REPUBLIC OF KENYA

MINISTRY OF HEALTH

NEWBORN AND CHILD HEALTH STRATEGIC PLAN

2021 TO 2025

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ACRONYMS AND ABBREVIATIONS

ACT	Artemisinin-based combination treatment
AIDS	Acquired immunodeficiency syndrome
ANC	Antenatal care
ART	Antiretroviral treatment
ASAL	Arid and semi-arid lands
CSDS	Child Survival and Development Strategy
DPT3	Diphtheria-tetanus-pertussis vaccine
ECD	Early childhood development
EmONC	Emergency obstetric and newborn care
EMTCT	Elimination of mother to child transmission
ETAT+	Emergency, Triage, Assessment and Treatment plus
HIV	Human immunodeficiency virus
iCCM	Integrated Community Case Management
IMNCI	Integrated Management of Newborn and Childhood Illnesses
KDHS	Kenya Demographic and Health Survey
KHSSP	Kenya Health Sector Strategic Plan
KMC	Kangaroo Mother Care
LLINs	Long lasting insecticide nets
MDG	Millennium Development Goals
NBU	Newborn unit
NCAHP	Newborn, Child and Adolescent Health Policy
NCAHU	Neonatal, Child and Adolescent Health Unit
NHCA	Newborn health care assistant
NHIF	National Health Insurance Fund
ORS	Oral rehydration salts
PMTCT	Prevention of mother to child transmission
PNC	Post-natal care
SDGs	Sustainable Development Goals
SOPs	Standard operating procedures
TWG	Technical working group
UHC	Universal Health Coverage
UNICEF	United Nations International Children’s Emergency Fund
WHO	World Health Organisation

DEFINITIONS

Intrapartum	The time period spanning childbirth, from the onset of labor through delivery of the placenta. Intrapartum can refer to both the woman and the fetus.
Peripartum	The period shortly before, during, and immediately after giving birth.
Neonate	An infant less than four weeks old
Infant	The term "infant" is typically applied to young children under one year of age; however, definitions may vary and may include children up to two years of age.
Child	A person aged 2 to 10 years.
Adolescent	Any person between ages 10 and 19.

FOREWORD

Kenya has made great strides in improving child health indicators but child deaths remain unacceptably high with 52 out of 1,000 children born dying every year. Unfortunately, 70% of these deaths are attributed to preventable and treatable childhood illnesses such as diarrhoea, pneumonia (acute respiratory infections), malnutrition, anaemia, malaria, measles, HIV and tuberculosis. Additionally, a significant proportion of deaths in children under-five (46%) occur in the neonatal period due to infections such as sepsis, complications of pregnancy and childbirth including birth asphyxia, prematurity, low birth weight and other congenital anomalies.

While the country's under-five mortality has decreased by over 50% since 2003, neonatal mortality has decreased at a much slower rate of 33%.

The development of the Newborn and Child Health Strategic Plan is a major milestone in the heath sector's efforts to increase equitable access to health services, improve efficiency and effectiveness in service delivery, increase health financing as well as enhance partnerships. The strategy will contribute significantly to the achievement of the country's newborn commitments. The strategy provides a framework that can be supported by all partners to accelerate the achievement of better health for children. It will be guided by the National Health Strategic Plan 2018-2023, National Primary Health Care Strategic Framework 2019-2024, RMNCAH Investment Framework among other policy documents.

The implementation of the strategy will be structured along the three principles of SURVIVE, THRIVE and TRANSFORM. The strategy draws a link to the Kenya Community Health Strategy 2020-2025 whose scale up will serve to bring quality health services closer to communities and enhance the participation of families at household level.

The Ministry of Health renews its commitments to creating an enabling environment for the implementation of the strategy in partnership with the communities, development partners, private sector and other stakeholders, to reduce under- five mortality and improve the health of the children of Kenya.

Dr. Patrick Amoth, EBS
Ag. Director General
Ministry of Health.

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Ag. Director Of Medical Services/Preventive & Promotive Health

EXECUTIVE SUMMARY

In 2013, the Neonatal, Child and Adolescent Health Unit - NCAHU (then the Division of Child and Adolescent Health - DCAH) initiated the process of the development of a National Child Health Policy (CHP) later named the **Newborn, Child and Adolescent Health (NCAH)** Policy reflecting the expanded mandate of the Neonatal, Child and Adolescent Health Unit. The policy, launched in November 2018, provides a unified framework and response to planning, prioritization and implementation of newborn, child and adolescent health programs at national and county level. It is linked to the Sustainable Development Goals (SDGs), Kenya's commitment to Universal Health Coverage (UHC), and the Kenya RMNCAH Investment Framework under the GFF (Global Financing Facility) platform which provides direction on national newborn, child and adolescent health priorities, interventions, partnerships and investments. With the policy developed and adopted, the division of newborn and child health initiated the development of the **Newborn and Child Health Strategic Plan (2021-2025)**, a document that will provide strategic implementation direction for the policy, outlining priority programming themes, expected results, outputs, interventions, activities, costing, and provide an M&E framework to guide monitoring and evaluation of the policy and strategy.

This strategic plan is anchored in a number of international and Kenya policy, strategy and guidance documents including the Kenya Health Policy 2012 – 2030, Kenya Health Sector Strategic Plan 2018–2022, Kenya Primary Healthcare Strategic Framework 2019-2024, Roadmap, M&E Framework and Operational guidelines towards implementing Universal Health Coverage (UHC) in Kenya 2018–2022, Kenya Reproductive, Maternal, Newborn, Child and Adolescent (RMNCAH) Investment Framework 2016–2020 and Kenya Framework for Elimination of Mother-To-Child Transmission of HIV and Syphilis 2016-2021.

Learning from previously implemented and ongoing newborn and child health programs, the document maps out challenges and opportunities for achieving NCH outcomes through a situation and health system bottleneck analysis. The strategic plan emphasizes the critical role that the health sector is uniquely positioned to provide for children in the earlier years of their lives through enhanced Early Childhood Development and Nurturing Care programs.

While acute malnutrition (wasting or low weight-for-height) among children under 5 years is relatively low in Kenya (4 percent), there are regional variations with North-Eastern having almost 14 percent. This document outlines proven strategies to address that. And, to implementation of the plan, effects of communicable diseases including COVID-19 have been taken into consideration. In addition, critical social determinants of health of newborns and children in Kenya include water, sanitation and hygiene, education, wealth and other socio-economic factors have also been analyzed.

The document follows the guiding principles embedded in the NCAH Policy which are: Alignment with Global and National policies and strategies; Gender, equity, access, and respect for child health rights; Life cycle approach; Evidence-based interventions; Integration; Multisectoral approach and Centered on the health systems blocks. As such, health systems strengthening will be a key priority area in its implementation.

The strategic plan's vision, mission, goal and objectives are aligned first to the Kenya National Health policy and the Newborn, Child and Adolescent Health (NCAH) policy. It is a direct progression from the Child Survival and Development Strategy 2008-2015, which guided the previous decade's newborn and childhood programming. It takes as its model, the Global Strategy for Women's, Children's and Adolescents' Health 2016-2030 which is structured along the three principles of ***SURVIVE, THRIVE*** and ***TRANSFORM.***

With a strategic goal of **"accelerating efforts to reduce newborn and child mortality in Kenya and equitably promoting their health, development and wellbeing",** this plan takes as its framework four specific policy objectives translated into strategic interventions, with an expansion of the enabling environment objective into its many components which include several cross-cutting issues. The document highlights the most critical indicators that will be used to measure attainment of the strategic goal at the end of the five-year strategic period. The targets are aligned to the country's commitment to the attainment of national and SDG goals with a consideration of the historical annual rates of reductions.

The components of this plan are based on the three principles of ***Survive, Thrive and Transform***, but also organized according to the four objectives of the NCAH Policy which apply to newborns and children, with the fifth strategy covering objective six of the policy *(creating an enabling environment for provision of quality newborn, child and adolescent health services, which covers the range of health systems and health sector strengthening and capacity building).*

To support in the monitoring and evaluation of this document, a monitoring and evaluation framework outlining the indicators, baseline values, targets for the five-year period, sources of data and frequency of data collection form part of it. To the extent possible, the strategy envisions using existing reporting, monitoring and evaluation structures like the national DHIS 2. And finally, the strategic plan is costed for ease of actualizing its implementation.

Dr. Isaak Bashir
Head,Department of Family Health

1

INTRODUCTION – THE PROCESS TO DATE

In 2013, the Neonatal, Child and Adolescent Health Unit - NCAHU (then the Division of Child and Adolescent Health - DCAH) initiated the process of the development of a National Child Health Policy (CHP) later named the **Newborn, Child and Adolescent Health Policy (NCAHP)**, reflecting the expanded mandate of the Neonatal, Child and Adolescent Health Unit. The Policy, launched in November 2018, provides a unified framework and response to planning, prioritization and implementation of newborn, child and adolescent health programs at national and county level. It is linked to the Sustainable Development Goals (SDGs), Kenya's commitment to Universal Health Coverage (UHC), and the Kenya RMNCAH Investment Framework under the GFF (Global Financing Facility) platform which provides direction on national newborn, child and adolescent health priorities, interventions, partnerships and investments.

Newborn, child and adolescent health is a priority for the Republic of Kenya. The Kenya Health Policy and the Health Sector Investment Plan identify newborn and child health as a priority for the government. Although there have been improvements in key newborn and child health indicators over the past decade, much remains to be done to meet the SDG targets.

With the NCAHP developed and adopted, the unit initiated the development of the **NCAH Strategy (2021-2025)**, a document that will provide strategic implementation direction for the national policy, outlining priority programming themes, expected results, outputs, interventions, activities, costing, and provide an M&E framework to guide monitoring and evaluation of the policy and strategy.

Since the formulation of the NCAH Policy, the units have now split, with the Adolescent Division separated. Thus, this strategy is now a Newborn and Child Health (NCH) Strategy only. It has been developed in a consultative process with stakeholders, donors as well as regional input, and has resulted in this document which will guide the activities of the program for the next five years.

2

GLOBAL OVERVIEW OF MATERNAL, NEWBORN AND CHILD HEALTH

Substantial global progress has been made in reducing child deaths since 1990. In 2019 an estimated 5.2 million children under 5 years, died mostly from preventable and treatable causes. Children aged 1 to 11 months accounted for 1.5 million of these deaths while children aged 1 to 4 years accounted for 1.3 million deaths. Newborns (under 28 days) accounted for the remaining 2.4 million deaths. An additional 500,000 older children (5 to 9 years) died in 2019.[1] This is a marked decline from the total of 12.6 million deaths in under-5's in 1990. Older children (5-9 years) had one of the largest declines in mortality since 1990 (61%), due to a decline in infectious diseases. Injuries (including road traffic injuries and drowning) are the leading causes of death among older children.[2]

Since 1990, the global under-5 mortality rate has dropped by 59%, from 93 deaths per 1,000 live births in 1990 to 39 in 2018.[3] Sub-Saharan Africa remains the region with the highest under-5 mortality rate in the world, with 1 child in 13 dying before his or her fifth birthday, 15 times higher than in high income countries.

The under-5 mortality rate in Eastern and Southern Africa has fallen from 185 per 1000 live births in 1980 to 57 in 2018., Two regions, Sub-Saharan Africa and Central and Southern Asia, account for more than 80 per cent of the 5.3 million under-five deaths in 2018, while they account for only 52 per cent of the global under-five population.[4] With an under-5 mortality rate of 41 per 1000 live births, Kenya ranked 22nd globally.[5] This compares favourably with the rates reported by Uganda (46), United Republic of Tanzania (53) and Ethiopia (55), while the rates in South Sudan (99) and Somalia (122) reflects those countries' underdevelopment and internal insecurities.[6]

The leading causes of death among children under five globally in 2019 were preterm birth complications, acute respiratory infections, intrapartum-related complications such as birth asphyxia, congenital anomalies, diarrhoea and malaria.[7] Neonatal deaths accounted for 47% of under-five deaths in 2018.[8] Each year over 2 million babies die during labour, childbirth or on the

[1] WHO (September 20, 2020); **Children: improving survival and well-being factsheet;** accessed at https://www.who.int/news-room/fact-sheets/detail/children-reducing-mortality
[2] ibid
[3] WHO. (Sept 19, 2019). **Children Reducing Mortality.** Accessed at https://www.who.int/news-room/fact-sheets/detail/children-reducing-mortality
[4] WHO. (Sept 19, 2019). **Children Reducing Mortality.** accessed at https://www.who.int/news-room/fact-sheets/detail/children-reducing-mortality
[5] UN Inter-agency Group for Child Mortality Estimation (UN-IGME). (2019). **Levels & Trends in Child Mortality Report 2019.** UNICEF
[6] UNICEF. (2019). **State of the world's children 2019 - Children, food and nutrition: Growing well in a changing world.** UNICEF
[7] WHO (September 20, 2020); **Children: improving survival and well-being factsheet;** accessed at https://www.who.int/news-room/fact-sheets/detail/children-reducing-mortality
[8] WHO. **Global health observatory.** Accessed at https://www.who.int/gho/child_health/mortality/causes/en/

first day of life (1.3 million intrapartum stillbirths; 1 million newborn deaths in the first 24 hours). Another million newborns die before reaching the first week of life.[9] More than half of these early child deaths are preventable or can be treated with simple, affordable interventions including immunization, adequate nutrition, safe water and food and appropriate care by a trained health provider when needed:

- The proportion of the world's children who receive recommended vaccines has remained the same over the past few years. During 2018, about 86% of infants worldwide (116.3 million) received 3 doses of diphtheria-tetanus-pertussis (DTP3) vaccine, with 129 countries reaching at least 90% coverage of DTP3 vaccine, leaving , an estimated 19.4 million infants worldwide not reached with routine immunization services.[10]
- The Global Action Plan for Pneumonia and Diarrhoea (GAPPD) Monitoring Visualisation Tool (launched by WHO and UNICEF in November 2016) presents data on 24 key indicators related to the protection, prevention and treatment of diarrhoea and pneumonia in children under 5 years of age and two indicators on mortality due to the two diseases. See **Annex 2** for a list of these indicators.
- Nutrition-related factors contribute to about 45% of deaths in children under-5 years of age.[11] Globally, at least 1 in 3 children under 5 is not growing well due to malnutrition in its more visible forms: stunting, wasting and overweight, while at least 1 in 2 children under 5 suffers from hidden hunger due to deficiencies in vitamins and other essential nutrients.
- Globally, only 2 in 5 infants under six months of age are exclusively breastfed, as recommended, while sales of milk-based formula continue to grow. UNICEF estimated that in East and Southern Africa in 2018 the prevalence of children under 5 who are not growing well (stunted, wasted or overweight) was 42.1%, with 33.6% stunted (as compared to the global prevalence of 21.9%) and 6.2% wasted.[12] Data from Kenya in the 2013-2018 period reported a prevalence of moderate or severe stunting in all children to be 26%, ranging from 14% in the richest cohort to 36% in the poorest, with a 1% prevalence of severe wasting and 4% moderate wasting.[13]

The Sustainable Development Goals (SDGs) adopted by the United Nations in 2015 were developed to promote healthy lives and well-being for all children. The SDG Goal 3 is to end preventable deaths of newborns and under-5 children by 2030. There are two targets:

- Reduce newborn mortality to at least as low as 12 per 1,000 live births in every country (SDG 3.2); and
- Reduce under-five mortality to at least as low as 25 per 1,000 live births in every country (SDG 3.2).

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9 https://www.healthynewbornnetwork.org/hnn-content/uploads/Summary-Every-Newborn-progress-report-2018.pdf
10 WHO; **Immunisation coverage**; accessed at https://www.who.int/news-room/fact-sheets/detail/immunization-coverage
11 WHO; (Sept 19, 2019). **Children Reducing Mortality,** Accessed at https://www.who.int/news-room/fact-sheets/detail/children-reducing-mortality
12 UNICEF. (2019). **State of the world's children 2019 - Children, food and nutrition: Growing well in a changing world;** UNICEF
13 ibid

These have been translated into the new **"Global Strategy for Women's, Children's and Adolescent's Health"**, which calls for ending preventable child deaths while addressing emerging child health priorities. Meeting the SDG target would reduce the number of under-5 deaths by 10 million between 2017 and 2030. Focused efforts are still needed in Sub-Saharan Africa and South East Asia to prevent 80 per cent of these deaths.[14]

Congenital anomalies, injuries, and non-communicable diseases (chronic respiratory diseases, acquired heart diseases, childhood cancers, diabetes, and obesity) are the emerging priorities in the global child health agenda. Congenital anomalies affect an estimated 1 in 33 infants, resulting in 3.2 million children with disabilities related to birth defects every year. The global disease burden due to non-communicable diseases affecting children in childhood and later in life is rapidly increasing, even though many of the risk factors can be prevented.[15]

Similarly, the worldwide number of overweight children increased from an estimated 31 million in 2000 to 42 million in 2015, including in countries with a high prevalence of childhood undernutrition.[16]

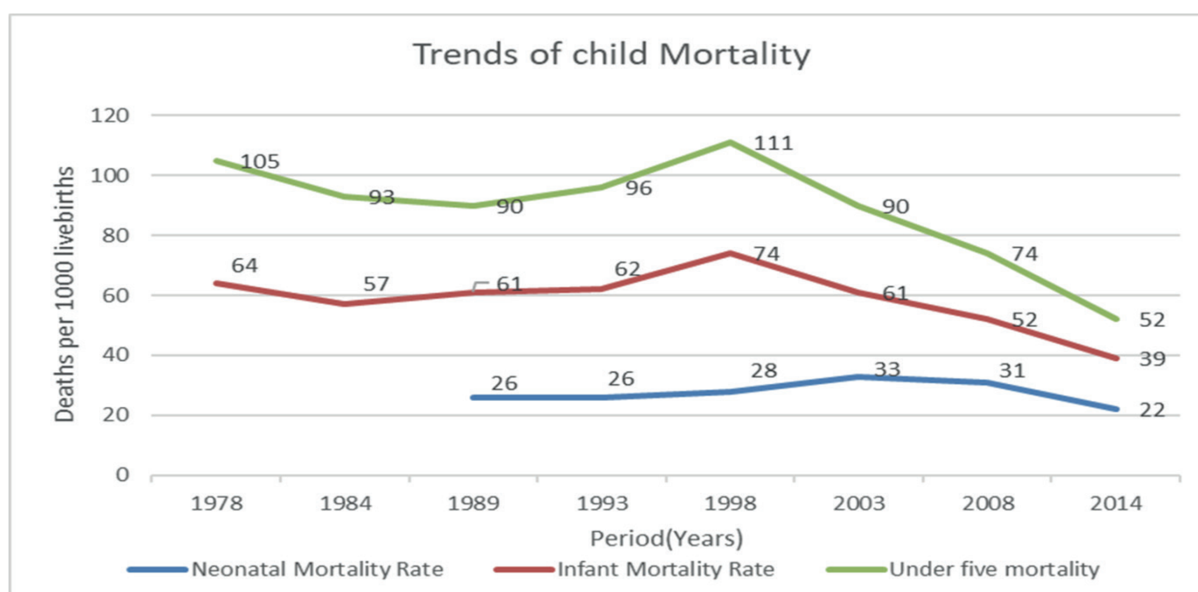
[14] WHO. (Sept 19, 2019). **Children Reducing Mortality.** Accessed at https://www.who.int/news-room/fact-sheets/detail/children-reducing-mortality
[15] ibid
[16] ibid

3

SITUATION ANALYSIS - KENYAN MATERNAL, NEWBORN AND CHILD HEALTH DATA, INCLUDING REGIONAL AND SUB-REGIONAL VARIATIONS, ISSUES AND OTHER LOCAL FACTORS

Despite not reaching her MDG child health targets, Kenya has made significant improvements in newborn and child health. The Kenya Demographic Health Survey (KDHS 2014) shows that since 2003, Kenya decreased its under-five mortality rate from 114 to 52 deaths per 1,000 live births, and decreased infant mortality rate from 77 to 39 deaths per 1,000 live births.[17] This has reduced further in the past five years (see Table 1). The neonatal mortality rate has decreased at a slower rate, and currently stands at 20 deaths per 1,000 live births. The SDG target is a reduction in the neonatal mortality rate to 12 per 1,000 live births by 2030. A total of 51,000 infant deaths were reported in 2017 representing a decrease from 64,000 in 1990. The under-5 deaths decreased from 110,000 in 1990 to 69,000 in 2017.

Figure 1: Trends in Child Mortality – Kenya 1978-2014



Source: MoH powerpoint

[17] Kenya National Bureau of Statistics (2015); **Kenya Demographic and Health Survey 2014;** accessed at https://dhsprogram.com/publications/publication-fr308-dhs-final-reports.cfm

Table 1 – Child Mortality rates Kenya 1990-2018[18]

	1990	2000	2018[19]
Under-5 mortality rate (deaths per 1,000 live births)	107	106	41 (m-45, f-37)
Infant mortality rate (deaths per 1,000 live births)	68		31
Neonatal mortality rate (deaths per 1,000 live births)	28	28	20
Probability of dying among children aged 5–14 yrs (deaths per 1,000 children aged 5 – 14 yrs)	18		10

These decreases are a result of critical high impact interventions and improvements to quality of care, including increased antenatal care (ANC) and postnatal care (PNC), exclusive breastfeeding practices and improved nutritional status of children, elimination of user fees for primary health care including immunization, scale up on the uptake of recommended child health commodities like oral rehydration salts (ORS) and zinc for the management of diarrhoea, accelerated introduction of new life saving vaccines and other socioeconomic factors such as access to clean water and education.

Shortly after independence, one in every seven Kenyan children born alive, died before the age of five, 49 years later, mortality has declined significantly, but remains high, with one in every 19 children not reaching their fifth birthday. The progress towards improving child survival has been uneven, with high rates of reduction in some areas and slow progress in others. Inequalities continue to persist with substantial gaps between the best and worst performing counties.[20]

This strategic plan will highlight the **high impact interventions** necessary to address the leading causes of morbidity and mortality among newborns and children in Kenya, as presented in the NCAH policy 2018.[21]

3.1 Newborn Health

In 2016, newborn deaths in Kenya accounted for approximately 46% of all under-5 deaths, with birth asphyxia/trauma (31.6%), prematurity (24.6%), and sepsis (15.8%) as the leading causes of neonatal mortality. While under-five mortality has decreased by over 50% since 2003, at approximately 33%, Kenya's neonatal mortality has decreased at a far slower rate.

A recent review of over 90,000 paediatric admissions in 2018-2020 in fourteen Kenyan public hospitals found that neonates (aged 0–28 days) accounted for almost half the admissions but two-thirds of the deaths. Neonatal fatality rate in newborn units (NBUs) were high and variable

[18] Data from UNICEF. (2019); **State of the world's children 2019 - Children, food and nutrition: Growing well in a changing world;** UNICEF
[19] UN Inter-agency Group for Child Mortality Estimation (UN-IGME). (2019). Levels & Trends in Child Mortality Report 2019. UNICEF
[20] Macharia, P.M., Giorgi, E., Thuranira, P.N. et al. **Sub national variation and inequalities in under-five mortality in Kenya since 1965.** *BMC Public Health 19*, 146 (2019). https://doi.org/10.1186/s12889-019-6474-1
[21] Ministry of Health (2018); **Newborn, Child and Adolescent Health (NCAH) Policy 2018.**

across hospitals and birth weight categories. But lack of standardized diagnostic criteria and procedures made meaningful comparisons of neonatal morbidity and mortality difficult across the different hospitals.[22]

Kenya developed a three-year Maternal, Newborn Health Scale-up Strategy (2015-2018), which aimed to tackle the three leading causes of death in newborns. Addressing birth asphyxia, prematurity, and neonatal sepsis could avert over 80% of newborn deaths.

Key factors contributing to newborn health outcomes include the following:

- **Access to quality maternal and newborn health services:** Increases in the uptake of ANC and PNC services, skilled birth attendants, increase in health facility births, exclusive breastfeeding practices and initiatives such as the *Linda Mama* Program have all contributed to the improvements in newborn health. However, geographical access to facilities remains a challenge, particularly in the Arid and Semi-Arid Lands (ASAL) regions.

  The Kenya Harmonised Health Facility Assessment 2018 (KHFA)[23] noted that 81% of facilities in the country were offering antenatal care services (although only 4% of the facilities had all of the tracer items available). Half the facilities offered delivery services, but only 25% of the hospitals could offer comprehensive emergency obstetric and neonatal care (CEmONC). The mean availability of essential medicines for mothers nationally was 40%. Facilities in urban settings had a higher mean (45%) compared to those in rural setting (38%).

  An objective of both neonatal and maternal strategies should be the greater integration at the county level of the two services, especially in the peripartum period. All facilities offering basic obstetric care should be providing the recommended essential package of care for mother and baby at the time of birth (e.g. resuscitation, thermal care, immediate breast feeding, cord care), but assessments show that only 3% of facilities are equipped to deal with emergency obstetric and newborn care (EmONC) and referral systems remain inadequate.

  Even with the elimination of user fees for maternity and primary health care, financial constraints affecting transport, and payment for certain drugs and commodities still negatively affect women and children's access to care.

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[22] Irimu G, Aluvaala J, Malla L , *et al*; **Neonatal mortality in Kenyan hospitals: a multisite, retrospective, cohort study;** BMJ Global Health 2021;6:e004475. Accessed at https://gh.bmj.com/content/6/5/e004475

[23] Kenya Ministry of Health (2019). **Kenya Harmonised Health Facility Assessment (KHFA) 2018/2019 Main Report**

There are global recommendations on adequate space for delivery and neonatal facilities, that babies should not share incubators/cots, that mothers of sick newborns have beds and do not sleep on the floor or share beds with mothers on post-natal wards, that mothers can wash/bathe, and that they can visit at any time, all of which should be present for a facility to be classified as "equipped as per norms".

- **Access to quality services for sick newborns:** It is estimated that only 25% of sick newborns are cared for in a facility able to provide a basic minimum package of services.[24] The KHFA noted 93% of facilities offered outpatient services for low birth weight (LBW) and sick newborns. But for those who offer in-service care for LBW and sick newborns, only 29% had a bed for caregiver providing KMC.[25]

  Even in facilities that are equipped to deal with neonatal health issues, bed occupancy is often above recommended norms (with babies sharing incubators / cots), nurse-to-baby ratios are often very high (typically 1 nurse to 12 to 15 sick babies and even higher ratios on night shifts) and much of the needed nursing care such as feeding, comforting and maintaining hygiene is not done because staff are overburdened and on occasions work may be poorly organised. Private hospitals capable of providing high quality care are unaffordable to the vast majority of the population and low cost, small private facilities often provide care of poorer quality than the public sector.

- **Lack of appropriately skilled staff:** More women are accessing ANC services and giving birth in health facilities (62%).[26] However, continuing staff shortages and an inadequate workforce in the health sector in general (occasioned by high turnover, poor motivation and remuneration, and lack of resources for capacity building) has been deeply felt in obstetric and neonatal units, with gaps in available appropriately trained staff who can provide quality newborn health services including emergency obstetric and newborn (EmONC) care.

  A recent small study in Kenya demonstrated that private sector facilities had a median ratio of babies to nurses of 3, with a maximum of 7 babies per nurse, while in the public sector, the median ratio was 19 babies and a maximum exceeding 25 babies per nurse. On analysis, ratios of 12 or more babies per nurse were associated with significant reductions in several indicators of quality of care compared with ratios of 3 or fewer babies per nurse.[27]

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[24] Kenya Paediatric Assocation, KEMRI, Wellcome Trust, Min. Health (2018); **Draft Report of a Workshop on Improving Inpatient Neonatal Care Services 15th & 16th February 2018, Nairobi, Kenya.**

[25] Kenya Ministry of Health (2019). **Kenya Harmonised Health Facility Assessment (KHFA) 2018/2019 MAIN REPORT**

[26] Kenya National Bureau of Statistics. (2015); **Kenya Demographic and Health Survey 2014;** accessed at https://dhsprogram.com/publications/publication-fr308-dhs-final-reports.cfm

[27] Gathara D, Serem G, Murphy GAV, Obengo A, Tallam E, Jackson D, Brownie S, English M. (2019). **Missed nursing care in newborn units: a cross-sectional direct observational study;** *BMJ Qual Saf* 2019;0:1–12. doi:10.1136/bmjqs-2019-009363

There are discussions on relieving the pressure on obstetric and neonatal nursing staff through task-shifting or even the creation of a new cadre of Newborn Health Care Assistant (NHCA).[28] Such a cadre would be under the supervision of a qualified nurse and the tasks that might be undertaken in the delivery room would be restricted and supervised, but NHCAs might also provide useful inputs to basic care for babies who are less severely ill especially as they approach discharge when they may usefully support the professional staff in helping the family prepare for the baby's transition to care at home and in basic health promotion for baby and mother.[29]

But it is also recognised that the number of staff, both professional nurses and lower-level clerical and support staff, need to be increased, and their roles better defined. A recent survey revealed that of the the 305 practising paediatricians in the country, only 94 are in public sector, non-tertiary county hospitals. There is either no paediatrician at all or only one paediatrician in 21/47 Kenyan counties that are home to over a quarter of a million under 19 years of age.[30]

- **Availability to essential MNH commodities, supplies and equipment:** Many MNH commodities, supplies and equipment are unavailable at dispensaries and health centres (levels 2 and 3) or restricted to specialist use at higher levels of care. While the Kenya Service Provision Assessment (KSPA 2010) showed that only 25% of facilities had adequate stocks of ANC supplies, and this varied across the levels of care[31], the mean availability of tracer items for ANC in the KHFA 2018 had risen to 61%, but only 4% of the facilities had all the tracer items available.[32]

3.2 Child Health

Since 2000, acceleration in the reduction of under-five mortality has resulted globally in an additional 18 million more children surviving to their 5th birthday.[33] While the KDHS 2014 shows that both infant mortality and under-5 mortality have steadily decreased, there has only been minimal improvement of other key indicators for child health including the percentage of children who have been fully vaccinated (77%), and stunting (26%). The KDHS 2014 did show that exclusive breastfeeding for 6 months had increased to 61%. Additionally, combined uptake of

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[28] Kenya Paediatric Association; **Draft Report Follow Up Workshop on the possible scope of work and training needs for a Neonatal Health Care Assistant to support nurses in providing improved inpatient neonatal care; 5th April 2018, Nairobi, Kenya**
[29] ibid
[30] English M, Strachan B, Esamai F, et al; T**he paediatrician workforce and its role in addressing neonatal, child and adolescent healthcare in Kenya;** *Archives of Disease in Childhood 2020*;105:927-931; accessed at https://adc.bmj.com/content/105/10/927
[31] Kenya - **Kenya Service Availability and Readiness Assessment Mapping (SARAM) report, 2013.** http://apps.who.int/healthinfo/systems/datacatalog/index.php/catalog/4
[32] Kenya Ministry of Health (2019). **Kenya Harmonised Health Facility Assessment (KHFA) 2018/2019 Main Report**
[33] WHO; **Levels and trends in child mortality 2015;** http://www.who.int/maternal_child_adolescent/documents/levels_trends_child_mortality_2015/en/

ORS & Zinc for the management of diarrhoea increased from <1% to 8%. The leading causes of child morbidity and mortality are familiar and are: Pneumonia (16%), diarrhoea (11%), malaria (4%), HIV (4%), and other non-communicable diseases (26%).[34]

Inequities in health outcomes in Kenya for both children and adults are inextricably tied to wealth. A recent review[35] found significant inequality and inequity in the use of all types of care services in Kenya favouring richer population groups, with particularly pronounced levels for preventive and inpatient care services. These are driven primarily by differences in living standards and educational achievement, while the region of residence is a key driver for inequality in preventive care use only.

The main driving factors of socio-economic inequality in health care use in Kenya are total household expenditure, educational achievement, household characteristics and living standards, all disproportionately distributed in favour of richer individuals and better off households.

Key factors contributing to child health outcomes include the following:

- **Access to appropriate treatment for common childhood illnesses:** Kenya has put in place systems that support the delivery of evidence-based, high impact interventions including: low-cost life-saving antibiotic treatment (specifically Amoxicillin-DT) for pneumonia; combined uptake of ORS and Zinc for the management of diarrheoa, immunization against vaccine preventable diseases including pneumonia and measles; long lasting insecticide nets (LLINs) and artemisinin-based combination treatment (ACT) for malaria; exclusive breastfeeding and young infant feeding support and counselling; Vitamin A supplementation for children; interventions for those with special needs and disabilities; stimulation for optimal development through play and communication activities. Optimal realization of child health outcomes have been hampered by issues related to variances on coverage, equity, and quality of care across the country, as well as the chronic problem of an insufficient and inadequately trained workforce.

  The KHFA 2018 showed that the national average percentage of facilities offering immunization services is 71%, but only 3% of facilities had all of the essential tracer elements. Similarly, while 89% of the health facilities sampled nationally offered preventive and curative care for under 5 years old children, the mean availability of all tracer items was 68% with only 2% of the facilities nationally having all the tracer items needed for

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[34] Kenya National Bureau of Statistics; **Kenya Demographic and Health Survey 2014;** accessed at https://dhsprogram.com/publications/publication-fr308-dhs-final-reports.cfm

[35] Ilinca S, Di Giorgio L, Salari P, Chuma J; **Socio-economic inequality and inequity in use of health care services in Kenya: evidence from the fourth Kenya household health expenditure and utilization survey;** International Journal for Equity in Health; Vol18: 196 (2019) accessed at https://equityhealthj.biomedcentral.com/articles/10.1186/s12939-019-1106-z

child preventive and curative care services. The mean availability of essential medicines for children nationally was only 56%.[36]

- **National policies, strategies, and guidelines on child health:** All the above interventions have been anchored on national policy frameworks such as the Child Survival and Development Strategy (CSDS 2008-2015) whose objective was to accelerate progress towards achievement of the MDGs on child health. Implementation of critical child health platforms such as Integrated Management of Newborn Childhood Illness (IMNCI), Emergency, Triage, Assessment and Treatment plus (ETAT+), the Kenya Action Plan for Pneumonia and Diarrhoea (KAPPD) and the Integrated Community Case Management (iCCM) programs, and national flagship programs such as Malezi Bora all contributed to these achievements in child health.

- **Elimination of user-fees for primary health care services:** Universal Health Coverage (UHC) is a key tenet within the KHSSP, and elimination of user fees for primary health care and maternity services is a great step towards achieving this milestone. Additional social protections, such as the NHIF increase access to essential services and unblock bottlenecks connected to access and availability of services.

- **The impact of violence against children:** The various forms of violence and abuse against children, including violent discipline, witnessing domestic violence at home, and violence against women (especially pregnant and lactating women) are key factors affecting the health and development of children.

- **Lack of data on 5-9 age group:** While data exists for newborn and infant health cohorts, information on the health status on the 5-9 age cohort is often not collected, or collapsed into other age cohorts. This is a critical data gap which affects formulation of policy guidance and programming that should address the needs of this age cohort.

3.3 Early Childhood Development and Nurturing Care

The time from pregnancy to age three marks the period of most rapid brain development. This period lays the foundation for health, well-being, learning and productivity throughout a person's whole life, and has an impact on the health and well-being of the next generation. After this period, delays in physical growth, cognitive and executive functions, and social and emotional connectivity are often irreversible. Nevertheless, traditional Early Childhood Development (ECD) services tend to provide preschool interventions targeting older children (3–5 years) which misses

[36] Kenya Ministry of Health (2019). **Kenya Harmonised Health Facility Assessment (KHFA) 2018/2019 Main Report**

the critical window of opportunity in child development. In these earliest years, the health sector is uniquely positioned to provide support for early childhood development.

Kenya is a signatory of the recently published Nurturing Care Framework[37] which draws on state-of-the-art evidence on how early childhood development unfolds to set out the most effective policies and services that will help parents and caregivers provide nurturing care for babies. It is designed to serve as a roadmap for action, helping mobilise a coalition of parents and caregivers, national governments, civil society groups, academics, the United Nations, the private sector, educational institutions and service providers to ensure that every baby gets the best start in life. The Framework builds on the foundation of universal health coverage, with primary care at its core, as essential for all sustainable growth and development.

3.4 Nutrition

The most recent Kenyan data from the 2014 Demographic and Health Survey[38] [39] states that out of a total under-5 population of 7 million, 1.82 million children (26 percent) are suffering from chronic malnutrition (stunting or low height-for-age). In addition, it is estimated that from 2010–2030 undernutrition will cost Kenya approximately US$38.3 billion in GDP due to losses in workforce productivity.[40]

Kenya continues to face severe food insecurity with 3.4 million people in 2017 suffering from acute food insecurity.[41] The prevalence of stunting nationally has fallen from 35 percent in 2008 to 26 percent in 2014 [42],[43] ,[44] , and is highest in the Coast, Eastern, and Rift Valley regions with the most prevalence among children 18–23 months, indicating that poor complementary feeding and hygiene and sanitation practices are likely contributors to stunting in that age group.

While acute malnutrition (wasting or low weight-for-height) among children under 5 years is relatively low nationally (4 percent)[45], it reaches almost 14 percent in Northeastern region. Children of mothers who did not complete primary school or who have no education are more likely to be stunted (34 percent and 31 percent respectively) than children of mothers with a secondary or higher education (17 percent). Fourteen percent of children in the highest wealth quintile are stunted, compared to 36 percent of children in the lowest wealth quintile.

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[37] WHO, UNICEF, World Bank Group. (2018). **Nurturing care for early childhood development: a framework for helping children survive and thrive to transform health and human potential.** Geneva: World Health Organization;

[38] Kenya National Bureau of Statistics (2015). **Kenya Demographic and Health Survey 2014;** accessed at https://dhsprogram.com/publications/publication-fr308-dhs-final-reports.cfm

[39] UNICEF; **Situation Analysis of Children and Women in Kenya 2017;** UNICEF, 2018, Nairobi, Kenya.

[40] USAID (2017); **Country Profile: Kenya; 2017;** Available at: http://www.feedthefuture.gov/country/kenya

[41] USAID ibid

[42] UNICEF. (2019). **State of the world's children 2019 - Children, food and nutrition: Growing well in a changing world;** UNICEF

[43] USAID; **Kenya Nutrition Profile,** Updated February 2018; accessed at https://www.usaid.gov/sites/default/files/documents/1864/Kenya-Nutrition-Profile-Mar2018-508.pdf

[44] All of the data in this section, unless otherwise noted, is from the 2014 DHS, and is reported both in the USAID Kenya Nutrition Profile 2018 and UNICEF's State of the World' Children Report 2019.

[45] UNICEF; **Situation Analysis of Children and Women in Kenya 2017;** UNICEF, 2018, Nairobi, Kenya.

Vitamin D deficiency, resulting in rickets, also shows wide regional variation. A survey of paediatric hospital admissions in three regions demonstrated a prevalence of rickets in Nairobi of 4.01%, with Central Region at 0.92%, but only one case out of 9756 admissions was diagnosed in the Western Region. General malnutrition was associated with rickets, but this association also varied regionally.[46]

UNICEF's State of the World's Children Report 2019 states that only 11% of newborns in Kenya are underweight but also notes that one-third (34%) of newborns are not weighed.[47] Inadequate infant and young child feeding practices contribute to high rates of malnutrition in the country. Exclusive breastfeeding practices have increased dramatically, from 32 percent in 2008 to 61 percent in 2014, but only 42 percent of infants 4–5 months of age are still exclusively breastfed and only 62 percent of mothers initiate breastfeeding within an hour of birth.

In addition, complementary feeding practices are poor, as only 22 percent of breastfed children 6–23 months received a minimum acceptable diet. Vitamin A deficiency is relatively low at 9 percent in children under 5 years, but only 35 percent of children 6–23 months consumed vitamin A-rich foods and 16 percent consumed iron-rich foods in the past day. Maternal and child anemia are widely prevalent, with 36 percent of children under 5 years and 42 percent of pregnant women suffering from anemia.[48]

The high prevalence of adolescent pregnancy has serious consequences because, relative to older mothers, adolescent girls are more likely to be malnourished and have a low birth weight baby who is more likely to become malnourished, and be at increased risk of illness and death than those born to older mothers. The risk of stunting is 33 percent higher among first-born children of girls under 18 years in Sub-Saharan Africa, and as such, early motherhood is a key driver of malnutrition.[49]

3.5 Communicable diseases

3.5.1 HIV and AIDS

Of the estimated 52,800 new HIV infections in Kenya in 2018, 8,000 were in children under 14, which is a 41% decline from the 13,500 new infections in children in 2010.[50] These 8,000 new infections constituted about 15% of all total new HIV infections in Kenya, and more than half of them (51%) occurred in eight high prevalence counties.[51] In comparison, the Kenya Population-

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[46] Karuri SW, Murithi MK, Irimu G et al. U**sing data from a multi-hospital clinical network to explore prevalence of pediatric rickets in Kenya;** *Wellcome Open Res 2017*, 2:64 accessed at https://doi.org/10.12688/wellcomeopenres.12038.2

[47] UNICEF. (2019). **State of the world's children 2019 - Children, food and nutrition: Growing well in a changing world;** UNICEF

[48] Reported in the DHS as well as National Malaria Control Programme (NMCP) Kenya, Kenya National Bureau of Statistics (KNBS) and ICF International. Ministry of Health; National Malaria Control Program (2016). **Kenya Malaria Indicator Survey 2015.**

[49] Fink, G., Sudfeld, C.R., Danaei, G., Ezzati, M., and Fawzi, W.W. (2014). **Scaling-Up Access to Family Planning May Improve Linear Growth and Child Development in Low and Middle-Income Countries;** PLoS ONE 9(7): e102391. Doi: 10.1371/journal.pone.0102391, cited in USAID; **Kenya Nutrition Profile.**

[50] Unless otherwise noted, all the data in this section is from: Kenya MoH, NACC. (October 2018). **Kenya HIV Estimates Report 2018**

[51] Homa Bay (700), Nairobi (660), Siaya (620), Kisumu (616), Kakamega (437), Migori (432), Nakuru (325), and Busia (318)

Based HIV Assessment Survey (KENPHIA) in 2019 estimated 36,000 new HIV infections per year in adults, but did not estimate the number of new cases in children under 14.

Approximately 69,500 HIV positive pregnant women required PMTCT services in 2017 compared to 73,800 in 2010.[53] Of these, about 53,236 received PMTCT services, making the PMTCT coverage about 77%. The 2019 KENPHIA reported that among women aged 15-49 years who delivered within the three years preceding the survey, 97.3% had attended at least one ANC visit for their most recent birth.[54] However, the target of 90% ANC attendance was not achieved in five counties (Mandera, Wajir, Garissa, Samburu, and Marsabit). There has been a significant decline in EMTCT rate (final transmission rate including breastfeeding) from about 29.7% in 2005 to 11.5% in 2017. As a result of the scale up of this program since 2004, about 132,300 child HIV infections have been averted through 2017.

Of the approximately 1.5 million people living with HIV in Kenya in 2017, 105,200 (7%) were among children 0-14 years of age, of whom 50% were from seven counties and 84% (86,300) HIV-positive children were on ART. The KENPHIA survey in 2019 estimated the HIV prevalence among children to be 0.7%, which translates to approximately 139,000 children living with HIV in Kenya.[56]

Deaths in children under the age of 15 from AIDS-related causes were estimated at 4,300 in 2017, a marked reduction from the 10,200 deaths recorded in 2010. Again, more than half (56%) of these deaths occurred in nine high prevalence counties.[57]

The number of total orphans is estimated to have slightly declined from 2.3 million children in 2010 to 2.0 million orphans in 2017. The number of all AIDS orphans also declined from 998,000 children in 2010 to 581,400 in 2017.

The Kenya Health Facility Assessment (KHFA) 2018 found that six in ten facilities in Kenya offer any paediatric HIV services or referral of children to HIV care and treatment services elsewhere. Nearly one-third of the facilities in Kenya that offer paediatric HIV services or referrals are ready to provide paediatric HIV services, while but only 3% of health facilities have all paediatric HIV tracer items.[58]

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[52] Kenya Ministry of Health, National AIDS and STI Control Programme (NASCOP), **Preliminary KENPHIA 2018 Report.** Nairobi: NASCOP; 2020.
[53] The decrease in the number of HIV+ pregnant women is likely to be a function of several factors; reduced transmission (incidence) in young women leading to an aging of the HIV-infected population into lower-fertility age groups and perhaps increased knowledge of status leading to better fertility choices.
[54] Kenya Ministry of Health, National AIDS and STI Control Programme (NASCOP), **Preliminary KENPHIA 2018 Report.** Nairobi: NASCOP; 2020.
[55] Homa Bay [10,722], Siaya [9,501], Kisumu [9,439], Nairobi [8,137], Migori [6,161], Kakamega [4,224] and Nakuru [4,026].
[56] Kenya Ministry of Health, National AIDS and STI Control Programme (NASCOP), **Preliminary KENPHIA 2018 Report. Nairobi: NASCOP; 2020.**
[57] Homa Bay [420], Nairobi [380], Siaya [372], Kisumu [369], Migori [259], Kakamega [195], Nakuru [174, Busia [142] and Mombasa [124]
[58] Kenya Ministry of Health (2019). **Kenya Harmonised Health Facility Assessment (KHFA) 2018/2019 Main Report.**

3.5.2 Diarrhoeal diseases

In 2018 in Kenya, 1,499,146 cases of diarrhoea were reported among children under five years.[59] A recent study in the Mathare slums of Nairobi found a prevalence of diarrhea of 18.7% among children under five years in the selected households.[60] Several factors such as number of people in a household, number of children under five years in a household, relationship and level of education of the primary caregiver, presence of flies, presence of open garbage, presence of faeces, and immunization practices of the child were found to be associated with diarrhoea prevalence.

These results were similar to the 2014 DHS which asked mothers about episodes of diarrhoea in their infants and children in the two weeks preceding the survey. Overall, 15 percent of children under the age of five had experienced diarrheoa, 2% being bloody diarrhoea. Half the episodes of diarrheoa were in children between the ages of 6 months and 2 years. Children who had access to improved or private toilet facilities had a reduced prevalence of diarrhea (11 percent versus 16 percent). The Western, Coastal and Nyanza regions had the highest prevalence of diarrhea (18-20 percent) while Northeastern had the lowest (8 percent). Treatment seeking was inversely proportional to the education level of the mother.[61]

A comparison between the 2008/09 and the 2014 DHS demonstrates a number of improvements:

- The proportion of children with diarrheoa taken to a health care provider for advice or treatment increased from 49 to 58 percent
- The proportion of children treated with ORS increased from 39 to 54 percent
- Use of zinc increased from less than one per cent to eight percent.

However, the proportion of children who received no treatment increased from 13 to 18 percent, and there was no change in the number of children who were given increased fluids.

3.5.3 Pneumonia and Acute Respiratory infections

The 2014 DHS[62] asked mothers about episodes of cough, shortness of breath or other respiratory difficulties in their infants and children in the two weeks preceding the survey – all symptoms of pneumonia. The results across the country were 9 percent of children with those symptoms, ranging from 4 percent in those under six months to 11 percent in infants aged 6-11 months, with the highest regional prevalence seen in the Western Region (13 percent) and lowest in Northeastern (4 percent). Two-thirds of the children were taken to be seen at a health facility (an

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[59] The District Health Information Software. **Diarrhea among under five children. Nairobi:** DHIS; 2019.

[60] Guillaume D, Justus O, Ephanus K; **Factors influencing diarrheal prevalence among children under five years in Mathare Informal Settlement, Nairobi, Kenya;** J Public Health Afr. 2020 Apr 29; 11(1): 1312. doi: 10.4081/jphia.2020.1312

[61] Kenya National Bureau of Statistics. (2015). **Kenya Demographic and Health Survey 2014;** accessed at https://dhsprogram.com/publications/publication-fr308-dhs-final-reports.cfm

[62] ibid

increase from the 56 percent seen in the 2004 DHS), and about half were treated with antibiotics. Treatment with antibiotics ranged from 34 percent in Northeastern to 62% in Nyanza. The DHS also noted that pneumonia was responsible for about 16% of the deaths in the under-five age group.

A more recent review of 1832 cases of pneumonia in children over five in 13 Kenyan hospitals found a high mortality rate of 7.9%, but also noted that "the WHO criteria for classification of severity for children under 5 years do not appear to be a valid tool for risk assessment in this older age group, indicating the urgent need for evidence-based clinical guidelines for this neglected population."[63]

The Kenya Action Plan Against Pneumonia and Diarrhoea (KAPPD) which is based on the Global Plan (GAPPD) is the platform upon which the National Pneumonia Control Strategy for Kenya is based. The GAPPD's global target is that by 2025 the mortality rate from pneumonia for under-fives is reduced to 3 per 1000 live births. In 2018, the under-five mortality rate due to pneumonia in Kenya was 6 per 1000. A list of the indicators for Child survival for pneumonia and diarrhea is listed in **Annex 2**. Countries seeking to achieve UHC must ensure that more than 90% of children with Pneumonia symptoms are taken to an appropriate healthcare provider. In Kenya it was 66% in 2014.

3.5.4 Febrile infections including malaria

The 2014 DHS[64] asked mothers about episodes of fever in their infants and children in the two weeks preceding the survey, and if so, whether any treatment was sought. Almost one-quarter (24 per cent) of the children had been feverish in the two weeks, ranging from 17 percent in infants less than six months to 30 percent in children aged six months to two years. The prevalence of fever was highest in Nyanza and Western (37 and 36 percent respectively). Treatment was sought in 63 percent of the cases (an increase from the 49 percent reported in the 2008 survey). One quarter of the children with fever were treated presumptively with antimalarials, with another 40 percent treated with antibiotics.

Household surveys show a reduction in malaria parasite prevalence from 11 percent in 2010 to 8 percent in 2015 nationwide, and from 38 percent in 2010 to 27 percent in 2015 in the endemic area near Lake Victoria. The mortality rate in children under five years of age has declined by 55 percent, from 115 deaths per 1,000 live births in the 2003 Kenya Demographic and Health Survey (DHS) to 52 deaths per 1,000 live births in the 2014 DHS.[65]

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63 Macpherson L, Ogero M, Akech S et al; **Risk factors for death among children aged 5–14 years hospitalised with pneumonia: a retrospective cohort study in Kenya;** BMJ Global Health 2019;4:e001715. Accessed at https://gh.bmj.com/content/4/5/e001715

64 Kenya National Bureau of Statistics. (2015). **Kenya Demographic and Health Survey 2014;** accessed at https://dhsprogram.com/publications/publication-fr308-dhs-final-reports.cfm

65 *President's Malaria Initiative Report, 2019;* accessed at https://www.pmi.gov/docs/default-source/default-document-library/country-profiles/kenya_profile.pdf?sfvrsn=22

However, despite the overall declines in malaria prevalence, it remains an important health issue for children in endemic areas. A recent survey on the Kenyan coast[66] showed parasite prevalence gradually increased in childhood, reaching 12% by 9 years of age then declining through adolescence into adulthood. The incidence of hospitalized malaria was concentrated among children aged 6 months to 4 years (64% and 70% of all hospitalized and severe malaria). Malaria mortality was low but was highest among children aged 6 months–4 years (0.57 per 1000 person-years). Severe malaria and death from malaria were negligible above 15 years of age. Similarly, a survey of more than 5,700 hospitalised childhood malaria cases in Western Kenya[67] demonstrated a 3.7% mortality rate, with the median age for fatal cases being 33 months, but with increasing numbers of children older than 5 years admitted with malaria.

3.5.5 Hepatitis B

An analysis of samples from the Kenya AIDS Indicator Survey (2007) demonstrated a prevalence of chronic Hepatitis B infection in Kenya of 2.1%, representing approximately 398,000 persons.[68] Hepatitis B is a well-established precursor of hepatocellular carcinoma and cirrhosis, and it is also known that while most hepatitis B transmission is horizontal, vertical transmission to a neonate from an HbSAg positive mother carries a much higher risk of the more severe long-term sequelae. However, it has also been found that treating mothers with Tenofovir and immunizing the neonate against Hepatitis B, with the first dose given within 24 hours of birth, essentially protects against vertical transmission.[69] For the past several years, WHO has been recommending that "all infants should receive their first dose of vaccine as soon as possible after birth. Delivery of hepatitis B vaccine within 24 hours of birth should be a performance indicator for all immunization programmes".[70] While this may not be regarded as an immediate priority in Kenya, it is an additional immunisation practice that should be integrated into standard practice during the lifetime of this Strategic Plan.

3.5.6 COVID-19

The global pandemic of SARS-Covid-2 virus (COVID-19) that has swept the globe in 2020-2021 has affected Kenya like most other countries in the region. As of mid-May 2021, the country had recorded approximately 160,000 cases with 3,097 deaths,[71] of which 4,535 were in children under 10 years of age, with 27 deaths.[72] Forty percent of those cases were in children under 5 years, but they accounted for 19 (70%) of the deaths. As can be seen from Table 2, almost half (46%) of the cases in the country have been reported from Nairobi, as well as 40% of the deaths.

[66]Kamau G, et al.; **Malaria infection, disease and mortality among children and adults on the coast of Kenya** Malaria Journal (2020) 19:210 https://doi.org/10.1186/s12936-020-03286-6
[67]Akech et al; **The Clinical Profile of Severe Pediatric Malaria in an Area Targeted for Routine RTS,S/AS01 Malaria Vaccination in Western Kenya;** Clinical Infectious Diseases, Volume 71, Issue 2, 15 July 2020, Pages 372–380, https://doi.org/10.1093/cid/ciz844
[68]Ly KN, Kim A, Umuro M et al (2016). **Prevalence of Hepatitis B Infection in Kenya 2007**; *Am J of Trop Med and Hygiene; 95(2)*: 348-353
[69]WHO data
[70]WHO; Vaccines and Injectables, 2018; accessed at: https://www.who.int/immunization/diseases/hepatitisB/en/#:~:text=WHO%20recommends%20that%20all%20infants,indicator%20for%20all%20immunization%20programmes.
[71]Accessed on May 27, 2021 at https://www.google.com/

Table 2: Kenya COVID-19 cases and deaths in children – as of May 13, 2021

UNDER 10 YEARS COVID 19 CASES AS OF 13TH MAY 2021			UNDER FIVE YEARS COVID 19 CASES AS OF 13TH MAY 2021		
County	**Cases**	**Deaths**	**County**	**Cases**	**Deaths**
Nairobi	2091	11	Nairobi	845	8
Kiambu	267	2	Mombasa	109	
Mombasa	260		Kiambu	104	1
Nakuru	225	1	Nakuru	90	1
Turkana	147	2	Turkana	82	2
Kisumu	137		Kisumu	62	
Kajiado	130		Kajiado	50	
Uasin Gishu	116	2	Uasin Gishu	50	1
Machakos	114	2	Machakos	48	1
Kilifi	104	1	Kilifi	33	1
51-100 cases*	418	4		174	2
20-50 cases**	366	2		133	2
1-19 cases ***	160			59	
TOTAL	4535	27		1863	19

*Siaya, Migori, Laikipia, Kisii, Kitui, Kericho, Nyeri
**Embu, Nyamira, Garissa, Kakamega, Meru, Nandi, Busia, Taita Taveta, Kirinyaga, Bungoma, Murang'a, Trans Nzoia
***Makueni, Baringo, Homa Bay, Nyandarua, Tharaka Nithi, Bomet, Narok, Tana River, Vihiga, Lamu, Kwale, Isiolo, Mandera. West Pokot, Elgeyo Marakwet, Marsabit, Samburu

Although the number of cases and deaths in children is small as compared to the total numbers, it must be remembered that this is a large underestimate of the actual number of cases, as most cases in children are asymptomatic. However, it has been demonstrated that asymptomatic children can acquire and transmit the virus to adults, and so children need to be considered in the implementation of quarantining, sanitation and social distancing control measures.

More importantly, it has not yet been determined the number of excess deaths that have occurred in young children in the past year because of the closure of facilities, parents being fearful of taking sick infants and children to health centres or hospitals because of fear of COVID transmission, or being unable to take children for care because of curfews or other travel restrictions.

Another aspect of the COVID-19 pandemic is the pressure it has put on the health care system, with instances reported of oxygen being in short supply, which would affect the ability of facilities to provide neonatal resuscitation or other services that require intensive and critical care resources. Further, the social and psychological effects it may be having on children who have been confined at home and unable to attend school and social events has yet to be measured.

It is also evident that the COVID pandemic will not be resolved quickly, and its current and aftereffects will need to be taken into account in health planning for the coming years covered by this Strategic plan.

3.6 Birth defects and congenital abnormalities

In Kenya, WHO estimates that 6,626 deaths are attributable to congenital anomalies in children aged less than five years of age each year which equates to 6.3% of all deaths in children aged less than five years. As the infant mortality rate due to infectious diseases among children declines in Kenya, the proportionate contribution of birth defects to childhood mortality and morbidity is expected to increase.

Birth defects surveillance was established in Kenya in 2016. A program has been put in place to establish a scalable surveillance system to systematically identify, code, report, and monitor select birth defects; determine the birth prevalence of the selected birth defects; describe the main sociodemographic and clinical characteristics of children with the selected defects; and use the data generated through birth defects surveillance to inform existing prevention policies, increase awareness of proven prevention methods, and improve referral to services for affected individuals in order to reduce the burden of birth defects in the region. There are currently fifteen sites collecting routine data on neonates born with congenital anomalies.

3.7 Social determinants of health

Critical social determinants of health of newborns and children in Kenya include water, sanitation and hygiene, education, wealth and other socio-economic factors. Education, especially for girls, is also an important factor in influencing sexual and reproductive health rights among adolescents.

Some of the key social determinants of health relevant to child health include:

- **Water, sanitation and hygiene** - has improved significantly in the past ten years. The most recent Kenya Integrated Household Budget Survey (KIHBS)[73] in 2015/2016 reported that:
  - The majority of households (72.6%) obtain drinking water from an improved source (piped; protected wells and springs; boreholes), while 27% use non-improved sources, a marked improvement from the 2005/06 KIHBS or the 2008 DHS when 58.9% and 63% of households respectively obtained drinking water from an improved source.
  - In rural areas, 61.8 per cent of households have access to improved sources of drinking water compared to 86.7 per cent of the households in urban areas (Nairobi City had the highest proportion [97.1%] as compared to Turkana County [63.3%], Wajir [44.7%] or West Pokot [37.2%]. Nationally, a majority of households (59%) do not use any method to make water safe for drinking, and this is true in both urban and rural areas.
  - 65.2 per cent of households have access to improved methods of human waste disposal. About half of the households (50.8%) in rural areas used unimproved sanitation compared to 13.2 per cent of their counterparts in urban areas. 8.4 per

[73] Kenya National Bureau of Statistics. (**2018). 2015/16 Kenya Integrated Household Budget Survey (KIHBS), Basic Report**

cent of households had no toilet facilities. Lack of toilet facilities was more pronounced among households in rural areas (13.9%) than those in urban (1.4%).

- Nearly 80 per cent of households had no place for hand washing in or near the toilet. The proportion of households with a place for washing hands is higher in urban areas (30.2%) than in rural areas (13.2%). Across counties, Kisii, Wajir, West Pokot and Makueni had less than 5 per cent of households each with a place for washing hands.[74]

However, it should not be forgotten that water and sanitation issues also still exist within health facilities. A recent survey in fourteen Kenyan public hospitals (covering 116 wards) looking at factor promoting antibiotic resistance and using an aggregate score for some 34 WASH indicators found that the aggregate hospital performance ranged between 47 and 71% with five of the 14 hospitals scoring below 60%.[75]

- **Wealth** - three-quarters of urban residents (75%) are in the two highest wealth quintiles, while more than three-quarters of rural residents (78%) are in the lowest three quintiles (and are nearly equally distributed across these quintiles). Regional differences however exist, 9 in 10 people in Nairobi are in the two highest wealth quintiles, and 7 in 10 people in North Eastern are in the lowest wealth quintile.

The recently released Kenya Gross County Report 2019 (based on 2017 data)[76] noted that the GDP per capita in the four poorest counties (Wajir, Turkana, West Pokot, Mandera) was KES 1,500 or less. Not surprisingly, these four counties are also among those showing the least advances in improved health of neonates and children. However, there also exist great disparities within urban areas, most notably in access to health services by the urban poor.

- **Educational levels of women** have strong correlation to the health of the child. The literacy rate in Kenya of approximately 81.5% (78.5% females, 85% males) has not changed significantly in twenty years, after experiencing a slight decrease in 2005-2008.[77]

3.8 Disasters and emergencies

The frequency and scope of emergencies and disasters have been increasing in recent years in Kenya, largely due to the effects of environmental factors often related to global warming, with consequent emerging and re-emerging vector-borne, communicable and epidemic diseases

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[74] According to the KDHS 2014, a place for hand washing was observed in about 4 in 10 urban households (43%) and fewer than 3 in 10 rural households (27%).

[75] Maina M, Tosas-Auguet O, McKnight J, Zosi M, Kimemia G, Mwaniki P, et al.; **Evaluating the foundations that help avert antimicrobial resistance: Performance of essential water sanitation and hygiene functions in hospitals and requirements for action in Kenya (2019)**; PLoS ONE 14(10): e0222922. https://doi.org/10.1371/journal.pone.0222922

[76] Kenya National Bureau of Statistics. (2019); **Gross County Product Report 2019;** Accessed through Wikipedia https://en.wikipedia.org/wiki/List_of_counties_of_Kenya_by_GDP

[77] Accessed at https://www.macrotrends.net/countries/KEN/kenya/literacy-rate and https://countryeconomy.com/demography/literacy-rate/kenya

which pose challenges to child survival and development. The COVID-19 pandemic in 2020-2021 has been an additional unexpected emergency situation for which Kenya, like most countries, was ill-prepared to confront.

The coronavirus COVID-19 pandemic in 2020-2021 has been an unprecedented emergency, which has taxed the health system, but also had the effect of reducing uptake of services. The disruption in international air travel has had the effect of creating shortages of immunisation supplies, and by May 2020, almost one hundred countries had suspended their immunisation campaigns.[78] More seriously, there is widespread evidence that people were not accessing health care services, even in emergencies, for fear of they or their children contracting infection at the health centre. Data on under five services is being affected.

The effects of adverse environmental and weather conditions vary in severity in different areas of the country, with the arid and semi-arid regions of Northern Kenya, which historically have had weak health systems, bearing much of the burden, with recurrent and severe droughts or flooding during heavy seasonal rains being complicated by reported outbreaks of diseases including cholera, measles and malaria, among others. In addition, these are also areas prone to clashes during raids and cattle rustling in the pastoralist communities, as well as disturbances in regions close to border areas.

The consequences of such situations are a disruption in normal services, reduced food production with destruction or inadequate growth of food crops, increased incidence of disease such as diarrhoea and malaria, internal displacement and insecurity. Women and children are most at risk during these instances. Children often experience food deprivation, suffer deteriorating health and nutritional status, have an increased incidence of common diseases and have little or no access to health, education, water and sanitation or other services. They may also be prone to bodily harm and abuse and be denied their rights as children, as stipulated in the CRC. Often the mechanisms put in place to respond to the emerging or emergency situations are inadequate and not timely, so many children may succumb before assistance is forthcoming.

Although the Ministry of Health has developed the All Hazard Plan, Emergency Medical Policy, Ebola Virus Disease Contingency Plan and drafted a multi-sectoral Cholera Prevention and Control Plan, these documents have not been implemented by counties to shape up preparedness, preventiresponse and control interventions as part of systems strengthening and resilience building. It is not clear whether these plans have components for the under-five population.

[78] UNICEF. (2020). **Impact of COVID-19 on vaccine supplies;** Accessed at https://www.unicef.org/supply/stories/impact-covid-19-vaccine-supplies

Additionally, mechanisms that are put in place by counties and communities during times of emergencies and disasters to ensure continuity of essential Reproductive, Maternal, Child and Adolecent Health services during emergencies/disasters are more often short term, which do not translate into systems strengtheing and resilience building. Moreover, most of the preparedness and response interventions have not been harmonized, with funding gaps often experienced. In 2018/2019, UNICEF supported four counties in the capacity-building, mapping and ranking of priority hazards and risks, this needs to an annual exercise as part of bottleneck analysis for annual operational planning and implementation.

Before and after the 2008, 2013 and 2017 presidential elections Kenya witnessed varying levels of disorder and the subsequent displacement of populations, a large majority of whom were children and women who required continuity in the provision of essential health services. In anticipation of the repetition of such events, coordination mechanisms need to be put in place to ensure that not only will the maternal, neonatal and child service needs of displaced populations be maintained, but that psychosocial support to affected communities also be made available even in the absence of routine services, as stipulated in the Convention of the Right of Children and other human rights documents.[79]

3.9 High impact interventions

3.9.1. High impact interventions in the newborn period can be categorised under three levels:

- Immediate essential newborn care
    - thermal care for all newborn
    - early initiation to breastfeeding
    - hygenic cord and skin care
    - stimulation: communication and play
    - newborn immunisation
    - interventions for PMTCT
- Neonatal infection management
    - Presumptive antibiotic therapy for newborns at risk of bacterial infection
    - Adherence to WASH and infection control measures in facilities
    - Case management of neonatal sepsis, asphyxia, prematurity, management of newborns with jaundice
    - Initiation of ART in babies born to HIV infected mothers
- Interventions for ill and small newborns
    - Kangaroo Mother Care (KMC) and extra support for feeding the ill and small babies

[79] UNICEF. (2010). **Core Commitments for Children in Humanitarian Action**

- Continuous positive airway pressure (CPAP) to manage preterm babies with respiratory distress syndrome[80]
- Provision of human milk for small babies
- Management of newborns with jaundice

Although the interventions listed above only include those directly linked to the newborn, this strategy recognizes the need to ensure implementation of high impact maternal health interventions in the antenatal and intrapartum periods for the best health outcomes of the newborn.

3.9.2 High impact interventions under the child health domain focus on addressing the leading direct and indirect causes of under-five morbidity and mortality in Kenya which include pneumonia, diarrheoa, malaria, malnutrition and other preventable diseases. Additionally, high impact interventions that ensure children not only survive but also thrive and transform such as those for care for child development (CCD) are also included. The interventions are delivered through three tested strategies, which include Integrated Management of Newborn and Childhood illnesses (IMNCI), Emergency Triage Assessment and Treatment (ETAT+) and Integrated Community Case Management (iCCM) for children under five years of age. The high impact interventions under the child health domain include:

- Routine Immunization as well as introduction of new childhood vaccines
- Oral rehydration salts and zinc for diarrhea treatment
- Amoxicillin Dispersible Tablets (DT) for treatment of childhood pneumonia
- Oxygen for severe pneumonia
- Interventions for detection of hypoxaemia in children under 5 years – pulse oximetry
- Blood transfusion for severe anaemia
- Long-lasting insecticidal nets (LLINs) and artemisinin-based combination treatment (ACT) for malaria
- Infant and young child nutrition including promotion of exclusive and continued breastfeeding, complementary feeding counseling and support and management of moderate and severe acute malnutrition
- Child care and development
- Deworming of pre and school aged children
- Vitamin A and Zinc supplementation and food fortification
- Screening and treatment of childhood TB
- Interventions for EMTCT for HIV exposed and children living with HIV
- Birth registration
- WASH interventions for promoting infection control and disease prevention.

[80] This should be oxygen primarily with CPAP in facilities with appropriate staffing; it is not an intervention that can be done by people not skilled and babies must be adequately monitored

3.10 Bottleneck analysis of health system issues

As part of the development of this strategic plan, a bottleneck analysis of the remaining challenges in access to and utilisation of high impact newborn and child health services was undertaken, analyzing some of the newborn and child health indicators in the context of:

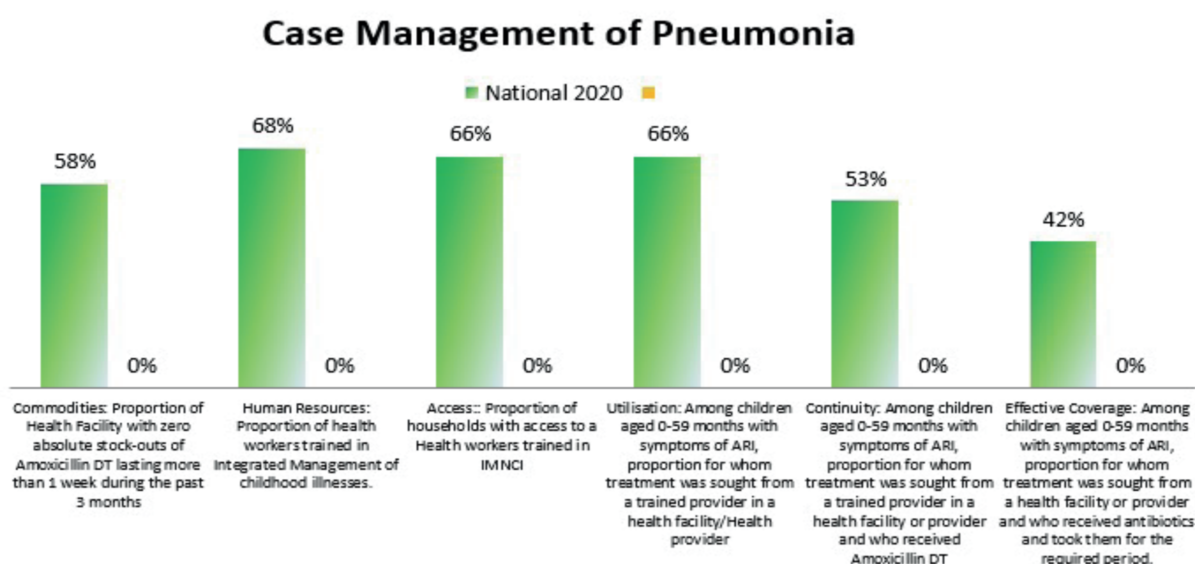
- Supply side: % of target facilities/services points that have commodities, human resources and services
- Demand side: % of target population that is reached
- Quality: % of target population reached with effective service

3.10.1 Case Management of Pneumonia

The latest data[81] indicates that only 35% of children under 5 years with pneumonia are being treated with the recommended amoxicillin DT. As an indicator, it cuts across the health system (both community and facility factors contribute to its execution), and it is an effective way of gauging quality of health care.

It can be seen from Figure 2 that the performance of the supply side indicators - commodities, human resource, and geographic access – are 58%, 66%, and 66% respectively, meaning that commodities were the weak point. 42% of health facilities experienced a stock out of Amoxicillin DT lasting more than a week in the preceding 3 months. On the side of demand, initial utilization was at 66% but dropped to 53% for continuous utilization, meaning that 47% of Children aged 0-59months with symptoms of ARI did not seek treatment from a health facility, leaving a quality indicator for effective coverage at a mere 42%.

Figure 2: Bottleneck analysis of case management of Pneumonia



81 DHIS2

It was suggested the stockout issues could be rectified though capacity building on quantification and forecasting, advocating for a steady supply of Amoxicillin DT, proper documentation of its consumption at the clinic level and advocating at the Count level to ensure a constant supply.

On the demand side, the reasons for non-attendance at the clinic are more complex, and include issues of distance to the clinic, the cost of services, cultural beliefs and attitudes of health care providers. A possible solution would be to sensitise both caregivers and the community on the need to seek care at the health facility within 24 hrs, SBBC activities at the community level to demystify myths and misconceptions and carrying out some IPC activities in the community to strengthen customer care relations.

A recent analysis of pneumonia in three counties in Kenya documented the major policy and implementation barriers at the national, county and health facility level in executing the protect, prevent and treat pneumonia strategy.[82] Their findings could apply more broadly to more general issues of delivery of health care in Kenya to the under-five population. The implementation barriers included:

- Inadequate coordination at the national and county levels, affecting the quality and monitoring of the programme, delays in implementing and disseminating new policies and guidelines.
- Inadequate budgets allocation to purchase essential medicines such as Amoxicillin DT, injectable antibiotics and oxygen along with essential diagnostics such as pulse oximeters. The low availability & use pulse oximetry in the assessment of hypoxaemia in children under 5 years and the low availability and use of oxygen for the management of severe pneumonia - a critical component in the management of severely sick children – is especially relevant in the context of COVID 19.
- Insufficient capacity building, mentorship and on-job training of health workers on pneumonia diagnosis and treatment.
- Inadequate use of child health data for evidence-based program planning due to poor capacity of health information records officers and health providers.
- Low numbers of health providers and high staff turnover.
- Insufficient number of functional community units and community health volunteers (CHVs) not specifically trained in pneumonia prevention, protection and referral.
- Caregivers health seeking behaviour for pneumonia is affected by various factors such as cultural and social practices, long distance to health facilities, economic challenges and poor knowledge of pneumonia symptoms.
    - In the semi-arid area, the pastoralist/nomadic lifestyle of the community coupled with

[82] Kenya Ministry of Health, Save the Children International. (2019). **Cross-sectional Survey of the Pneumonia Situation in Three Selected Counties in Kenya: Bungoma, Nairobi & Wajir**

long distances to health facilities impose an economic burden, resulting in communities resorting to traditional medicines,

- In the peri-urban and low-income areas, pneumonia and child health programming faces challenges in reaching unique hard-to-reach populations such as immigrants and and under five children.

- Lack of water and poor sanitation and waste disposal in the low-income areas in Nairobi County predispose residents and under-five children to various preventable illnesses including pneumonia.
- Weak roll-out of demand generation interventions that provide information and raise awareness of prevention measures, reduce misconceptions and improve care seeking practices in communities, based on formative research into the barriers and other relevant factors.
- Despite the introduction of PCV10 vaccine against pneumonia, there is a need to increase coverage to meet the GAPPD goal.

One of the report's[83] recommendations that is already being implemented is to strengthen the role of community health volunteers – training them in the pneumonia protect, prevent and treat strategy such as identifying underlying causes of pneumonia, the symptoms and referral.

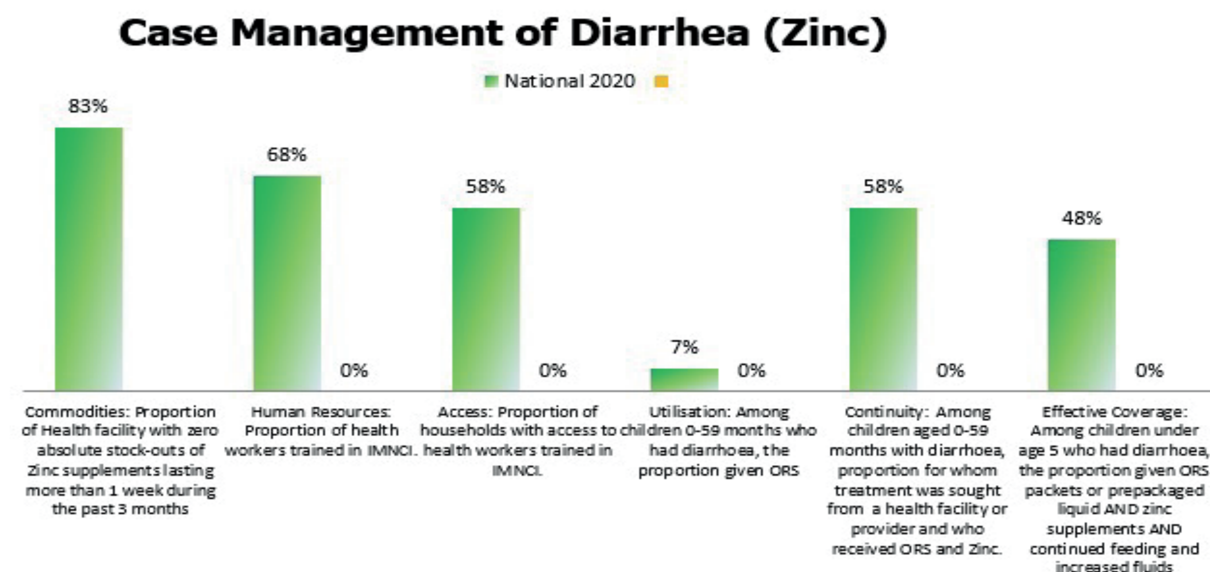
3.10.2 Case Management of Diarrhoea

The latest data[84] indicate that only 32% of children under 5 years with diarrhoea are treated with zinc and ORS. Like pneumonia the indicators for diarrhea cut across the health system and are an effective way of gauging quality of health care. As can be seen in Figure 3 the main issue on the demand side is the geographic accessibility of the health centre. However, unlike pneumonia, it can be seen that while there are plenty of commodities available, there is a very low rate of utilization of services, with only 7% of infants and children with diarrheoa actually being treated with ORS.

However, the management of diarrhea is not limited to health facility level access – as the commodities are available in the community level (kiosks, chemists, retail outlets, CHVs, etc.), the low utilization of commodities could be a result of other factors such as myths and misconceptions around diarrhea management in children, use of herbs, water & salt etc.

[83] ibid
[84] DHIS2

Figure 3: Bottleneck analysis of case management of diarrheoa



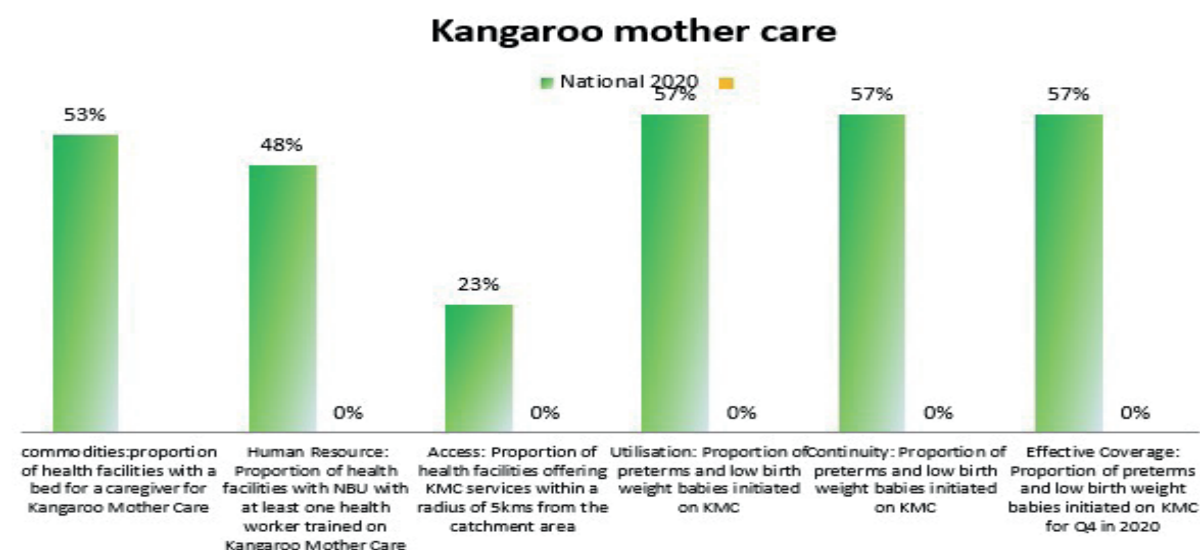
3.10.3 Case management and health of newborns

Two indicators to measure newborn care, both of which have low coverage, are:

- Percentage of preterm/low birth weight babies initiated on Kangaroo mother care (KMC) (13.5%)
- Proportion of babies applied chlorhexidine for cord care (13%)

As can be seen from Figure 4, the main impediment to uptake of KMC is geographic access to a facility that offers the service. Once KMC is available, it is well-utilised.

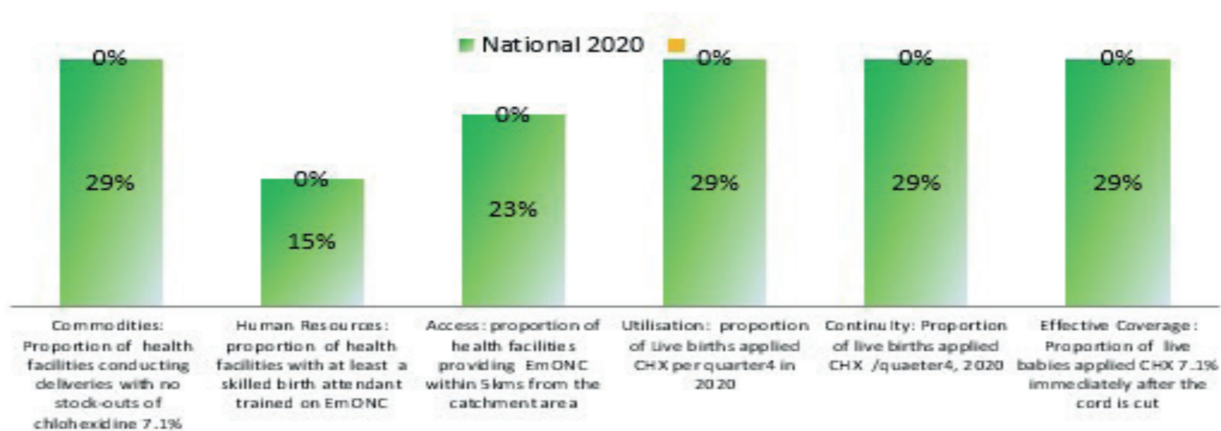
Figure 4: Kangaroo mother care



However, as seen in Figure 5 the issue with chlorhexidine application is one of human resources – the number of skilled birth attendants who have been trained in EmONC.

Figure 5: Immediate application of chlorhexidine for cord care

Immediate application of chlohexidine 7.1% for cord care



Suggested solutions to improve uptake and access to KMC included:

- Scaling up of the KMC champion network, while simultaneously engaging counties and creating awareness on the importance of KMC network champions.
- Ensuring that adequate space is available in neonatal units for mothers and babies in KMC.
- Changing attitudes and increasing KMC knowledge through formation of social platforms for knowledge and experience sharing
- Inclusion of KMC services into pre services training, engaging learning institutions and regulatory bodies, and participating in learning institutions curriculum reviews
- Integrating the KMC package into the MCH handbook and ANC health messages
- Increasing the number of health workers trained in KMC by developing and disseminating a KMC mentorship package for use in facilities

A recent five-country randomized clinical trial of KMC was stopped early owing to the finding of significant reduced mortality among infants receiving immediate kangaroo mother care (p=.006).[85]

4. The NCAH Policy and other policy/guidance documents

Although Kenya has several vertical programs and strategic documents on newborn, child and adolescent health thematic areas, the country has never had an overarching policy providing a holistic view and unified approach to newborn, child and adolescent health and development. The **Newborn, Child and Adolescent Health (NCAH) Policy** reflects the health goals of the **Strategic Development Goals (SDGs)** and provides direction on national child health priorities, interventions, investments, and partnerships.

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[85] WHO Immediate KMC Study Group; **Immediate "Kangaroo Mother Care" and Survival of Infants with Low Birth Weight;** N Engl J Med 2021; 384:2028-2038; DOI: 10.1056/NEJMoa2026486; accessed at https://www.nejm.org/doi/full/10.1056/NEJMoa2026486

The NCAH Policy outlines a vision, mission and goal, with six policy objectives:

- **Objective 1:** Reduce newborn, child and adolescent morbidity and mortality due to preventable communicable diseases
- **Objective 2:** Reduce newborn, child and adolescent morbidity and mortality due to non-communicable diseases and conditions
- **Objective 3:** Promote access to quality and comprehensive early childhood development interventions for all children up to eight years old, but especially in the first 1000 days of life
- **Objective 4:** Promote interventions to end all forms of malnutrition, and address the nutritional needs amongst newborns, children and adolescents
- **Objective 5:** Promote universal access to adolescent responsive health care services
- **Objective 6:** Create an enabling environment for provision of quality newborn, child and adolescent health services

The Policy then details policy domains and thematic areas under newborn, child and adolescent health, listing some 12-14 topics under each, as well as listing a dozen cross-cutting themes, each of which contain a list of activities that also need to be addressed:

- Health Systems Strengthening - leadership and governance, service delivery, financing, human resources, information systems, vital statistics
- Policies, strategies, plans and legal documents
- Early childhood development
- Water, hygiene, sanitation and other social determinants of health
- Advocacy, communication and social mobilisation
- Newborn and child health in emergencies
- Collaboration with professional, academic, regulatory and registration bodies
- Research and innovations
- Public/private partnership
- Special needs and disabilities

The Policy document then concludes with a discussion of Implementation Arrangements, including the roles and responsibilities of the National and County governments, academic and regulatory authorities, communities and individuals.

Besides the Newborn, Child and Adolescent Health (NCAH) Policy, this Strategy is also anchored in a number of international and Kenya policy, strategy and guidance documents. These are described briefly in **Annex 1,** and include:

- **Kenya Health Policy 2012 – 2030**
- **Kenya Health Sector Strategic Plan 2018–2022**
- **Kenya Primary Healthcare Strategic Framework 2019-2024**

- **Roadmap, M&E Framework and Operational guidelines towards implementing Universal Health Coverage (UHC) in Kenya 2018–2022**
- **Kenya Reproductive, Maternal, Newborn, Child and Adolescent (RMNCAH) Investment Framework 2016–2020**
- **Kenya Framework for Elimination of Mother-To-Child Transmission of HIV and Syphilis 2016-2021**

5. Strategic framework – Survive, Thrive and Transform

The Newborn and Child Health Strategy Vision, Mission, goal and objectives are aligned first to the Kenya National Health policy and the Newborn, Child and Adolescent Health (NCAH) policy. It is a direct progression from the Child Survival and Development Strategy 2008-2015, which guided the previous decade's newborn and childhood programming.[86] The Strategic Framework takes as its model the Global Strategy for Women's, Children's and Adolescents' Health 2016-2030[87] which is structured along the three principles of **SURVIVE, THRIVE** and **TRANSFORM.**

The Global Strategy approach aims for the highest attainable standards of health and well-being—physical, mental and social— at every age. A person's health at each stage of life affects health at other stages and also has cumulative effects for the next generation. The Strategy adopts an integrated and multisector approach, recognizing that health-enhancing factors including nutrition, education, water, clean air, sanitation, hygiene and infrastructure are essential to achieving the SDGs. Critically, the survival, health and well-being of women and children are essential to ending extreme poverty, promoting development and resilience, and achieving the SDGs. On a global level, implementing the Global Strategy, with increased and sustained financing, would yield tremendous returns by 2030:

- An end to preventable maternal, newborn, child and adolescent deaths and stillbirths
- At least a 10-fold return on investments in the health and nutrition of women, children and adolescents through better educational attainments, workforce participation and social contributions
- At least US$100 billion in demographic dividends from investments in early childhood and adolescent health and development
- A "grand convergence" in health, giving all women, children and adolescents an equal chance to survive and thrive

The global objectives of this strategy which will be applied to Kenya include:

- **Survive – end preventable deaths**
    - Reduce maternal mortality

[86] Kenya Ministry of Public Health. (2008). **Child Survival and Development Strategy 2008-2015**
[87] WHO (2015). **The Global Strategy for Women's, Children's and Adolescents' Health (2016-2030) - Survive, Thrive, Transform**

- Reduce stillbirths
- Prevent perinatal and neonatal deaths
- Ensure universal immunisation against preventable diseases
- Reduce under-five mortality
- End epidemics of HIV, tuberculosis, malaria, neglected tropical diseases and other communicable diseases
- Reduce premature mortality from non-communicable diseases and promote mental health and well-being

- **Thrive – ensure health and well-being**
    - End all forms of malnutrition and address the nutritional needs of children and pregnant and lactating women
    - Ensure universal immunisation against preventable diseases
    - Ensure early identification of ill health, timely and appropriate management
    - All children receive comprehensive nurturing care for early childhood development in the first 1000 days of life.
    - Ensure that all girls and boys have access to good-quality care and nurturing care for early childhood development even in hard-to-reach areas
    - Support community-based prevention, early identification and response to violence against children and pregnant and lactating women, with meaningful involvement and engagement of men, youth and extended families
    - Substantially reduce pollution-related deaths and illnesses
    - Achieve universal health coverage,including financial risk protection and access to quality essential services, medicines and vaccines
    - Engage fathers and male guardians in early childhood development activities

- **Transform – expand enabling environments**
    - Eradicate extreme poverty
    - Ensure that all girls and boys complete free, equitable and good-quality pre-primary, primary and secondary education
    - Achieve universal and equitable access to safe and affordable drinking water and to adequate and equitable sanitation and hygiene
    - Enhance scientific research, upgrade technological capabilities and encourage innovation
    - Provide legal identity for all, including birth registration
    - Health system strengthening, including infrastructure, human resources, management, information systems and leadership
    - Enhance partnerships for sustainable development

Guiding Principles

The NCAH Policy lists a number of Guiding Principles, stating that they will be upheld in the implementation of the Policy, and therefore implicit in the Implementation Strategy that follows:

- **Alignment with Global and National policies and strategies:** mainly the 2010 Kenya Constitution, The Kenya Vision 2030, Kenya Health Policy (2014-2030) and the Kenya Health Sector Strategic and Investment Plan (2013-2017). Additionally, the policy aligns to relevant global commitments and obligations such as the Sustainable Development Goals and the Global Strategy for Women's, Children's Adolescents' Health 2016-2030.
- **Gender, Equity, Access, and Respect for Child Health Rights:** Newborns and children will have access to health services without discrimination based on ethnicity, gender, disability, religion, political belief, economic or social condition, or geographical location. Special attention will be given to reduce disparities, including those directly related to disabilities, and ensure equity.
- **Life Cycle Approach:** recognizes the interconnectedness of the different life stages from pregnancy, child birth, newborn, child, adolescent and through to adulthood. The policy will utilize the life course approach in its implementation.
- **Evidence-based interventions:** activities and programs under the different domains are based on evidence generated in Kenya, regionally and globally; focus on proven interventions with the highest impact on newborn and child health.
- **Integration:** Recognizing the benefits including ensuring no missed opportunities and the possibility to increase coverage; activities to promote integration of newborn and child health services in planning, programming, implementation and monitoring and evaluation.
- **Multisectoral approach:** Newborn and child health is a facet of many factors, including the social determinants of health. Implementation will require multi-sector and cross-sector strategic partnerships.
- **Centered on the health systems blocks:** Functional health systems are critical to delivery of quality high impact interventions for newborns and children. As such, health systems strengthening will be a key priority area in the implementation of this policy.

5.1 Vision

A Kenya where all newborns and children survive, thrive and live to their fullest potential.

5.2 Mission statement

To ensure survival, health, development, and wellbeing of all newborns and children in Kenya, through promoting implementation of evidence-based high impact interventions, and creating an enabling environment for effective development and delivery of quality health services at all levels of service delivery.

5.3 Strategic goal

To accelerate efforts to reduce newborn and child mortality in Kenya and equitably promote their health, development and wellbeing.

5.4 Strategic Objectives

The objectives of the NCAH Policy are aligned with the newborn and child targets of the SDG Goal 3: "Ensure Healthy Lives and Promote Well-being for all at all ages", and these policy objectives are easily translatable into strategic objectives. Four of the five policy/strategic objectives outlined above are targeted at specific health issues – communicable diseases, non-communicable diseases, early childhood development in the first 1,000 days of life and nutrition, with the fifth advocating the creation of an "enabling equitable environment for provision of quality newborn and child health services".

The strategic plan that follows takes as its framework these four specific policy objectives translated into strategic interventions, with an expansion of the enabling environment objective into its many components, which includes a number of cross-cutting issues.

5.5 Impact targets

The following will be the most critical indicators that will be used to measure attainment of the strategy goal at the end of the five-year strategic period. The targets are aligned to the Kenya health policy and the country's commitment to the attainment of the sustainable development goals (SDG goals). Historical annual rates of reductions were considered in the development of the targets:

- Reduce neonatal mortality ratio from 22 to 16 per 1,000 live births by 2022 and 12 by 2025
- Reduce under five mortality rate from 52 to 45 per 1,000 live births by 2022 and 40 per 1,000 by 2025
- Reduce still birth rate from 12 to 9 per 1000 live births by 2022 and 7 per 1,000 by 2025

6 Detailed strategy and implementation matrix – interventions and activities

The components of the Strategic Plan which follows are based on the **three principles of Survive, Thrive and Transform,** but also organized according to the four objectives of the NCAH Policy which apply to newborns and children, with the fifth strategic covering Objective Six of the NCAH Policy - creating an enabling environment for provision of quality newborn, child and adolescent health services, which covers the range of health systems and health sector strengthening and capacity building.

6.1 Survive - GOAL – reduction of neonatal and child mortality and morbidity

- **Strategic Objective 1:** Reduce neonatal mortality and morbidity
- **Strategic Objective 2:** Reduce morbidity in infants and children (4 weeks – 10 years)

6.2 Thrive - GOAL – a healthy, well-nourished and well-protected childhood for all Kenyan children

- **Strategic objective 3:** Promote access to quality and comprehensive early childhood development interventions for all children especially in the first 1,000 days of life
- **Strategic objective 4:** Promote interventions to end all forms of malnutrition, and address the nutritional needs amongst newborns and children

6.3 Transform - GOAL – the provision of quality newborn and child health services in all counties of Kenya

- **Strategic objective 5:** Create an enabling environment for provision of quality newborn and child health services
    - **Strategy 5.1 Leadership and Governance** - Strengthen leadership and governance systems that are responsive and accountable in provision of health services to newborns and children at national and county levels
    - **Strategy 5.2 Infrastructure** - Promote availability of adequate and appropriate infrastructure at both community and facility levels to enable provision of comprehensive and quality newborn and child health services.
    - **Strategy 5.3 Service delivery and community health systems** – Support establishment and strengthening of community health systems to increase demand and utilisation, and to ensure delivery of community-based newborn and child health services in collaboration with the community health services unit as per national guidelines. These community systems to be supported by Level 4 hospitals and strengthened referral systems.
    - **Strategy 5.4 Human resources** - Support interventions to ensure availability of adequate, skilled and motivated human resources for health for provision of quality high impact newborn and child health services at all levels of service delivery
    - **Strategy 5.5 Quality improvement** - Put in place and/or strengthen systems including policies, standards, guidelines and programs to ensure quality improvement in provision of newborn and child health services as well as improve client experiences to ensure dignified care at all levels of delivery platforms.
    - **Strategy 5.6 Health care financing** - Ensure availability of adequate financing for delivery of high impact and quality newborn and child health services
    - **Strategy 5.7 Health commodities and supplies** - Strengthen systems including for procurement, supply and management to ensure availability of essential lifesaving medicines, commodities, equipment and technologies for provision of newborn and child health services.
    - **Strategy 5.8 Health information systems, monitoring and evaluation, research -** Strengthen health information systems to ensure collection, management and use of

disaggregated data at the various levels of health service delivery to inform newborn, child and adolescent health programming; strengthened partnerships and linkages with the research community.

- **Strategy 5.9 -** Water, hygiene and sanitation and other social determinants of health – Identify social determinants to child health including socioeconomic conditions, education, housing and environmental conditions and develop strategies to engage in strategic partnerships to address these determinants; improved WASH in health faciltiies.
- **Strategy 5.10 Special needs and disabilities -** Strengthen strategies for prevention and early identification of special needs and disabilities and support to those affected
- **Strategy 5.11 Public private partnerships -** Develop strategies and approaches to strengthen resource mobilization for newborn and child health services and programs through public private partnerships.
- **Strategy 5.12 Child health in emergencies -** Support effective response to newborn and child health in disasters and emergency situations
- **Strategy 5.13 -** Advocacy, communication and social mobilisation - Support development and implementation of newborn and child advocacy and communication strategic framework at national and county levels.

The following pages provide the detailed implementation matrix for the newborn and child strategy. The detailed plan presents activities by actions and by period of implementation. As part of the implementation, each county will develop their county specific plans to support the roll out of the national NCH strategic plan. Indicators to measure the outputs and outcomes under each of these activities are listed in the Monitoring and Evaluation Matrix – **section 9.**

6.1 Survive - GOAL – reduction of neonatal and child mortality and morbidity

6.1.1 Strategic Objective 1: Reduce newborn and neonatal mortality and morbidity

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
Promote and enhance availability and access to high impact evidence- based interventions for the management of preterm and/ or low birth weight (LBW) babies	Development of a comprehensive essential newborn care guideline	x					National/Partners
	Dissemination of a comprehensive essential newborn care guideline.		x	x			National/Partners
	Create awareness to increase uptake of early antenatal care (FANC), early recognition of danger signs during pregnancy, and importance of skilled delivery through Advocacy, Communication and social mobilization strategies	x	x	x	x	x	National, County
	Procurement and distribution of essential newborn care equipment to all facilities including but not limited to oxygen, CPAP, Radiant Warmers, Incubators	x	x	x	x	x	County Implementing partners
	Strengthening of community health units through provisions of CHV KITs and trainings	x	x	x	x	x	County Implementing partners
	Capacity building of health care workers on management of preterm and or low birth weights on resuscitation, Cord Care, IPC, feeding and KMC	x	x	x	x	x	National, County
	Monitoring and evaluation of the implementation	x	x	x	x	x	National, County
	Conduct Maternal perinatal Death Surveillance Response (MPDSR)Audits	x	x	x	x	x	National, County
	Promote Immunization of all pregnant women with Tetanus, Diphtheria (TD)	x	x	x	x	x	County
	Recruit skilled personnel	x			x		County
	Enhance support supervision and mentorship	x	x	x	x	x	National, County
	Procurement of essential new born care commodities such as CHX ,VIT K, surfactant, improved diagnostics to be done annually	x	x	x	x	x	Country
	Scale up Kangaroo mother care units in all level 4 and level 5 facilities	x	x	x	x	x	National
	Support breathing of pre-terms through administration of CPAP and surfactant	x	x	x	x	x	National County
Promote evidence-based community maternal and newborn interventions as per national guidelines.	Train CHEWs, CHAs and CHVs on ICCM, CMNC, Nurturing Care, integrated ICCM/ SAM/ MAM and other maternal newborn interventions	x		x		x	County
	Community sensitization on the importance of early start of ANC services	x		x		x	County
	Train CHVs on Community Maternal Newborn Care	x	x	x	x	x	County
	Train CHEWs, CHAs and CHVs on utilization of the digitized tools for community maternal newborn child health interventions		x	x	x	x	National/ County
	Mapping and training of low literacy CHVs and train on simplified ICCM tools		x	x	x		County/Partners
	Increase skilled deliveries through community initiatives like maternity open days at ward levels, mother to mother support group, provision of newborn essential starter pack	x		x		x	County
	Avail essential IPC supplies e.g. gowns, shoes, green towels, Chlorohexidine, TEO and vitamin K in all NBUs.	x	x	x	x	x	County

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
	Strengthen linkages between facilities and community to enhance referral of sick newborns	x	x	x	x	x	County/Partners
	Conduct community dialogue and action days	x	x	x	x	x	County
	Train the community level Human resource on ICCM quality improvement		x	x	x	x	County/Partners
	Advocate for establishment of quality of care improvement teams	x	x	x	x	x	National/County
	Community MPDSR verbal autopsy implementation of its recommendations	x	x	x	x	x	County
Put in place systems and programs to ensure access to and utilization of quality essential newborn care services at all levels of service delivery.	Ensure a robust insurance scheme to support pregnant women and their new-born	x	x	x	x	x	National
	Ensure a well-established referral mechanism	x	x	x	x	x	National, County
	Encourage immediate breastfeeding within one hour	x	x	x	x	x	National, County
	Promote Baby friendly community initiative	x	x	x	x	x	National, County
	Promote family centered care initiatives	x	x	x	x	x	National, County
	Strengthening community outreach programs	x	x	x	x	x	County
	Strengthen communication and social mobilization systems by use of technologies, IEC Materials and targeted advocacy, use of IEC materials in local language and service messaging	x	x	x	x	x	National, County
Support implementation of interventions that promote hygienic cord and skin care as per national guidelines	Provision of guidelines and SOPs	x	x	x	x	x	National and County
	Sensitization of CHV on the use of CHX for cord care	x	x	x	x	x	County
	Community sensitization on use of CHX and its benefit on cord care.	x	x	x	x	x	County
	Training of HCW and mothers/caregivers on use of Chlorhexidine for cord care.	x	x	x	x	x	County/National
	Maintenance of acceptable standards of WASH/IPC in health facilities	x	x	x	x	x	County
	Procurement of CHX to ensure its availability	x	x	x	x	x	County/National
Support implementation of interventions to address asphyxia including but not limited to promoting neonatal resuscitation	Promote quality management of pregnant in labour through use of partograph	x	x	x	x	x	National
	Support early identification and follow up of high risk pregnancies	x	x	x	x	x	County
	Provide guidelines on resuscitation	x	x	x	x	x	National
	Training of HCWs and OJT on resuscitation procedures-ABCD	x	x	x	x	x	National/County
	Support supervision and mentorship	x	x	x	x	x	National/County
	Procurement of new born resuscitation equipment	x	x	x	x	x	County
	Supply oxygen and oxygen delivery units in all delivery rooms	x	x	x	x	x	National County
	Ensure all level 4 and 5 facilities meet criteria for CEMONC	x	x	x	x	x	National County
	Timely management of complications in facility and timely referral	x	x	x	x	x	National County

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
Support interventions that ensure emergency care for newborns including supporting functionality of emergency obstetric and newborn care services (EmONC)	Activate/establish obstetric emergency units including maternity theatres	x	x	x	x	x	county
	Increase regional satellite blood banks including screening of blood	x	x	x	x	x	National (National Blood Transfusion Centre)
	Human resource capacity building	x	x	x	x	x	National/County
	Establish neonatal Intermediate and Intensive Care Units	x	x	x	x	x	County
	Training of HCW On EmONC and essential new-born care.	x	x	x	x	x	National County
	Procurement of equipment's and commodities such as oxytocin	x	x	x	x	x	County
	Continuous mentorship of the HCW	x	x	x	x	x	National County
Support establishment and strengthening of intermediate care units in level 3 facilities and intensive newborn units in level 4 and 5 as per national guidelines	Provide standardized architectural designs for NBU	x				x	County
	Construct and renovate NBU according to the design provided in levels 4 & 5			x			County
	Construction/renovation of newborn units at sub counties facilities as per the architectural designs provided in National guidelines	x		x			Country
	Operationalise nonfunctional newborn units	x	x	x	x	x	County
	Training and retention of HCW eg neonatal nurses and pediatric neonatologist	x	x	x	x	x	National/County
Promote interventions on elimination of mother to child transmission of HIV and congenital syphilis as well as interventions for screening and management of TB in neonates	Disseminate guidelines to health workers	x	x	x	x	x	County
	Training of health care workers on PMTCT, congenital syphilis and tuberculosis	x	x	x	x	x	County
	Sensitize CHVs/community on PMTCT congenital syphilis and tuberculosis	x	x	x	x	x	County
	Promote implementation of national EMTCT guidelines	x	x	x	x	x	County
	Promote implementation of TB/HIV and syphilis guidelines.	x	x	x	x	x	National County
Advocate for provision of antimalarials to mothers	Provision of antimalarial to mothers	x	x	x	x	x	National County
Promote access to evidence-based interventions for effective infection prevention and management among newborns.	Provide IPC guidelines for use in labor ward	x	x	x	x	x	National County
	Provide hand hygiene facilities at all service delivery points as part of larger WASH standards compliance	x	x	x	x	x	County
	Early identification and treatment of infections using existing protocols	x	x	x	x	x	County
	Procure commodities for diagnosis and treatment of any possible bacterial infection	x	x	x	x	x	
Support interventions that ensure maintenance of Maternal neonatal tetanus elimination status	Ensure mothers get 2 doses, at least 80% coverage	x	x	x	x	x	County National
	Support administration of tetanus toxoid as per national schedule	x	x	x	x	x	County National
	Promote early ANC visits	x	x	x	x	x	National County
Introduction of Hepatitis B immunization at birth	Advocate for introduction of Hepatitis B immunisation at birth			x	x	x	National/Partners

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
Implement WHO 2015 recommendations on treatment of possibly serious bacterial infections (PSBI) in infants and children	Adopt the recommendations into national guidelines - IMNCI	x	x	x	x	x	National
	Dissemination of protocols and guidelines to health facilities and teaching institutions- Use the guidelines for training	x	x	x	x	x	National County
	Supply of commodities for management of PSBI	x	x	x	x	x	National County

6.1 Survive - GOAL – reduction of neonatal and child mortality and morbidity

6.1.2 Strategic Objective 2: Reduce morbidity in infants and children (4 weeks – 10 years)

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
Promote access to and uptake of preventive interventions for childhood illnesses.	Sensitize HCWs on notifiable diseases and CHVs on Integrated Community Case Management (ICCM) guidelines on common childhood diseases and Community Newborn		x	x	x	x	National County
	Ensure effective utilization of the Mother and Child Health (MCH) Handbook		x	x	x	x	National County
	Provide Immunization services to all children.		x	x	x	x	County
	Early initiation to exclusive breastfeeding (6months)		x	x	x	x	County
	Enhance nurturing care of early childhood development		x	x	x	x	County
Promote availability of and access to timely, comprehensive services for treatment, care and support for children infected with or exposed to HIV and TB.	Counselling, testing/re-testing of mothers in antenatal and postnatal period. HIV-positive mothers to be started on HAART		x	x	x	x	County
	DNA PCR at birth (?) and at 6 weeks for exposed infants and antibody test at 18 months – all exposed infants begun on ART prophylaxis; treatment and care to infected children		x	x	x	x	County
	Linkage to care and treatment for all HIV/TB infected or exposed		x	x	x	x	County
	Counsel and encourage exclusive breastfeeding up to six months		x	x	x	x	County
	Offer complementary feeds after 6 months		x	x	x	x	National and county govt
	Isoniazid Preventive Therapy (IPT) Care.		x	x	x	x	County
	Linkage of Children with HIV/ TB to Primary Health networks to improve Compliance.		x	x	x	x	County
	Routine weighing and screening for malnutrition		x	x	x	x	County
	Screen for TB for all infected children at every visit		x	x	x	x	County
	Offer IPT to children with TB contacts		x	x	x	x	County
	Establish children-friendly comprehensive HIV/TB clinics		x	x	x	x	National/County
	Timely procurement of antivirals, anti-TBs, nutritional commodities and other supplies		x	x	x	x	National
	Intensify community defaulter tracing for both exposed and confirmed children		x	x	x	x	County
	Health education to caregivers on the importance of adherence of ARVS and Anti TB		x	x	x	x	County
	Conduct Data Quality Audit (Infant and Children morbidity).		x	x	x	x	National/County

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
Promote access to timely and quality treatment for common childhood illness-major killers (Scale iMNCI and iCCM)	Train at least 60% of HCWs in every facility on IMNCI and ETAT		x	x	x	x	National County
	Timely procurement, ordering and distribution of essential commodities , equipment and technologies (antimalarials, antibiotics, ORS, zinc, pulse oximeters, etc.)		x	x	x	x	County
	Conduct quarterly targeted supportive supervision and data quality audit on Infant and Children morbidity		x	x	x	x	National/County
	Establish and/or strengthen ORT corners		x	x	x	x	County
	Equip Emergency Trays with appropriate child-friendly supplies: Ambu bags		x	x	x	x	County
	Advocate for supply of oxygen concentrators to level 2 and 3 facilities		x	x	x	x	National/county
	Conduct Oxygen administration and newborn resuscitation training for HCW working on NBUs		x	x	x	x	National/county
	Avail treatment guidelines and protocols		x	x	x	x	National
	Advocate for establishment of acute rooms in paediatric wards		x	x	x	x	National/County
	Hire HCWs across different facility levels as per established norms and deploy appropriately infrastructure		x	x	x	x	County
	Implementation of referral strategy		x	x	x	x	County
	Media/ local radio enhance advocacy on key childhood illnesses		x	x	x	x	National/County
	Development children under five deworming guidelines	x	x				National County
	Regular deworming during CWCs, OPD and School-based		x	x	x	x	County
	Establish regional pediatric centre of excellence that have pediatric intensive care facility (National Children Referral Hospital)			x	x	x	National/county
	Strengthen monitoring and evaluation activities at all levels		x	x	x	x	National/County
	Availability of essential drugs for prompt treatment of childhood illnesses.		x	x	x	x	County
	Integrated outreach services to the difficult-to-reach populations		x	x	x	x	County
Promote and strengthen implementation of integrated management of newborn and childhood illnesses (IMNCI) and Emergency Triage Assessment and Treatment (ETAT) to address leading causes of child morbidity and mortality and improve the management of severely sick children.	Incorporate ETAT and IMNCI data in routine documentation tools		x				National county
	Provision of IMCNI &ETAT guidelines to health Workers		x	x	x	x	National/County
	Train and/ or re-train HCWs on IMNCI staff working in maternity, Pediatric Units, MCH and OPD.		x	x	x	x	National County
	Review of data tools to capture key classification -	x	x				National/County
	Integration of ETAT /IMNCI into digital records, plus use of data for quality improvement and national M&E		x	x			National
	Increase the number of ToTs		x	x	x	x	National/county
	Train HCWs on ETAT in A&E departments, Pediatric Units, and Maternity			x	x	x	National/County
	Train HCWs on oxygen use		x	x	x	x	National/county
	Integrate IMNCI, ETAT and iCCM trainings in medical institution curriculums	x	x				National/KMTC

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
	Availability of rapid test kits		x	x	x	x	County
	Improve disease surveillance at all levels		x	x	x	x	National/County
Strengthen routine immunization programmes and support new vaccines' introduction for existing and emerging vaccine preventable diseases among children.	Quantification and timely procurement of all antigens		x	x	x	x	National
	Have annual immunization target for each facility		x	x	x	x	National/County
	Provision and maintenance of cold chain equipment (Fridges and vaccine carriers)		x	x	x	x	National/County
	Launching of new vaccines at the county and sub county level after the national launch.		x	x	x	x	County
	Conduct regular targeted immunization outreaches		x	x	x	x	County
	Strengthen advocacy at all levels on importance of immunization		x	x	x	x	National/county
	Identify and ensure proper follow up on immunization defaulters		x	x	x	x	County
	Ensure proper documentation of immunization services,		x	x	x	x	County
	Advocacy to key stakeholders on importance of vaccine preventable diseases (Tetanus, HPV, Malaria, COVID-19)		x	x	x	x	National/County
	Regular data reviews on performance		x	x	x	x	National/County
	Provide special vaccine programs for eligible populations (SCD, Trauma, Anti snake venom, Dog Bites, etc)		x	x	x	x	National/County
	Sensitize CHVs on the importance of immunisation		x	x	x	x	County
	Mop up in hot spots		x	x	x	x	National/County
	Health promotion on immunization		x	x	x	x	County
	Especially MR 2 (Measles Rubella 2)						
Support interventions on eradication of vaccine preventable diseases including but not limited to measles control and elimination, polio eradication.	Training HCWs and CHVs on case identification and reporting		x	x	x	x	County
	Strengthen advocacy at all levels		x	x	x	x	National/county
	Conduct mass/targeted populations immunization campaigns		x	x	x	x	National/County
	Specimen collection, referral and testing of suspected AFPs (Acute Flaccid Paralysis) and Measles		x	x	x	x	County
	Weekly reporting on notifiable conditions and disease.		x	x	x	x	County
	Multi-sectoral collaborations with relevant stakeholders e.g Ministry of Education, Religious Organizations, Mininstry of Interior and Community.		x	x	x	x	National/county
	Integrate outreach to hard-to-reach populations to prevent outbreak.		x	x	x	x	County
Increase access to integrated community case management (iCCM) of common child diseases as per the national guidelines.	Avail management protocols		x	x			National County
	Timely procurement and replacement of community kits			x	x	x	National/county
	Train HCWs and CHVs on iCCM		x	x	x	x	County
	Advocate for facility-community linkage		x	x	x	x	National/County
	Identify facility-based community focal person		x	x	x	x	County
	Increase number of ToTS in iCCM at all levels		x	x	x	x	National/County

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
Strengthen implementation of mother, child and nutrition Malezi Bora activities	Review 'Malezi Bora' strategy		x	x			Nationa/county/part-ners
	Advocate for 'Malezi Bora' implementation/county ownership		x				National
	Integration with other health programs-community outreach & ECDS		x	x	x	x	County
			x	x	x	x	

6.2 Thrive - GOAL – a healthy, well-nourished and well-protected childhood for all Kenyan children

6.2.1 Strategic objective 3: Promote access to quality and comprehensive early childhood development interventions for all children eight years and below especially nurturing care in the first 1000 days of life

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
Establish national and county level multi-sectoral governance mechanism with decision making authority, to coordinate early childhood development interventions across relevant sectors and stakeholders.	Development of TORs for the multi sectoral coordinating committee/TWGs for ECD interventions						National
	Establishment of national and county level multi sectoral TWGs for ECD interventions (MOH, MoE, Social Services, NGAO, implementing partners)		x				National/County
	Development of a national and county level implementation framework for ECD interventions.			x	x		MOH, MoE, Social ser-vices, NGOs, partners, county govt.
	Lobby political leadership at the national, county and sub-county level for resource allocation for ECD interventions.		x	x	x	x	National/County/ Partners
	Strengthening of community health units through provisions of CHV KITs and trainings		x	x	x		County/Partners
Develop an integrated plan of action (national roadmap) to ensure coordinated implementation of early childhood development interventions	implement County nutrition action plan	x	x	x	x		County/Partners
	Integrated plan should be included in annual work plans at county levels roll down to sub county, facility and community levels		x	x	x		County/Partners
	Training of political leaders & Executives on Science for ECD		x	x			National/Partners
	Sensitization of NGAO Team on nurturing Care				x		National/Partners
Build workforce capacity by conducting pre-service and in-service training on nurturing care for early child development	Conduct a countrywide training gap analysis			x			National/Partners
	Review of existing training curricula to ensure that interventions for nurturing care for ECD are included		x	x			KICD/Partners
	Development and roll out of a training and capacity building plan for ECD interventions to include service providers and mangers			x	x		National/Partners
	Development of a monitoring and evaluation framework for training and capacity building for ECD.			x			National/County
Support identification of national and local champions to catalyze change and drive the early childhood development agenda in the community	Identification of ECD champions at the national, county and sub-county level.	x	x	x	x		National/County
	Involvement of key political leadership to patronize ECD activities in the Counties.		x	x	x		County/Partners
	Resource mobilization for champions' activities		x	x	x		County/Partners
	Identify mentor mothers		x	x			County/Partners
	Request the County First Lady to be the patron			x			National/County

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
Strengthen and integrate nurturing care into service delivery provision at all levels of the health system	Identify existing gaps at all levels of the healthcare system		x				National/County
	Development and adoption of integrated nurturing care protocols.			x			National/County/ Partners
	Inclusion of nurturing care indicators to the M&E framework			x			National/County
	Integrating nurturing care into other service delivery areas (ANC, delivery, PNC, immunization, Nutrition, paediatric inpatient care, IMNCI and iCCM).				x		National/County
	Development of a package on male involvement in ECD and nurturing care		x	x	x	x	County/Partners
	Development of a package on male involvement in ECD and nurturing care		x				County/Partners
Promote growth and development monitoring of children by building health worker capacity and strengthening appropriate use of growth monitoring tools	Conduct inventory of available growth monitoring tools (service delivery tools and M&E tools) and conducting procurement.				x		County/Partners
	Training of service providers on use of growth monitoring tools in the context of existing guidelines.				x		County/Partners
	Promote use of Mother Child Passport and progressive improvement in the use of family health records			x	x		County/Partners
Strengthen health sector capacity for identification and appropriate and timely referrals for children with developmental delays, difficulties or disabilities	Identify Institutional and personnel gaps in identification of children with developmental delays		x	x	x	x	County/Partners
	Review existing guidelines for service providers and caregivers on early identification and referrals of children with developmental delays or disabilities.		x				National/Partners
	Caregivers engagement and sensitization on identification and appropriate, timely referrals for children with developmental delays.		x	x	x	x	County/Partners
	strengthen CHVs, ECD teachers and religious leaders' capacity to identify and refer children with challenges to link health facility			x	x	x	County/Partners
	Establishment of centres for comprehensive management of children with developmental delays and disabilities at county level.				x		County/Partners
	Educate the public through outreaches, media, public barazas on needs of children with developmental delays and disabilities in order to address stigma in the community.			x	x	x	County/Partners
	strengthen intra and inter-county linkage among health facilities and rehabilitation centres.			x	x	x	County/Partners
Promote support for vulnerable populations especially in need of nurturing care, particularly children born low birth weight or premature; malnourished and chronically ill children; those with developmental difficulties and disabilities, and children affected by HIV	Develop policy and guidelines on waiver of medical fee for vulnerable children at all levels of care.		x				National/County
	Map out and link vulnerable children to CSOs/NGOs and government services for vulnerable children (cash transfer program).		x	x	x		National/County/ Partners
	Mainstream provision of KMC services at all levels of care for access by vulnerable children.						
	Identification and linkage of children with developmental delays and disabilities to NHIF enrolment.			x	x	x	County/Partners
	All children enrolled in NHIF	x	x	x	x	x	County/Partners

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
Identify salient indicators for tracking progress in early childhood development including indicators on responsive caregiving and	Develop indicators to be tracked		x				County
	Agree on indicator monitoring times		x				County
Promote implementation research and use of data to innovate and improve provision of quality evidence based	Conduct regular operational research on factors affecting implementation of ECD activities in the County.		x	x	x		National/County/ Partners

6.2 Thrive - GOAL – a healthy, well-nourished and well-protected childhood for all Kenyan children

6.2.2 Strategic objective 4: Promote interventions to end all forms of malnutrition, and address the nutritional needs amongst new-borns and children

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
Put in place interventions to ensure immediate initiation of exclusive breastfeeding after birth as per the national guidelines	Advocate for developing and operationalizing costed County Nutrition Action Plan (CNAP)	x					
	Advocacy and linkages to scale-up Maternal, Infant, Young Child Nutrition (MIYCN)		x	x	x	x	County/Partners
	Avail breastfeeding reference material to all the levels of care from the community up to the hospitals		x		x		National/County
	Scale up of early essential new-born care interventions that encourage bonding of mother and baby (e.g. skin to skin contact, early initiation of breastfeeding)		x	x	x	x	County/Partners
	Sensitize health workers on early essential new-born interventions		x	x	x	x	National/County
	Establishment of functional KMC rooms for the preterm neonates	x	x	x	x	x	County/ Partners
	Sensitization of mothers on proper breastfeeding practices during ANC and post-natal follow ups.	x	x	x	x	x	County/Partners
	Scale up of Baby Friendly Community Initiative (BFCI)	x	x	x	x	x	County/ Partners
	Commemoration of World health days focused on MNH (WPD,WBW)	x	x	x	x	x	County/ Partners
	develop and adopt standardised algorithms in form of posters and job aids within labour ward and ANC to guide health workers		x	x			National/County
	Scale up the use of donated human breast milk for neonates with special needs in our health facilities.		x	x	x	x	National/County
Strengthen systems and programs to promote and support appropriate infant and young child feeding practices.	Scale up of Infant and Young Child feeding practices	x	x	x	x	x	County/ Partners
	Establish breastfeeding corners for mothers as needed and lactational rooms for staff in the workplace	x	x	x	x	x	County/ Partners
	Strengthen Community nutritional assessment and linkage to health facilities		x	x	x	x	County/Partners
	Strengthen existing school feeding programs through ensuring county allocation support.		x	x	x	x	County/Partners
	Strengthen multisectoral linkages to Improving household food security		x	x	x	x	National/County
	Consistent supply of nutrition related commodities.		x	x	x	x	National/County
	Consistent and correct nutritional screening of all the children in all the service delivery points.		x	x	x	x	County
	Establish regional milk banks			x	x		National/county

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
Put in place systems to ensure availability of and access to services for prevention and management of all forms of malnutrition at facility and community level	Procure anthropometric equipment	x	x	x	x	x	County/ Partners
	Encourage routine screening for malnutrition at the facilities and community.	x	x	x	x		County/Partners
	Provision of protocols and guidelines for assessing and managing children with malnutrition.		x				National
	Strengthen the referral systems that promote linkage of services and care between the community and the health system		x	x	x	x	County/Partners
	Strengthen multi-sectoral collaboration with other sectors such as Agriculture, Education, gender and social services.		x	x	x	x	National/County
	Scale up interventions on IMAM and Growth monitoring standards	x	x	x	x	x	County/ Partners
	Conduct Bi-annual Malezi Bora outreaches in all sub-counties	x	x	x	x	x	National/County/ Partners
	Collaborate with Division Nutrition to conduct Vitamin A supplementation during Malezi Bora and ECD strategy twice a year	x	x	x	x	x	National/County/ Partners
	Advocate for allocation of funds by county to procure nutrition commodities for malnutrition	x	x	x	x	x	County/Partners

6.3 Transform - GOAL – the provision of quality newborn and child health services in all counties of Kenya

6.3.1 Strategy 5 - Create an enabling environment for provision of quality newborn and child health services

Strategy 5.1 Leadership and Governance - Strengthen leadership and governance systems that are responsive and accountable in provision of health services to newborns and children at national and county levels

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
Strengthen coordination for delivery of newborn and child health services at national and county levels	Strengthen the linkage between DNCH and county level in offering newborn & child health services		x	x	x	x	National/County
	Strengthen Maternal newborn and child health TWG at county and sub county level with quarterly meetings	x	x	x	x	x	CHMT /SCHMT Key related sectors
	Customize the national newborn communication strategy		x				County/Partners
Enhance leadership and governance for newborn and child health managers at both national and county levels	Dissemination of relevant policies through workshops at all levels		x	x			National/County
	Disseminatio TORs for Sub-County newborn and child health focal persons		x				National / county
	Ensure all counties have newborn/child health focal persons	x	x	x	x	x	County
	Printing and distribution of the policy documents, strategies and job aids		x	x	x		National/County
Strengthen legal environment for implementation of newborn child health services including at the community level	Advocacy meetings with county executive and legislative arms		x	x	x	x	Division of family health and CHMT
	Sensitization service providers and key stakeholders on existing laws aimed at promoting child health		x	x	x	x	National
	Conduct Community Engagement meeting with local leaders on Child rights		x	x	x	x	County/Partners
	Advocate for Enacting of laws promoting and protecting child health interventions						County Executive/ Assembly

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
Strengthen support supervision in the in delivery of newborn and child health services	Conduct integrated quarterly support supervision	x	x	x	X	x	National/County
	Develop/review support supervision tools for NCH	x	x				National
	Ensure availability of a budget for support supervision	x	x	x	x	x	National/County
	Establishment of mentorship program at county/ sub-county level		x				CHMT/SCHMT

Strategy 5.2 Infrastructure - Promote availability of adequate and appropriate infrastructure at both community and facility levels to enable provision of comprehensive and quality newborn and child health services.

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
Advocate for Conducting renovations/ construction in health facilities to ensure provision of quality high impact newborn and child health interventions	Resource mobilization through: • Proposal writing to partners /donors/GOK	x	x	x	x	x	National/ County
	Line item budget for construction in county AWP	x	x	x	x	x	County
	Provide space for high impact intervention services e.g. ORT, Breastfeeding corners and KMC	x	x	x	x	x	County
	Improve paediatric clinics to make them more child-friendly – attractive painting, play spaces and toys.	x	x	x	x	x	County
	Input into Public Works Dept to ensure standards are followed and maintained	x	x	x	x		National/ County
Advocate to ensure health facilities are connected to electricity grid or solar/green energy to ensure all time provision of quality new born	Connection of all health facilities to the main grid	x	x	x	x	x	County
	Put in place maintenance plans for the generators and solar panels	x	x	x	x	x	County
	Equip all facilities providing newborn and child health services with standby generators / solar systems	x	x	x	x	x	County
Advocate for adequate and quality water, hygiene and sanitation facilities for infection prevention and provision of quality Newborn and Child health services	Develop and implement water, sanitation & Hygiene protocols (WASH) and standards in all newborn and health service delivery points.	x	x	x	x	x	National/County
	Conduct supportive supervision and hand hygiene quality audits	x	x	x	x	x	National / county

Strategy 5.3 Service delivery and community health systems – Support establishment and strengthening for facility and community health systems to increase demand and utilization, and to ensure delivery of newborn and child health services in collaboration with the community health services unit as per national guidelines

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
Promote availability of newborn and health services at community level through implementation of the community health strategy and NCH guidelines (iCCM, CMNC, MCH Handbook)	Sensitization of Community members on availability, importance & utilization of NCH services:		x	x	x	x	CGTZ/HEALTH DEPT
	Provide TA Capacity building of CHVs, CHAs, CHEWs of all child health services at community level			x	x	x	National/County
	Promote implementation of Integrated Community Case Management (ICCM)		x	x	x	x	Health Dept
	Promote implementation of Community Maternal Newborn Care (CMNC)		x	x	x	x	MOH/National/County
	Implement Social Behavior Change Communication (SBCC) & increase demand /utilization of services (SBCC includes sensitization, capacity building advocacy IEC etc)		x	x	x	x	CGTZ/HEALTH DEPT
	Strengthen quarterly support supervision at community level for NCH		x	x	x	x	CGTZ/HEALTH DEPT

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
Promote implementation of integrated community case management (iCCM) of newborn and childhood illnesses & CMNH	Capacity building of CHVs, CHAs, CHEWs on Integrated Community Case Management and CMNH		x	x	x		County
	Advocate and support capacity building including innovative approaches for implementation of ICCM		x	x	x	x	National/County
	Provide technical assistance to counties in implementation of maternal newborn and child health interventions at the community level		x	x	x	x	National/County
	Advocate for provision of supplies and commodities (drugs, equipment) and liaise with community health dept		x	x	x	x	National/CHMCT, SCHMT, County
	Leverage on PHC networks to implement maternal, newborn, child health interventions at the community level		x	x	x	x	National/County
Implement innovative interventions to address fi barriers to access and utilization of high impact newborn, child health interventions	Advocate to counties to conduct ICCM gap analysis and development of investment cases for MNCH		x	x	x	x	County
	Conduct integrated outreaches with counties, MOUs with FBOs and private non-profit facilities,		x	x	x	x	County
	Promote insurance schemes (NHIF)	x	x	x	x	x	County/Partners
	Advocate for enrolment into social mobilization on enrolling to NHIF, Linda Mama and other social Health insurances insurance schemes		x	x	x	x	National/County/ Partners
	Advocate with county governments to initiate financial cushion to MNCH		x	x	x	x	County/Partners
	Advocate for expansion/enhancement of social insurance packages to include NCH up to nine years		x	x	x		National/County
	Link CHVs and caregivers with organizations for capacity building on entrepreneurship (eg. Savings and loans, table banking, merry-go-rounds)		x	x	x	x	County
Implement facility-based newborn and child health accountability mechanisms	Advocate for inclusion of newborn and child health services in the service charter of health facilities of all levels		x	x	x	x	National//County
	Advocate for prioritization of child health services at all levels through the facility Health management committees		x	x	x	x	National/County
	Performance tracking of the child health indicators in the RMNCAH scorecard		x	x	x	x	County
Support establishment of effective referral systems at all levels of care, including private and faith-based facilities.	Advocate for operationalization of the current national and county referral guidelines		x	x	x	x	National/County
Enhance integrated delivery of newborn and child high impact interventions	Advocate for integration of NCH services						
	Support development and implementation of a NCH integration framework at the National level comprising a package of high impact interventions.		x	x	x	x	National
	Operationalise NCH policy		x	x	x	x	National/County
	Disseminate NCH integration framework to counties			x	x		National/County/ Partners

Strategy 5.4 Human resources - Support interventions to ensure availability of adequate, skilled and motivated human resources for health for provision of quality high impact newborn and child health services at all levels of service delivery

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
Strengthen the capacity of the county governments in planning, recruitment and deployment of critical cadres for provision of newborn and child health services	Advocate for the recruitment of critical cadres for provision of newborn and child health services		x	x	x	x	National/County/ Partners
	Create awareness of service need of critical cadres through sensitization of county public service board, county assembly and county executives		x	x	x	x	National/CHMT
	Advocate for the recruitment of critical cadres for provision of newborn and child health services		x	x	x	x	National/County
	Advocate for the inclusion of critical cadres of service providers in the HR policy for planning, recruitment and deployment		x	x	x	x	DNCH-county
	Advocate for an increased number of Child Health specialists (Paediatricians, Neonatologists, Nurse specialists, Clinical officer specialists, etc)	x	x	x	x	x	National/County
Ensure retention and motivation of critical cadres for provision of high impact newborn and child health services	Advocate for the proper implementation of the Human Resource Health policy	x	x	x	x	x	National/County
	Advocate for adequate compensation and motivation of critical care health workers	x	x	x	x	x	National/County
	Advocate for recognition of community health volunteers in maternal, newborn and child health activities in collaboration with the division of community health	x	x	x	x	x	National/County
Strengthen integration of competency-based training on high impact newborn and child health interventions into health workers pre-service training programs	Involvement in development of curriculum in the pre & in-service institutions		x	x	x	x	CGTZ, NATIONAL GOVN, MEDICAL TRAININING INSTITU-TIONS
	Advocate through relevant regulatory bodies the implementation of competence-based pre-service training (short courses)		x	x	x	x	HEALTH DEPT
Advocate for Implementing evidence-based in-service training on high impact newborn and child health interventions	Advocate for / conduct of on-job evidence-based training, mentorship, classroom training and CMEs on high impact new-born and child health interventions at facility level, including support supervision	x	x	x	x	X	National/County
	Advocate for establishment of skills labs for newborn and child health interventions at county level	x	x	x	x	x	National/County

Strategy 5.5 Quality improvement - Put in place and/or strengthen systems including policies, standards, guidelines and programs to ensure quality improvement in provision of newborn and child health services as well as improve client experiences to ensure dignified care at all levels of delivery platforms.

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
Advocate for establishing and strengthening of functional newborn and child health responsive quality improvement structures	Advocate to Strengthen perinatal deaths audits in MPDSR Committees at all levels		x	x	x	x	County Government and partners
	Support/strengthen quality improvement for child health services at all levels of care		x	x	x	x	
	Adoption quality of care indicators for maternity, NBUs and CWC		x	x			
	Development, dissemination and implementation of paediatric quality of care guidelines	x	x				
	Develop/review of utilisation of guidelines, policies, SOPs, job aids at all levels.		x	x			
	Advocate to Strengthen coordination at national level for MPDSR through the DFH		x	x	x		National/DFH
	Advocate to Establish MPDSR committees at the community that will include perinatal death audits.		x	x	x		County/Partners
	Advocate to establish and operationalize NCH dashboard and scorecard in all delivering facilities				x	x	County government and partners
	Advocate for Conduct NCH client satisfaction surveys in all facilities conducting deliveries	County hospital	Sub county hospitals	Health centres	High volume dispensaries	Remaining facilities	County government and partners
	Advocate for Establishment of NCH TWGs at county and sub county levels	x	x	x	x	x	County government and partners
	Advocate for strengthening of clinical and non-clinical committees to include the neonatal and child health agenda (IPC committees, quality of care committees etc.)	x	x	x	x	x	County government and partners
	Strengthen role/profile of child health focal person at county and sub-county level	x	x	x	x	x	County/Partners
	Advocate for Establishment and operationalizing of the DNCH structure for coordination of child health services.	x	x	x	x	x	National and county governments
Establish and ensure functionality of national and county quality improvement mentors for ensure provision of quality high impact new born and child health interventions	Select, capacity build and deploy prospective NCH QI mentors and mentees	x	x	x	x	x	County, national government and partners
	Establish and integrate an MNCH mentorship model		x				National/County
	Capacity build health care workers (TOTs), health care workers, CHVs, CHAs on high impact MNCH strategies and interventions according to existing guidelines		x	x	x		National/County/ Partners
Strengthen use of quality improvement tools for provision of quality newborn and child health services	Capacity building for health care providers including health records officers at all levels on use of neonatal and child health reporting tools	x	x	x	x	x	National, County government and partners
	Advocate/strengthen data quality audits and support supervision and promote benchmarking at all levels		x	x	x	x	National/County

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
Support utilization of quality of care data for provision of newborn and child health services.	Support Training of CORPS including CHVs and provincial administration on measurements and Reporting of NCH indicators at community level	x	x	x	x	x	National, County government and partners
	Advocate for counties and partners to Conduct in depth data review meetings		x	x	x	x	National/County
	Capacity build HRIO and county/ sub county managers on KHIS, dashboard and score card		x	x			National

Strategy 5.6 Health care financing - Ensure availability of adequate financing for delivery of high impact and quality newborn and child health services

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
Promote development and strengthening of strategies to ensure effective mobilization, equitable allocation, and accountability in management of financial resources for newborn and child health at both national and county levels.	Lobby/advocate for allocation for increased domestic funding and resource allocation for NCH activities at national and county level	x	x	x	x	x	National County government and partners
	Advocate for strengthening of existing health care financing initiatives for NCH.	x	x	x	x	x	National County government and partners
	Advocate for Participation at national and county level through partnership for resource mobilisation through public-private funding mechanisms, donations and proposal writing	x	x	x	x	x	National County government and partners
	Development of costed implementation plan for newborn and child health at all levels		x	x			National County government and partners
	Develop/review of utilisation of guidelines, policies, SOPs, job aids at all levels.		x	x	x	x	National County government and partners
Increase efficiency in delivery of newborn and child health services	Advocate for establishment of integrated NCH service areas in county hospitals	x	x	x	x	x	County government and partners
	Advocate for specialised training of HCW on NCH	x	x	x	x	x	National, County government and partners
	Advocate and strengthen utilisation of essential NCH equipment	x	x	x	x	x	National County government and partners
.							
Advocate for strengthening financial accountability and control of MNH programmes	Advocate for strengthening of financial Standard operating procedures		x	x	x	x	National County
	Advocate for strengthening of facility management committees/ boards		x	x	x	x	County/Partnerss

Strategy 5.7 Health commodities and supplies - Strengthen systems including for procurement, supply and management to ensure availability of essential medicines, commodities, equipment and technologies for provision of newborn and child health services.

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
Build capacity of county and sub-county health management teams in procurement, supply and management of essential newborn and child health services	Advocate capacity-building of CHMT/health care providers (HCP) at all levels on child health services (incl. commodities, guidelines, policies, etc.)	x	x				National/County
Procurement of essential medicines, commodities and equipment for delivery of quality newborn and child health services	Forecasting and quantification of essential NCH meds, commodities and equipment at national and county levels	x	x	x	x	x	Child Health Focal Person/County
	Advocate for inclusion of NCH essential medicines and equipment into the county procurement list as per the national Guidelines and standards; incl oxygen	x	x				National
	Generate evidence on CHX use at community level		x				National/County
	Advocate for proper utilisation and accountability of all procured and donated equipment and commodities at all levels.	x	x				County
	Advocate for purchase of paediatric-size equipment, medicine and supplies, as per national guidelines	x	x			x	National/County
Strengthen equipment maintenance and repair in health facilities for delivery of quality newborn and child health services	Advocate for review of essential equipment list to include pediatric-specific items.	x	x				National/County
	Advocate for establishment of pediatric equipment maintenance plan	x	x				National/county

Strategy 5.8 Health information systems, monitoring and evaluation, research - Strengthen health information systems to ensure collection, management and use of disaggregated data at the various levels of health service delivery to inform newborn, child and adolescent health programming.

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
Strengthen data quality and use in routine monitoring and evaluation and decision-making	Advocate for availability and utilisation of child health reporting tools	x	x	x			National/County
	Periodically participate in the review of the HMIS and DHIS tools		x	x	x	x	National/County/ partners
	Advocate and strengthen regular DQAs at national and county levels in collaboration with counties		x	x	x	x	National/county/ Partners
	Hold quarterly data review meetings at national and county levels and develop action plans		x	x	x	x	National/County/ Partners
	Digitize ICCM and MNCH to improve data demand and use for decision making at County and community levels	x	x	x	x	x	National/County/ Partners
	Analysis and use of NCH available routine health information to inform decision making		x	x	x	x	National/County
.							
Strengthen birth and death registration for newborns and children	Support and conduct SBCC activities in collaboration with civil registration department at community level to promote timely registration of children as soon as they are born and notification of deaths		x	x	x	x	National/county

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
Support interventions to build capacity of national and county governments to conduct newborn and child health research.	Support identification of research agenda, implementation research, evaluation and dissemination of emerging best practices and evidence.		x	x	x	x	National/County/ Partners
	Support research gap identification at national and county level on NCH	x	x	x	x	x	National/County/ Partners
	Strengthen the M&E research Committee of Experts for NCH (To Include KPA, KEMRI, learning institutions and partners)	x	x	x	x	x	National/County/ Partners
	Advocate for implementation / operational research for NCH at county level	x	x	x	x	x	National/County/ Partners
	Build capacity in the counties to drive the NCH research agenda	x	x	x	x	x	National/County/ Partners
	Advocate for dissemination and implementation of research findings	x	x	x	x	x	National/County/ Partners

Strategy 5.9 - Water, hygiene and sanitation and other social determinants of health – Identify social determinants to child health including socioeconomic conditions, education, housing and environmental conditions and develop strategies to engage in strategic partnerships to address these determinants.

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
Support utilization of safe water and sanitation and improved hygienic practices by caregivers and children at households, communities, learning institutions and other congregate settings in collaboration with the WASH program.	Advocate for sensitizing HC providers and CHVs and equip them with skills to support the households, communities, learning institution including schools on utilization of clean safe water, hand washing facilities and their uses, provision and use of washrooms/cloak room/personal hygiene	x		x		x	Ward PHO's CHA's
	Advocate for Sensitizing the households, community, learning institutions, churches, mosques on water treatment techniques through community barazas and community dialogue days	x	x	x	x	x	Ward public health officers Community health volunteers

Strategy 5.10 – Special needs and disabilities - Strengthen strategies for prevention and early identification of special needs and disabilities

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
Early identification and referral of children with disabilities and special needs	Sensitization of staff on identification and referral of children with disabilities and special needs at all levels of care (Including specialized therapists)	x	x	x	x	x	County director of health services/CHMT
	Advocate for establish and equip comprehensive rehabilitation facilities /workshops in the country	x	x	x	x	x	County director of health services/CHMT
	Advocate for ANC scale up of second trimester scans for identification of congenital defects	x	x	x	x	x	CHMT/Partners
	Advocate for creating awareness at all levels of community and the health service on prevention, identification, intervention and referral		x	x	x	x	County/Partners
Promote mainstreaming of special needs and disabilities into all child policies and programs	Review of the existing child policies and programs to identify any existing gaps	x					Child health focal person ETAT champions Rehabilitative focal person
Support child health rights and children with special needs.	Advocate or create awareness for child health rights and seeking of health services appropriately	x	x	x	x	x	County and sub county health promotion officers Health teachers

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
	Participate in commemorating world child days	x	x	x	x	x	County and sub county health promotion officers Health teachers

Strategy 5.11 Public private partnerships - Develop strategies and approaches to strengthen resource mobilization for newborn and child health services and programs through public private partnerships.

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
Establish functional multisectoral fora at national and county levels for enhanced provision of newborn and child health high impact interventions	Map all the partners supporting child health activities at national and county level	x		x		x	National/County
	Strengthen role in high level multi sectoral PPP stakeholders forum for newborn and child health		x	x	x	x	National/County
	Inclusion of private sector in scale-up of newborn and child health interventions		x	x	x	x	National/County
	Advocate for inclusion of private sector into the various TWGs						
.							
Strengthen capacity of the private sector in implementing high impact newborn and child health interventions	Distribute guidelines and monitoring tools to private facilities	x	x	x	x	x	Sub county medical of-ficers-health services/ SCHMT
	Advocate for provision of essential drugs and commodities/supplies to private facilities as per MoH guidelines		x	x	x	x	County
.							
Strengthen engagement with and coordination of the private sector to promote implementation of this policy and ensure availability and provision of quality newborn	Joint planning and M&E of activities		x	x	x		National/county

Strategy 5.12 Child health in emergencies - Support effective response to newborn and child health in disasters and emergency situations

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
Strengthen coordination mechanisms within the health sector at national and county levels to ensure strategic, coherent and effective implementation of NCH and nutrition responses to emergencies	Link NCH to the coordinating committee the National & Counties and Sub County levels	x					County director of health services
	Advocate for inclusion of County Child Health Focal person in the County emergency coordination committee	x					National Gov.
	Include NCH emergency preparedness as a component within AWP at all levels,	x	x	x	x	x	County Government and Partners
	Advocate for inclusion of neonatal and child health person in Training NCH County focal persons on emergency response	x					County Government and Partners
	Develop/ Review NCH disaster preparedness plan at all levels	x	x				Sub county medical of-ficers-health services/ SCHMT
	Advocate for requisitioning and prepositioning of NCH commodities and equipment at all levels of care (including immunisation supplies)	x					County Government and Partners

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
Conduct regular analysis of child hazards and risks including commodities quantification, map, rank/prioritize and update county health situation in vulnerable areas	Review emergency plan as part of quarterly data review meetings and develop action plans on child hazards and risks	x	x	x	x	x	Sub county medical officers-health services/ SCHMT
	Review the existing emergency response assessment tool to ensure NCH indicators are included	x	x				National/County
	Advocate for Capacity building at all levels on child health risk assessment tool	x	x				County
Support procurement of contingency essential health supplies to mitigate health emergencies	Domesticate a risk management plan for NCH from the existing national risk management plan	x			x		County director of health services/CHMT County commissioner
	Carry out quantification and develop a procurement plan in liaison with Emergency Operations Centre (EOC) that includes essential health emergency supplies – (To include essential NCH commodities)	x	x	x	x	x	County director of health services/CHMT
	Sensitisation of HCWs on forecasting and quantification of emergency commodities		x				County

Strategy 5.13 Advocacy, communication and social mobilisation (ACSM) - Support development and implementation of newborn and child advocacy and communication strategic framework at national and county levels.

KEY ACTIONS	DETAILED ACTIVITIES	2021	2022	2023	2024	2025	KEY IMPLEMENTORS
Build capacity at national and county level on behaviour change communication for strategic ACSM planning and implementation	Develop and disseminate NCH communication SBCC and advocacy strategy at all levels	x		x		x	County director of health services/CHMT
	Advocate to counties to operationalise the communication strategy and develop SBCC plans	x	x	X	x		National/County Government and Partners
	Conduct KAP survey on NCH in the county as per the MNH framework		x	x			National/County
	Strengthen inter-sectoral collaboration to support implementation of MNCH activities		x	x	x		National/County
	Advocate for support for the development of county specific NCH communication and advocacy strategy		x	x	x		National/County/ Partners
	Develop and disseminate NCH advocacy program intervention package for engagement of various stakeholders		x				National/Partners
Inclusion of NCH in the existing ACSM/ HPAC at national and county level for coordinated ACSM activities, planning implementation and monitoring	Advocate for inclusion of NCH representative on county ACSM/HPAC committees	x					County director of health services/CHMT
	Support and Capacity build ACSM/HPAC (health promotion and advocacy committees at county level on NCH activities	x	x	x	x	x	County Government and Partners
Build capacity at national and county for Advocacy on Resource mobilization and support of NCH programme	Advocate for Establishment of resource mobilization committees on NCH advocacy at county level		x	x			County Directors
	Lobby for advocacy meetings with CHMT, County Assembly, local Media houses			x	x		County Directors/ Partners

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IMPLEMENTATION - ROLES AND RESPONSIBILITIES

The Cabinet Secretary for Health will have the overall responsibility for the implementation of this Strategic Plan. The Division of Neonatal and Child Health within the Department of Family Health supported by the various technical working groups (TWG) will be responsible for the day-to-day support to the Cabinet Secretary for Health in ensuring the implementation of the plan. At County level, the Governor will be responsible for ensuring the implementation of the strategic plan. The Governor will be supported by the County Health Management Teams (CHMT) and larger RMNCH TWGs to be established

After the launch of the plan, all the counties will be expected to develop annual implementation work plans that are aligned to this NCH strategic plan. To ensure efficiency, all partners will be required to align their newborn and child health response to this plan.

Roles and Responsibilities

- **Division of Neonatal and Child Health (NCH) and National Level TWGs**
    - Facilitate launch as well dissemination of the NCH strategic plan for national level stakeholders as well as county health management teams
    - Support county governments to develop county specific costed NCH plans
    - Resource mobilisation for implementation of the costed newborn and child health strategic plan
    - Provide technical leadership in the development of newborn and child health guidelines, SOPs, job aids and other technical documents necessary for the implementation of the proposed strategies
    - Mobilise and engage in strategic partnerships with other government relevant ministries that impact on delivery of newborn and child health services, including but not limited to the Ministries of Agriculture, Education, Water and Interior
    - Provide leadership in coordination towards implementation of this NCH strategic plan
    - Provide leadership in monitoring and evaluation of the NCH strategic plan
    - Together with county governments and other stakeholders provide leadership for documentation and scale up of emerging best practices in the newborn and child health response
    - Formulation of the relevant policy, guidelines and standards

- **County Governments**
    - Develop county-specific strategic plans and monitoring and evaluation frameworks.
    - Provide leadership in dissemination of the NCH strategic plan to county level stakeholders including health service providers
    - Coordinate and mobilise County level stakeholders including the private sector towards implementation of the County specific NCH strategic plan
    - Provide leadership in state level resource mobilisation for the implementation of the county specific NCH strategic plan
    - Provide leadership for County level monitoring, evaluation and reporting of the NCH strategic plan
    - Provide technical assistance including support supervision to health service providers at both public and private facilities involved in the provision of high impact newborn, child and adolescent health interventions

- **Development partners, other non-state actors and private sector**
    - Align their priorities to the implementation of the newborn and child health strategic plan
    - Supplement government resources in the implementation of the newborn and child health strategic plans
    - Complement the government in the implementation and provision of newborn and child health services
    - Advocate for the implementation of the newborn and child health strategic plan
    - Hold the government and other implementing partners accountable in the implementation of the newborn and child health strategies
    - Participate in coordination meetings for monitoring, review and evaluation of the newborn, child and adolescent strategic plan national and county level

- **Academic, professional and regulatory authorities**
    - Provide technical assistance including in human resource development for the implementation of the newborn and child health strategic plan
    - Support in registration, regulation and licensing of service providers for newborn and child health services both in public and private facilities
    - Support in upholding ethics in the provision of newborn and child health services
    - Participate in monitoring and evaluation of the newborn and child health strategic plan
    - Support in identification of a research agenda for newborn and child health, ensure implementation of the research agenda, documentation of emerging best practices and promote scale up.
    - A role in ensuring development and proper training of the health workforce

- **Communities and individuals**
    - Uptake and access newborn and child health services at all levels of service delivery
    - Advocate with county and national governments for provision of comprehensive and quality newborn and child health services at all levels
    - Hold the government both at national and county levels and other actors accountable in provision of newborn and child health services
    - Engage in positive behaviors and practices for promotion and uptake of quality newborn and child health services
    - Participate in monitoring and implementation of the newborn and child health strategy
    - Ownership by the community

Monitoring and Evaluation

To support in the monitoring and evaluation of this NCH strategic plan, a monitoring and evaluation framework outlining the indicators, baseline values, targets for the five-year period, sources of data and frequency of data collection is part of this plan. To the extent possible, the strategy will utilise the already existing reporting, monitoring and evaluation structures including the national DHIS 2. To ensure inequities are identified and addressed, monitoring and evaluation of this plan will support data disaggregation by counties and other equity variables, including age, gender, wealth, etc. The proposed impact and coverage indicators are aligned to the other national and global documents such as the indicator and monitoring framework for children's health and the Every Newborn Action Plan.

For purposes of evaluating the plan, an internal mid-term review will be conducted at the end of the second year of the strategic plan implementation. This will be used to guide revision/update of the set targets and implementation strategies where necessary. An independent end term evaluation of the plan will be done at end of year five to assess the achievements of the plan against set targets.

8

MONITORING AND EVALUATION FRAMEWORK

Indicator		Targets (%)					Data Sources	Frequency of Data collection
		2021 (Base line)		2023 (Mid Term)		2025 (End Term)		
GOAL – reduction of newborn and child mortality and morbidity								
Neonatal mortality rate per 1000 live births		22		15		12	KDHS	Periodic
Under five mortality rate per 1000 live births		52		45		40	KDHS	Periodic
Infant Mortality Rate per 1000 live births		39		31		28	KDHS	Periodic
Stillbirth rate per 1,000 births		23		17		10	KDHS	Periodic
Fresh stillbirth rate per 1,000 births in institutions		9		8		7	KHIS	Routine
Institutional Neonatal mortality rate per 1000 live births		10		7		5	KHIS	Routine
Strategic objective 1: Reduce newborn and neonatal mortality and morbidity								
Proportion of children 0-5 (<6 months) months who were exclusively breastfed		67		69		70	KHIS	Routine
Proportion of children fully immunized		80		82		85	KHIS	Routine
Proportion of infants receiving three doses of Penta3 (HIB/Hib/DPT3)		90		92		95	KHIS	Routine
Proportion of newborns receiving chlorhexidine for umbilical cord care		40		60		80	KHIS	Routine
Proportion of neonates given vitamin K		65		75		90	KHIS	Routine
Proportion of Low birth weight in health facilities (less than 2500 grams)		7		6		5	KHIS	Routine
Proportion of preterm/Low birth weight babies initiated on Kangroo Mother Care		35		50		80	KHIS	Routine
Proportion of Perinatal deaths audited within 7 days		5		30		50	KHIS	Routine
Proportion of neonatal deaths due to Prematurity		25		20		15	KHIS	Routine
Proportion of neonatal deaths due to Asphyxia		36		26		21	KHIS	Routine
Proportion of neonatal deaths due to Sepsis		16		11		6	KHIS	Routine
Proportion of hospitals providing CEmONC services (public, private, primary, secondary & Tertiary)		40		45		50	**KHFA**	**Annually**
Proportio of hospitals providing CEmONC services (public, private, primary, secondary & Tertiary)		40		50		55	**KHFA**	**Annually**
Proportion of health care facilities that provide functional Kangaroo Mother Care		40		60		80	**KHFA**	**Annually**
Strategic objective 2: Reduce morbidity in infants and children (4 weeks – 10 years)								
Proportion of children under 5 with acute respiratory infection (ARI) symptoms in the last 2 weeks for whom advice or treatment was sought from a health facility or provider		66		75		80	**KDHS**	**Periodic**
Proportion of children under 5 with diarrhea taken to a health facility or provider for advice or treatment		58		65		70	**KDHS**	**Periodic**

Indicator		Targets (%)					Data Sources	Frequency of Data collection
		2021 (Base line)		2023 (Mid Term)		2025 (End Term)		
Proportion of children under 5 with diarrhea taken to a health facility or provider for advice or treatment		58		75		80	KDHS	**Routine**
Proportion of children under five with diarrhea treated with ORS and Zinc		25		50		80	KHIS	Routine
Proportion of Health Facilities with functional Oral Rehydration Therapy corner		40		60		80	KHIS	Routine
Proportion of Health Facilities with up-to-date ORT/Zinc register		40		60		80		Routine
Proportion of children under 5 years with severe pneumonia		6		4		2		Routine
Proportion of children under five years with fast-breathing /pneumonia treated with Amoxil DT		30		50		80		Routine
Children under five treated with oxygen therapy		5		10		20	Survey	Periodic
Proportion of of children under five years dewormed		50		60		80		
Proportion of 6-59 years Vit A supplementation		70		75		80		
Proportion of infants in malaria-endemic areas who slept under LLIN		66		68		70		
Strategic objective 3: Promote access to quality and comprehensive early childhood development interventions for all children especially in the first 1000 days of life								
Proportion of children under five years assessed for developmental milestones		5		10		25	KHIS	Routine
Proportion of children under five years with delayed developmental milestones referred		TBD						
Proportion of children under five years checked for the four IMNCI general danger signs		15		25		40	Facility assess-ments	Periodic
Proportion of children subjected to violence								
Strategic objective 4: Promote interventions to end all forms of malnutrition, and address the nutritional needs amongst new-borns and children								
Proportion of stunted children aged 0-59 months		26		18		15	KDHS	Periodic
Strategic objective 5: Create an enabling environment for provision of quality newborn and child health services								
Strategy 5.1 Leadership and Governance - Strengthen leadership and governance systems that are responsive and accountable in provision of health services to newborns and children at national and county levels								
Proportion of counties with functional RMNCAH and N coordination structure		30		50		70	Facility assess-ments	Periodic
Proportion of Community Health Units Established		55		80		90	KHIS	Annually
Proportion of Fully functional Community Units		66		90		95	KHIS	Annually
Strategy 5.2 Infrastructure - Promote availability of adequate and appropriate infrastructure at both community and facility levels to enable provision of comprehensive and quality newborn and child health services.								
Proportion of health facilities complying with med-ical equipment and devices norms and standards		51		68		85	KHFA	Annually
Average distance to Nearest Health Facility		9.8		7		6	KHHEUS, KDHS	3-5 Years
Proportion of the population within 5 km distance to a health facility		62 (2018)		75		95	AccesMod - Modelling	Annually

Indicator		Targets (%)					Data Sources	Frequency of Data collection
		2021 (Base line)		2023 (Mid Term)		2025 (End Term)		
Strategy 5.3 Service delivery and community health systems – Support establishment and strengthening of community health systems to increase demand and utilisation, and to ensure delivery of community based newborn and child health services in collaboration with the community health services unit as per national guidelines.								
Proportion of health facilities using guidelines, SOPs and job aids for provision of RMNCAH interventions		60		80		95		
Proportion of health facilities providing integrated NCAH services by level of service delivery (national, county, facility)		60		80		95		
Number of counties with functional referral systems		TBD						
Proportion of health facilities oriented on kangaroo mother care		TBD						
Number of health workers with knowledge, skills and competence to support KMC		5		20		50	KHFA	Annually
KMC beds available as a percentage of the recommended number		2		10		20	KHFA	Annually
Strategy 5.4 Human resources - Support interventions to ensure availability of adequate, skilled and motivated human resources for health for provision of quality high impact newborn and child health services at all levels of service delivery								
Core Health Worker density per 10,000 Population (Nurses, Doctors, RCOs		15.4		21.6		23.5	Emory/ IHRIS Report	Yearly
Number of Doctors per population ratio (per 10,000 population)		1.5		3.5		4	Emory/ IHRIS Report	Yearly
Number of Nurses per population ratio (per 10,000 population)		11.3		13.5		14	Emory/ IHRIS Report	Yearly
Number of community health volunteers trained in provision of NCH services disaggregated by type of intervention as per BHI (FP, iCCM, MNH, surveillance, GBV)		TBD						
Proportion of health worker training colleges (universities and MTCs) that have a core curriculum that includes the most up to date NCAH guidelines as examinable subjects		0		2		5		
Strategy 5.5 Quality improvement - Put in place and/or strengthen systems including policies, standards, guidelines and programs to ensure quality improvement in provision of newborn and child health services as well as improve client experiences to ensure dignified care at all levels of delivery platforms								
Existence and use of NCH dashboards and score cards by level								
Proportion of counties with functional MPDSR committees by level of service delivery		TBD						
Proportion of sub-counties with functional MPDSR committees		TBD						
Proportion of maternal deaths audited within 24 hours		TBD						
Proportion of perinatal deaths audited within 7 days		TBD						

Indicator		Targets (%)					Data Sources	Frequency of Data collection
		2021 (Base line)		2023 (Mid Term)		2025 (End Term)		
Strategy 5.6 Health care financing - Ensure availability of adequate financing for delivery of high impact and quality newborn and child health services								
% of out of pocket expenditure of the total health budget spent on neonatal, infant and child health.								
Out of pocket expenditure as % of total health expenditure		25				15	National Health Accounts	Every 3 Years
Government spending on health as % of total government spending		11		13		15	National Health Accounts	Every 3 Years
Percentage of health expenditure specifically for NCH as part of the overall health budget		11		13		15		
Percentage of population covered under NHIF		30		35		40	NHIF/KH-HEUS	Annually
Strategy 5.7 Health commodities and supplies - Strengthen systems including for procurement, supply and management to ensure availability of essential lifesaving medicines, commodities, equipment and technologies for provision of newborn and child health services.								
Percentage of Health facilities with stock out on any of the 20 tracer non-pharm for 7 consecutive days in a month		20		10		5	KHFA	
% of health facilities reporting no stock out of essential NCAH commodities		20		10		5		
% of time out of stock for Essential Medicines and Medical Supplies – days per month		TBD						
Strategy 5.8 Health information systems, monitoring and evaluation, research - Strengthen health information systems to ensure collection, management and use of disaggregated data at the various levels of health service delivery to inform newborn, child and adolescent health programming								
% of children under five years who have their births registered		TBD						
Proportion of maternal deaths registered		TBD						
Proportion of neonatal deaths registered.		TBD						
% of county hospitals who submit 12 months of data for inpatient paediatric and neonatal admissions and mortality each year		5		10		20	CIN	Annually
% of county hospitals that produce an annual report that describes their Newborn mortality rate stratified by birthweight, and their Paediatric Ward mortality rate stratified by age (<1 month; 1-11month; 12-59 month; and 5 – 14 years).		5		10		20	CIN	Annually
Percentage of health facilities submitting timely information (timeliness of reports)		87		90		92	KHIS	Monthly
Percentage of community units submitting timely information (timeliness of reports)		75		80		85	KHIS	Monthly
Strategy 5.9 - Water, hygiene and sanitation and other social determinants of health – Identify social determinants to child health including socioeconomic conditions, education, housing and environmental conditions and develop strategies to engage in strategic partnerships to address these determinants.								
% Population using safely managed sanitation services including a hand washing facility with soap and water		TBD						
% of population using clean and safe drinking water		TBD						

ANNEX 1 - OTHER RELEVANT GLOBAL AND KENYAN POLICY AND PROGRAM DOCUMENTS

Besides the Newborn, Child and Adolescent Health (NCAH) Policy, this Strategy is anchored in a number of international and Kenya policy and strategy documents, including:

- **WHO; Nurturing Care for Early Childhood Development: A Framework for Helping Children Survive and Thrive to Transform Health and Human potential; 2018** – The Nurturing Care Framework builds on state-of-the-art evidence about how early childhood development unfolds and how it can be improved by policies and interventions. The Framework describes how a whole-of government and a whole-of-society approach can promote nurturing care for young children. It outlines guiding principles, strategic actions, and ways of monitoring progress.
- **International guidance documents** published by WHO, UNICEF, UNFPA, UNAIDS, etc. on newborn health, breastfeeding, nutrition, infection control, health promotion, early infant diagnosis and treatment of HIV, immunisation, etc.
- **Kenya Health Policy 2012 – 2030** – this document, developed in 2011, is a general policy document and does not mention the specific health needs of children or women, but it does recognize four tiers of the health system: community, primary care, primary referral and tertiary referral services. Within it are contained six policy objectives:
  - Objective 1: Eliminate communicable conditions
  - Objective 2: Halt and reverse the rising burden of non-communicable conditions
  - Objective 3: Reduce the burden of violence and injuries
  - Objective 4: Provide essential health care
  - Objective 5: Minimize exposure to health risk factors
  - Objective 6: Strengthen collaboration with other sectors that have an impact on health

It should be noted that objectives 1, 2, and 4 of the Kenya Health Policy are reflected in objectives 1, 2 and 6 of the 2018 NCAH Policy (communicable and non-communicable diseases and access to health care) so this Strategy will be both a reflection and a manifestation of the larger Kenya Health Policy.

- **Kenya Health Sector Strategic Plan 2018–2022:** This is the key sector document which has outlined key strategies that the sector will focus on over the next five years. It is based on the following principles:
  - **Equity** in the distribution of health services and interventions

- **People-centered** approach to health and health interventions
- **Participatory** approach to delivery of interventions
- **Multi-sectoral** approach to realizing health goals
- **Efficiency** in the application of health technologies
- **Social accountability**

The Plan is structured on a health systems approach, with the following sections as "Health System Investment Areas", each with its own strategies, outputs and key actions:

- **Health Service Delivery**
- **Health Leadership and Governance**
- **Human Resources for Health**
- **Health Products and Technologies**
- **Health Financing**
- **Health Infrastructure**
- **Health Research and Development**

This is followed by discussion on resource requirements, an implementation framework, and the roles of the various stakeholders.

- **Kenya Primary Healthcare Strategic Framework 2019-2024** - acknowledges global changes and dynamics in the public health sector, which include an increased burden on non-communicable diseases and severe resource constraints. It proposes a number of primary health care strategic objectives and interventions with regard to the provision of health care services, leadership and governance, drugs and other medical supplies,financing of primary health care delivery, the relative roles of each of the main stakeholders involved as well as other health support systems. As well, the strategic framework calls for greater participation of the communities in the provision of health care services, the decisions on their priority health issues and getting involved in the implementation of essential clinical and public health packages. The framework includes a stepwise implementation plan which covers the induction of health related staff on PHC as well as advocacy and communication. Each primary care facility will organize its primary health care services in a people centered model. In the people centered model, a team of health workers (the multidisciplinary team–MDT) will be prescribed a population in a predetermined geographical area (The Community PHC zone).

- **Roadmap, M&E Framework and Operational guidelines towards implementing Universal Health Coverage (UHC) in Kenya 2018–2022** – itemize the UHC goals and aspirations for the country and provides strategic interventions and priority areas of implementation towards achieving UHC, describing the role of the different players/enablers

in achieving UHC. In addition, it details the monitoring and evaluation plan as well as the communication plan for UHC. The plan is for a phased approach (the first phase focusing on four counties – Kisumu, Isiolo, Machakos and Nyeri), with priorities and targets for the next four years focusing on population coverage, improving access to quality essential health services, and finding protection. The UHC Phase I will run for a period of one year, during which the other 43 counties will primarily focus on improving their health systems in preparation for the country scale-up. That includes recruiting additional health workers, ensuring adequate medicines and medical supplies in health facilities, training the health workers, improving the health infrastructure and medical equipment, with full scale-up by 2021.

- **Reducing Maternal and Neonatal Mortality in Kenya: Scaling up Effective Interventions in Maternal and Newborn Health: An Implementation Plan for the period 2016–2018** - This document represents a strategic plan to scale-up the reduction of maternal and neonatal mortality within three years (2016-2018). The Ministry of Health (MoH) will aggressively target leading drivers of both maternal and neonatal mortality namely: postpartum hemorrhage (PPH), hypertension in pregnancy (eclampsia), maternal and neonatal sepsis, prematurity and birth asphyxia. These conditions will be used as entry points to address issues of demand generation, QoC, commodity availability and management and high impact interventions in the continuum of care. County Health Management Teams should be able to use these guidelines to realign their annual operational plans, intervention programs, costing, budgeting and financing. The document is also intended to guide collaborative networks towards positively impacting MNH within the broader framework of national development.

- **Kenya Reproductive, Maternal, Newborn, Child and Adolescent (RMNCAH) Investment Framework; 2016–2020** - presents a prioritized set of smart interventions that could be scaled up during the next five years to rapidly improve the health outcomes of Kenyan women, children and adolescents. A useful guidance for counties to set priorities relevant for their context and mobilize collective effort involving both levels of government, development partners, civil society and private sector to enhance maternal, child and adolescent health. The RMNCAH investment framework focuses on translating political commitment into sustainable results. It recommends approaches and innovations relevant to the Kenyan context to address prioritized bottlenecks. The main assumption is that supply side interventions to improve service delivery and strengthen the health system need to be effectively coupled with innovative demand side approaches for scaling up coverage and utilization for high impact RMNCAH interventions. The framework also highlights the need for a multi-sectoral approach to address key social determinants that impact RMNCAH.

The RMNCAH investment framework prioritizes investments in 15 counties with high burden of poor maternal and child health outcomes, low coverage rates, and large underserved populations. In addition, five additional marginalized counties with underserved populations were selected for accelerated action and investment to improve national impact within the next five years.

Table 3: Counties Prioritized for Investment

Kakamega	West-Pokot	Marsabit
Nairobi	Samburu	Isiolo
Bungoma	Migori	Kitui
Turkana	Trans-Nzoia	Wajir
Nakuru	Garissa	Tana River
Mandera	Kilifi	Lamu
Narok	Homa Bay	

- **Integrated Management of Newborn and Childhood Illnesses (IMNCI) A guide for healthcare workers 2018 EDITION** – a comprehensive manual for healthcare workers for use in clinics, outpatient departments or at the bedside – a section for infants up to 2 months, other section for 2 months – 5 yrs.

- **Kenya Framework for Elimination of Mother-To-Child Transmission of HIV and Syphilis 2016-2021** – takes the lessons learned from the first framework, and carries on the work with a goal of eliminating both MTCT and syphilis in children by 2021. Among the components of the framework are:
  - Shared responsibility of parents in elimination of new HIV infections and Syphilis in children
  - Focus on adolescent girls and young women
  - Syphilis diagnosis and treatment
  - Intensified response to address HIV stigma and discrimination
  - Strengthened community responsive programming, accountability and partnerships
  - Intensified private sector partnerships for service delivery and financing
  - Strengthened coordination mechanisms and programming driven by county governments
  - Robust strategic information systems and processes granulated to the ward and facility levels
  - Increased decentralization of diagnostics and treatment sites
  - Swift adoption of emerging technologies for diagnosis and treatment

ANNEX 2 - GLOBAL ACTION PLAN FOR PNEUMONIA AND DIARRHOEA INDICATORS[92]

INDICATORS	TARGET	TARGET YEAR
Pneumonia mortality among children less than 5 years of age	3 deaths per 1000 live births	2025
Diarrhoea mortality among children less than 5 years of age	1 death per 1000 live births	2025
Hib immunization coverage	90%	2025
Measles immunization coverage	90%	2025
DTP3 immunization coverage	90%	2025
PCV3 immunization coverage	90%	2025
Rotavirus immunization coverage	90%	2025
Exclusive breastfeeding of children aged 0-5 months	50%	2025
ORS treatment for diarrhoea	90%	2025
Care seeking for pneumonia	90%	2025
Antibiotic treatment for suspected pneumonia	90%	2025
Access to improved drinking water at household	90%	2030
Access to hygienic sanitation facility at household	90%	2040
Access to hand washing facilities at household	90%	2030
Access to clean and safe fuel used for cooking in the household	90%	2030

92 Accessed at https://www.who.int/maternal_child_adolescent/epidemiology/pneumonia-diarrhoea-monitoring/en/

ANNEX 3 -

MINISTRY OF HEALTH DIVISION OF NEONATAL AND CHILD HEALTH CHILD HEALTH EQUIPMENT AND SUPPLIES[92]

INDICATORS	TARGET	TARGET YEAR
Pneumonia mortality among children less than 5 years of age	3 deaths per 1000 live births	2025
Diarrhoea mortality among children less than 5 years of age	1 death per 1000 live births	2025
Hib immunization coverage	90%	2025
Measles immunization coverage	90%	2025
DTP3 immunization coverage	90%	2025
PCV3 immunization coverage	90%	2025
Rotavirus immunization coverage	90%	2025
Exclusive breastfeeding of children aged 0-5 months	50%	2025
ORS treatment for diarrhoea	90%	2025
Care seeking for pneumonia	90%	2025
Antibiotic treatment for suspected pneumonia	90%	2025
Access to improved drinking water at household	90%	2030
Access to hygienic sanitation facility at household	90%	2040
Access to hand washing facilities at household	90%	2030
Access to clean and safe fuel used for cooking in the household	90%	2030

General Infrastructure	
Electricity supply (with Back up)	
Functional cell phone	
Internet connection (wired or wireless)	
Functional Ambulance	
Water supply (Tap, Roof catchment, protected shallow wells)	

Oxygen therapy
Oxygen sources (Concentrators in Level 2, Cylinders in Levels 3 and above, Plant/ Piped in levels 4 and above
Diagnostics for childhood illnesses
Lab Support
Lab with capacity to do tests according to level of care:
At Level 2 and 3 MPS, HB, Urinanalysis, Blood sugar, HIV test, VDDL, Blood group
At level 4 and above: Haematological and Biochemical analysis according to level of care
Specialized services offered in level 4 and above:
Mechanical ventilation
Exchange transfusion
Dialysis
Blood transfusion Whole blood (Level 3) Whole blood and blood products (Level 4 and above)
Paediatric Surgical and Theatre services
Imaging and Ultrasound services/ equipment
Rehabilitative Services, equipment (Physiotherapy, Occupational therapy and
Special Pediatric Clinics (Offered in Level 4 and above)
ENT Clinics & Equipment

Ophthalmic Clinic & equipment
POPC
Dental Clinic & Equipment
Orthopedic Clinic & Equipment

Case management of children under five years
Outpatient department including MCH
Separate area for sick children under 5 years
Integrated services in MCH **(REFER INTEGRATED MCH FLOW CHART) to include basic lab and Pharmacy services**
Triaging Equipment
Weighing scales (Salter and Bathroom)
Height/length board
Weighing pants
MUAC tape
Family MUAC tape
Digital Thermometer
Respiratory timer
Pulse Oximeter with Paediatric and Neonatal probes
Wrist watches for counting Pulse rate
Paediatric admission record (PAR) forms
ORT corner space and equipment
ORT corner equipment (REFER ORT CORNER GUIDELINE/ EQUIPMENT)
Oxygen sources (Concentrators in Level 2, Cylinders in Levels 3 and above, Plant/ Piped in levels 4 and above
Emergency tray (REFER EMERGENCY TRAY LIST)
M&E/ Health Reporting Tools/ EHR/EMR
IMCI Recording Forms
MOH 204A Under 5 Register
MOH 510 Immunisation Register
MOH 216 Mother Child Handbook
MOH 511 CWC Register
MOH 701A Under five Morbidity Tally Sheet
MOH 705A Under 5 Morbidity Summary
MOH 711 Integrated Program Summary Sheet
MOH 717 Service Workload
Referral Forms
ORT Corner register
Paediatric Admission Record Forms (PAR)
Inpatient department
Oxygen sources/ supply (Concentrators in Level 2, Cylinders in Levels 3 and above, Plant/ Piped in levels 4 and above
Oxygen splitters
Pulse Oximeter with Paed and Neonatal probes
Oxygen delivery devices (Nasal prongs -Infant, Child, Nasal catheter Infant, Child, Non Rebreather masks, Oxygen masks Infant, Child sizes
ORT corner equipment (REFER ORT CORNER GUIDELINE/ EQUIPMENT)
Emergency tray (REFER EMERGENCY TRAY CHECKLIST)
Resuscitation couch
Ambu Bags 500ml
Ambu Bag 300ml
Functional Suction machine

Suction tube size 10
Heater
Height/ Length Measurement boards
Respiratory timer
M&E/ Health Reporting Tools/ EHR/EMR
Vital signs monitoring charts
Feeding charts
Paediatric Admission Record Forms (PAR)
Death notification Forms (D1)

Referral systems
Facility initiated means of transport
Functional Ambulance (REFER CHECKLIST FOR FUNCTIONAL AMBULANCE)
Facility Ambulance (Level 4 and above)
Sub-County ambulance (for use by Dispensaries and Health centers)

Essential Child Health Equipment list 1

Equipment
ORT Corner Equipment
Thermometers
Infant / Baby Weighing scale
Salter Scales
Weighing pants
Bathroom Weighing scale
Nebulization Equipment
Oxygen Cylinders & oxygen delivery sets
Oxygen Concentrators
Oxygen splitters
Oxygen Masks (circle if available) Infant, Child sizes
Nasal catheter, Infant, Child
Nasal prongs, Infant, Child
Ambu Bags 500ml
Ambu Bag 300ml
Functional Suction machine
Suction tube size 10
Heater
functional 500 ml self-inflating bag
Resuscitation table/couch
Height/ Length Measurement boards
Pulse oximeter
Respiratory rate timer

Essential Child Health Medicines
M&E/ Health Reporting Tools/ EHR/EMR
Antibiotics Register
Narcotics register
Drugs
Artesunate inj. 60mgs
Artemether lumefantrine 20/120mgs

Quinine 300 mg per ml
Amoxycillin Dispersible Scored Tabs 250 Mg.100 Pack
Amox + Clav 375mg
Gentamicin (40mg/1ml) inj.
Crystalline Penicillin 1,000,000 units vials
Benzathine inj.
Ceftriaxone 250mgs
ORS/ Zinc Co- pack
Ringers lactate infusion
Ciprofloxacin (250mg tabs)
Metronidazole tablet 200mgs
Ceftazidime (250mg tabs)
Metronidazole inj.
Metronidazole oral liquid 200mg/5ml
Erythromycin (250mg tabs)
Albendazole (400mg)
Iron tabs (200mg)
Folic Acid tabs (5mg)
Syr Cotrimoxazole 240mg/5ml
Tab Paracetamol tabs 250mg
Nystatin oral drops 20mls
Lorazepam inj
10% Dextrose 500 ml bottle
Salbutamol Inhalers (200 doses)
Salbutamol Nebulization solution (50ml) bottle
Adrenaline Inj.
Vitamin A (soft gelatinous capsules) 200,000 IU
Vitamin A (soft gelatinous capsules) 100,000IU
Vitamin A (soft gelatinous capsules) 50,000IU (therapeutic)
Clotrimazole cream
Hydrocortisone cream
Hydrocortisone injection 100mg
Griseofulvin tablets 125mg
Benzyl Benzoate ointment
Furosemide injection 40mg
Insulin inj.
ReSoMal
F75
F100
RUTF
Digoxin oral
Anti- TB drugs
ART drugs
Anti- cancer drugs
Vaccines
Anti- rabies
Anti- snake venom
Blood and blood products
Povidone iodine solution/Betadine solution

ANNEX 4 - REFERENCES

Akech et al; **The Clinical Profile of Severe Pediatric Malaria in an Area Targeted for Routine RTS,S/AS01 Malaria Vaccination in Western Kenya;** Clinical Infectious Diseases, Volume 71, Issue 2, 15 July 2020, Pages 372–380, https://doi.org/10.1093/cid/ciz844

English M, Strachan B, Esamai F, et al; **The paediatrician workforce and its role in addressing neonatal, child and adolescent healthcare in Kenya;** *Archives of Disease in Childhood 2020;*105:927-931; accessed at https://adc.bmj.com/content/105/10/927

Fink, G., Sudfeld, C.R., Danaei, G., Ezzati, M., and Fawzi, W.W. (2014). **Scaling-Up Access to Family Planning May Improve Linear Growth and Child Development in Low and Middle-Income Countries;** *PLoS ONE 9(7):* e102391. Doi: 10.1371/journal.pone.0102391, cited in USAID; **Kenya Nutrition Profile.**

Gathara D, Serem G, Murphy GAV, Obengo A, Tallam E, Jackson D, Brownie S, English M (2019). ***Missed nursing care in newborn units: a cross-sectional direct observational study;*** *BMJ Qual Saf 2019;*0:1–12. doi:10.1136/bmjqs-2019-009363

Guillaume D, Justus O, Ephanus K; **Factors influencing diarrheal prevalence among children under five years in Mathare Informal Settlement, Nairobi, Kenya;** J Public Health Afr. 2020 Apr 29; 11(1): 1312. doi: 10.4081/jphia.2020.1312

Ilinca S, Di Giorgio L, Salari P, Chuma J. (2019). **Socio-economic inequality and inequity in use of health care services in Kenya: evidence from the fourth Kenya household health expenditure and utilization survey;** *International Journal for Equity in Health; Vol18:* 196 accessed at https://equityhealthj.biomedcentral.com/articles/10.1186/s12939-019-1106-z

Irimu G, Aluvaala J, Malla L , et al; **Neonatal mortality in Kenyan hospitals: a multisite, retrospective, cohort study;** BMJ Global Health 2021;6:e004475. Accessed at https://gh.bmj.com/content/6/5/e004475

Kamau G, et al.; **Malaria infection, disease and mortality among children and adults on the coast of Kenya** Malaria Journal (2020) 19:210 https://doi.org/10.1186/s12936-020-03286-6

Karuri SW, Murithi MK, Irimu G *et al*. **Using data from a multi-hospital clinical network to**

explore prevalence of pediatric rickets in Kenya; *Wellcome Open Res 2017*, 2:64 accessed at https://doi.org/10.12688/wellcomeopenres.12038.2

Kenya Ministry of Health. (2013). **Kenya Service Availability and Readiness Assessment Mapping (SARAM) report,** accessed at http://apps.who.int/healthinfo/systems/datacatalog/index.php/catalog/4

Kenya Ministry of Health (2018). **Newborn, Child and Adolescent Health (NCAH) Policy 2018.**

Kenya Ministry of Health (2016). **Basic Paediatric Protocols 4th Edition**

Kenya Ministry of Health, Save the Children International. (2019). **Cross-sectional Survey of the Pneumonia Situation in Three Selected Counties in Kenya: Bungoma, Nairobi & Wajir**

Kenya Ministry of Health, National AIDS and STI Control Programme (NASCOP) (2020), **Preliminary KENPHIA 2018 Report. Nairobi: NASCOP**

Kenya Ministry of Public Health. (2008). **Child Survival and Development Strategy 2008-2015**

Kenya National Bureau of Statistics. (2015). **Kenya Demographic and Health Survey 2014;** accessed at https://dhsprogram.com/publications/publication-fr308-dhs-final-reports.cfm

Kenya National Bureau of Statistics (March2018); 2015/16 **Kenya Integrated Household Budget Survey (KIHBS), Basic Report;**

Kenya National Bureau of Statistics. (2019). **Gross County Product Report 2019;** Accessed through Wikipedia https://en.wikipedia.org/wiki/List_of_counties_of_Kenya_by_GDP

Kenya National Bureau of Statistics, National Malaria Control Programme (NMCP) Kenya, ICF International, Ministry of Health. (2016). **Kenya Malaria Indicator Survey 2015**

Kenya Paediatric Assocation, KEMRI, Wellcome Trust, Min. Health; **Draft Report of a Workshop on Improving Inpatient Neonatal Care Services 15th & 16th February 2018, Nairobi, Kenya.**

Kenya Paediatric Association; **Draft Report Follow Up Workshop on the possible scope of work and training needs for a Neonatal Health Care Assistant to support nurses in providing improved inpatient neonatal care;** 5th April 2018, Nairobi, Kenya

Ly KN, Kim A, Umuro M et al. (2016). **Prevalence of Hepatitis B Infection in Kenya 2007;** *Am J of Trop Med and Hygiene* 95(2): 348-353

Macharia, P.M., Giorgi, E., Thuranira, P.N. *et al*. **Sub national variation and inequalities in under-five mortality in Kenya since 1965.** *BMC Public Health 19*, 146 (2019). https://doi.org/10.1186/s12889-019-6474-1

Macpherson L, Ogero M, Akech S et al; **Risk factors for death among children aged 5–14 years hospitalised with pneumonia: a retrospective cohort study in Kenya;** *BMJ Global Health 2019*;**4**:e001715. Accessed at https://gh.bmj.com/content/4/5/e001715

Maina M, Tosas-Auguet O, McKnight J, Zosi M, Kimemia G, Mwaniki P, et al.; **Evaluating the foundations that help avert antimicrobial resistance: Performance of essential water sanitation and hygiene functions in hospitals and requirements for action in Kenya** (2019); PLoS ONE 14(10): e0222922. https://doi.org/10.1371/journal.pone.0222922

President's Malaria Initiative Report, 2019; accessed at https://www.pmi.gov/docs/default-source/default-document-library/country-profiles/kenya_profile.pdf?sfvrsn=22

UNICEF. (2010); **Core Commitments for Children in Humanitarian Action**

UNICEF (2018); **Situation Analysis of Children and Women in Kenya 2017;** UNICEF, Nairobi, Kenya.

UNICEF. (2019) **State of the world's children 2019 - Children, food and nutrition: Growing well in a changing world; UNICEF**

USAID; **Country Profile: Kenya; 2017;** Available at: http://www.feedthefuture.gov/country/kenya

USAID; **Kenya Nutrition Profile, Updated February 2018;** accessed at https://www.usaid.gov/sites/default/files/documents/1864/Kenya-Nutrition-Profile-Mar2018-508.pdf

WHO; **Global health observatory** https://www.who.int/gho/child_health/mortality/causes/en/

WHO (Sept 19, 2019). **Children Reducing Mortality,** accessed at https://www.who.int/news-room/fact-sheets/detail/children-reducing-mortality

WHO (September 20, 2020); **Children: improving survival and well-being factsheet;** accessed at https://www.who.int/news-room/fact-sheets/detail/children-reducing-mortality

WHO. (2015). **The Global Strategy for Women's, Children's and Adolescents' Health (2016-2030) - Survive, Thrive, Transform;**

WHO; **Immunisation coverage;** accessed at https://www.who.int/news-room/fact-sheets/detail/immunization-coverage

WHO; **Levels and trends in child mortality 2015;** http://www.who.int/maternal_child_adolescent/documents/levels_trends_child_mortality_2015/en/

WHO, UNICEF, World Bank Group. (2018). **Nurturing care for early childhood development: a framework for helping children survive and thrive to transform health and human potential.** Geneva: World Health Organization;

WHO. (2016). **Global Action Plan for Pneumonia and Diarrhoea (GAPPD).** Accessed at https://www.who.int/maternal_child_adolescent/epidemiology/gappd-monitoring/en/

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