a lifetime of oral health. Conditions to look out for include mobile deciduous teeth, shedding of deciduous teeth, eruption of permanent teeth, flared teeth (ugly duckling stage), Orthodontic malocclusions and skeletal discrepancies. Management at community level involves reinforcing oral hygiene instructions, diet counselling and referring to health facilities for appropriate management.

>***Key Message 7 –*** the child should clean teeth and tongue using a soft toothbrush and pea-sized toothpaste at least twice a day.

>***Key Message 8 –*** the child will start shedding deciduous teeth between 5-6 years, and permanent teeth may start erupting at 6 years.

>***Key Message 9 –*** the child should visit the dentist at least once a year to review dental development and oral health.

>***Key Message 10*** - Reduce sugar intake to mealtimes and avoid sugary drinks in between meals.

Drug and Substance Abuse

>***Key Message 11 –*** Parents and teachers should initiate dialogue with children to discuss the dangers of drug and substance abuse.

A drug is any chemical that produces a therapeutic or non-therapeutic effect in the body. For instance, most foods are not drugs, but alcohol is a drug and not a food. Some drugs used to treat illness can also be abused if they are not used for the specific purpose of treatment. Teenagers may become involved in drug abuse during adolescence when they feel immune to the problems others face. This is enhanced by peer pressure from others in the group, i.e., the need to be identified with the group.

Children who use alcohol and tobacco at a young age are prone to using other drugs later. Some will experiment and stop. Others will develop a dependency, moving on to more dangerous drugs and causing significant harm to themselves and possibly others. Children at risk of developing serious alcohol and drug problems include those:

- With a family history of substance abuse
- Who are depressed
- Who have low self-esteem
- Who feel like they don't fit in or are out of the mainstream

DRUGS ABUSED

The following are the drugs that are often abused in Kenya:

- Alcohol
- Tobacco
- Prescribed medications (such as diazepam)
- Inhalants (glue)
- Marijuana
- Cocaine
- Heroin

CONSEQUENCES OF DRUG ABUSE

Among the consequences of drug abuse are:

- Chronic drug addiction
- School failure
- Accidents due to poor judgment
- Violence
- Impairment or deterioration of some bodily systems /functions/organs, including the brain

- Unplanned and unsafe sex
- Loss of self-respect and the respect of family
- Death from overdose

MANAGEMENT OPTIONS FOR DRUG ABUSE

Parents can help through early education about drugs, open communication, good role modelling, and early recognition if problems develop. If there is any suspicion that there is a problem, parents must find the most appropriate intervention for their child. Parents are encouraged to seek consultation from a mental health professional when deciding on substance abuse treatment for children or adolescents. It is neither safe nor wise to assume that one's child would never abuse drugs.

4.3 Care of Children with an Illness

>***Key Message 12 –*** Seek health care as soon as illness appears and follow the instructions given at the health facility for each service.

Common conditions in the age group include infestations with worms, eye infections, skin infections, and coughs and colds.
The school needs to recognize infectious conditions and implement strategies to prevent their spread to other children. In addition, some children will have chronic illnesses such as asthma, epilepsy, diabetes, and HIV infection. Some of these chronic diseases may be associated with stigmatization. Therefore, parents and teachers must educate the children about these disorders to allow the affected children to fit comfortably in the school system.

Conjunctivitis

Conjunctivitis is an infection of the eyes characterized by irritation and inflammation of the eyelids (inflammation of conjunctiva).

Transmission occurs by the following avenues:

- Contaminated hands
- Through flies from an infected person
- During delivery, from a mother suffering from gonorrhoea to the infant

Signs and Symptoms

The following are the common signs of conjunctivitis:

- Red watery eyes
- Irritation of the eyes
- Feeling as though the eyes have sand
- Pus discharge from the eyes.
- Sticky eyelids, especially in early morning (dried pus)

Prevention and Control Measures

These include the following:

- Improved hygiene
- Wash face and hands often with water using soap. This should be repeated, especially after touching wounds.
- Mass treatment during outbreaks
- Fly control

Management Options

- If the eyes are runny, red, and producing pus, gently wash away the pus with a clean cloth dipped in warm water.
- Apply tetracycline eye ointment.
- Refer to the nearest health facility if there is no improvement.

Skin Disorders

SCABIES

Scabies is an infestation of the skin by a small mite resulting in a disease characterized by itching and a rash on the skin.

Signs and Symptoms

- Severe itching
- Rashes between the fingers and toes and on elbows, wrists, armpits, buttocks, and genital areas
- Constant scratching because of the itching
- There may be secondary bacterial infection resulting in blisters, sores, and pus

Predisposing Factors

- Poor personal hygiene
- Overcrowded areas with poor sanitation
- Inadequate water supply
- Sharing of clothing and bedding

Mode of Spread

- Direct contact with an infected person
- Direct contact with towels, clothes, bedding used by infected persons

Prevention, Control, and Management

- Ensure there is an adequate supply of clean water.
- Encourage high standards of personal hygiene.
- Change and wash all bedding, dry in the sun, then iron.
- Use antiseptic soaps and apply benzyl benzoate (obtained from a health facility) on the whole body as directed.
- Have the infected persons bathe with soap and warm water.
- Refer to a health facility.
- Discourage sharing of clothes.

FUNGAL SKIN INFECTIONS

These are mainly ringworm infections, especially of the head, and are very common in school children. They are spread by close contact and sharing of hair brushes and combs. Prevent spread by encouraging children not to share their towels, brushes, and combs. For children who use hair salons, the same should apply. Treatment involves antifungal applications, which can be obtained from a health facility. Teachers in school should encourage treatment of all affected children.

BACTERIAL SKIN INFECTIONS

These may be a few lesions or involve larger skin areas. However, some of them predispose to kidney disease, which can be dangerous to the child in the long run. Therefore, the child should be taken to a health facility for treatment.

WOUNDS

A wound is a cut or a tear in the skin, which can be superficial or deep. Wounds are painful and can easily become infected. They are normally caused by cuts, burns, scratches, animal bites, or assault with sharp objects.

Predisposing Factors

- Indiscriminate disposal of sharp objects
- Climbing trees, especially children
- Stray animals
- Open fireplaces

Management Options

- Keep the wound clean by cleaning with salty water.
- Refer to the hospital for further management.
- Practice first aid and good personal hygiene.
- For large wounds with excessive bleeding, apply pressure on or around the wound to stop the bleeding. But take care not to tie too tightly as it may damage the part beyond the wound. Take the child to a health facility as soon as possible.

Prevention

- Ensure proper disposal/storage of sharp objects.
- Cage animals/kill stray ones.
- Use sharp equipment carefully.

Nose Bleeding

The following is recommended:

- Immediate: Sit the patient up (to avoid aspiration).
- Pinch the nose for 10–20 minutes. This is usually sufficient to stop bleeding.
- Apply ice (if available) or cold packs on the bridge of the nose.
- Refer to health facility if pressure fails to stop the bleeding or for recurrent nosebleeds.

4.4 Children with Chronic Disorders

Eye Care

Refractive problems in children may interfere with their ability to learn as they may not be able to see what the teacher has written on the board or read their books. Visual impairment needs to be identified as early as possible.

The following is recommended:

- Visual acuity checks before school admission.
- Regular school screening programmes in collaboration with special needs teachers.
- For the child with a refractive error:
  - Corrective spectacles will be necessary.
  - Encourage the child to wear these whenever needed.

Children on Regular Medication

Several diseases require that children take medication on an ongoing basis, including while at school. Compliance and adherence to medications are important in all these conditions. In all these cases, parents, teachers, and the child need to work together so that the child does not miss the required medication. Teachers also should know that the child may need to miss school to go for regular follow up at a health facility. In other instances, the child may need to be protected or exempted from specific school activities. Some of these are mentioned below.

DIABETES

Most children with diabetes will be on insulin. They may or may not need an extra dose in school. Most important is the need to eat regularly to prevent hypoglycemia. This is most critical before, during, or after strenuous exercise.

ASTHMA

Some children's asthmatic attacks may be provoked by exercise. In these cases, the child will need to take a dose of medication before the exercise.

EPILEPSY

The child will need to be excused from participating in dangerous sports like swimming or any involving heights. If a child has a seizure at school, the teachers should be able to place the child out of danger and position them well to avoid aspiration should they vomit. Sometimes these children also need to be protected from discrimination. Education of the affected children and their

schoolmates is important. Other children need to know that the condition is not infectious, so they can interact freely with the affected child.

HEART DISEASE AND SICKLE CELL DISEASE

The limitation here will be on strenuous exercise. The child should be allowed to limit exercise as tolerated by the condition. These children are also prone to infections, so they must be helped to maintain strict hygiene and seek medical care as soon as they fall sick.

HIV INFECTED CHILDREN

Many children with perinatal transmission survive into school going age. So there is need for them to take their medication regularly. But they may face stigma at school, which can interfere with taking the medicines and learning. Teachers and school children need proper education to help HIV-infected children to fit into regular schools. Disclosure to infected children from the age of 7 may help them cope with the illness, but even then, such a child needs a lot of support from people around them.

SUPPORT GROUPS AND HOLIDAY CAMPS

Parents of the children with the help of the CHPs, can form support groups. In these groups, parents share experiences and help each other in the care of the affected children. Holiday camps help the children learn more about the disease they have. They get to understand that they are not isolated. They also learn about the importance of taking regular medicines that may control the condition they are suffering from.

4.5 Children with Disability

These include physical, hearing, and visual impairment and mental retardation. Some causes are listed in Section 3.7 on the child 2 weeks to 5 years. Although some disabilities occur in the early period, a child – or anyone – can become disabled at any age due to infections or injury. Special needs will depend on the degree of disability. In all cases the

following are recommended:

- Carry out screening for early diagnosis and placement of children with special needs.
- Sensitize the school community, including guardians, to remove any stigma and help cope with these conditions.
- Uphold, recognize, and respect at all times the dignity of the disabled.
- Provide rehabilitative services to the children as much as possible.
- Ensure school infrastructure takes into consideration the children with special needs.

- Address the various problems of children with emotional, mental, and conduct or behavioural problems that may present, such as school refusal, school truancy, delinquency, alcohol, tobacco and substance abuse and dependence, aggressive behaviour, bullying, and other antisocial behaviours. These problems may lead to poor academic performance and school dropout if not addressed.
- Provide mental health education and promotion as well as counselling.
- Instil the value of physical activity by providing physical education and sports activities.
- Encourage professional rehabilitation, which is a process that assists people with disabilities to develop or strengthen their physical, mental, and social skills to meet their individual/collective specific skills.

CHWs and teachers can contribute to the well-being of children (and even adults) with disability and their rehabilitation in many ways. They can, for example:

- Educate the community about the causes of disability and what they need to do.
- Locate and identify the disabled in the community.
- Facilitate referral arrangements for people with disabilities to appropriate service centres.
- Make arrangements for disabled people to get help on their disability in the community or the nearest centres with trained personnel.
- Facilitate integration of disabled children in community activities.
- Keep records and track the progress of disabled children in the community.
- Develop among the disabled a positive image, a sense of self-reliance, and full integration into the community by helping them:
  - To take care of themselves
  - Educate them on oral health and help them maintain oral hygiene
  - To move around with little help by providing walking aids if needed
  - To carry out household activities
  - To attend school
  - To communicate with others

In addition, people with disability can be assisted in different ways, depending on the type of disability. Such assistance can be:
Provision of training and equipment for mobility – crutches, wheelchairs.

- Speech training for those with speech problems.
- Surgical correction of sight problems and provision of spectacles.
- Training in sign language.
- Referral for specialist care.
- Provision of special schools or classes attached to a school for children without disabilities.

— As much as possible, children with disability should attend normal schools to integrate well with people without disabilities. Such an arrangement allows the children without disabilities to recognize these children as part of normal society.

5. ADOLESCENCE AND YOUTH (13–24 YEARS)

For this target group, the task of the CHAS & CHPs, and households are to focus on behaviour formation, modification, and development towards health seeking. Further, the focus is on accessing available reproductive health services. Healthy behaviours can be promoted through peer and parental information, education, and guidance. The CHAs, CHPs and households can also supply preventive commodities.

5.1 Reproductive Health

Pregnancy and Complications of Pregnancy

Around the world, 15 million adolescent women become pregnant each year.[5] Adolescents who become pregnant face increased risks of death and illness. A key reason is that young women's bodies may not be mature enough to handle the stress of pregnancy and childbirth. At menarche, girls are approximately 4% below full height and 12–18% below full pelvic growth. Women below age 20 are especially likely to suffer from pre-eclampsia and eclampsia, obstructed labour, and iron deficiency anaemia. Young women also have an increased risk of preterm delivery. [6]

According to data from WHO and UNICEF, young women with unplanned pregnancies often risk unsafe abortion. Other research in 11 African countries revealed that self-aborting or seeking abortion from unqualified practitioners is a likely choice for a pregnant, unmarried adolescent.[7]

>***Key Message 1 –*** Early childbearing, unsafe abortion, and STDs threaten adolescents' health and future fertility while delaying sex and pregnancy through abstinence is the safest way to prevent STD and HIV infections.

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[5]Population Reference Bureau (*PRB*) and Center for Population Options (*CPO*). 1994, "A special focus on reproductive health", *PRB and CPO Fact Sheets,* Washington, D.C.
[6]T.O. Scholl and T. Reilly, 1994, "Anemia, iron and pregnancy outcome", Br J Obstet Gynaecology, 101: 858.
[7] John M. Paxman and Ruth J. Zuckerman, 1987, *Laws and Policies Affecting Adolescents. Health,* Geneva: World Health Organization, Geneva.

Millions of adolescents are sexually active. A recent study found that 8 out of 10 Kenyan adolescents had engaged in sexual activity before 20, and 13% of 14-year-old girls said they had already been pregnant (and either had children or procured an abortion).[8] These adolescents are not using modern contraceptives or protecting themselves against STDs and pregnancy. Pregnant adolescents face many challenges. Compared with a woman who delays childbearing until her twenties, a woman who has her first child before age 17 is likely to experience a difficult birth that can cause serious health problems for herself and her baby. These mothers are also likely to receive less education, be out of work, have a lower paying job, and be separated from their partners. Young, unmarried mothers have been forced to turn to prostitution to support themselves and their children. Early fatherhood can disrupt educational plans and increase economic responsibilities for young men.

Sexuality education programmes can effectively teach young people important decision making and communication skills, which will help them resist peer pressure to have sex and make responsible decisions about initiating sex. Sex education does not increase sexual activity. Instead, it can delay the start of sexual activity and lead to protective behaviour once sexual activity begins.

>***Key Message 2 –*** Sexually active adolescents should use protection during sex to protect themselves from pregnancy, STDs, and HIV. They should seek health care as soon as any illness manifests and follow all the instructions at a health facility.

The safest way to prevent pregnancy and STDs is to avoid sexual intercourse. Male and female condoms, when used correctly and consistently, provide the best protection against STDs and unwanted pregnancies for those who are sexually active. Adolescents may need special counselling about how to avoid pregnancy and STDs. To help ensure correct contraceptive use among sexually active adolescents, contraceptive information and services must be readily and easily available. This service is emphasized in the KEPH line up of healthcare objectives for this age cohort.

[8]African Centre for the Study of Adolescence, Nairobi, Kenya, October 2009.

>***Key Message 3 –*** Parents can help young people protect themselves from risky behaviours by having regular dialogue with them.

Young people need to understand the risks involved in risky sexual behaviour. Parents, guardians, or the person in the community in charge of rites of passage can warn young people about the risk of disease and unplanned pregnancy. One way to begin the discussion with school-aged children is to ask them what they have heard. If any of their information is wrong, take the opportunity to provide them with the correct information. Talking with and listening to young people is very important. If the parent is uncomfortable with the discussion, they can ask a teacher, a relative, or someone good at discussing sensitive issues for advice on how to talk to the child.

ABORTION (MISCARRIAGE)

Abortion is the termination of pregnancy before the foetus can survive on its own. This is generally taken as 28 weeks of pregnancy. However, with advancements in medical skills and technology, the definition has come down to 22 weeks in some developed countries. Abortion may also occur spontaneously as a disease condition or may be induced. In Kenya, induced abortion may be legal (therapeutic) or illegal. It can also be safe or unsafe.

The World Health Organization (WHO) defines unsafe abortion as a procedure for terminating an unwanted pregnancy either by persons lacking the necessary skills or in an environment lacking minimal medical standards.

Illegally induced unsafe abortion by mainly unqualified people is associated with incompleteness, infection, injuries of genital and internal organs, and death. According to Kenya's National Adolescent Reproductive Health and Development Policy (2003), most of those seeking care for unsafe abortion complications are below 25 years. Worldwide, unsafe abortions cause about 78,000 maternal deaths yearly, including an estimated 2,000 in Kenya.

Recommendation in case of abortion

Community members need to recognize that bleeding in early pregnancy is a dangerous signal, and the pregnant woman (or girl) must be referred to the nearest health facility. A woman with vaginal bleeding in pregnancy requires humane treatment regardless of how the bleeding started, whether spontaneously or induced. Community residents should avoid stigmatization and direct their efforts to save lives and protect health before other considerations. Many lives could be saved if people set aside judgmental attitudes and provide humane care, which is the basic right of all community members. Timely referral should be provided for such a patient to a health facility where post-abortion care (PAC) services are available.

HIV and AIDS

Prevention to the General population

- Abstinence from sexual intercourse – delayed sex debut, especially among adolescents and youth.
- Being faithful to one sexual partner.
- Condom use – correctly and consistently, especially to a partner of unknown HIV status.

- HIV Testing Services (HTS) – knowledge of HIV status will enable the HIV negative to remain negative through risk reduction behaviours, e.g. alcohol and substance abuse.
- STI screening and treatment.
- Voluntary male medical circumcision.
- Post Exposure Prophylaxis:
  - Time-dependent- in the community, if a person is sexually violated, refer to the health facility within 72 hours.
  - Taken for 28 days
  - HIV testing is required
  - Adherence to treatment
  - If survivor test HIV positive, PEP is not recommended; refer for HIV care, treatment and follow-up.

Secondary Prevention for People Living with HIV (PLHIV)

- HIV Testing Services (HTS) to sexual partners
- Family testing for children under 14 years
- Condom use- consistently and correctly
- Reduce alcohol and substance abuse
- ART
- STIs- screening and treatment. Probability higher for PLHIV
- Adherence advice on:
  - Strictly sticking to the dosage and the prescribed schedule of taking medications.
  - Discuss reasons for non-adherence.
  - Refer for adherence counselling and support (if necessary).
  - Engage treatment supporter or family member for assistance.
  - Use adherence aids where available.
- Disclosure
  - Facilitates early access to care and treatment.
  - Improves adherence to care, treatment and medication.
  - Enhances partner testing and prevention, including the adoption of safer sex practices.
  - Helps HIV-infected individuals receive support from their partners and other systems available.
  - Facilitates stigma reduction by self and others.

- Discordant couple
  - Couples are not protected by remaining faithful alone.
  - If transmission did not occur in the past, it does not mean it cannot occur in the future.
  - Couples need to use condoms to prevent transmission.
  - Periodic testing is necessary to identify discordance.
- Family Planning- planned pregnancies.
- TB screening- use tools for screening TB.

Ways that a CHPs can help to deliver comprehensive home-based care for PLHIV

- Clinical – giving key messages on adherence, providing referrals for treatment, preventive therapies for TB, HIV etc.
- Physical – nursing, treating, prescribing, massaging etc.
- Psychosocial and Spiritual – listening, being present and talking to provide reassurance, consoling, praying, helping carry out cultural and religious rituals or rites, referral to support or other psychosocial groups, etc.
- Social–economic – CHPs can assist with identifying referrals and linkages to other socio-economic systems like charities, family support, child adoption etc.

COMMUNITY LEVEL PRIORITIES FOR DEALING WITH SEXUALLY TRANSMITTED INFECTIONS

STIs can also be transmitted from mother to child (vertical transmission), i.e., in utero, during birth, or soon after birth. Like HIV, some can also be transmitted through blood transfusion, contaminated needles, syringes, specula, gloves, skin piercing and cutting instruments. Therefore, it is important to counsel clients who may have problems related to sexually transmitted infections, refer them to sources of care, and support them where prolonged care is required in terms of compliance and quality home care. The following interventions are priorities at the community level:

- Advocacy and promotion of behaviour change
- Prevention of blood-borne infection
- Reduction of STD prevalence
- Prevention of mother-to-child transmission of HIV
- Strengthening epidemiological and research activities
- Prevention of AIDS, including care and support to the affected and infected
- Mitigation of the socio-economic impact of AIDS

FEATURES AND MANAGEMENT OF SEXUALLY TRANSMITTED DISEASES

Other sexually transmitted diseases can be suspected in the presence of:

- Urethral discharges, lumps, and ulcers.
- Discharge from the penis or female genitalia, with pain in passing urine.
- Swellings and wounds in the genitalia.

The following is recommended for those suspected of having an infection:

- Avoid indiscriminate sex (stick to 1 partner), avoid multiple or anonymous partners, prostitutes, or any other person with multiple sex partners.
- Use condoms correctly, e.g., avoid oil-based lubricants with male condoms.
- Avoid alcohol or drug abuse, which may lead to irresponsible sexual behaviour.
- Treat STIs promptly and appropriately.
- Avoid negative cultural practices.

Every treatment of STIs must include the 4 C's:

- Compliance: With the full drug course and follow up
- Counselling: On safer sexual behaviour.
- Condoms: How to use them properly.
- Contact tracing: Notification and treatment of partner(s).

- ***Refer the person with a suspected STI to the nearest health facility.***

POST-EXPOSURE PREVENTION AND CARE

Anyone can be accidentally exposed to HIV infection, for example, in the case of a road accident, attendance at childbirth, or accidental needle stick injury

Table 5:1 Modes of transmission and preventive measures for HIV

Mode of transmission	Preventive measures
Sexual relations: Vaginal intercourse (majority of cases), anal or oral sex	Abstain from sex (most ideal) Avoid risky sex practices like casual sex and multiple sex partners Use condoms Treat STIs promptly and effectively (STIs increase the risk of HIV transmission) Use PREP/PEP
Mother-to-baby: During childbirth, breastfeeding (30–40% transmission rate), or in utero	Counsel HIV-positive women during antenatal period on infant feeding options and family planning Avoid pooling and sharing of breast milk in nurseries Encourage exclusive breastfeeding and avoid mixed feeding for the first 6 months Administer ARV (Nevirapine) to both mother and infant
Blood transfusion: If blood not properly screened	Select and defer donors with risky sexual behaviour or belonging to risky groups Avoid unnecessary transfusions Ensure that all blood is screened
Blood-contaminated instruments: Needles and skin piercing instruments	Ensure that sterile needles/syringes are used at all times Ensure that tools for ear-piercing, circumcision, acupuncture, tattooing, etc., are sterile

Immediate measures include decontaminating the skin by washing thoroughly with soap and, letting blood flow freely, flooding the eyes with large amounts of clean water. In addition, post-exposure care includes allaying anxiety and referring for HIV pre-and post-test counselling.

Sexual Assault

Defilement
An act which causes the penetration of a child's genital organs (A child is anyone below the age of 18 years).

Penetration
Partial or complete insertion of the genital organs of a person or an object into the genital organs of another person.

Rape
An act that causes the penetration of one person's (18 and above) genital organs with the genital organs of another without their consent or where the consent is obtained by force, threats or intimidation of any kind.

Sexual Assault
Any act where a person unlawfully and purposely uses an object or any part of his body (except his/ her private parts) or any part of an animal to penetrate another person's private parts without permission. (The only exception is where such penetration is carried out for proper and professional hygienic or medical reasons).

Sexual Violence
Any sexual act, attempt to obtain a sexual act, unwanted sexual comments or advances, or acts to traffic women's sexuality, using coercion, threats of harm or physical force, by any person, regardless of relationship to the survivor, in any setting, including but not limited to home and work. In this guideline, sexual violence refers to rape, attempted rape, defilement, attempted defilement, sexual assault and attempted sexual assault.

The following should be done by the CHA/CHP upon receiving a survivor of sexual assault.

- Advise survivors not to wash or change their clothes immediately after a sexual assault. This may destroy forensic evidence that could be important if they decide to report the assault to the police. Early reporting is recommended.
- To provide immediate psychosocial support to the victim and advice on the urgent for seeking medical attention with emphasis on the following key areas.
- HIV protection–Refer to the nearest health facility for ARVs as per national guidelines for post-exposure prophylaxis (PEP).
- Pregnancy protection–For emergency contraceptive pills at the nearest health facility.
- STD/STI protection – For antibiotics at the nearest facility as per national guidelines. At the medical facility, collection and preservation of vital medical and legal evidence is taken to assist in any legal proceedings that might

follow.

5.2 Drug and Substance Abuse

A drug is any synthetic or natural chemical substance that produces an effect in the body. Drugs may be therapeutic or non-therapeutic. For example, most foods are not drugs, and alcohol is a drug and not a food. Some drugs used to treat illness can be abused if they are not used for the specific purpose of treatment. Adolescents may become involved in drug abuse for a variety of reasons. At this age, they feel they are immune to the problems others face. This perception is enhanced by peer pressure, i.e., the need to be identified with a group. As a result, some teens will experiment and stop; others will develop a dependency, moving on to more dangerous drugs and causing significant harm to themselves and possibly others. In addition, the youth who use alcohol and tobacco at a young age are prone to using other drugs later.

Risks Associated with Substance Abuse

Parents can help through early education about drugs, open communication, good role modelling, and early recognition of developing problems. If there is any suspicion that there is a problem, parents must find the most appropriate intervention for their child. Parents are encouraged to consult a mental health professional when deciding on substance abuse treatment for children or adolescents.

>***Key Message 4 –*** Parents should initiate dialogue with their children to discuss the dangers of drug and substance abuse.

Commonly abused substances in Kenya include tobacco, Cannabis sativa (bhangi), khat (miraa), opioids (heroin), cocaine, and solvents (glue, petrol, wood varnish). Many substances are taken by people who want to feel "high" for one reason or another. They may be trying to avoid perceived stressful conditions, or they may just like the feeling. The problem is that attaining the high becomes imperative in their life, and it may take more and more of the substance to reach the desired state. At this point, the person is addicted and stopping the use of the substance will likely require hospitalization or in-house treatment at a rehabilitation centre. Sadly, addiction often goes unchecked and may result in serious health damage or even death.

Among the consequences of drug abuse are the following:

- Chronic drug addiction
- School failure
- Accidents due to poor judgment
- Violence

- Unplanned and unsafe sex
- Serious damage to bodily functions and organs, including the brain
- Death

The use of tobacco, alcohol and banned substances is detrimental to children's health and learning. All educational institutions should be environments free of tobacco, alcohol, and drugs. The Teachers Service Commission regulations should apply in the control and use of alcohol by teachers. The handling and use of hard

drugs and banned substances are criminal offences subject to the provisions of the relevant Laws of Kenya. No person should be permitted to send a child to procure, collect, or deliver cigarettes, alcohol, or any illegal or banned substances.

- **Cigarette and alcohol promotion should be limited in all types of media, particularly media that influence children's knowledge, attitudes, and practice.**

Recognizing and Coping with Substance Abuse in a Child or Teenager

The following features in an individual child suggest the use and abuse of drugs and addictive substances:

- Self-neglect
- Slovenliness (Unkempt)
- Deteriorating school performance
- Excessive sleeping or almost manic wakefulness
- Violent
- The appearance of new, rather unsavoury looking friends who are not known to the parents
- Withdrawal and secretiveness with even old, known friends
- Increasing and unexplained demand for money from caregivers
- Involvement in petty crime (pilfering)
- Running away from home

Commonly Abused Drugs

- Alcohol
- Tobacco
- Prescribed medications (such as diazepam)
- Inhalants(glue)
- Marijuana
- Cocaine, especially crack cocaine, which is cheaper, often more readily available, and instantly addictive
- Heroin
- Khat

Those Who Are at Risk of Drug and Substance Abuse

Teenagers at risk of developing serious alcohol and drug problems include those:

- With a family history of substance abuse
- Who are depressed
- Who have low self-esteem
- Who feel like they don't fit in, or are out of, the mainstream

Recommendation in Case of Suspected Drug Abuse

For children suspected of abusing drugs or using addictive substances, the following is recommended:

- Carry out patient/family education/counselling.
- Provide alternative leisure activities.
- Provide work/school rehabilitation
- Involve community agencies, e.g., religious organizations, alcoholic anonymous/narcotic anonymous, where available.
- Refer to the nearest health facility.

Drugs in the School

The school curriculum should:

- Impart knowledge about the dangers of tobacco, alcohol, and substance use and abuse.
- Instil proper attitudes against tobacco, alcohol, and banned substances.
- Teach skills to enable children to avoid such behaviour.

All schools should have a guidance counsellor to address students' social, mental, and psychological needs. The guidance counsellor should be trained to identify students at risk of substance abuse to provide preventive counselling. Students who use or possess drugs or banned substances should be referred for necessary treatment and rehabilitation.

The MOH should provide youth-friendly treatment and rehabilitation services with adequate facilities, staff, and resources to address mental and reproductive health issues and tobacco, alcohol, and substance use and abuse.

— All schools should establish surveillance mechanisms to identify users/ collaborators using drugs, alcohol, and cigarettes within the school population.

5.3 Good Nutrition and Other Appropriate Healthy Behaviour

>***Key Message 5 –*** All youth require sufficient foods that are nutritionally balanced for their growth and development, both mentally and

physically. Since the youth are in their main developmental phase, their rations should be increased.

Healthy eating is associated with proper growth and development. Proper nutrition also reduces the risks of contracting diseases like heart disease, cancer, and stroke. These diseases are often associated with lifestyle changes, where people do not eat nutritious foods. If the youth do not get proper and nutritious foods, then chances of developing these diseases in later years increase. Fad diets, with their unbalanced intake of nutrients, have the potential for negative long-term health

impacts. Thus teenagers and youth should strive for a diet regimen that contains the 3 food groups, carbohydrates, proteins, and vitamins. These foods help provide energy, build the body organs, and protect the body from illnesses as they assist digestion.

>***Key Message 6 –*** Observe key behaviours for disease prevention.

Youth and adolescents should observe key healthy behaviours to enhance their well-being. Among these are:

- Sleeping under ITNs to prevent malaria.
- Using boiled or treated water for drinking.
- Maintaining good personal hygiene.
- Avoiding the use of alcohol, cigarettes, and drugs.
- Developing life skills to resist peer pressure and avoid risky areas and behaviour.
- Consuming an adequate diet in terms of both quality and quantity.
- Preventing unwanted pregnancy through family planning – or abstinence.
- Using condoms when sexually active. These can prevent both pregnancy and infections. Condoms can safely be supplied through CHWs, local shops, and peers.

Parents have an important role in developing and sustaining these habits. It is also particularly important that:

- Parents establish and maintain communication with their children that is open, firm, and non-judgmental.
- Both parents are involved in their adolescents' care (psychosocial, spiritual, emotional).
- Parents discuss sexuality issues with their adolescent children.

5.4 Mental Health

About 450 million people worldwide are affected by mental, neurological, or behavioural problems at any time, and of these, about 873,000 people die by suicide every year. Mental illnesses are common in all countries and cause immense suffering. People with these disorders are often subjected to social

isolation, poor quality of life, and increased mortality. These disorders are the cause of staggering economic and social costs. Mental health can be described as the balance between the individual, their social group, and the larger environment. It is a fine balance; when the 3 components are in harmony, the individual has a sense of well-being and can handle any environmental issues and social conditions. An upset to the balance can have serious mental and emotional impacts. Teenagers are particularly vulnerable to emotional and mental upsets.

The changes occurring in our societies have both positive and negative aspects. Some of these changes have led to role reversals, e.g., women become sole breadwinners after their spouses migrate to urban areas looking for jobs. But on the
other hand, these changes may lead to insecurity in some people causing nervousness, uneasiness, restlessness, tension, and sleeplessness. All these symptoms are signs of anxiety.

Kenyan youth are often under tremendous pressure–to succeed in school, i.e. to pass national examinations, find a job and earn a living in an economy that is not generating sufficient employment opportunities. These goals are meant to balance traditional and modern lifestyles, keep up with "trendy" friends and schoolmates and resist the lure of risky behaviours. Unfortunately, these pressures sometimes cause depression, anxiety, behaviour, and eating problems. Suicides among Kenyan youth are distressingly common.

>***Key Message 7 –*** Any person having difficulties performing simple chores at home and workplaces and relating to people should be taken to a health worker for examination.

People with anxiety symptoms need to be reassured and encouraged to continue their life as best as possible. Unfortunately, people with mental disorders are some of the most neglected people in the world. In many communities, mental illness is not considered a real medical condition but is viewed as a weakness of character or a punishment for immoral behaviour. Even when people with mental disorders are recognized as having a medical condition, their treatment is often less humane. People with mental illness are also considered violent and often invoke fear even though they are far more likely to be the victims of violence than the perpetrators.

Mental illness should be suspected in the presence of the following in a person:

- Irritability
- Person neglecting his health and personal hygiene
- Bouts of hyperactivity
- Depression
- Lack of appetite

Recommended Action
Refer such a person to the nearest health facility.

Suicide Attempts
These are unsuccessful attempts to end one's own life. These attempts are commonly due to severe depression or substance abuse.

How to Recognize Suicide Attempts
- There are suicide threats.
- The following underlying mental conditions may be present:
  - Depression
  - Schizophrenia
  - Under the influence of alcohol/drugs
  - Under severe social problems or stress
  - Personality disorder

5.5 Management of Selected Illnesses and Other Conditions

Adolescents and youth are subject to many, if not most, of the same types of illnesses and health conditions that affect mature adults. But because adolescents are still growing and developing, some of these conditions may have more serious impacts.

Blood Diseases

ANAEMIA
Anaemia is a shortage of blood caused by bleeding, destruction of blood cells by infections, e.g., malaria and poor dietary intake, or failure to make more blood.

Features Suggestive of Anaemia
These include the following:
- Patients complain of weakness
- Poor appetite
- Dizziness
- Lethargy
- Breathlessness
- Swelling of feet
- Whiteness of the eyelids and tongue

Recommended Action

Refer to the nearest health facility.

Prevention

The following are recommended preventive strategies:

- Healthy diet
- Cook vegetables and meat properly before eating
- Regular deworming

SICKLE CELL DISEASE

This is an inherited condition that commonly features anaemia.

Features Suggestive of Sickle Cell Disease

It may present with:

- Severe pain
- Pallor
- Severe joint pains
- Yellowness of eyes and urine
- Frequent infections

Recommended Action

Administer analgesics, then refer to the nearest health facility.

Recommended Preventive Strategies against Crisis

- Reduce exposure to extreme temperatures like cold.
- Avoid strenuous exercise.
- Avoid infections.
- Avoid activities that cause sweating hence dehydration.
- Seek hospital care as soon as possible.

Acute Injuries, Trauma, and Selected Emergencies

BEE STINGS

Bee and wasp stings cause sharp pain, followed by intense itching. Signs usually subside within a few hours.

Recommended Action

- Ensure the stinger is removed; scrape out, do not pull with tweezers as this can release more poison.
- Relieve pain with aspirin or paracetamol and relieve itching with calamine lotion or a paste of bicarbonate of soda (baking soda) and water.
- Refer if shows danger signs as listed below:
  i. Severe swellings
  ii. Difficulty in breathing
  iii. Loss of consciousness
  iv. Persistent Diarrhoea/vomiting

There may be need to refer to the nearest health facility for treatment with systemic antihistamines if the pain is too severe due to multiple stings. Moreover, some people are allergic to bee stings and may develop a severe reaction that can kill; such cases need urgent referral to a larger health with intensive care facilities.

ANIMAL AND HUMAN BITES

These include bites by humans, snakes, dogs and other domestic animals, and wild animals. Any mammal (including humans) may carry rabies. Saliva from a rabid animal may contain large numbers of the rabies virus, which gets inoculated through a bite, laceration or break in the skin.
Rabies is fatal if the person is not treated in time.

Recommended Action

- In the event of a bite, move the patient to a health facility ***immediately***.
- If a wild dog is sighted, warn the surrounding community.
- Clean wound with water while awaiting transportation to a health facility.
- Do not apply a tourniquet.

Prevention

- Provide community education on the risks of animal bites and the dangers of stray dogs in the community.
- Facilitate community eradication of stray dogs.
- Facilitate community dog vaccination programmes.

POISONING

Poisoning can be acute or chronic. Acute poisoning is often life-threatening and should always be treated as an emergency, even if the immediate threat to life is not obvious. Always take the remaining substance or container to the health facility for identification. Table 5.2 summarizes the clinical signs and recommended actions for poisoning by some common substances.

Prevention

CHPs should carry out health education to the community to let them know about farm or household chemicals known to cause accidental or suicidal poisoning, how to store them safely, and how to avoid poisoning.

TRAUMA MANAGEMENT

Primary Survey is key in all trauma

Examination should follow the basic life support guidelines as follows:

- **Spine to be secured**
- **Airway** – Ensure the airway is clear and patent
- **Breathing-** Check breathing

- **Circulation-** Check pulses
- **Disability-** To check consciousness, e.g., RBS
- **Exposure** – To check the temperature and respond appropriately

Secondary Survey

To examine someone thoroughly, start at the head and work down the body as follows:

- Head
  - Feel gently around the skull - Are there any soft spots or bruises? - Is there any blood?
  - Check in the ears for bleeding
  - Check behind the ears for signs of bruising
  - If an injury to the head is found or suspected: - Do not press on it - If possible, immobilize the head while the rest of the examination is completed - The person needs urgent medical care.
- Face
  - Look at the person's face - Is anything deformed? - Is the nose crooked? - Is a cheekbone sunken? - Is the lower jaw out of shape? Next, gently open the person's eyes - Do they react to light? - Are both pupils the same size?
  - Is there any bleeding from the nose? - Is the blood very sticky?
  - Gently feel the face for any instability in its structure - Use fingers along the forehead and cheekbones 26
- Neck
  - Be careful not to move the person's head while examining the neck
  - Loosen any tight-fitting clothing, such as ties or other items around the neck - Is there any sign of damage to the throat? - Is the windpipe (trachea) sitting centrally on the throat? - Are the blood vessels on the neck swollen or raised?
  - Gently feel the back of the neck - Is there anything unusual? - Is the person wearing any medical information on a necklace?
- Shoulders
  - Place a hand on the outside of each shoulder - Does everything feel intact? - Are they identical in shape and temperature?
  - Press gently on the shoulders - Is the resistance identical on each side? - Does everything feel normal?
  - Feel along the person's collarbones - Are they symmetrical and stable? - Is there any unusual stepping?
- Chest
  - Look for signs of the chest heaving or see-sawing, the rib muscles working hard.
  - Put a hand on either side of the rib cage - Feel for smooth and equal breathing between the two sides - Feel for indentations or segments of rib(s) that are out of normal alignment
- Abdomen
  - Expose the abdomen - Look for signs of bruising, bleeding or intestines protruding from a wound

- If the abdomen appears normal - Use the flat of the hand to press on each quarter of the abdomen - Feel for signs of tension in any quarter

- Pelvis
  - Warning: Pelvic injuries can be very unstable, and moving the person or manipulating their pelvis can lead to major internal bleeding
  - Do a visual check to see if the pelvis looks normal - Do the hip bones look the same shape; are they at the same level? - Is a thigh turned out an unusually long way compared to the other? - Has the person wet themselves (urinated)?
- Thigh
  - Look and feel both thighs - Is one larger than the other, more swollen?
  - Check each thigh individually - Is there any sign of damage or open wounds? - Is there blood coming through the clothing? - Is the thigh bone projecting through the skin?
- Lower leg
  - Compare one leg with the other - Are they the same size, shape, colour, and temperature?
  - Injuries to the lower leg and arms are usually not life-threatening
- Feet
  - If the feet are not injured, it may not be necessary to remove the person's shoes
  - Feel for warmth around the ankle to ensure there is still circulation
  - Check the pulse at the ankle to see if there is any significant leg injury
- Arms
  - Look at and feel the arms in the same way as the lower legs - Is either arm damaged? - Is there any sign of bleeding?
  - Check the wrist for identification or medical bracelets
  - Check the circulation in the fingertips
  - Check the wrist pulse if there is damage to the arm. Completing a head-to-toe examination takes time, and it is better to do it properly than go too quickly and miss something. Examining an ill or injured person by feel ('palpation').

BURNS

Most burns are caused by heat, which may be an open flame, contact heat, or hot liquids (scalds). Others are chemical, electric, friction, sunburn, and irradiation.

Recommended Action

- Should a burn occur, remove the victim from the scene of injury. Do not expose yourself or others to the same injury.
- Roll the victim or wrap them in a blanket or other clothing to extinguish flames and use cold water.
- Do not remove charred clothing.
- Cover burnt areas with clean material (cloth). Do not apply chemicals, lotions,

Vaseline, brake fluid, or traditional treatments.
- Do not break blisters.
- Get the patient to a health facility as soon as possible.

Prevention
- Provide community education on the dangers of house and office fires.
- Advocate for enforcement of statutory regulations relating to fire safety.
- Promote the practice of fire drills in the workplace, schools, and other vulnerable areas.

5.6 Oral Health

There are several oral health conditions to look out for in this age group. These include eruption of permanent teeth, eruption of 3rd molars, pericoronitis, impacted teeth, attrition of teeth surfaces, sensitivity of teeth, teeth fractures, dental caries, orthodontic malocclusions and skeletal discrepancies. Management at the community level should reinforce oral hygiene instructions, diet counselling and refer to a health facility for appropriate management

>***Key Message 8 –*** Visit the dentist at least once a year to review dental development and oral health.

>***Key Message 9 –*** Eruption of 3rd molars may cause discomfort and pain. Seek advice from your nearest oral health clinic.

>***Key Message 10 –*** Natural wear and tear of teeth may cause teeth sensitivity. Seek advice from your nearest oral health clinic.

>***Key Message 11 –*** Teeth injuries and fractures of the teeth are common in sports. Protect your teeth by wearing a mouthguard during contact sports.

>***Key Message 12 –*** Reduce sugar intake to mealtimes and avoid sugary drinks in between meals.

6. ADULTHOOD (25–59YEARS)

Community level health care tasks for this cohort focus on health and care seeking behaviour through dialogue, community-based delivery of various services, and home care. Community care also supports compliance with treatment relating to conditions that require long-term regimens, such as tuberculosis, HIV, hypertension, and diabetes. Besides, action may also be taken to prevent diseases by improving water supplies and sanitation. Referral services can be problematic in rural communities and must remain an area of concern.

6.1 Reproductive Health

>***Key Message 1 –*** People with a sexually transmitted infection (STI) are at greater risk of getting HIV and spreading HIV to others. People with STIs should seek prompt treatment and avoid sexual intercourse or practice safer sex.

People who suspect that they have an STI should seek prompt treatment from a health worker to be diagnosed and get treatment. They should avoid sexual intercourse or practice safer sex (non-penetrative sex or sex using a condom). If they are found to have an STI, they should tell their partner. If both partners are not treated for an STI, they will continue infecting each other with the STI. Most STIs are curable.

A man infected with an STI may have pain or discomfort while urinating or may have a discharge from his penis. Such a man may also have sores, blisters, bumps, and rashes on the genitals or inside the mouth. A woman infected with an STI may have discharge from the vagina with an unusual colour or bad smell, pain or itching around the genital area, and pain or unexpected bleeding from the vagina during or after intercourse. More severe infections can cause fever, pain in the abdomen, and infertility.

— **Be aware that many STIs in women and some in men may have no symptoms.**

It is worth noting that not every problem in the genital area is an STI. For example, some infections, such as candidiasis (yeast) and urinary tract infections, are not spread by sexual intercourse but cause great discomfort in the genital area.

>***Key Message 2 –*** All people are at risk of HIV infection. By abstaining from sex, sticking to a regular partner, or using condoms correctly and consistently, one can avoid getting HIV.

Mutual fidelity between two uninfected partners protects them both from HIV/AIDS. The more sex partners people have, the greater the risk that one will contract HIV and pass it on. However, anyone can have HIV/AIDS – it is not restricted to those with many sex partners. A blood test is the most accurate way to tell if someone is infected with HIV. However, an infected person may look completely well.

A condom should always be used during all penetrative sex unless it is certain that both partners are free of HIV infection. A person can become infected on even 1 occasion of unprotected penetrative sex (sex without a condom). Condoms must be used for vaginal and anal intercourse for HIV prevention. Condoms already lubricated are less likely to tear during handling or use. If the condom is not lubricated enough, a water-based lubricant, such as silicone or glycerine, should be added. If such lubricants are not available, saliva can be used. Lubricants made from oil or petroleum should never be used because they can damage the condom. Condoms should never be reused.

A safe alternative to the male condom is the female condom. The female condom is a soft, loose-fitting polyurethane sheath that lines the vagina. It has a soft ring at each end. The ring at the closed end is used to put the device inside the vagina and hold it during sex. The other ring stays outside the vagina and partly covers the labia. Before sex begins, the woman inserts the female condom with her fingers. Unlike the male condom, the female condom can be used with any lubricant – whether water-based, oil-based, or petroleum-based – because it is made from polyurethane. It can also be inserted some hours before intercourse, but it must be removed immediately afterwards. And it can be cleaned and reused.

Drinking alcohol or taking drugs interferes with judgment. Even those who understand the risks involved and the importance of safer sex may become careless after drinking or using drugs.

>***Key Message 3 –*** All adults over 25 should undergo regular check-ups for ailments that may present in later years, especially due to lifestyle changes. Check-ups should be carried out at least once a year. In addition, all people need to know their HIV status and visit a VCT centre to receive confidential counselling and testing.

Health check-ups assist in detecting health conditions that might develop into chronic health problems later in life. The earlier we start carrying out these check-ups, the better for our health as we grow older. When health problems are detected early, before advancing into serious conditions, remedial actions can be taken through lifestyle changes, treatment, or surgical interventions. During check-ups, different tests are carried out depending on the person's age since some diseases are common in certain age groups. Diseases detected through check-ups are hypertension, diabetes, and cancers (cervical, breast, prostate, rectum, lung, etc.).

6.2 Physical Exercise

Physical activity is one of the most important things you can do to maintain your physical and mental health and quality of life as you age. Walking, stretching, and keeping your muscles in good condition will help you to maintain your independence. To stay independent, you need to be able to bend, lift, carry, and move around easily. Inactivity makes your body age faster; it leads to declines in bone strength, muscle strength, heart and lung fitness, and flexibility.

>***Key Message 4 –*** To maintain your health and independence as you age, keep yourself active. Physical activity ensures that your body organs function effectively due to the stimulus in your systems.

Being active reduces the risk of getting the following:

- Falls and Injuries
- Heart disease
- Obesity
- High blood pressure
- Adult-onset diabetes
- Osteoporosis
- Stroke
- Depression
- Colon cancer
- Premature death

How to Stay Active

If you are not already physically active, start slowly and build up the following:

- Gentle reaching, bending, and stretching exercises.
- Lift weights and do resistance activities.
- Do the activities you are doing now more often.
- Take the stairs instead of the lift.

If you have any health problems, check with a doctor or other health care provider before starting an exercise programme. They can help tailor a programme to your fitness level and your condition's requirements.

6.3 Managing Illness

The key signs and symptoms to be monitored include:

FEVER

This is the hotness of the body, which is almost always a sign of disease. People who develop fever must be referred to the nearest health facility.

JAUNDICE

This is the yellowness of the eyes. It is always a sign of disease. People who develop yellowness of eyes should be taken to the nearest health facility.

ABDOMINAL PAINS

Patients with severe stomach pains, particularly if accompanied by vomiting, should be referred to the nearest health facility.

ACUTE ABDOMEN

Central in this group of conditions is severe, sudden onset abdominal pain. The term acute abdomen is a symptomatic diagnosis and not definitive. Therefore, a variety of diagnoses must be suspected and appropriately managed. Common causes of abdominal pain are medications, gastroenteritis, peptic ulcer disease, acute erosive gastritis, appendicitis, acute cholecystitis, acute pancreatitis, acute intestinal obstruction, renal colic, diverticulitis, ectopic pregnancy, ruptured/ twisted ovarian cyst, urinary tract infection, and pelvic inflammatory disease.

Management Options

The general management options include the following:

- Get the patient to a medical facility immediately.
- Advise the patient not to take anything orally.
- Reassure the patient.

Prevention

- Community education on common causes of obstruction like hernias.
- Improved hygiene and sanitation.

DIARRHEA

Diarrhoea is the occurrence of at least 3 loose or watery stools in a day. The commonest causes of diarrhoea include bacteria, viruses, worms, and fungi.

Management Options

- Give plenty of fluids, such as water, tea, juice, porridge, ORS, where available.
- Encourage the affected patient to eat.
- Refer to a health facility.

SWOLLEN LYMPH GLANDS

This is the swelling of the lymph glands, particularly the neck, armpits, and groin. It is almost always a sign of serious disease. Refer such cases to the nearest health facility.

INFECTIONS

WORMS

The commonest cause of worm infestation is ingesting food and water contaminated by faeces due to poor sanitation. They include amoebiasis and roundworms.

Presenting Features

Those affected may present with diarrhoea, abdominal pain, passing blood in stool, or passing worms in stool. They may also complain of headaches and dizziness.

Preventive Strategies

- Boil drinking water and use latrines consistently.
- Wash hands before eating and after using latrines.
- Dispose of waste properly.
- Wash vegetables and fruits before cooking and eating.
- Take deworming medicine regularly.
- Boil milk before drinking or using.

Management Options

Refer to the nearest facility.

MALARIA

Malaria is a disease caused by parasites that are transmitted by the bite of an infected female mosquito. It causes severe headache, fever, nausea, vomiting, stomach pains, diarrhoea, joint pains, dizziness, chills, body weakness, yellowness of the eyes, swelling on the left side of the abdomen, and shortness of breath. People suffering from these symptoms should be treated at a health facility.

— All people suspected of having malaria should be sent to the nearest health facility.

Prevention

- Cover exposed skin in the evenings.
- Always sleep under an insecticide treated net (ITN).
- Participate in indoor residual spraying (IRS) campaigns in epidemic prone areas.
- Apply mosquito repellents

SKIN INFECTIONS

Skin diseases can be due to allergic reactions, infections, or many other causes. They present with itching, burning sensations, pain, and skin dryness.

Management Options

- Ringworm – Apply Whitfield ointment.
- Scabies – Apply benzyl benzoate.
- Jiggers – Soak in paraffin.

Preventive Strategies

- Avoid synthetic clothing.
- Avoid letting the skin dry excessively, e.g., by using harsh soaps like bar soaps

such as Sunlight, Ushindi, etc.

- Keep clothing clean and iron, if possible, to destroy any disease organisms.
- Bathe regularly and keep the body clean.
- Avoid clothing, shoes, body applications (lotions, cosmetics, etc.), and foods known to cause skin allergies to the individual

PNEUMONIA IN ADULTS

Presenting Features

This is an infection of the lungs that presents with breathlessness, cough with or without sputum that might be rust-coloured, and sometimes fever and stabbing chest pain on breathing.

Management Options

Refer to the nearest health facility.

MENINGITIS

This is an infection of the brain and spinal cord commonly caused by bacteria and other organisms.

Presenting Features

Common symptoms include headache at the back of the head, neck stiffness and pain, altered level of consciousness, fever, vomiting, and convulsions. Coma is likely to develop unless appropriate treatment is given immediately.

Management Options

Refer immediately to the nearest health facility.

TETANUS (LOCKJAW)

This disease is caused by bacterial contamination of wounds anywhere on the body, but most commonly on the leg. Untreated tetanus can kill.

Presenting Features

The patient has locking of the jaw, stiffness of the neck, stiffness and pain in the stomach, violent spasms of muscles that can result in breaking the muscles, rigid arching of the back muscles, pain in swallowing, and difficulty in breathing.

Management Options

Refer immediately to the nearest health facility.

Preventive Strategies

- Clean cut wounds with water and soap.
- For people with open wounds:
- All patients with a history of cut wounds/injury should be encouraged to receive the Tetanus toxoid vaccine

- ***Refer to the health facility for vaccination***

HERPES INFECTIONS

The herpes group of viruses and especially the Herpes zoster, constitutes one of the most common causes of lesions in the mouth and face. The lesions are usually of acute onset, manifesting with irritating pain. However, where there is underlying HIV infection, fulminating Herpes zoster infection may cause extensive mouth damage, leading to spontaneous falling out of teeth and destruction of the affected jaw segments.

Management Options

- Conduct community education.
- Do not touch these lesions without gloved hands.
- Refer to the nearest health facility.

BACTERIAL INFECTIONS OF THE MOUTH

The mouth is a favourite habitat for many disease-causing organisms. Common sites and sources of bacterial infection in the mouth and facial area include:

- Decayed teeth
- Root remnants in the jaws
- Gum infection
- Injured tissues

TUBERCULOSIS

Tuberculosis (TB) is a disease caused by bacteria called Mycobacterium tuberculosis. The bacteria usually attack the lungs. However, TB bacteria can attack any body part, such as the kidney, spine, and brain. If not treated properly, TB disease can be fatal. TB is spread through the air from one person to another. The bacteria are discharged into the air when a person with active TB disease of the lungs or throat coughs or sneezes. People nearby may breathe in these bacteria and become infected. TB in the lungs or throat can be infectious. This means that the bacteria can be spread to other people. TB in other body parts, such as the kidney or spine, is usually not infectious.

Presenting Features

People with the following symptoms should be advised to go for a sputum test at the nearest health centre:

- Cough that lasts for 2 or more weeks
- Coughing up blood- or blood-stained sputum
- Chest pain, fever and night sweats, and weight loss

Management Options

- Refer suspected cases to the health facility.
- Support those on treatment to complete their treatment.

Prevention and Control

Strategies for the prevention and control of tuberculosis include the following:

- Effective treatment of all positive tuberculosis cases.
- Community-based support for the patient throughout the treatment period to complete it and get cured. Once a patient has been confirmed to be suffering from TB and a decision to manage him/her within the community, the patient is assigned to their respective CHW.
- Proper ventilation.
- Covering mouth when coughing.
- Avoiding spitting or spitting into a handkerchief or paper that can be thrown away safely.
- Seeking treatment for those affected at once.
- Contact tracing.
- Defaulter tracing.

The Role of CHPs in TB Management, Prevention, and Control

- Directly observed treatment short course (DOTS): The value of this form of treatment is to ensure that the patient finishes his/her medication and thus does not default.
- Contact tracing.
- Defaulter tracing: All patients who stop taking their medication should be traced and brought back for treatment. Defaulter tracing is initiated if a patient misses treatment for more than 3 days in the intensive phase and more than 1 month of collection during the continuation phase. Then, a report is given to the

supervisor for action.

In filling this role, the CHP will:

- Assist the patient to go through the period of at least the initial phase (2 months) of treatment by seeing that they have swallowed the medicines in their presence.
- Collect supplies and other requirements for the patient from the health facility at least twice per month.
- Indicate on the patient's appointment card that the drugs have been swallowed in their presence.
- Assist the patient in recognizing any side effects and referring them to the health facility for advice.
- Refer any patient who may develop any complications.
- Meet regularly with the supervisor to discuss any constraints or matters concerning the patient.
- Remind patients to come for sputum smear examination follow-ups at 2,5 and 8 months.
- Avail the patient's clinic card to the supervisor or health facilities for data entry into the TB treatment register every month.
- Involve the community to ensure support for the patient throughout the treatment period through DOTS. This will ensure the completion of medication and thus lead to a cure.

If the CHP is away from the area for some time, the patient and supervisor should be informed so that a substitute can be arranged during that period.

What Is Required to Meet the Needs of the Chronically Ill

- Help with general household chores.
- Psychological support: This includes stress and anxiety reduction, promoting positive living, helping individuals make informed decisions as they seek care, and involving partner(s) in such decisions.
- Nursing care, including personal hygiene: This includes care given to promote and maintain good health, hygiene, good nutrition, and comfort to ensure a cheerful life despite the illness.
- Clinical care, including palliative care. This includes early diagnosis, rational treatment, and planning for follow-up care of HIV-related illnesses.
- Food and nutrition.
- Environmental cleanliness.
- Social support: Includes information and referral to support groups, welfare services, and legal advice for individuals and families, including surviving family members, and where feasible, the provision of material assistance.
- Referral to the health facility.

TB Community Control

Here the discussion turns to messages and approaches that aim to get the whole community on board in the fight against TB.

>***Key Message 5*** – Tuberculosis is a curable disease if it is diagnosed and treated early, regardless of the HIV status.

The following is important to know about tuberculosis:

- The biggest difference between HIV and TB is that TB can be cured.
- Curing TB is a personal choice, even for a person with HIV.
- Early diagnosis and prompt treatment are the only way to beat TB.
- HIV does not mean TB, and TB does not mean HIV.
- Find out what you have. If it is TB, it can be cured. Act fast.
- Once hope replaces fear, TB can be cured.

>***Key Message 6*** – If you have been coughing for 2 weeks or more, go for a TB test immediately. Early diagnosis and prompt treatment are the only way to beat TB.

>***Key Message 7*** – Recognize and take action on warning symptoms of TB. Report immediately to the nearest health facility in case TB is suspected.

Remember:

- TB always warns you in time with a cough. Do not delay action.
- Let a healthcare provider at an approved government facility listen to that cough. Then, he/she will know what to do.
- Other people have other opinions. The opinion that matters is of the health worker at the approved government health care centre.

>***Key Message 8 –*** TB is a family problem, and all family and community members should be involved to ensure adherence to treatment.

Such involvement is exemplified by the following:

- The family should refuse to let the patient die.
- Encourage the individual with a cough to test, start treatment, and live.
- The family that lights up hope together fights off TB together.
- Be your brother's (sister's/father's/mother's) keeper.
- I said NO, but my family said yes to the TB cure, and I'm alive today.

>Key Message 9 – You do not have the right cure for TB, but you can always give the right advice.

The right advice for TB consists of the following:

- Send the TB patient now to the nearest government health care facility.
- When people with TB depend on our guidance, don't misinform them.
- Understand TB and guide the TB patient, leaving the cure to an approved TB health care facility.
- TB can be cured only at a well-equipped and approved healthcare facility.
- Don't give out false cures for TB. Give the correct advice.
- Caring begins with the look in our eyes. Don't look away from TB.
- The complete cure for TB starts with your correct advice.

RESPIRATORY SYSTEM

ASTHMA

Presenting Features

Asthma presents with attacks of difficulty in breathing with wheezing and noises in the chest when breathing.

Prevention Measures

- To teach the community to Identify and avoid the triggers, such as exercise, certain foods, and pollen.
- To advise the community to take medication as prescribed
- To educate the community on the proper use of inhalers - including cleaning the inhalers.
- Remind the patients to carry their inhalers and medicines to the workplace/while travelling to get immediate relief during the attack.

Management Options

Refer to the nearest health facility.

CHRONIC OBSTRUCTIVE LUNG DISEASES

Presenting Features

- It may present as a cough, particularly early in the morning, wheezing, and sputum production.
- Difficulty in breathing, cough, and fever.

Management Options

- Refer to the nearest health facility.

LUNG CANCER

More cases are being seen in Kenya, and the association with smoking is high.

Presenting Features

- Long-term cough and chest pain
- Coughing blood
- Wheezing or noises in the chest when breathing
- There may be swollen lymph nodes in the area
- Loss of appetite and loss of weight

Management Options

- Refer all suspected cases for medical checks. In presence of chronic cough with blood in sputum and difficulties in breathing, refer immediately.

Prevention

- Community action plan to reduce the risk factors, such as smoking
- Enforcement of anti-smoking legislation
- Encouraging regular medical check-ups

CENTRAL NERVOUS SYSTEM

These conditions affect the central nervous system (CNS) and may present with headache, vomiting, alterations in consciousness, or enlarged head size. The patient may also have paralysis and/or loss of sensation in a part of the body and blurred, double vision or loss of vision.

Headache is the commonest symptom of brain disease and is commonly secondary to another cause. However, many are due to unidentified causes and are often referred to as primary headache disorders.

Management Options

- Headache does not always mean serious disease, and mild headaches can be relieved by a common painkiller like paracetamol.
- Refer to the nearest health facility a patient having severe and persistent headache.

Preventive Strategies

Avoiding known triggers to headaches, e.g., dehydration, adopting consistent sleeping patterns and minimization of environmental stress.

EPILEPSY

Epilepsy is a clinical syndrome characterized by the presence of recurrent seizures.

Presenting Features

Sudden jerky movements in the legs and arms, frothing, biting of the tongue, uncontrolled passing of urine, and loss of consciousness.

Management Options

During an epileptic attack:

- The patient should be placed on the left side with head turned to the same side. (place in recovery position).
- Tight-fitting clothing around the neck should be removed or loosened.
- Dentures should be removed.
- No attempts should be made to insert any instrument into the mouth to avoid tongue biting, as this may have already happened.
- The patient should not be surrounded by too many eager observers.
- Seizures should be allowed to complete their course without physically attempting to hold down the patient. However, remove the patient from danger, e.g., fire
- Take the patient to the health facility.

Patient Education

- Avoid becoming drunk, especially drinking sprees during weekends.
- Eat at regular intervals.
- Try to manage physical or mental stress, as it may precipitate a seizure.
- Avoid sleep deprivation.

- Never swim alone, and take all precautions when swimming.
- Avoid operating heavy or sharp-edged machinery.
- To prevent burns, make or place a protective shield around *jikos*.

COMA

Coma is a state in which the patient is unarousable and unresponsive to external stimulation. It is usually due to severe brain diseases that, in turn, might also be related to severe diseases in other body organs.

Management Options

- Ensure the patient is breathing.
- Refer to the nearest health facility while ensuring that the neck is pulled backwards, the mouth is open, and the tongue is not falling behind the throat.
- Release tight clothing and clear any secretions around the mouth, including vomitus.
- Transport the patient lying on the side.

MENTAL DISORDERS

This is a group of diseases characterized by a wide range of abnormal behaviours. For example, they may present with aggressiveness, violence, withdrawal and depression, lack of proper reasoning, exaggeration of feeling a disease even where there is no evidence of disease, excitement, and being over-religious. Or they may have no symptoms at all.

Management Options

Refer to the nearest health facility but ensure family and community support.

ANXIETY

This is a condition in which an individual feels unexplainably insecure. There is an unpleasant, vague, and diffuse feeling of apprehension. Usually, the threat is unknown, and the patient's functioning becomes impaired. Pathological anxiety includes the following:

- Panic disorder: Dramatic in presentation
- Phobias: Fears that are out of proportion
- Obsessive compulsive disorder: Irresistible urge to act
- Generalized anxiety disorder

Presenting Features

Empty feeling in the stomach, tightness in the chest, pounding heart, perspiration, urge to void, dizziness, lightheadedness.

Management Options

Refer to the nearest health facility.

SLEEP DISORDERS

These could be lack of sleep or excessive sleep. Either condition can be due to serious underlying medical conditions, particularly if of recent onset.

Management Options

Refer to the nearest health facility.

ENDOCRINOLOGY

DIABETES MELLITUS

Diabetes mellitus is a disease of too much sugar in the blood.

Presenting Features

Passing a lot of urine frequently, feeling thirsty/drinking a lot of water, feeling excessively hungry, and having body weakness, with weight loss.

Management Options

- Refer all suspected cases to the health facility.
- When sugar goes very high, patients with diabetes develop altered consciousness and may become confused and even comatose. When the blood sugars go very low, they become confused, sweat a lot, and may go into a coma. Give sugar if they can still swallow and refer to a health facility immediately.
- Teach patients how to avoid foot injury. Hospital occupational therapists should advise patients on foot care.
- Patients with any injury, however minor, should seek medical advice.

- Remind all diabetic patients to:
  - Eat regularly.
  - Carry sweets or glucose and chew them if they experience any symptoms of hypoglycaemia
  - Always carry a "Diabetic Alert" card with them.
  - Join any branch of the Kenya Diabetic Association for support and "continuing education."

JOINT AND BONE CONDITIONS

JOINT PAIN

Joint pain can be caused by infections, injuries, changes due to ageing, or straining.

Presenting Features

General malaise, joint pains, joint mobility not affected, joint not red, warm, tender or only slightly tender.

Management Options

The following is recommended:

- For mild cases, use mild remedies like aspirin or paracetamol.
- Apply warm compresses to the affected joints.
- Rest the joints, and avoid strenuous exercise.
- Refer to the nearest health facility.

Preventive Strategies

- Reduce weight
- Wear better fitting shoes

GOUT

Excruciating joint pain, usually in a single joint and commonly the big toe. It usually follows the consumption of meat products and alcohol.

Management Options

- Refer to the health facility.
- Avoid aspirin.

Preventive Strategies

- Avoid alcohol consumption.
- Avoid heavy consumption of meat.

JOINT INFECTIONS

These are acute infections of the joint space.

Presenting Features

- Fever, chills, and irritability.
- Swollen, warm, very tender joint(s).
- Loss of function of the joint.

- Many joints may be affected.

Management Options

- Splint the joint.
- Give painkillers.
- Refer to a health facility.
-

BONE INFECTION

The condition may be acute or chronic.

Presenting Features

Pain is the major presenting symptom. The severity increases with time. Next, there is a fever, and the patient becomes toxic. The main physical signs are localized tenderness, loss of limb function, and swelling. Commonly involved bones are those of the legs and arms.

Management Options
Refer to a health facility.

BONE GROWTHS

This a common problem affecting all age groups. They can be benign or malignant.

Presenting Features
Swellings or deformities develop on any part of the bones of the body. These may be slow growing and painless or relatively rapid growing and painful. Most slow and painless swellings are benign, while the rapidly developing and painful ones can be malignant. In addition, benign conditions affecting the joints or growing next to nerves may present with pain.

Management
Refer to a health facility for investigation and appropriate management.

LOWER BACK PAIN

Management Options
- Conduct community education on correct body posture at work, sleeping, etc.
- Educate the community on techniques for lifting heavy objects.
- Improve the working environment to reduce the incidence of lower back pain.
- Refer to a health facility.

EAR, NOSE THROAT CONDITIONS

DIFFICULTY IN SWALLOWING

Presenting Features
May develop suddenly or slowly

Management Options
Refer all cases to the health facility.

THROAT CANCER

Presenting Features
- Commonly first presents as a neck mass.
- Other symptoms may include congestion, runny nose, bleeding, and ear pain.
- The voice may be hoarse.

Management Options
- Conduct community education programmes for prevention and early detection.
- Refer all cases to hospital for further evaluation and management.

GASTROINTESTINAL SYSTEM

HEART BURN AND ULCERS

In this condition, patients have pain in the stomach and chest that is burning in nature. The pain may be worsened by food, hunger, or after taking some drugs. This pain is commonly due to gullet, stomach, or small intestine ulcers.

Management Options

Refer to the nearest health facility.

Preventive Strategies

- Avoid any foods that, in the patient's experience, give pain.
- Avoid acidic foods, e.g., cola drinks.
- Limit alcohol intake and smoking.
- Take bed rest in acute attacks.
- Avoid painkillers unless prescribed in the health facility.
- Give antacids.

BLEEDING FROM THE GULLET, STOMACH, AND INTESTINES

Vomiting blood usually occurs from ulcers in the gullet, stomach, or small intestine. This is serious, and such patients should be referred immediately to the nearest health facility.

At the lower end of the gut, bleeding from the anus is caused by:

- Haemorrhoids
- Ulcers in the large intestine, which include cancers and injury
- Bleeding disorders

Management Options

Refer to the nearest health facility.

GROIN HERNIAS

This is a protrusion of abdominal contents into the groin, which can sometimes go down into the scrotum.

Presenting Features

Bulge presenting at the groin and may increase with straining. May, at times, present with sudden pain and may get stuck such that the contents of the hernia fail to return to the abdomen. If this happens, it is life-threatening.

Management Options

Refer to the health facility for examination.

WOUNDS AND GROWTHS/SWELLINGS OF THE SKIN

Presenting Features

Ulcers are mainly found in the lower limbs but may occur on any body part. A boil (abscess) is fluid accumulation following a localized infection. This results in pus formation and can occur in almost any body part.

Management Options

Refer persistent wounds and boils to the nearest health facility. Soothe painful boils with warm compresses.

GENITOURINARY DANGER SIGNS AND SYMPTOMS

Urinary tract and kidney infections cause pain and discomfort in the urinary tract and may not necessarily be sexually transmitted. Kidney diseases present as reduced or increased urine amount, passing blood-stained urine, swelling of the feet, early morning facial swelling, nausea and vomiting, and loss of appetite.

Men may experience swelling of the scrotum, pain of the testis, passing blood in the urine, and urinary retention, which are all significant urinary signs signifying problems. In addition, they may be caused by conditions like water in the scrotum, twisting of the testis, and prostate enlargement.

— Refer all such patients urgently to the nearest health facility.

Diseases Affecting Women

PELVIC SWELLINGS

Unexplainable swelling in the lower abdomen requires examination in a health facility. Such swellings may or may not be painful and may or may not be associated with other symptoms. In any case, community members should seek care in a health facility

urgently, as some swellings may be an indication of serious diseases. Examples of swellings in the lower abdomen include:

- Pregnancy
- Distended bladder
- Uterine fibroids
- Tube-ovarian swellings
- Ovarian cyst or growth
- Cancers

All cases of unexplainable abdominal masses should be referred to a health facility.

MENSTRUAL DISTURBANCES

Most women suffer some form of menstrual disturbance in their lifetime. However, because they may be a symptom of serious illness, women are advised to seek help from health facilities for any menstrual disturbances experienced. The common types are discussed below.

LACK OF PERIODS (AMENORRHOEA)

This refers to the absence of menstruation for 2 months or more. It is a symptom, and its significance depends on the underlying cause. In *primary amenorrhoea,* the woman has never menstruated. A girl who reaches 16–18 years without menstruating should be examined in a health facility and referred to an appropriate level for care. *Secondary amenorrhoea* refers to the cessation of the periods after menstruation has been established. Two varieties are hidden periods and true amenorrhoea (primary and secondary).

HIDDEN PERIODS

These are due to mechanical blockage of the genital tract. The blockage prevents the outflow of menstrual blood in cases of congenital imperforate hymen or vaginal membrane. Such persons should be referred to hospital for incision of imperforate hymen or excision of the vaginal membrane.

TRUE AMENORRHOEA

This can be normal, as is the situation before puberty, during pregnancy, during lactation, and after menopause. It may be abnormal, however, and may be due to disturbances of hormones from various causes. Primary amenorrhoea is investigated after age 18, and secondary amenorrhoea at any age when 2 or more unexplained cycles are missed.

Irregular periods, too heavy or prolonged periods, and painful periods (dysmenorrhoea) are also investigated. These conditions may or may not be associated with underlying physical disease. Women with these problems should be referred to the hospital.

PREMENSTRUAL TENSION

Women with this condition experience discomfort in the lower abdomen and back 7–10 days before their periods. They have a sensation of distension or pelvic engorgement. There is relief after the flow begins. They may also experience nervous irritability, depression, headache, listlessness, mild oedema, and breast discomfort.

Such women should be given paracetamol 1g TDS then referred to the nearest health facility.

CANCERS OF THE GENITAL TRACT

The commonest cancers of the genital tract arise from the neck of the uterus (cervix), the body of uterus (endometrium), the vulva, and the ovaries.

The community health workforce (CHA, CHPs) and community residents should be sensitized on the danger signs of cancer of the genital tract. They should refer all women suspected of having cancer to health facilities for examination. Community members should also be sensitized to seek annual routine gynaecological check-ups, including simple cancer screening in dispensaries and health centres.

Danger Signs of Genital Cancer

These include:

- Abnormal uterine bleeding–during intercourse, on straining, outside the normal period
- Foul-smelling vaginal discharge
- Swelling in the lower abdomen
- Ulcer or swelling on the vulva

Preventive/Health Promotion Activities

Communities should be sensitized to healthy lifestyles that reduce risks of reproductive tract cancers. These lifestyles include:

- Avoiding STDs and STIs or getting prompt, effective treatment when affected.
- Regular screening–annual Pap smear or visual inspection with acetic acid (VIA) or visual inspection with Lugol's iodine (VILI) to prevent cancer of the cervix (neck of the womb).
- Avoiding multiple sex partners.
- Getting vaccination for HPV to prevent cancer of the cervix.
- Early referral to the health facility for suspected cases.

INFECTION IN THE PELVIS (PELVIC INFLAMMATORY DISEASE, PID)

This is an inflammation of pelvic organs. It results from sexually transmitted infections such as gonorrhoea and chlamydia trachomatis but can follow puerperal sepsis or unsafe abortion. Tuberculosis is another cause of chronic PID. PID is a major cause of infertility if not treated promptly and effectively. Danger signals for PID include the

following:

- Lower abdominal pain
- Fever
- Purulent vaginal discharge
- Painful sexual intercourse
- Low back pains

Give ibuprofen 400mg TDS and refer women suspected to have PID to the nearest health facility for examination and treatment.

Prevention Strategies

- Practising the "ABCs" of safer sex (abstinence, being mutually faithful, condom use).
- Promptly treating STDs/STIs and abnormal vaginal discharge.

- Using only approved facilities for maternity and post-abortion care.

ABSCESSES AND FISTULAE

Bartholin's Abscess

This is a boil-like swelling located on either side of the vaginal opening. The swelling is very painful and tender. Refer to the nearest health facility for further management

Genital Fistulae

A fistula is an abnormal opening between the genital tract and the urinary or alimentary tracts. Such openings may occur singly or in combination. Continuous leaking of urine, faeces, or both through the vagina are indicators of this problem.

Common causes of genital fistulae include the following:

- Obstructed labour
- Instrumental deliveries, caesarean section, hysterectomy
- Malignancies

- **This condition can be corrected with surgery. Refer affected women to a hospital (levels 4–6).**

Preventive Strategies

Prevention is properly managing labour, preferably by a skilled attendant, and ensuring early referral to avoid prolonged and obstructed labour.

Notably, very young mothers are more prone to fistulae because their bodies are not mature enough to handle a pregnancy and birth. Therefore, one way to decrease the incidence of fistula in the population is for women to wait until they are at least 18 before becoming pregnant.

BREAST CONDITIONS

Breast disease presents as lumps, pain, nipple discharge, and breast ulcers or eczema.

Management Strategies

- Community education on the dangers of breast disease
- Encourage and teach women self-breast examination

- **Refer women with breast lumps to the nearest health facility urgently.**

Infertility

Infertility, although not necessarily a disease, is the failure to conceive after a year of sexual intercourse without contraception. The causes can involve the man, the woman, or both. Therefore, it is unjustified to blame only the woman in infertility cases. The CHW

should inform community members on how fertilization occurs, the requirements and why this fails to happen in some cases. Community members should be made aware that many causes of infertility can be treated in health facilities. They should be advised to go to hospital for any infertility concerns. It is important for the couple to undergo investigations and treatment together, to support each other, and to avoid blaming each other.

6.4 Family Planning (FP)

The essence of family planning is that "everyone should plan their family so that all children are born when wanted, expected, and welcome". The health benefits of family planning play a major role in protecting the lives of infants, children, women, and the family as a whole. Family planning also contributes to community and national development. Communities, counties and countries can plan and provide adequate infrastructure, amenities, and services for the people. The community health workforce (CHA, CHPs) and community members should be involved in community-based distribution (CBD) of appropriate methods according to the National Family Planning Guidelines (MOH/RMHSU 2018). Appropriate methods for this approach are the pill and the condom (male/female). These methods are also distributed through kiosks, shops, and pharmacies. The community-based distributors should also counsel and refer individuals and couples who require other methods (IUCD, injectables, implants, voluntary surgical contraception, i.e., tubal ligation and vasectomy) to the health facilities.

Trained CBDs/CHPs can provide the following family planning services:

- Condoms: Counselling and provision of service.
- Lactation amenorrhoea method (LAM): Counselling, support, and referral for the service.
- The pill: combined oral contraceptives (COC), progesterone-only-pill (POP), and emergency contraceptive pill (ECP): Counselling, provision of some of the services, and referral for some of the other services.
- Injectables, IUCD, implants, natural family planning, tubal ligation, vasectomy: Counselling and referral for the services.

6.5 Oral Health

The conditions to look out for in this age group include eruption of wisdom teeth, pericoronitis, impacted teeth, attrition of teeth surfaces, sensitivity of teeth, recession, dental caries, periodontal disease. Management at the community level includes reinforcing hygiene instructions, diet counselling and referring to a health facility for appropriate management.

>***Key Message 10 –*** Visit the dentist at least once a year to review dental and oral health.

>***Key Message 11 –*** Natural wear and tear of teeth may cause teeth sensitivity. Seek advice from your nearest oral health clinic.

>***Key Message 12 –*** Unmanaged stress and mental health problems can trigger temporomandibular joint disorders. Seek advice from your nearest oral health clinic.

>***Key Message 13 –*** Reduce sugar intake to mealtimes and avoid sugary drinks between meals.

7. ELDERLY PERSONS (60+YEARS)

In this target group, the main tasks at the household and community levels are dialogue to promote regular medical check-ups, healthy practices, care groups, and provision of referral services.

7.1 Maintaining Good Health

>***Key Message 1 –*** Seek regular medical check-ups and information on old-age conditions. One should follow the instructions at the health facility and seek health care as soon as illness appears.

Persons aged 65 and older are at high risk for complications and hospitalization. Elderly persons have immune systems that are less able to fight new infections because of the declining immunity that accompanies ageing.

>***Key Message 2 –*** Try to be physically active every day.

It is vital to make moderate physical activity a part of an adult's daily routine as a preventive/management strategy against obesity, hypertension, diabetes, and coronary artery disease. Moderate physical activity for an hour daily can increase energy expenditure by about 150 to 200 calories, depending on body size. If not offset by increased calorie intake, this increase in physical activity could help prevent weight gain. Therefore, many adults should consider participating in up to 60 minutes of moderate to vigorous physical activity on most days to prevent unhealthy weight gain.

>***Key Message 3 –*** Increase daily intake of fruits and vegetables, whole grains and reduced-fat milk and milk products.

Fruits contain glucose, fructose, sucrose, and fibre, and most fruits are relatively low in calories. In addition, fruits are important sources of at least 8 additional

nutrients, including vitamin C, folate, and potassium (which may help control blood pressure). Many vegetables provide only small amounts of sugars and/or starch, some are high in starch, and all provide fibre. Vegetables are important sources of 19 or more nutrients, including potassium, folate, and vitamins A and E.

Adults who increase their fruit and vegetable consumption to meet recommended nutrient intakes will also be consuming amounts of fruits and vegetables that are associated with a decreased risk of such chronic diseases as stroke. Moreover, increased consumption of fruits and vegetables may be a useful component of a programme designed to achieve and sustain weight loss.

Reducing salt (sodium chloride) intake is one of several ways that people can lower their blood pressure. Reducing blood pressure, ideally to the normal range, reduces the chance of developing a stroke, heart disease, heart failure, and kidney disease. The relationship between salt intake and blood pressure is direct and progressive without an apparent threshold. On average, the higher a person's salt intake, the higher their blood pressure. Thus, reducing salt intake as much as possible can lower blood pressure. Another dietary measure to lower blood pressure is consuming a potassium-rich diet. Such a diet also blunts the effects of salt on blood pressure and may reduce the risk of developing kidney stones, possibly decreasing bone loss with age.

>***Key Message 4 –*** Adhere to key health practices.

It is highly recommended that elderly persons should adhere to the following key health practices:

- Use ITNs to prevent malaria.
- Wash hands before handling food, eating, and visiting the toilet.
- Seek information on old age conditions.
- Seek health care as soon as illness manifests
- Use boiled or treated water for drinking.
- Follow instructions given at the health facility for any service.
- Go for regular medical check-ups to detect silent conditions.
- Have daily physical activity.
- Eat plenty of vegetables and fruits.
- Avoid salty, oily foods.

7.2 Managing Disease

Diseases of the Heart and Blood Vessels

HYPERTENSION (HIGH BLOOD PRESSURE)

Common signs are awareness of heartbeat, headache, and dizziness. If the heart is damaged, the signs are swelling of the legs, getting tired easily, coughing, and breathlessness.

Management Options

Not all patients with hypertension need drug treatment. The following measures can control a good number of patients from drug treatment:

- Reducing weight if overweight or obese.
- Eating a low-salt diet.
- Advising patients to give up smoking and consumption of excessive alcohol.
- Taking regular dynamic exercises.

STROKE

A stroke is a sudden weakness of one side of the body, commonly accompanied by a headache. The signs of a stroke vary depending on which part of the brain is affected.

Signs may include:

- Facial weakness
- Inability to smile
- The mouth or an eye droop
- Weakness or numb feelings
- Difficulty speaking, e.g. slurred speech
- Dribbling from one side of the mouth

Use the **FAST (Face – Arm – Speech – Time)** guide if you suspect a person has had a stroke

- F – Face – is their face drooping on one side? Can they smile?
- A – Arms – is one arm weak? Can they raise both arms?
- S – Speech – is their speech slurred or muddled? Can they speak?
- T – Time – time to seek immediate medical assistance

Management

- Seek urgent medical assistance
- Sit the person down
  - Reassure and keep them calm
  - Monitor the vital signs

- If the person becomes unconscious, put them in the recovery position: The FAST test

Mental Health

The elderly should be engaged in mentally engaging activities/tasks like puzzles to keep an active

DEMENTIA

Dementia is the loss of cognitive functioning — thinking, remembering, and reasoning to such an extent that it interferes with a person's daily life and activities. Some people with dementia cannot control their emotions and their personalities may change.

Dementia ranges in severity from the mildest stage, when it is just beginning to affect a person's functioning, to the most severe stage, when the person must depend completely on others for basic living activities.

Symptoms

- Experiencing memory loss, poor judgment, and confusion.
- Difficulty speaking, understanding and expressing thoughts or reading and writing.
- Wandering and getting lost in a familiar neighbourhood.
- Trouble handling money responsibly and paying bills.
- Repeating questions.
- Using unusual words to refer to familiar objects.
- Taking longer to complete normal daily tasks.
- Losing interest in normal daily activities or events.
- Hallucinating or experiencing delusions or paranoia.
- Acting impulsively.
- Not caring about other people's feelings.
- Losing balance and problems with movement.

Management

- Referral to the Health Facility for management
- Psychosocial support

Cancers and Growths

Cancers are malignant conditions that can be found in any part of the body. They commonly appear as swellings, e.g., in the breast, lymph glands, stomach, and skin. Some will appear as abnormal bleeding or discharge, like cancer of the cervix (mouth of the womb) or cancer of the womb. Most cancers start from one organ and

progressively spread to involve others. They are usually not painful, although some are very painful. Most cancers, if detected early, can be cured, but if detected late, they are fatal. Cancers of the blood may present as anaemia, swellings in the glands, or swellings in the stomach. Not all growths are cancerous. Nevertheless, all patients with the above features must be referred to the nearest facility urgently.

Cancer is caused by exposure to various risk factors that include the following:

- Tobacco use and cigarette smoking.
- Unhealthy diet.
- Sexually transmitted diseases.
- Infections, e.g., schistosomiasis.
- Exposure to some chemicals, drugs, and radiation.

Senile Cataract

Presenting Features

- Slowly progressive visual loss or blurring affecting one or both eyes.
- Appearance of a white pupil.

Management Options

- Community education on blindness, prevention and treatment.
- Community outreach programmes.

7.3 Oral Health

Conditions to look out for in this age group include gum recession, mobile teeth, loss of teeth, periodontitis, and temporomandibular joint disorders. Management at the community level includes reinforcing oral hygiene instructions, diet counselling and referral to a health facility for appropriate management.

>Key Message 5 *– Visit the dentist at least once a year to review dental and oral health*

>Key Message 6 *– Even when you are edentulous (lacking teeth), it is important to clean the gums and tongue to maintain optimum oral health.*

>Key Message 7 *– Clean oral prosthesis daily.*

>Key Message 8 *– It is possible to use dental prosthesis to replace missing teeth and Improve Nutrition*

>Key Message 9 – Reduce sugar intake to mealtimes and avoid sugary drinks in-between meals

8. FORENSIC MEDICINE IN THE COMMUNITY

Forensic medicine is the application of medical knowledge to investigate crime, particularly in establishing the causes of injury or death. Forensic medicine includes examining and managing the living injured and persons who died under unnatural circumstances. It requires accurate documentation and preservation of forensic medical evidence. Standardization of care, reports, improving consistency and quality of opinions prepared by experts will facilitate better delivery of justice.

8.1 Fundamental Principles of Forensic Medicine

a. LEGAL FRAMEWORKS

Criminal law deals with relationships between the state and the individual and is probably where forensic medical expertise is most commonly required. Criminal trials involve offences that are 'against public interest'; these include offences against the person (e.g., murder, assault, grievous bodily harm, rape), property (e.g., burglary, theft, robbery), and public safety and security of the state (terrorism). On the other hand, civil law is concerned with resolving disputes between individuals.

b. MEDICAL PRACTITIONERS AND THE LAW

Medical practitioners may encounter the law like any other citizen or in their day-to-day professional practice where they may manage a patient whose medical condition is of forensic interest. Medical practitioners are expected to conduct a full medical-forensic examination on the patients (and prescribe the appropriate medical treatment); collect and preserve the necessary medical forensic samples. They are then required to inform and forward to the investigating officer or their representative the samples collected while maintaining a record of the chain of custody. Finally, they should initiate appropriate referrals to the relevant areas for the necessary subsequent care.

The medical practitioner may then be required to give evidence at a court of law regarding the patient, in which case she/he may be a professional (gives an account of the events) or expert witness (gives an opinion based on medical facts).

When required to give evidence at a court of law, the medical practitioner is expected to prepare a statement in advance. This statement will take the form of a medical report and will be based on the notes made at the time of encounter with the patient, which may be many months or years later.

Preparation of medical reports

General considerations

- The diversity of uses of a report is reflected in the individuals or groups that may request one: a report may be requested by the police, prosecutors, coroners, judges, medical administrators, government departments or regulatory bodies.
- The most important question that medical practitioners must ask themselves before agreeing to write a report is whether they (1) have the expertise to write such a report and (2) have the authority to write such a report.
- Generally, when medical records need to be reviewed, written permission to access and use those records has to be given, either by the individual or by an individual or body with the power to give that consent. If consent has not been sought, advice should be sought from the relevant court or body for permission to proceed.
- An order from a court, if valid, should be obeyed.
- For medical confidentiality, the consent of a living patient is required and if at all possible, this should be given in writing to the medical practitioner. Exceptions may exist, particularly where serious crime is involved, in which case the medical practitioners have a public duty to assist the law-enforcement agencies.
- If no consent was provided, this should be stated in the report, as should the basis on which the report was written.
- It is also important to remember that consent to disclose the effects of an alleged assault does not imply consent to disclose all the medical details of the victim. A medical practitioner must limit her/his report to relevant details only.
- Issues related to terrorism, child abuse, weapon use, and other violent crime must be reported.
- The basis of most reports and statements lies in the contemporaneous notes made at the time of an examination, and it is essential to remember that copies of these notes may be required in court as part of the evidence.
- The medical practitioner should ensure clarity and simplicity of expression to make the whole process simpler. A clear, concise and complete report or statement may prevent the need for court attendance at all, and if you do have to give evidence, it is much easier to do so from a legible report.
- Medical reports can be constructed along the same lines as the clinical notes – they should be structured, detailed (but not overelaborate) and accurate. A good report will give the relevant facts concisely and completely and in a way that an intelligent person without medical training can understand.

- Medical abbreviations should be used with care, and highly technical terms, especially those relating to complex equipment or techniques, should be explained in simple but not condescending terms.
- Abbreviations in common usage, such as ECG, can generally be used without explanation, although occasionally, further explanation is required.
- It is preferable not to submit handwritten or proforma-type statements unless unavoidable.
- A simple professional witness statement (one that simply reports facts found at examination) may be headed by specific legal wording.

Autopsy reports

- Are a specialist type of report and may be commissioned by the Coroner, the police or any other legally competent person or body. There may be standardized protocols or proforma.
- The authority to perform the examination will replace the consent given by a live patient and is equally important.
- The history and background of the death will be obtained by the police or the Coroner's officer. Still, the doctor should seek any additional details that appear to be relevant, including speaking to any clinicians involved in the care of the deceased and reviewing the hospital notes.
- A visit to the scene of death in non-suspicious deaths, especially if there are any unusual or unexplained aspects, is to be encouraged.
- An autopsy report is confidential and should only be disclosed to the legal authority who commissioned the examination.
- Disclosure to others, who must be interested parties, may only be made with the commissioning authority's specific permission. In general terms, it would be sensible to allow that authority to deal with any requests for copies of the report.

Structure of a statement or report

When instructed to prepare an expert report, always clarify whether or not a specific structure is required and, if so, follow it assiduously. An example is a P3 form or a police autopsy request form. But generally:

- The health facility's name, address and contacts should be captured on the letterhead. This could be that of the medical practitioner in the event of private practice.
- The medical practitioner's professional address and qualifications should follow.
- Indicate who requested the statement and when.
- The date of the report is essential.
- A summary of the medical history (as given by the patient or any other relevant persons) touching only on the relevant details should be provided.

- The time(s), date(s) and place(s) of any examination(s) should be listed, as should the details of any other person who was present during the examination(s).
- The medical practitioner should confirm their understanding of their role at the time (e.g. 'I was called by the police to examine an alleged victim of assault to document his injuries).
- Confirm that the patient has given consent to release the medical information (if no consent is available, it must be sought).
- By referring to contemporaneous notes, outline the history you were aware of (... 'Mr X told me that...').
- In simple terms, summarized medical findings. If information other than an observation during a physical examination (e.g. medical records, laboratory or imaging) formed part of the basis of the management of the patient, these too must be recorded.
- If consultants' opinions and any other persons were sought, these would need to be documented.
- The treatments offered to the patient (including surgical procedures) should be provided in summary form.
- Any significant complications should also be documented, and a summary of the overall clinical course and outcome of the disease/injury process should be provided.
- Conclusions and recommendations relevant to the particular case may be added.
- The medical practitioner should sign off the report with their unique mark and forward it to the requesting authority via the chain of custody.

c. Ethics of forensic medical practice

The laws governing the practice of medicine vary from country to country, but the broad principles of medical ethics are universal and include.

- Compassion - understanding and concern for another person's distress
- Informed consent - The right of patients to make decisions about their healthcare with adequate information provided by the medical team.
- Confidentiality - the ability of a medical practitioner to keep secret information obtained from a patient in the course of a professional relationship
- Competence - Skills required to carry out a task successfully
- Autonomy - self-determination and the right to decline or choose treatment
- Non-maleficence – do no harm
- Beneficence – acting in the patient's best interests
- Dignity - the state or quality of being worthy of honour or respect
- Honesty – providing informed consent
- Justice – honour or standards to support fair treatment and due reward.

8.2 Forensic Medical Evidence

a. Definition

Forensic evidence is any item or information gathered at the scene of a crime or at related locations which are found to be relevant to an investigation, and that is analyzed using scientific methods to aid in solving a crime or administration of justice. A typical example of a related location is the clinical setting where a medical practitioner is presented with a patient who is a suspected victim or perpetrator of a crime such as sexual assault, physical assault, or traffic accident.

Proper handling of evidence is paramount and strict procedures must be observed by all involved in the investigation when it comes to collecting, documenting, labelling, and analyzing it. Above all, every effort must be made to ensure that evidence is not lost, damaged, or contaminated.

b. Types of forensic evidence

Evidence can be classified into:

a) Direct and indirect (circumstantial) evidence
b) Physical or biological evidence
c) Reconstructive evidence
d) Associative evidence (class or individual)
e) Trace evidence

c. Collection, packaging, transport and analysis of forensic evidence

i. COLLECTION

The first items to be collected are the fragile and could easily be damaged, such as fingerprints, shoe prints, fibres, and hair. A systematic approach must be taken to ensure that the collection of one item of evidence will not destroy another.

The laboratory may require control samples to distinguish relevant from irrelevant evidence.

ii. PACKAGING

Each item of evidence is packaged separately to avoid contamination and damage.

iii. TRANSPORT

The evidence is handled through a strict chain of custody. Every time an item is transferred from one person to another, it is documented,

signed and accounted for. Forensic medical specimens (and reports) should be handed over to the investigating/escorting police officer upon collection for onward transmission to the forensic laboratory. A break in the chain of custody may render the evidence inadmissible in a court of law.

iv. ANALYSIS

The forensic laboratory (government analyst) analyses forensic evidence for all specimens except histology, which the cancer diagnostic laboratory handles. However, in some cases, specimens analyzed in clinical/pathology laboratories may too constitute forensic medical reports. These include infectious disease diagnostics, biochemistry, haematology, immunology, histopathology, and other relevant tests required. Analysis of forensic evidence aims to ascertain the identity of the evidence and carry out comparison studies with the control samples to establish links through the evidence.

v. CHAIN OF CUSTODY

Chain of custody refers to the chronological documentation of the processes through which forensic evidence is taken, including any persons who handle it. It is an important process for the following reasons:

- Ensures admissibility of evidence in court
- Ensures evidence is not lost
- Ensures the integrity of the evidence
- Ensures traceability of the evidence
- Ensures evidence is not tampered with or switched
- Ensures availability of the evidence for review purposes when needed
- Reduces the number of people who handle the evidence
- Ensures the evidence presented to the court is the evidence that was collected at the scene

d. Documentation of forensic evidence

Documentation creates a permanent record of events, lesions, processes and activities. It is particularly important in ensuring important facts are available for future reference. This is more so in forensic medical practice, where a medical practitioner may be called upon to give evidence in a court of law or a board many months/years after the examination when some facts have been forgotten.

e. Methods of documentation of forensic medical evidence

vi. MEDICAL/CLINICAL NOTES

Clinical notes must be thorough and include history, findings in general examination, systemic examination, tests ordered (laboratory and imaging) and their findings. Further, these notes should also have treatment plans (including medical and surgical procedures), opinions of any consultations and follow-up review of the patient, including any significant complication(s).

vii. SKETCHES AND CHARTS

They give a visual representation of the location of lesions and are particularly important in documentation of injuries.

viii. STILL PHOTOGRAPHS

Still photographs are particularly important in the documentation of complex situations, lesions or injuries where narrative description may fail to capture some details, such as differences in colour or complex relationships. Colour photographs are particularly helpful. Medical practitioners should avoid using personal cameras for forensic evidence documentation. Instead, centres offering forensic medical services should provide still cameras.

ix. VIDEO

Video recording is quite helpful in documenting procedures and processes and can capture a variety of activities and information at the same time. The police mainly provide this service.

x. MEDICAL IMAGING

This is required for specific types of forensic cases such as gunshot injuries, child abuse, sexual offences, etc., where available

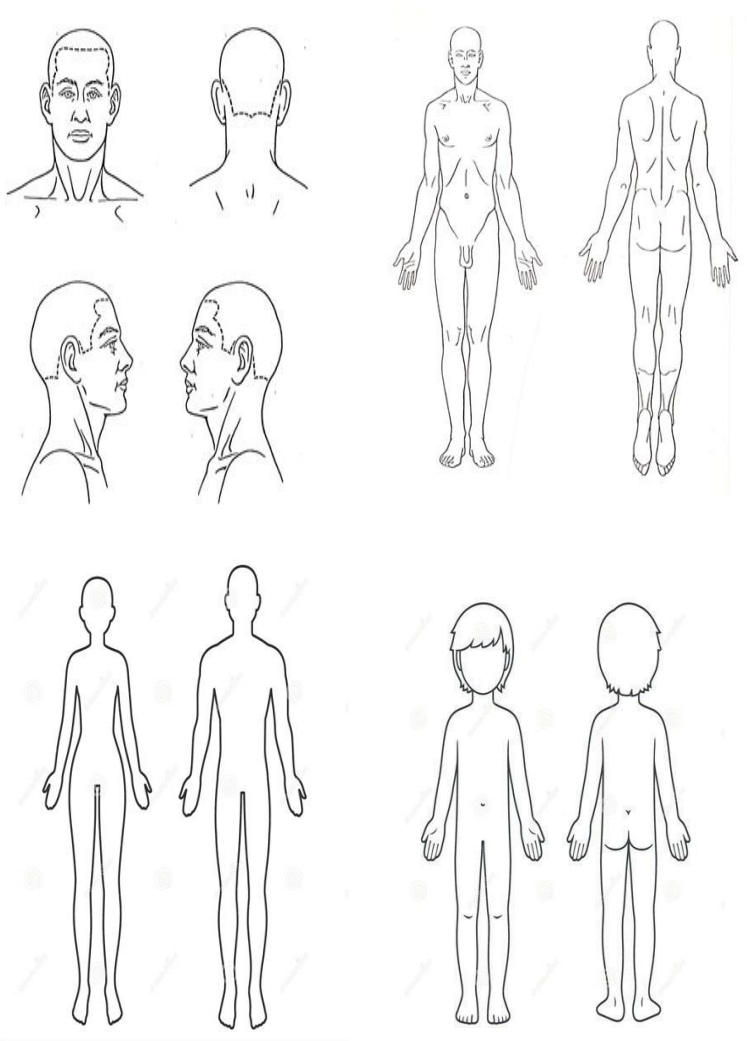

Figure 8:1 Body Chart

8.3 Clinical Forensic Medicine

Clinical forensic medicine involves the examination, management and documentation of findings in survivors of injury due to acts of violence such as assault (sexual and physical), torture, accidents, and terrorism. In addition, it encompasses management, examination and documentation of findings in suspected perpetrators of crime as well as persons in custody. Forensic medical aspects of clinical practice traverse all levels of practice, from the basics at community level to sophisticated care in level six facilities. It is worth noting that the medico-legal aspects of any case must always be secondary to life saving treatment of the patient.

Crowd Control Agents

Chemical restraints can be used to control a violent or agitated patient, disperse crowds, or limit access to some areas.

The agents include but are not limited to

- Capsaicin oleum (OC), also known as pepper spray,
- Chloracetothenon (CN), also known as mace,
- Chlorobenzylidenemalononitrile (CS), also known as tear gas

SIGNS AND SYMPTOMS OF EXPOSURE

- Skin-rashes, burns
- Eyes: excessive tearing, burning, blurred vision, redness
- Nose: runny nose, swelling, burning
- Mouth: burning, irritation, difficulty swallowing, drooling
- Lungs-cough, chest tightness, shortness of breath, choking sensation, wheezing
- Nausea and vomiting.

MANAGEMENT

- Evacuate the area of exposure. Move to an area with fresh flow of air.
- Move to higher ground as the chemicals form a dense, heavy low-lying cloud.
- Rapidly remove the clothes with the agents and wash the exposed area with soap and water.
- Avoid pulling clothes over the head. Instead, dispose of the contaminated clothes in a sealed bag and avoid touching them.
- Rinse eyes with plain water for 10-15 minutes.
- Seek medical care.

Sexual Offences

The survivors of sexual violence are managed differently in the different levels of care.

Note: The survivors can be managed from levels 2-6, considering the healthcare provider is trained to manage SGBV victims. The sexual offences are classified under the sexual offences act as annexed in this document. Level 1 (Community level) care involves the early identification and referral of victims, awareness creation on the violence, as well as preservation of evidence, e.g., taking the victim's clothes to the health facility for examination and preservation etc.

Community health workers can help the survivor identify where to seek treatment. They link the survivors to the nearest health facility.
The community health workers at this level serve to educate the community on the consequences of sexual violence, including physical, sexual, psychological and economic effects. They can do this through engaging multi-sectoral forums as the community gatekeepers, through community barazas etc.
They collaborate with the security personnel to ensure survivors report and are protected and assist in identifying perpetrators.
They can also ensure that victims of these offences report to the health facility for medical treatment, evidence collection, and preservation.

Violence against children

According to the children's act, a child is any human being under the age of 18.
Children can go through different types of violence. These include physical, sexual, psychological, intimate partner violence, bullying (including cyberbullying) and maltreatment (e.g., corporal punishment).

MANAGEMENT

- Community health workers should report cases of violence against children to the police and/or children's officers
- They should also help the victim identify where to seek services
- Community health workers should educate the community on the consequences of violence against children. Through engagement with multi-sectoral groups in the community, they can advocate against VAC
    - They ensure that the survivor accesses health services promptly
    - They should act in the best interest of the child.
    - They should work hand in hand with security to ensure safety of the victim

8.4 Traffic Medicine

Traffic medicine embraces all those disciplines, techniques, and methods to reduce the harm traffic crashes inflict on human beings. A majority of harm results from road vehicles however traffic medicine also includes injuries from all vehicles travelling over land, sea, air, and under-water and in space. The health worker treating the victim of a crash, the people transporting the victim from the crash site to a health institution, and those in the institutions dispatching help to the crash site are all involved in traffic medicine.

- The community health worker creates awareness of road safety
- Notify the police of any accident and obtain occurrence book no.
- Provide first aid care to accident victims.
- Link victims with the nearest health facilities

8.5 Injury Assessment Documentation and Interpretation

The accurate description of injuries should fall within the capabilities of most health workers. However, interpretation requires considerable skill and expertise and often is best left to a forensic physician or pathologist. Nevertheless, other health workers and community health workers should be able to offer some advice and comment, albeit of a general nature, on how a particular injury or group of injuries was caused. Indeed, in some circumstances, it is the ordinary practitioner who draws attention to the possible medico-legal significance of some injuries and initiates an investigation into their cause, e.g., Paediatricians in cases of non-accidental injury in children**.**

- A community health worker should create awareness of safety
- Move the victim to a safe ground/secure victim from more harm
- Perform basic first aid care to the victims as per guidelines
- Refer victims to the nearest health facility
- Notify the police station of the acquisition of OB.NO

8.6 Care of Detainee and Custodial Medicine

A Health worker will often be asked to assess the fitness for detention in police custody of adults and juveniles arrested in connection with an offence, detained by immigration, or requiring a place of safety (children and the mentally ill), or remanded or sentenced (convicted) prisoners. A person in police custody is referred to as a detainee, and guidance may have to be given to the custodians regarding their care. If an individual detained in police custody appears to be

suffering from a mental or physical illness and needs medical attention or has sustained any injuries, whether at arrest or before arrest, such attention should be sought as soon as possible.

Increasingly the police have to deal with individuals who misuse alcohol and drugs or are mentally disordered. Medical advice should be sought when the detainee's behaviour rises to levels of concern. Custody staff should also seek medical advice if a detainee requests a doctor or requires medication or if the custody staff suspect that the detainee is suffering from an infectious disease and need advice.

In some areas, when a person under arrest is discharged from the hospital and taken to a police station, a doctor will be called to review the detainee and assess whether he or she is fit to be detained and fit for trial.

AT THE COMMUNITY LEVEL

A private person may arrest any person who, in his view, commits a cognizable offence or whom he reasonably suspects of having committed a felony.
Persons found committing an offence involving injury to property may be arrested without a warrant by the owner of the property or his servants or a person authorized by him.
Escort the client to the police station for re-arrest.

HOW TO ARREST A SUSPECT (COMMUNITY LEVEL)

In making an arrest, the police officer or other person making it shall touch or confine the body of the person to be arrested unless there is a submission to custody by word or action.
Suppose a person forcibly resists the endeavour to arrest him or attempts to evade the arrest; the police officer or other person may use all means necessary to effect the arrest.
Nothing justifies the use of greater force than is reasonable in the particular circumstances in which it was
employed or was necessary for the apprehension of the offender.

8.7 Methods of Identifying the Living

At the community level, the community health worker should be able to identify the living by the following methods

- By use of all names available
- Age and sex
- The physical address, Location
- Document the available details and refer to the link facility for appropriate care

- Community health workers should report cases of forensic importance to the police station.

8.8 Forensic Pathology

Forensic pathology is a subspecialty that deals with forensic investigation of deaths of persons who die suddenly, unexpectedly or violently to determine the cause and manner of death. It involves performing postmortem examinations, attending death scenes, carrying out forensic exhumations and testifying at a court of law.

Death in the community

Death refers to the irreversible cessation of all vital functions of life, especially as indicated by permanent stoppage of the heart, respiration, and brain activity.
Forensic deaths are sudden, unexpected or due to violence arising from unnatural causes such as accident, murder, suicide, among others.
Non-forensic deaths arise from disease processes whose pathophysiological processes can be explained, such as hypertension, tuberculosis, and malignant diseases, among others.

DEATH IN A RURAL COMMUNITY

- The community informs the local authority (chief) of the death. The community must not interfere with the body in any way till authorized.
- The community health promoter/community health assistant/community health care worker informs the chief of Death
- The community health assistant/community health promoter/community health care worker informs the ward public health officer of the death.
- The ward public health officer informs the clinical officer at the nearest level 2/3 facility.
- The clinical officer takes a clinical history, examines the body to confirm the person has died, then prepares clinical notes to that effect and fills out the verbal autopsy form. The clinical officer must determine if the death is of forensic importance from history and examination.
- Confirmed deaths of no forensic interest are referred to the chief for issuance of a burial permit, D2, and transfer to the mortuary if required. The chief prepares and submits the register for death.
- Confirmed deaths of forensic importance are referred to the police for a forensic death investigation.

DEATH IN AN URBAN COMMUNITY

- The community informs the local authority (chief) of the death.
- The community health promoter/community health assistant/community health care worker informs the chief of Death

- The community health assistant/community health promoter/community health care worker informs the ward public health officer of the death.
- The ward public health officer informs the clinical/medical officer at the nearest level 2/3 facility.
- The clinical/medical officer takes a clinical history, examines the body to confirm the person has died, then prepares clinical notes to that effect and fills out the verbal autopsy form. The clinical/medical officer must determine if the death is of forensic importance from history and examination.
- Confirmed deaths of no forensic interest are referred to the mortuary for preservation awaiting disposal.
- The medical officer/pathologist issues a burial permit for disposal and prepares (and submits) the register for death.
- Confirmed deaths of forensic importance are referred to the police for a forensic death investigation.

8.9 Paediatric Forensic Pathology

This forensic pathology concerns intrauterine fatal deaths of the viable foetus (stillbirths), Neonatal Deaths and Child death. These deaths occur within health facilities or the community. World Health Organization's International Classification of Disease, version 11 (WHO ICD 11) – Perinatal Mortality, is applied to assign cause and manner of death. All stillbirths must have an independent death investigation and a verbal autopsy form completed. The birth notification alone is insufficient because it does not assign a cause of death and therefore does not input into the prevention of such deaths occurring in the future.

Cause of death is assigned following a verbal autopsy, where the best diagnostic category is documented as the immediate cause. As a general rule, for perinatal deaths (stillbirths and neonates), the underlying cause of death is always the maternal diagnosis. However, among older children (post-neonatal age group, under 5's), the conventional approach to death notification, using WHO ICD 11, is sufficient.

The WHO ICD 11 standards require that all deaths are certified by a registered medical practitioner. Cause of death, documented in the prescribed form, must include proper diagnostic coding and documentation of the duration of onset of disease before death. The universal cause of death certificate also provides an opinion on the manner of death.

Verbal autopsies should be performed to investigate all paediatric deaths and the cause of death as determined by assigned verbal autopsy diagnosis. Pathology informed cause of death should be performed in at least 30% of all deaths, using minimally Invasive Tissue Sampling or complete diagnostic autopsies. Where

external causes of death are suspected or encountered during the verbal autopsy process, complete diagnostic autopsies are an absolute indication. The placenta should be available for evaluation, where MITS or CDA are performed, for all stillbirths and newborns.

8.10 Maternal Deaths

Maternal deaths refer to death of a woman while pregnant or within 6 weeks after delivery. All maternal deaths are reported and require a complete diagnostic autopsy carried out in Level 5 and 6 health facilities by a pathologist. Maternal deaths occurring in level one to level four health facilities should be referred to the nearest Level 5 health facility.

8.11 Verbal Autopsy

Verbal autopsies should be performed for all deaths in the community and level 1 health facilities. Death certification should be done by a medical practitioner providing overall coverage of these facilities. Where external causes are suspected, or where MITS (minimally invasive tissues sampling) or complete diagnostic autopsy are indicated, these are referred to higher level facilities (level IV to level VI).

8.12 Human Remains Management and Mortuary Practice

HUMAN REMAINS MANAGEMENT

General Considerations

- Wash your hands and don personal protective equipment if appropriate.
- Bodies and other human remains should be handled with respect and dignity, taking into account socio-cultural and religious considerations of the deceased person as well as their wishes and those of their family, subject to existing laws and regulations. Infection prevention and control practices must be adhered to while handling human remains.
- Occupational health and safety, personnel training, and capacity development must be in tandem with the general expectations in care and service delivery.
- Physical infrastructure and waste management are important in human remains management.
- All efforts must be made to identify the deceased persons before disposal of the body.
- Where efforts to identify a body before disposal have been unsuccessful and the decision to dispose of the body is made, all available information that may be useful in later identification of the body should be recorded and preserved by the mortuary

and/or authorized persons. This information should be passed on to the relevant department dealing with an inventory of unidentified bodies.

- Cremation and other forms of disposal that cause permanent destruction of the body shall not be done for bodies whose identity has not been established.
- Efforts should be made to establish the cause and manner of death before disposal of the body.
- A burial permit should be issued for all bodies before disposal. However, this may not apply to stillborn fetuses. Whereas a birth notification may be used in place of a burial permit for neonates, this is undesirable as it denies the healthcare workers and other agencies an opportunity to put in place measures to prevent such deaths in the future.

TRANSPORTATION OF BODIES

- The body should remain enclosed within the transport vehicle/gurney/trolley.
- A body transport vehicle/gurney/trolley must be designated solely for this purpose and be easy to decontaminate.
- Body bags may be used for body transport as required.
- Ambulances are not recommended for this purpose.

ADMITTING A BODY TO THE MORTUARY

- A mortuary may only admit a body if it has sufficient storage capacity that ensures proper preservation without interfering with any investigation that may be required on the said body.
- A mortuary shall not admit a body suspected of dying an unnatural death unless the death has been reported to the police and written proof availed.
- A mortuary admitting a body must ensure that the body has proper documentation, including:
  - A burial permit issued and stamped by an authorized person (a chief -form D2, a registered medical doctor- form D1) or a health facility.
  - A letter signed and stamped by a police officer indicating the OB number and the police station requesting admission of the body.
- Identifying particulars, including name, age and gender of the deceased person, should be documented, as well as name and contacts of next of kin, place, date, time and cause of death if known.
- In the case of unidentified bodies, the mortuary shall only admit the bodies on the written authority of a police officer who shall be present in person.
- Where death has not been confirmed, the body shall not be admitted into the mortuary.
- Each body or body part shall be assigned a unique admission number, provisionally identified where possible and correctly labelled with a non-degradable and engraved tag.
- In the case of unidentified bodies, photographs and fingerprints shall be taken at the earliest opportunity and forwarded to the relevant authorities for identification.

- Sampling for DNA and other forms of testing may be considered on a case-to-case basis as advised by the pathologist in charge.
- The mortuary shall be notified in advance of a highly infectious body (such as Ebola) before the said body is transported to the mortuary.
- Whenever possible, a clinical summary should accompany the bodies of all persons dying in a health facility.
- All personal effects on the body shall be documented and released to an authorized person (family, guardian or investigating police officer) as appropriate.

BODY STORAGE AND PRESERVATION

- Bodies shall be stored in refrigerated compartments at 2-6^{0}C.
- Chemical preservation (embalming or formalin fixation) should only be performed after postmortem examination/autopsy.
- Temporary body storage may be used at the scene of death, especially in mass disasters, as arrangements are made to transport the bodies to a mortuary. This temporary storage may take the form of a field mortuary or temporary burial (see body disposal and interment).

POSTMORTEM EXAMINATION AND AUTOPSY

- External examination (view and grant) may be carried out (at the time and location) of body retrieval, depending on the circumstances of death, by a pathologist and/or medical officer. Bodies of forensic interest or where the cause of death cannot be determined by external examination only should be subjected to dissection and internal organ examination if considered safe. All important external findings shall be documented and filed for future reference.
- Verbal autopsies may be carried out to determine the cause of death where the services of postmortem examination or autopsy are unavailable. Bodies of forensic interest or where the cause of death cannot be determined by verbal autopsy should be subjected to postmortem and/or dissection and internal organ examination. All important findings shall be documented in the verbal autopsy form and filed for future reference.
- When indicated, autopsies should be performed within 24 hours of body reception. Any delays that affect the quality of results should be documented.

BODY DISPOSAL

- Common methods for body disposal include burial (interment) and cremation. Other less common methods include aquamation (dissolution), immurement (entombment) and composting.
- Body disposal can only be done after a burial or disposal permit has been issued.
- Burials are done at least 6 feet deep in rural areas and at least four feet deep in public cemeteries.

- Disposal of unclaimed and unidentified bodies:
  - An order for disposal of unclaimed bodies should be sought from a court of law.
  - After an order for disposal has been given, the hospital or mortuary administration shall issue a 30 days' notice to the police for the bodies to be claimed failure to which the mortuary shall be free to dispose them per cap 241
  - Before disposal, an autopsy must be performed and documented on all bodies.
  - Unidentified bodies should be buried in marked coded graves for future reference**.** The codes used to mark the grave shall correspond to the records and codes of the deceased held at the mortuary.

8.13 Mortuary practice

GENERAL CONSIDERATIONS IN MORTUARY PRACTICE

- A mortuary is a room or building in which bodies are kept for safe and dignified storage or examination awaiting disposal.
- Like other health facilities, mortuaries are classified in levels based on the services offered.
- The mortuary's physical infrastructure should be commensurate with services offered.
- The human resource should be well-trained and experienced in offering services at various levels.
- Safety measures, including infection prevention and control, occupational health and safety, should be taken into account, as well as the mental well-being of staff and grieving families.

LEVELS OF MORTUARY SERVICES

LEVEL I

Description
This temporary body holding facility holds bodies for a maximum of 24hrs awaiting transfer to a higher-level facility.

Floor Plan
This is a single room whose size is determined by the anticipated workload.

Services

To store bodies for a maximum of 24hrs waiting for transfer to a higher level mortuary. This mortuary should not release bodies for disposal.

Staffing
The staff in this facility will include (but not be limited to)
- Nurses
- Police officers
- Security guards
- Disaster response team

Safety
The safety procedures to be included in this facility shall include
- Personal protective equipment use
- Decontamination

- Clinical waste management includes the disposal of used gloves and dressings (refer to clinical waste management guidelines).
- Other safety procedures will be determined by the facility in which this mortuary is housed.
- Biosafety level.

Equipment
- Gurneys
- Easy to clean tables, trays and trolleys
- Waste disposal bins

9. INTRODUCTION TO COVID-19

The coronavirus disease 2019 (COVID-19) is an acute respiratory infection caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). Coronaviruses are a large family of enveloped RNA viruses, some of which cause illness in people (e.g., common cold, SARS, MERS) and others that circulate among mammals (e.g., bats, camels) and birds. Rarely can animal coronaviruses spread to humans and subsequently spread between humans. Similar to SARS and MERS, it is thought that human transmission occurs via respiratory droplets produced when a person sneezes or coughs and aerosol in certain circumstances, including airway manipulation. Aerosol generation occurs in coughing, nebulization, tracheal intubation and airway suctioning.

WHO first declared COVID-19 a public health emergency of international concern on 30 January 2020 and subsequently declared it a pandemic on 11 March 2020. The pace at which COVID-19 spread worldwide and in Kenya was unprecedented. Kenya discovered the first documented case of COVID-19 within its borders on 13 March 2021. COVID-19 is highly transmissible and infectious and runs the risk of overwhelming the health system's capacity, with the need to support not just those with COVID-19 but also those with other illnesses. A lot of efforts have gone into reducing transmission of the virus, including restrictions on gatherings, contact tracing, quarantine and isolation. With the spread of COVID-19 in the communities, preventive public health measures such as hand washing and proper use of face masks cannot be overemphasized. The most common symptoms of COVID-19 include cough, loss of smell and/or taste, fever, difficulty breathing, headache, sore throat, running nose, chest pain, myalgia, fatigue, general weakness and diarrhoea. The most common clinical presentation is a respiratory infection with a symptom severity ranging from a mild common cold-like illness (estimated to be 80% of cases) to severe viral pneumonia in approximately 14%, leading to acute respiratory distress syndrome potentially fatal in about 5%. Current estimates of the incubation period range from 1 to 14 days, with a median incubation period of five to six days. Transmission can occur during the incubation period, even without symptoms.

Certain groups of people are at higher risk for transmission and severe disease, including healthcare workers who work with COVID-19 patients. In addition, vulnerable and marginalized groups such as people with disabilities may face challenges in accessing healthcare and have worse outcomes from COVID-19. People of any age can catch COVID-19, but it most commonly affects middle-aged and older adults. The risk of developing severe COVID-19 disease

increases with age from age Some conditions can result in higher severity of illness in adults of any age;

- Diabetes Mellitus (Type 1 or 2)
- Heart Conditions (s u c h as heart failure, coronary artery disease, cardiomyopathies or hypertension)
- Overweight and obesity
- Smoking
- Chronic kidney disease
- Chronic lung diseases, including COPD (chronic obstructive pulmonary disease), asthma (moderate-to-severe), interstitial lung disease, cystic fibrosis, and pulmonary hypertension
- HIV/AIDS
- Immune Suppression
- Liver disease
- Pregnancy
- Sickle cell
- Solid organ or blood stem cell transplant
- Cerebrovascular disease

Clinical manifestations of COVID-19 are generally milder in children compared with adults. Symptomatic children may present with non-respiratory symptoms such as gastroenteritis more frequently than adults. An acute hyperinflammatory syndrome leading to shock or multi-organ failure has been described, known as the Multisystem Inflammatory Syndrome (MIS-C), which is temporally associated with COVID-19 in children and adolescents.
A significant challenge in the war against the pandemic appears to be the rate at which mutations occur, resulting in several variants resulting in more infections and increased disease severity. This highlights the importance of strengthening public health measures and vaccination strategies early in the response.

Suspected case of SARS-CoV-2 infection:

1. A person who meets the clinical AND epidemiological criteria:

Clinical criteria:

- Acute onset cough AND fever;
- Acute onset of ANY TWO OR MORE of the following signs or symptoms:

Cough, fever, loss of taste or smell, difficulty breathing, sore throat, running nose, chest pain, fatigue/general weakness, headache, diarrhoea, altered mental status (Children may present with atypical symptoms)
AND

Epidemiologic criteria:

- Where there is widespread community transmission in several regions of the country, then all patients will be considered to have met epidemiologic criteria

2. A patient with severe acute respiratory illness (SARI)

(SARI: Acute respiratory infection with or without fever; and cough; with onset within the last 10 days; and requires hospitalization)

Probable case of SARS-CoV-2 infection

- A patient who meets the clinical criteria above AND is a contact of a probable or confirmed case or linked to a COVID-19 cluster
- A suspected case with chest imaging showing findings suggestive of COVID-19 disease
- Recent onset loss of taste or loss of smell with no other identified cause (Common imaging findings include bilateral peripheral opacities with lower lung distribution. Opacities usually ground glass opacities that may progress to consolidations)
- Unexplained death in an adult with SARI prior to death AND had contact with a probable or confirmed case or linked to a COVID-19 cluster

Confirmed case of SARS-CoV-2 infection

- A person with a positive SARS-CoV-2 PCR test
- A person with a positive SARS-CoV-2 Antigen RDT AND meeting criteria for either suspected or probable case; OR has contact with a probable or confirmed case.

Infection Prevention and Control (IPC) plan in response to COVID-19
Introduction

The main aim of IPC is to prevent or limit the spread of SARS-COV2 at all levels of healthcare

Facility preparedness

All facilities should have the following:

- An IPC program or a dedicated IPC focal person
- A functional screening and triage area for early case identification
- A holding area for cases awaiting results or transfer
- A mechanism to ensure standard and transmission-based precautions.
- Adequate healthcare workers to provide 24-hour patient care without exhaustion.
- A plan to conduct health worker exposure risk assessment
- Continuous training and refresher courses for the existing staff and any new staff
- Adequate IPC supplies and equipment

Quarantine and Isolation

- Limit the number of visitors
- Continue to observe respiratory hygiene and cough etiquette
- Observe hand hygiene by either use of soap and water or an alcohol-based hand rub
- Ensure proper ventilation of the facility or home
- Observe for fever or other symptoms daily
- Watch for danger signs or signs or signs of deterioration like dyspnea and report to a health facility
- Use of either separate utensils or disposable utensils

Quarantine

Quarantine is the separation and restricted movement of healthy persons who have been exposed to persons with COVID-19. It can be applied at the individual, family or community level. All persons who have had contact with a confirmed case of COVID-19 should quarantine for 14 days and get a COVID-19 test if they develop any symptoms. The quarantine can either be self-quarantine or carried out at a designated facility.

Isolation

Isolation is separating sick people with a contagious disease from those who are not ill. All confirmed COVID-19 cases identified should be isolated. The isolation location can be in a health facility for those with severe illness, at home for those who meet the self-isolation criteria or at a community isolation facility. Isolation precautions may be dropped 10 days after the onset of symptoms, provided that one has had no fever without antipyretics for at least 24 hours.

Specimens for testing

Specimens can be taken from the upper or lower respiratory tract. Upper respiratory tract samples include nasopharyngeal swabs, oropharyngeal swabs and nasopharyngeal aspirates. Lower respiratory tract specimens include bronchoalveolar lavage specimens and expectorated sputum.

Supportive care

Supportive care should be offered to all patients diagnosed with COVID-19. This includes the following:

1. Counselling and psychosocial support
2. Symptomatic treatment
3. Adequate nutrition and hydration

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