



Republic of Kenya
Ministry of Public Health &
Sanitation

Ministry of Public Health and Sanitation (MOPHS)

Scaling Up Strategy for Essential Treatments in Children Under Five Years in Kenya
Diarrhoea and Pneumonia

Implementation Plan for the Period 2011/12- 2015/16

Submitted in December 2011

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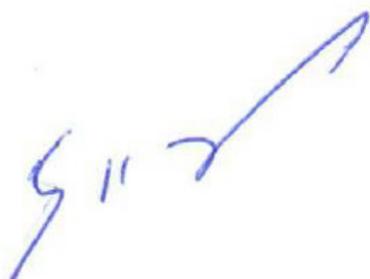
Foreword

The Government of Kenya is committed to the achievement of both local, regional and international targets (including the Millennium Development Goals (MDGs)) set to improve maternal, neonatal and childhood health indicators. Most deaths in children are caused by preventable and easily treated childhood diseases namely pneumonia, diarrhoea, malaria with malnutrition as an underlying cause in about 54% of these deaths (WHO, 1995). Appropriate management of these conditions is one of the most cost effective interventions to reduce the global burden of disease (World Bank, 1993).

Kenya is one of the countries in Africa which is not on target for the attainment of MDG 4 despite improvements in child mortality rates as shown by the national surveys. The under-five mortality rate stands at 74/1000 (KDHS 2008/09) down from 115/1000 in KDHS 2003 while the infant mortality is at 52/1000 down from 77/1000 in KDHS 2003. Kenya needs to reduce under five mortality rate to 33 deaths per 1,000 live births, if the MDG 4 is to be achieved by 2015. Many health system and essential service delivery challenges are known to counter efforts towards the control and management of common childhood illnesses as depicted in the Kenya Service Provision Assessment (KSPA 2010). Many children in Kenya continue to die unnecessarily due to poor access to recommended treatments. This is particularly the case for diarrhoea and pneumonia, which still account for an estimated 20% and 16% of annual child deaths respectively.

This implementation plan presents a blue print for acceleration of the control and management of childhood diarrhoea and pneumonia thus contributing to the attainment of MDG 4 by reducing significantly mortality attributed to the two diseases. The plan is based on The Child Survival and Development Strategy as well as The Policy Guidelines on Control and Management of Diarrhoeal Diseases In Children Below Five Years In Kenya and addresses four main areas namely; case management, commodity logistics, advocacy, communication and social mobilization (ACSM) and finally, monitoring and evaluation. All stakeholders are urged to utilize this document for resource mobilization and for the accelerated implementation of related high impact interventions.

Finally, it is my sincere hope that implementation of this five year plan alongside administration of primary vaccines including the PCV 10 and in the near future, the rotavirus vaccine, will go a long way in reducing child mortality in Kenya.



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Acknowledgements

The Diarrhoea and Pneumonia scale up plan was developed through a participatory process with key stakeholders in Child Health. Our special thanks go to the Clinton Health Access Initiative and all partners that contributed to the development of this implementation plan.

The barriers and proposed interventions outlined in this plan were arrived at through a collaborative process involving the two Ministries of Health under the leadership of Division of Child and Adolescent Health. The following departments & divisions in MOMS and MOPHS also participated and immensely contributed to the process:

Department of Community Health Services (MOPHS),
Department of Health Promotion (MOPH),
Department of Pharmacy (MOMS),
Division of Vaccines & Immunization,
Division of Nutrition (MOPHS)
HMIS (MOMS).

The following partners all offered valuable input to the process: AMREF, Clinton Health Access Initiative, Micro Nutrient Initiative, PATH, PSI, UNICEF, USAID-MCHIP program, Save the Children UK and WHO.

The Division of Child and Adolescent Health would like to acknowledge with deep gratitude the contributions from the following institutions:

Clinton Health Access Initiative (CHAI)
AMREF
Department of Pharmacy (DOP)
Division of Community Health Services
Division of Health Promotion
Division of Nutrition
Division of Vaccines and Immunization (DVI)
HMIS & Monitoring
Micronutrient Initiative (MI)
PATH
PSI
Save the Children UK (SCUK)
UNICEF
USAID-MCHIP
WHO

Abbreviations & Acronyms:

ACSM	Advocacy, Communication and Social Mobilization
ACTs	Artemisinin Combination Therapies
AIDS	Acquired Immune Deficiency Syndrome
AMFm	Affordable Medicines Facility for Malaria
AMREF	African Medical Research Foundation
AOPs	Annual Operating Plans
ARI	Acute Respiratory Infection
CHAI	Clinton Health Access Initiative
CHSCSC	Child Health Stakeholders Commodity Security Committee
CHWs	Community Health Workers
CIMCI	Community Integrated Management of Childhood Illnesses
CPDs	Continuous Professional Development Programs
CSDS	Child Survival and Development Strategy
DCAH	Division of Child and Adolescent Health
DFH	Department of Family Health
DFID	Department for International Development
DOMC	Division of Malaria Control
DOP	Department of Pharmacy
EDL	Essential Drugs List
EML	Essential Medicines List
FBO	Faith-Based Organization
GAVI	Global Alliance for Vaccines and Immunization
GDP	Gross Domestic Product
GOK	Government of Kenya
HCWs	Health Care Workers
HII	High Impact Interventions
HIV	Human Immuno-deficiency Virus
HR	Human Resources
HSCC	Health Sector Coordinating Committee
HSSF	Health Sector Service Fund
ICATT	IMCI Computerized Adaptation and Training Tool
ICCM	Integrated Community Case Management
IEC	Information, Education and Communication
IMCI	Integrated Management of Childhood Illness
IMNCI	Integrated Management of Neonatal and Childhood Illness
JHPIEGO	Johns Hopkins Program for International Education in Gynaecology and Obstetrics
KAPP	Kenya Action for Prevention and control of Pneumonia
KDHS	Kenya Demographic and Health Survey
KEML	Kenya Essential Medicines List
KEMSA	Kenya Medical Supplies Agency
KEPH	Kenya Essential Package for Health

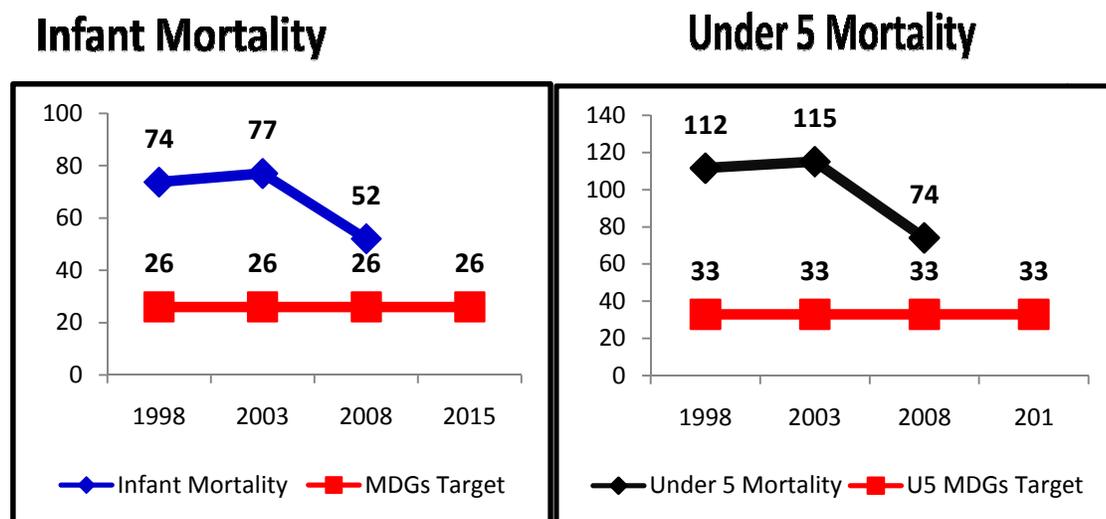
KHPF	Kenya Health Policy Framework
KNBS	Kenya National Bureau of Statistics
PPB	Pharmacy and Poisons Board
KSPA	Kenya Service Provision Assessment
LLITNs	Long Lasting Insecticide Treated Nets
M&E	Monitoring and Evaluation
MCH	Maternal and Child Health
MCHIP	Maternal and Child Health Integrated Program
MDGs	Millennium Development Goals
MEDS	Mission for Essential Drugs and Supplies
MIS	Malaria Indicator Survey
MNCH	Maternal, Neonatal and Child Health
MOMS	Ministry of Medical Services
MOPHS	Ministry of Public Health and Sanitation
NGO	Non-Governmental Organization
NHIF	National Hospital Insurance Fund
NHSSP	National Health Sector Strategic Plan
NMTC	National Medicines and Therapeutics Committee
OR	Operation Research
ORS	Oral Rehydration Solutions
ORT	Oral Rehydration Therapy
OTC	Over-The- Counter
PATH	Program for Appropriate Technologies in Health
PSI	Population Services International
RDTs	Rapid Diagnostic Tests
RRI	Rapid Results Initiative
SBM-R	Standard Based Management and Recognition
TB	Tuberculosis
TV	Television
U5MR	Under 5 Mortality Rate
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
USG	United States Government
WHO	World Health Organization
WHSR	World Health Status Report

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EXECUTIVE SUMMARY

With four years to the Millennium Development Goals deadline, many countries, including Kenya, remain far from achieving the targets set almost twenty years ago. Globally, for every 1,000 live births, an estimated 60 children die before their 5th birthday, though children in the Africa region face worse odds at an average of 127 under-five deaths for every 1000 live births. In Kenya, 74 out of every 1000 children born do not live to the age of five years of age (KDHS 2008/09). While this is an improvement from the 1990 baseline child mortality rate of 99/1000, Kenya continues to make insufficient progress towards achieving these goals. At present, the under-five mortality remains more than two times above the MDG target of reducing mortality to 33/1000 by 2015.



Substantial investments have been made in managing childhood illnesses in Kenya both at the community and facility levels. These efforts have yielded notable achievements in child health, such as increasing vaccine coverage to 77% among children aged 12-23 months (KDHS,08/09), reducing childhood malaria deaths by 44% (CSDS 2008-15), increasing identification and testing of HIV exposed and infected children, and improving the pediatric TB case detection and cure rate.

This progress has been driven by financial and technical contributions from the Government of Kenya (GoK) and donor partners as well as the implementation of overall health sector strategic frameworks and targeted child health policies. In particular, the development and dissemination of updated guidelines, health worker training materials, and job aids have played a critical role, in addition to targeted interventions to increase community case management of childhood illnesses and improve public awareness around child survival. The GoK has also initiated additional efforts to reduce child mortality, including the introduction of new vaccines to prevent diarrhoea and pneumonia and further scale-up of malaria prevention interventions.

While these efforts have made notable gains, many children in Kenya continue to die unnecessarily due to poor access to recommended treatments. This is particularly the case for diarrhoea and pneumonia, which still account for an estimated 20% and 16% of annual child deaths respectively. The new vaccines will make important progress against these killers, but both conditions will remain among the largest causes of mortality even once the vaccines are fully rolled-out. Effective treatment can avert the remainder of those deaths, but according to the

KDHS 2008/09, use of antibiotics in children presenting with symptoms of Acute Respiratory Infections (used as proxy for pneumonia) is only at 50%, while use of ORS and Zinc, the WHO-recommended treatment for diarrhoea management, remains at 39% and 0.2% respectively.

Various factors contribute to low uptake levels of effective treatments and Kenya’s slow progress in addressing child mortality. Among these are demand-side factors linked to practices at the household level, such as low awareness of effective prevention practices and recommended treatments, inappropriate health care and hygienic practices, as well as poor environmental and living conditions. Additionally, there are noted poor care-seeking patterns amongst caregivers as evidenced by KDHS 08/09 with a sub-optimal proportion seeking advice or treatment from health facilities or qualified health care providers¹. For diarrhoea, 49% of caregivers seek treatment from qualified facilities or health providers, while for pneumonia, these accounted for 56%.

On the supply side, multiple factors contribute to low uptake of effective child treatments such as limited access to health services, frequent shortages of essential medicines and supplies, the shortage of health care workers, knowledge and skills gaps amongst health care workers as well as lack of community linkages among others. In the private sector in particular, providers and retailers are often unaware of recommended treatments for common childhood conditions, and insufficient distribution and promotion of appropriate treatments is a significant hurdle as well.

The final race to achieving MDG 4 over the next four years will need to focus on reducing by more than half the current under-five mortality. Such an ambitious target calls for accelerated and coordinated efforts in new and current prevention and treatment interventions. The Kenya Child Survival and Development Strategy (2008-2015) provides a guiding framework toward improving child health outcomes in Kenya, and highlights treatment of diarrhoea and pneumonia as key components of this overall effort to reduce child mortality. This *Scaling-Up Strategy for Essential Treatments* expands on that priority, describing the targeted interventions that the Ministry of Public Health and Sanitation in Kenya, with support from its partners, will pursue to ensure that 80% of children with diarrhoea or pneumonia are receiving recommended treatment by 2015. The five primary objectives, outlined in the chart below, represent an ambitious, accelerated effort to achieve Kenya’s goal of reducing child mortality rate by two thirds by 2015.

Goal	Objectives
To contribute to the reduction in health inequalities and reduce the under-five mortality rate from 74/1000 to 33/1000	Objective 1: Expand access to integrated case management of childhood illnesses in all health facilities across the public and private sectors
	Objective 2: Increase public awareness and generate demand for diarrhoea & pneumonia management among caregivers of children under five years
	Objective 3: Increase availability and efficient use of essential medicines used in management of childhood illnesses
	Objective 4: Strengthen the monitoring and evaluation of pneumonia and diarrhoea disease management
	Objective 5: Strengthen access to appropriate diarrhoea and pneumonia treatment through private sector channels

¹ Excludes pharmacy shop and traditional practitioners

While these objectives are cross-cutting, the recommended actions within them aim to transform the current landscape for diarrhoea and pneumonia treatment for children in Kenya. For diarrhoea in particular, this strategy aims to match dramatically increased demand for zinc and with simultaneous increases in supply and distribution of an affordable, co-packaged product through both the public and private delivery systems. Emphasis is also placed on increasing awareness of and demand for the products among caregivers and public and private health providers. This will be done through large-scale advocacy, communication, and social mobilization efforts as well as accelerated, innovative education methodologies. Additionally, the strategy focuses on improving the quality of diarrhoea services in the public sector, through the revitalization of ORT corners and significant improvements to procurement.

For pneumonia treatment, the strategy targets three primary areas: (1) increasing care-seeking, with a focus on recognition of and reaction to danger signs such as fast breathing, and awareness of recommended treatments among caregivers, (2) dramatically improving pneumonia treatment in the public sector, including improved access to diagnostics and antibiotics, as well as oxygen treatment for severe cases, and (3) enabling appropriate diagnosis and antibiotic treatment through community case management in selected areas. With both diarrhoea and pneumonia, innovative techniques to galvanize urgency and action around these priorities will be employed, such as an annual national-level Rapid Results Initiative, which mobilizes stakeholders throughout the country to achieve rapid progress towards concrete targets and has been proven successful in scaling-up essential health interventions. Additionally, the strategy focuses on improved and regular monitoring of performance for both diarrhoea and pneumonia, including incentives for high performing facilities.

If target treatment coverage levels are achieved, this plan has the potential to save nearly 23,000² children's lives by 2015 – and to turn the tide on child mortality in Kenya. Its success will rely on exceptional leadership, strong partner coordination, and dedicated resources. The initial estimated costs of the recommended activities are roughly USD 20 million in the first two years – with a total of USD 59.5 million over the five-year period. As this plan is a true public-private partnership, it is expected that a portion of the necessary support will be provided by the private sector, in addition to contributions from the government and its development partners.

² Lives Saved Tool, 2011 <http://www.jhsph.edu/dept/ih/IIP/list/>

1. STRATEGIC CONTEXT – TREATMENT OF CHILDHOOD ILLNESSES IN KENYA

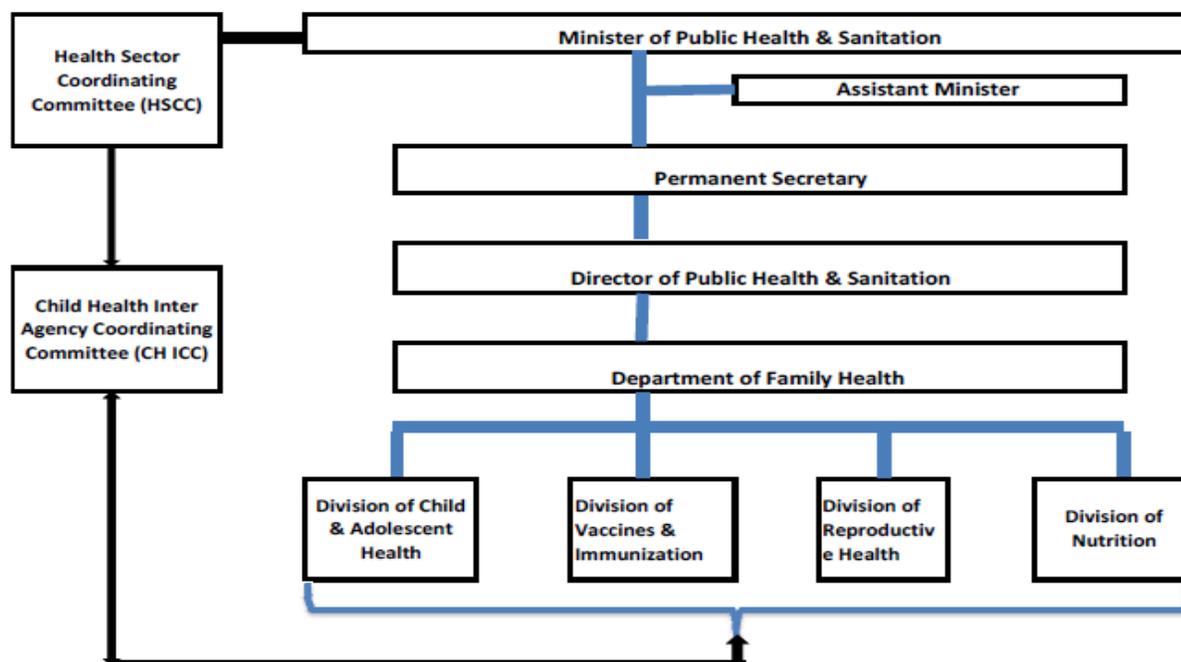
Country Profile:

Indicator		Source
Total Population	38, 610, 097	Census Report, 2009
Under 5 Population	6,589,098	KNBS ³ , 2011
% Population living in Rural Kenya	68%	Census Report, 2009
%Population living in Urban Kenya	32%	Census Report, 2009
Life Expectancy at Birth	57 years	Human Development Report, 2011
Adult Literacy (>15yrs)	87%	Human Development Report, 2011
Under Five mortality Rate	74/1000	KDHS 2008/09
% of Fully Immunized Children	77%	KDHS 2008/09
GDP per Capita	\$790	World Bank, 2011
<u>Poverty ratio (% of population)</u>	45.9%	World Bank, 2011

1.1 Delivery of Health Services in Kenya

The health sector in Kenya since 2008 has been governed through two ministries- Ministry of Medical Services (MOMs) and Ministry of Public Health and Sanitation (MOPHS). The two Ministries work in harmony towards achieving the goals set in National Health Sector Strategic Plan (NHSSP). The Department of Family Health (DFH) under the Ministry of Public Health and Sanitation oversees the Maternal and Child Health programs in the country. The Department provides oversight over four divisions.

Ministry of Public Health and Sanitation—Department of Family Health Structure



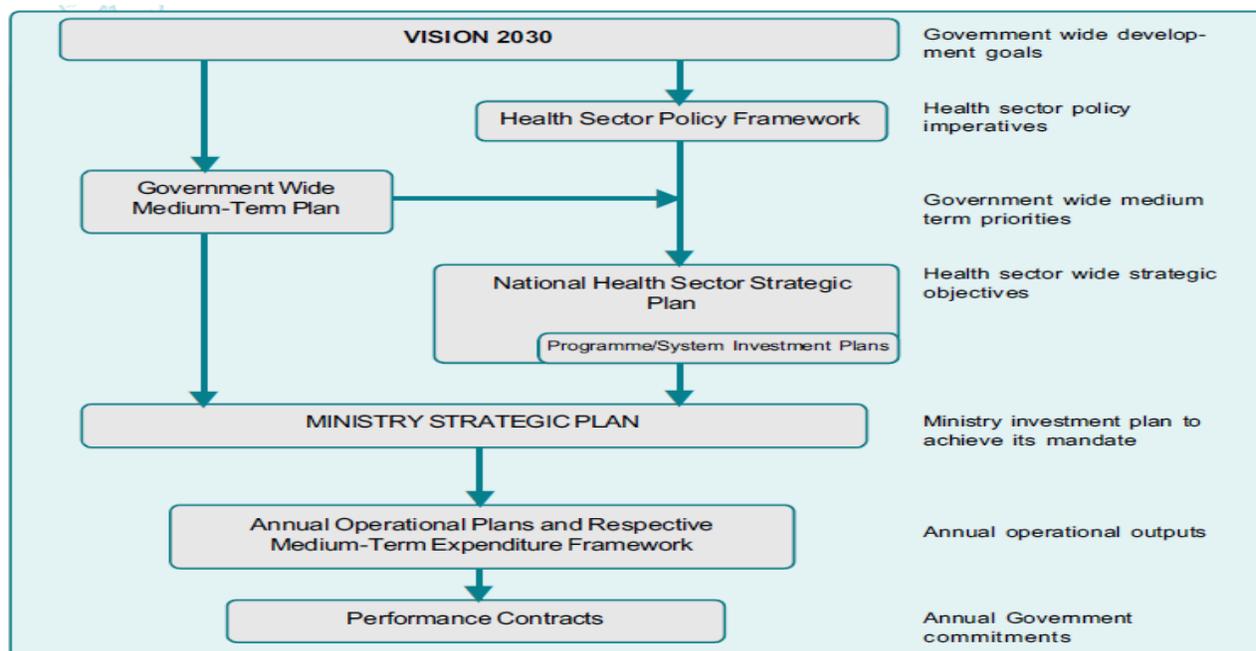
³ Kenya National Bureau of Statistics, 2011 population projections

1.1.1 Policy and Strategic Context

The Kenya Vision 2030⁴ is the country’s blue print for development aimed at propelling Kenya into middle-income country status – a country that will efficiently provide a high quality life to all its citizens by year 2030. The Vision 2030 is based on three pillars: economic, social and political. In the Social pillar, the health sector is recognized as a key constituency to deliver the Vision 2030. Setting up robust health infrastructure networks, improving the quality of health care service delivery, promoting partnerships with the private sector and providing access to healthcare to those excluded for financial reasons takes prominence as the health sector’s priority objectives in Vision 2030.

Built on the Vision 2030 principles and recognizing the devolved structure of the new government in Kenya, the draft second Kenya Health Policy Framework (KHPF) 2012-2030 provides a health sector specific policy framework. The policy aims at **‘attaining the highest possible level and distribution of health in a manner responsive to the population needs’**. It is by addressing the following health system building blocks that KHPF’s goal will be achieved: the health service delivery systems and their organization, the requisite leadership and governance structures, the required health workforce, sustainable health financing systems, medical products and technologies required for provision of services, health information systems and health infrastructure needed to propel the health sector towards contributing to Vision 2030. To support follow up of implementation, GoK further set up a health sector coordinating committee (HSCC) with broad stakeholder participation to operationalise the sectors governance structure and to strengthen partnerships that promote achievement of overall health sector objectives. This committee is chaired by the Permanent Secretaries of MOMS and MOPHs.

Linkages between Government Specific and Health Sector Planning Process



Source: MOMs & MOPHS Strategic Plans

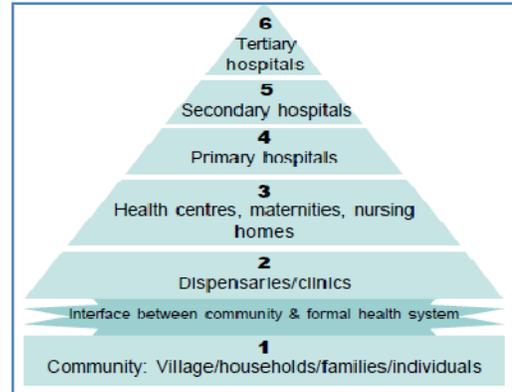
⁴ Kenya Vision 2030: <http://www.vision2030.go.ke/Popular%20Version.pdf>

The implementation of the Kenya Essential Package for Health (KEPH) in the Ministry of Health is guided by the National Health Sector Strategic Plan (NHSSP). Two National Health Sector Strategic Plans (NHSSP I 1999-2004 and NHSSP II 2005-2012) have been implemented in the sector thus far. Both of these plans outlined medium-term strategic objectives the sector has developed to support the implementation of KHPF. NHSSP II was initially expected to cover the period 2005-2010, but as a result of a reversal of gains made during the post-election period in 2008 and the subsequent need to rebuild, a decision was taken to extend it to 2012. The third NHSSP is currently under development and will cover the period 2012-2017. The NHSSP is operationalised through Ministry specific strategic plans and the annual operational plans (AOPs). These are developed using a 'bottom up approach' from facilities, regional health management units, divisions and departments in the ministries. Performance against the AOPs is tracked at the national level and feedback shared down to the lowest level.

It is on the background of the NHSSP that the Division of Child and Adolescent Health (DCAH) developed the Child Survival and Development Strategy (CSDS) for the period 2008-2015. The strategy provides a guiding framework for the government and its partners in efforts towards accelerating achievements of better outcomes in child health. This implementation plan is aligned to the CSDS strategy and is the implementation framework for DCAH and partners working in diarrhoea and pneumonia.

Key Strategies in Child Survival and Development Strategy (2008-2015)	
Policy and Budget Environment	<ul style="list-style-type: none"> Develop policies and strategies that increase the provision of quality health and nutrition services for children Continuously explore different financial mechanisms to improve access to MNCH services
Management of Common Childhood Illnesses	<ul style="list-style-type: none"> Scale up IMNCI and nutritional support at facility level Scale up IMNCI and nutritional support through community strategy Scale up use of ORS and Zinc for diarrhoea Scale up use of antibiotic treatment for pneumonia Increase uptake of routine services by non attendees through social mobilization Introduce new vaccines such as rotavirus and pneumococcal vaccines
Access to Health Services by Mothers and Children	<ul style="list-style-type: none"> Improve procurement and distribution of essential medical supplies Strengthen community mobilization and advocacy for the utilization of available services
Human Resources	<ul style="list-style-type: none"> Strengthen and integrate MNCH components within pre-service and in-service training Strengthen CHWs knowledge and skills for improved MNCH care Build community and facility health worker skills capacity in midwifery, essential newborn care, IMNCI and nutrition
Communication and Advocacy	<ul style="list-style-type: none"> Develop advocacy and communication strategies for MNCH

The programmatic operations of the Department of Family Health are guided by the NHSSP policies. In the NHSSP, a new approach to health care delivery in Kenya was defined through the Kenya Essential Package for Health (KEPH) structured with six levels of care as seen in the diagram. KEPH outlines the preventive and curative services to be offered at all six levels for the six life cycle cohorts: pregnancy and newborn (up to 2 weeks of age), early childhood (2 weeks to 5 years), late childhood (6-12years), youth and adolescence (13-24 years), adulthood (25-59 years) and the elderly (60+years). The referral hospitals are highest in the hierarchy and offer comprehensive and specialized services while dispensaries, on the second lowest level, offer basic health services. This stratification in KEPH has greatly aided in developing targeted interventions aimed at improving health outcomes in the six cohorts. The KEPH most importantly recognized the community as a critical point of basic service delivery and interface with facilities. Service delivery at level 1 – the community - is addressed in greater detail in the community strategy developed in 2006, outlining clear guidelines on the services to be provided and the human resource and commodities requirements.

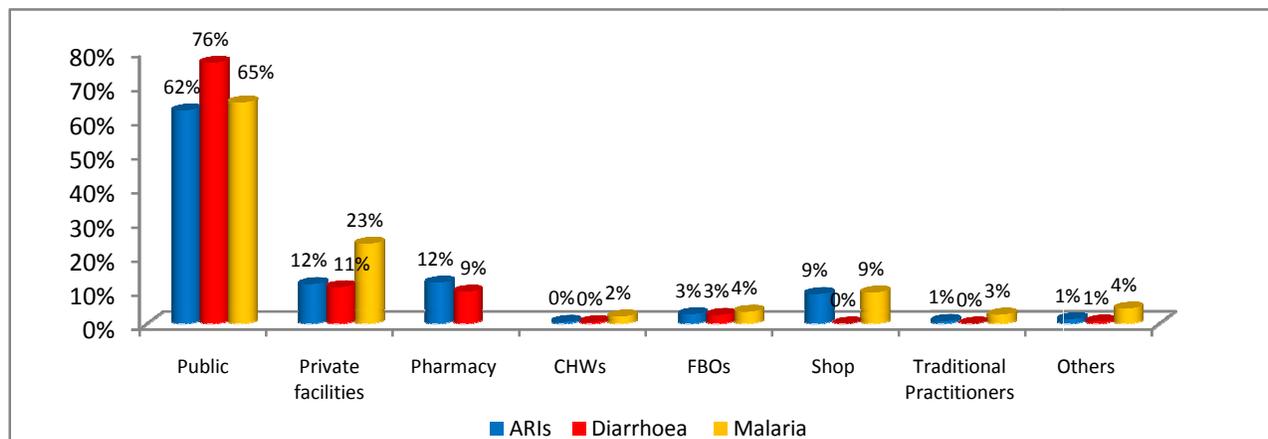


Make up of Health Facilities in Kenya & Source of Treatment by Type of Facility

Overall, the government-run (public) facilities make up 52% of the total health facilities. Faith-based & NGO facilities (FBOs) account for 15% while private hospitals and clinics make up 33% of total health facilities. There are 1200 licensed private pharmaceutical outlets in Kenya (PPB) and unlicensed pharmaceutical retailers also make up a large portion of the private sector. While there is no documented figure of these, it is estimated that they can be anywhere between 3,000 to 4,000 outlets.

According to KDHS 2008/09, the public sector provides health care to between 60-80% to children below five years suffering from diarrhoea, pneumonia, malaria, and other illnesses as illustrated in the graph below. The free services offered for children under five in public facilities are likely the reason that the public sector is a favoured source of treatment for diarrhoea, pneumonia, and malaria. Even then, the private sector is not to be ignored as it offers services to between 10-30% of children with these diseases. The disease-specific information is illustrated in the graph below.

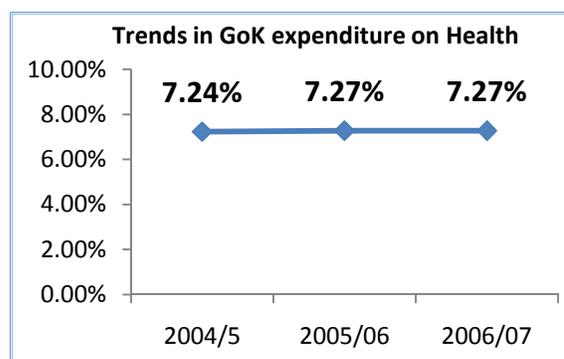
Source of Diarrhoea, Pneumonia, & Malaria Treatment



Source KDHS 2008/09 & MIS, 2010

1.1.2 Health Sector Financing

Various financing mechanisms exist in Kenya to support the health sector in achieving its objectives. Although the government allocations to health have increased in absolute numbers over time, Kenya is still off track in achieving the Abuja goal, set by African State leaders in 2001, to allocate 15% of Government funds to the health sector. The annual allocations have remained constant and inadequate and make up approximately 7% of the total Government expenditure (NHSSP II⁵). In addition to government financing, Kenya is also a recipient of support from multiple donors such as the Global Fund, GAVI, US Government, DFID, DANIDA, and CHAI, among others. The support from these agencies has greatly contributed to the reduction in the disease burden and mortalities related to HIV/AIDS, malaria, polio, measles, and other vaccine-preventable childhood diseases. (Notably, diarrhoea and pneumonia, which are significant drivers of child mortality, have received comparably little targeted support to date).



In addition to government and partner support, private spending (out-of-pocket) on health and the National Hospital Insurance Fund (NHIF) also contribute to significant levels of expenditure in the health sector. The NHIF is now accessible to Kenyans in the formal and informal sectors and through employers' insurance schemes.

The Ministry of Public Health and Sanitation most recently began implementation on a new financing model- the Health Sector Service Fund (HSSF) aimed at increasing financial access to facilities and subsequently improving service delivery in lower level facilities. The HSSF is a fund

⁵ Roadmap for accelerating of implementation of interventions to achieve objectives of NHSSP II

established through a legal notice by the Minister of Finance in December 2007⁶. This followed findings from the Public Expenditure Tracking Survey of 2005 showed that little or no funds ever reach levels 1, 2 and 3 of health care. The HSSF also takes a performance-based financing approach (a pilot project) by linking financial allocations to outputs derived from the Ministry's priorities and proposing to reward facilities overachieving on their targets. HSSF is currently being implemented in approximately 600 level-2 and level-3 facilities as MOPHS continues to mobilize for resources for further expansion.

HSSF Objectives

- (a) Support capacity building in management of Health Facilities;
- (b) Provide financial resources for medical supplies, rehabilitation and equipment of Health Facilities in the country;
- (c) Provide grants for strengthening of the faith-based Health Facilities through their respective secretariats; and
- (d) Improve the quality of healthcare services delivery at Health Facilities.

Despite these improved financing models by GoK and contributions from donors, the health sector remains largely unfunded resulting in persistent staff shortages, an inadequate supply of commodities, and limited expansion in infrastructure. These limitations compelled the government to introduce cost-sharing system of financing in facilities, allowing user fees to offset gaps between available and required resources. Facilities then use these revenues collected to run operations in hospitals. As a result, many patients are expected to pay for services out-of-pocket, which often unduly affect the poorest of Kenyans and those most in need of basic health services. The situation is even worse when essential medicines are not available in sufficient quantities. Department of Pharmacy⁷ estimates that up to 80% of pharmaceutical distribution in Kenya is private and out-of-pocket. The ministry reduced cost sharing in level 2 and 3 to KSH 10 and KSH 20 respectively to remove this barrier and under five services are free. The Output Based Approach (OBA) is also implemented in some districts for reproductive health services.

1.1.3 Human Resources for Health in Kenya

Improving Kenya's health indicators cannot be achieved without investments in human resources. The population in Kenya increased by 35% over 10 years as per the 2009 census, and yet, the added investment in staffing remains marginal. According to KSPA, 2010, there are 17 doctors for every 100,000 population in Kenya (roughly 1 per 6000 Kenyans). This is a slight improvement from 16/100,000 as documented in KSPA 2004, but is still well below the WHO recommended ratio of 1:600. The need to increase the human resource base therefore cannot be overemphasized if increased access and high quality of care are to be achieved.

Documented health care workers- population ratios

⁶ The Health Sector Service Fund May 2010 Guidelines, Ministry of Public Health and Sanitation (MOPHS)

⁷ Department of Pharmacy, 2011; National Pharmaceutical Policy

Type of Personnel	Year 2004	Ratio/100,000	2009	Ratio/100,000
Doctors	5,016	16	6897	17
Dentists	841	3	1004	3
Pharmacists	2,570	8	2921	7
Pharmacists and Pharmacy Technologists	1,620	5	1950	5
B.Sc Nursing	280	1	778	2
Registered Nurses	10,210	32	15948	40
Enrolled Nurses	30,562	96	31917	81
Clinical Officers	4,953	16	5888	15
Public Health Officers	1,314	4	7192	18
Public Health Technicians	5,861	18	5969	15
Total	63,227		80,464	

Source: KSPA 2004 & 2010

Clinical Practices Regulation

Clinical practices in Kenya are regulated by both MOMS and MOPHS and facilities in both the public and private sectors are expected to adhere to the policies and clinical guidelines. Additionally, MOMS provides oversight for the licensing of medical practitioners in Kenya through the Kenya Medical Practitioners and Dentists Board (doctors and dentists), Pharmacy and Poisons Board (pharmacists & technologists), and Nursing and Clinical Officers' Council (nurses and clinical officers). Various professional associations exist to further empower their members. Support for skills updates through Continuous Professional Development Programs (CPDs) is one role the associations play in the sector. Renewal of registration with these regulatory bodies is dependent on members meeting the minimum requirements set forth in CPDs. Such associations include the Kenya Medical Association, Kenya Paediatrics Association, and Pharmaceutical Society of Kenya.

Community Linkages

Recognizing that households and local communities aid in prevention and promotion of health actions as well as care for the critically and chronically ill, the National Health Strategic Plan 2005-2010 aimed to improve the delivery of health services at the community level. Specifically, it outlined a new approach '**Taking the Kenya Essential Package for Health to the COMMUNITY: A Strategy for the Delivery of LEVEL ONE SERVICES**' aimed at empowering communities to take charge of improving their health. It outlined specific steps to improve the health status of Kenyans by providing level 1 services for all cohorts and socioeconomic groups, building the capacity of community workers to provide services at level 1, strengthening linkages between health facilities and communities through effective decentralization and partnership, and finally strengthening the community to realize their rights to accessible and quality care and accountability from facility based health services (MOH, 2006⁸). The strategy intends for the deployment of community health workers (CHWs) to support households' with health promotion, disease prevention, care seeking and compliance with treatment. One CHW is expected to serve 20 households. With 8,738,097 households in Kenya (Census, 2009), 436,905 CHWs are expected to be recruited to support 8,738⁹ community units- there are 5,000 people for every community unit. This strategy

⁸ Ministry of Health , 2006: Taking the Kenya Essential Package for Health to the COMMUNITY : Strategy for the delivery of Level one services

⁹ 1 community unit is made up of 1,000 households

has the potential to propel Kenya's health outcomes to great levels if well-exploited; it however remains hugely underfunded thereby limiting its implementation. As at July 2011, 16% of targeted community units had been set up (MOPHS, 2011)¹⁰

1.2 Essential Medicines in Kenya

Developed in 1977 by WHO, Essential Medicines constitute a set of medicines that satisfy the priority health care needs of a population. The selection criteria for these medicines include public health relevance, evidence on efficacy and safety, and comparative cost-effectiveness. It is expected that medicines included in the essential medicines list (EML) should be available in facilities at all times in adequate amounts, in appropriate dosage forms, with assured quality and at a price the individual and the community can afford (WHO,2010¹¹)

Kenya was among the first countries to adopt the WHO model list in 1981. The KEML has since been revised three times- in 1992, 2003 and most recently in 2010. Review and revisions on the KEML is coordinated by the National Medicines and Therapeutics Committee (NMTC) within the Department of Pharmacy and in MOMs. It is expected that NMTC will be reviewing and revising the KEML every two to three years (KEML, 2010¹²)

The KEML 2010 has a total of 364 drugs which are categorized according to therapeutic and procurement priority:

- a. **Vital medicines-** medicines of the highest therapeutic importance.
- b. **Essential medicines:** drugs which are effective against less severe or serious but nevertheless significant forms of illness.
- c. **Core List (procurement priority A):** routine items which should be always stocked & available
- d. **Supplementary List (Procurement priority B):** non-routine items, not routinely stocked, and only available upon special request

It is important to note that the recommended treatments for diarrhoea and pneumonia are categorized as both **vital medicines** and **priority A** products for procurement. Given this status, these four medicines (amoxicillin, cotrimoxazole, ORS and zinc), together with other category V and A drugs, should continue to be prioritized for procurement, even when funding is limited.

Drugs Registration

Two arms of the Ministry of Medical Services are mandated to regulate production, importation, exportation and use of pharmaceutical products in Kenya. 1) The Kenya Pharmacy and Poisons Board (PPB) is vested with the powers of controlling the pharmacy profession and the trade in drugs and poisons. PPB is responsible for the registration of all pharmaceutical commodities in Kenya and for ensuring sustained efficacy and safety of the registered drugs. 2) The Department of

¹⁰ MOPHS 2011, Department of Community Health Services

¹¹ World Health Organization , 2010: Medicines: essential medicines- Fact Sheet No. 325
<http://www.who.int/mediacentre/factsheets/fs325/en/index.html>

¹² The Kenya Essential Medicines list 2010

Pharmacy is responsible for administering drug control activities and for managing the public sector drugs supply.

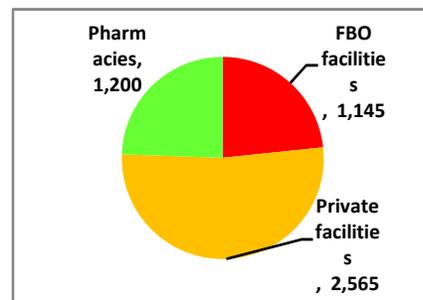
1.2.1 Essential Medicines: Public Sector

The procurement of essential medicines and medical supplies in Kenya is highly guided by the KEML. Drugs on the EDL are procured and distributed to public health facilities by the government-appointed procurement and distribution agency-Kenya Medical Supplies Agency (KEMSA). Both MOMS (through Department of Pharmacy) and MOPHS (through Department of Primary and Family Health) advise KEMSA on quantities of essential drugs to be procured though the final decision on the specific drugs to be procured and the quantities is dependent on available funding from Treasury. MOMs is responsible for the quantification of essential drugs for use in higher level facilities- sub-district hospitals to referral hospitals. For the lower level facilities, it is primarily the Department of Primary Health services with participation from the divisions in the relevant departments including the Department of Family Health, that is responsible for quantification of drugs to be procured and distributed by KEMSA, however, the divisions need to be more actively involved in this process.

At KEMSA level, distribution of essential medicines and supplies to public health facilities is split into two systems- PUSH and PULL, based on the level of care of a facility. In the PUSH system, which distributes to lower level facilities, drugs are distributed to facilities in fixed quantities regardless of consumption or need. Supply to these facilities is on a quarterly basis. Higher-level facilities from sub-district to referral hospitals are on the favoured PULL system and order for re-stocking bi-monthly. However, the health sector is currently rolling out pull system even to level 2&3.

1.2.2 Essential Medicines: Private Sector

The private sector in Kenya plays a significant role in service delivery. In direct health service delivery, two general categories exist: (1) private not-for-profit facilities (which include FBO some of which are supplied with drugs by GOK) and NGO run facilities, and (2) private for-profit facilities. These facilities jointly make up 48% of total health facilities in Kenya. Additionally, there are 1,200 privately registered pharmaceutical outlets. The faith-based facilities source for drugs from the faith-based procurement and distribution agency, Mission for Essential Drugs and Supplies (MEDs) which is guided by KEML in its selection and procurement of drugs, while the private for-profit facilities and pharmaceutical outlets source for drugs directly from primary/secondary distributors linked to manufacturers or first line buyers as well as wholesalers. With regards to available diarrhoea and pneumonia drugs, there are multiple players in the market with cotrimoxazole and amoxicillin having the highest number of registered drugs and local manufacturers as illustrated in the table below.



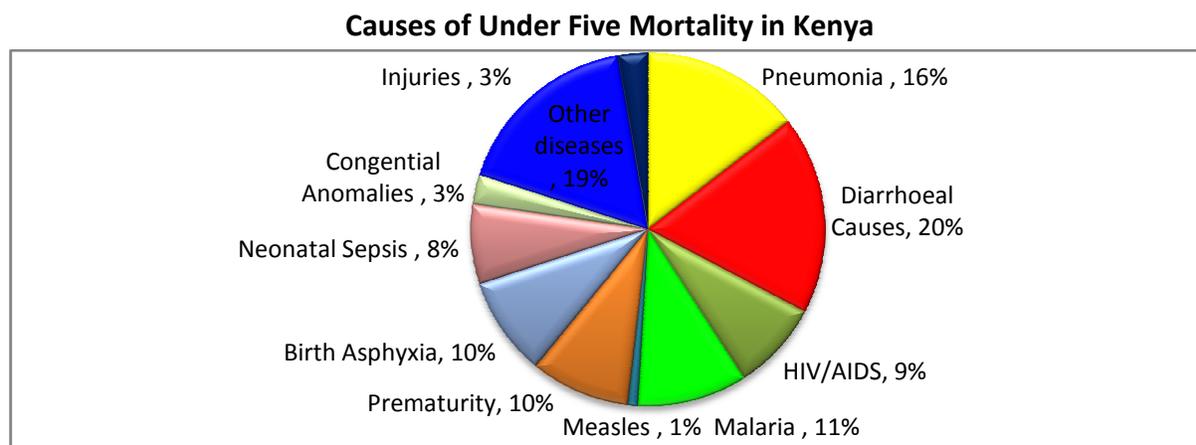
Registered Diarrhoea and Pneumonia drugs

Disease Area	Essential Drugs	No. of Registered Drugs	No. of Manufacturers	No. of Local Manufacturers
Diarrhoea	Zinc Sulphate	4	3	1
	Oral Rehydration Salts (ORS)	9	9	5
Pneumonia	Cotrimoxazole	186	69	15
	Amoxicillin	182	73	12

2. ACCESS TO DIARRHOEA, MALARIA AND PNEUMONIA TREATMENT IN KENYA

2.1 Current landscape – Under-Five Mortality in Kenya

Child survival outcomes in Kenya have shown some slight improvement in decline of under-five mortality rate by 15% from 1990 to 2009. This decline however is not yet enough to reach the desired levels for Kenya to achieve the MDG target of an overall U5MR of 33/1000. Presently, it is estimated that 1 in every 12 children born in Kenya will die before their fifth birthday. Children continue to die in Kenya from easily preventable and treatable diseases such as pneumonia, diarrhoea, neonatal causes and malaria. According to World Health Status Report, 2011, 188,928 children under five years die of preventable causes in Kenya. Alarmingly, more than one-third of these deaths are due to diarrhoea (20%) and pneumonia (16%) as illustrated in the graph below.



Source: World Health Status Report, 2011

A closer look at the trend of the three major child killers in Kenya –diarrhoea, pneumonia and malaria – shows that deaths caused by pneumonia, HIV/AIDS and malaria have declined considerably with dramatic decline in HIV/AIDS from 15% to 9%. Pneumonia deaths reduced from 20% to 16% while malaria reduced from and 14% to 11% respectively. Quite the reverse, diarrhoea is now contributing to a greater percentage of deaths in children under five years at 20% than it did in 2006 at 16% (WHO, 2006). In addition, the Kenya diarrhoea mortality rate of 20% remains above the Africa rate of 17% and global rate of 15% (WHSR, 2011). To reduce the U5MR to reach the desired target of 33/1000, there is the need to refocus on the main child killers-diarrhoea, pneumonia, neonatal complications and malaria- and intensify the implementation of high impact strategies known to reverse mortality trends.

2.1.1 Diarrhoea Treatment

Diarrhoea is the 2nd highest driver of under-five mortality in Kenya with an estimated 38,800 children dying annually- this represents a 30% increase in diarrhoea deaths from 29,605 in 2006. The level of diarrhoea-related morbidities in Kenya has also remained high and stagnated over time. The prevalence in the period before the launch of MDGs as documented by the KDHS in 1998 was 17%, followed by a slight reduction in 2003, and then a subsequent increase back to 17% in 2008-2009. As a result, the number of diarrhoeal episodes amongst children below five years remains high, with an estimated 21,000,000 episodes annually, translating to about 3 diarrhoeal episodes per child. Diarrhoeal diseases in Kenya are characterized by regional and socio-economic variations, prevalence being highest in the Coast province at 27%. A mother's education level and economic status directly correlates to diarrhoeal prevalence. Children with mothers without an education or semi-literate have a higher prevalence at 22.7% and 19.2%, respectively. Those from low-income households also tend to have a higher prevalence of diarrhoea than those from wealthier households at 19.8% (KDHS 2008/09).

In 2004, WHO and UNICEF revised the recommendations for treatment of diarrhoea in children to entrench the use of more effective treatments. To effectively curb dehydration—the condition that in most cases, leads to the death of children—**Low-Osmolarity Rehydration Salts** combined with zinc sulphate were recommended. Antibiotics are recommended only for use in bloody diarrhoea cases. Despite the adoption of these effective preventative and curative recommendations in Kenya in 2007, the uptake of the recommended treatments remains very low, with ORS uptake at 39% and zinc at 0.2% (KDHS 2008/2009). Other recommended treatments in diarrhoea are homemade remedies at 25% (include porridge and soup), antibiotics at 14% (whereas the prevalence of bloody diarrhoea is only 2.6%), and finally anti-motility drugs used in 8.7% of children seeking care.

2.1.2. Pneumonia treatment

Pneumonia not only contributes greatly to the burden of disease in Kenya, but is also the 3rd highest driver of under-five mortality. According to WHSR, 2011, there has been a slight reduction (4%) in pneumonia related mortality since 2006. Annually, Kenya is losing an estimated 30,406 children to pneumonia compared to 31,606 in 2006. The national prevalence for acute respiratory Infections (ARIs), used as proxy for pneumonia, has shown some important improvement with a reduction to 7.6% in 2008 from 18.4% in 2003 (KDHS 2003 & 2008/09). Similar to diarrhoea, ARIs in Kenya are characterized by regional and socio-economic variations with Coast province having the highest prevalence at 12.5%. Children whose mothers have no education have a prevalence that is almost double the national rate at 14.8%, those with semi-literate mothers have a prevalence of 9.2%, and those from low income households have higher prevalence of 11.3%. Additionally, children aged 6-23 months have a higher risk of contracting ARIs with prevalence between 9.3% and 9.5% (KDHS 2008/09).

Effective management of pneumonia as outlined in the clinical guidelines is the use of appropriate antibiotics. The first-line antibiotic recommended for the treatment of pneumonia in children is Cotrimoxazole while the second-line is Amoxicillin. Despite these guidelines having been in place

for a number of years, the use of these antibiotics in children with symptoms of ARIs in Kenya remains very low, with only about 50% of children seen in health facilities receiving antibiotics.

2.1.3. Malaria treatment

Malaria is the fourth driver of under-five mortality in Kenya. An estimated 20,666 children below five years are dying annually of malaria down from 22,124 in 2006 and representing a 7% reduction in malaria related deaths amongst children below five years. Similarly, the national prevalence of fever, used as proxy for malaria, in children reduced by 15% to 27.3% in 2010 from 32% in 2007 (MIS, 2007 & 2010). The Division of Malaria Control—housed within the Ministry of Public Health and Sanitation—is mandated to provide policy and strategic guidance as well as to coordinate the scale up of effective malaria control programs. The first line treatment for malaria in Kenya is Artemether Lumefantrine. The second line treatment consists of Dihydroartemisinin-Piperaquine. In severe malaria cases, the recommended treatment is artemisinin (artesunate or artemether) or quinine. The Malaria Indicator Survey (MIS,2010) established that 35% of children below five years with fever take anti-malarials. ACTs were taken by only 18%. This data, however, was collected before the roll out of the Affordable Medicines Facility for malaria (AMFm) in Kenya, and it is likely that the uptake of ACTs has significantly increased with increased access. Use of non-recommended treatments, such as artemisinin monotherapies remains a challenge at 17%, despite the government banning the importation, manufacture and trade of mono-therapies in 2008. While access to malaria treatment for children remains a significant priority in Kenya, it is less emphasized in the intervention section of this strategy as there has been a significant injection of resources and planning by various partners (US Government, UNICEF, WHO, PSI, JHPIEGO and others) to support the scale up of the malaria program over the past several years. Through this support, there has been increased momentum in prevention and control interventions which has resulted in progress towards achieving prevention and control goals in malaria. Childhood malaria deaths were reported to have reduced by 44% in malaria endemic districts (CSDS, 2008-15). Building on this progress, current efforts of the malaria program are focused on increasing prompt treatment in children, as only 21% of children treated with antimalarials do so on the same or next day following the onset of fever.

2.1.4 Newborn Care

While there has been significant reduction in infant and under five mortality, neonatal mortality has only reduced marginally from 33/1000 in 2003 to 31/1000 in 2008/09 (KDHS 2003 and 2008/09). Three quarters of neonatal deaths occur within the first week and the highest risk of dying is within the first 24 hours. This is the time when coverage with interventions is lowest. The causes of neonatal mortality in Kenya are infections at 31% and, asphyxia and birth trauma at 29% and prematurity at 28%. The health of the newborn is intertwined with that of the mother, therefore increasing skilled attendance at births from the current level of 44% is an important strategy which needs to be scaled up. At the same time there is need to build the capacity of health care providers in the essential newborn care skills of simple resuscitation with a bag and mask, early and exclusive breastfeeding and thermal protection.

Summarized Childhood Diseases Treatments

	Diarrhoea			Malaria			Pneumonia	
Coverage (Public Sector)	Zinc	ORS	Antibiotics	ACT	Mono-therapies	Alternatives	Antibiotics	Alternatives
	0.2%	39%	14.2%	18%	17%	65%	50%	50%

2.2 Assessment of key barriers to access:

2.2.1 Patient barriers

Various factors contribute to the documented low uptake of effective treatments of childhood diseases. This section outlines barriers as identified by child health stakeholders known to impede patients from using recommended diarrhoea and pneumonia treatments in Kenya.

Barriers outlined below relate to diarrhoea, pneumonia, and other childhood illnesses. By addressing these, the benefits are expected to accrue equally across the diseases.

- Poor care seeking behaviours:** Effective prevention and management of childhood illnesses can only be offered when sick children promptly seek medical care. In Kenya however, a large number of children succumb to these illnesses due to delayed access to health care. For *diarrhoea*, the proportion of children not receiving any form of treatment is high at 13% while only 49% of children with diarrhoea receive advice or treatment from a qualified health facility or provider. Similarly for *pneumonia* and *malaria* only 56% and 59% of children with symptoms of ARIs seek treatment respectively. Even for those who seek care from recognized sources, they do so less promptly likely due to caregivers' inability to recognize the danger signs of these diseases and failure to perceive the main symptoms as signs of potentially deadly diseases. Treatment seeking rates are also influenced by caregivers' culture as it relates to alternative medicines offered by traditional healers, use of home remedies and other non-recommended treatment options
- Limited knowledge of caregivers on recommended treatments:** Caregivers are likely to take action on care-seeking based on their knowledge of the dangers posed by various diseases and the benefits of seeking medical advice. Without this knowledge, they are increasingly at a risk of using ineffective or harmful treatments. It has been more than 20 years since ORS was adopted for use in diarrhoea management in Kenya, yet despite numerous public awareness efforts and continued education of caregivers in health facilities on management of diarrhoea with ORS, the knowledge level of ORS has stagnated between 70% and 78%. Even with these relatively high levels of knowledge, the use of ORS remains much lower at 39%. For zinc, there are no documented knowledge levels, but it is estimated to be less than 10%, while use is below 1%.

2.2.2 Public sector barriers

2.2.2.1 Cross cutting Barriers

- **Inadequate dissemination of treatment policies, guidelines and protocols.** Following the adoption of WHO recommendations on updated management of childhood illnesses(2006), relevant policies were developed and IMCI guidelines revised to include new components, however there has been limited policy and guidelines dissemination due to lack of resources. Consequently, these are yet to reach a majority of health facilities impacting negatively on service delivery. According to KSPA 2010, treatment guidelines and protocols relating to child health were only available in 63% of facilities while only 30% of facilities offering child health facilities had IMCI chart booklets (compacted guidelines/ job aids for health care workers) available. Visual aids for health education and support in effective management of children were only available in 50% of facilities surveyed.
- **Significant knowledge gaps amongst healthcare workers:** The levels of knowledge amongst health care workers on recommended treatments impacts greatly on utilization of the same. The WHO recommends that at least 60% of providers in a country should be trained in Integrated Management of Childhood Illness (IMCI) for a critical mass in proper management of sick children. In Kenya, the KSPA 2010 established that less than 20% of health care workers working directly in child health are trained in child related services- IMCI (11%), ARI treatment (8%), malaria treatment (18%) and diarrhoea treatment (12%).
- **Failure to effectively diagnose main drivers of child mortality and other illnesses:** Numerous diarrhoea, pneumonia and malaria cases may go undetected as evidenced by findings from KSPA, 2010 which revealed that only 36% of children presenting for consultations in facilities were assessed for the three main IMCI symptoms: cough or difficulty breathing, diarrhoea, and fever, while a meagre 13% are assessed for the general danger signs in children (inability to eat/drink, vomiting everything and convulsions). Additionally, children are less likely to be assessed for diarrhoea according to KSPA 2010 as only 47% of the children presenting in facilities were assessed for diarrhoea compared to 82% assessed for cough and difficult breathing and 89% for fever. Similarly for pneumonia, respiratory counts should be used for classification. However, KSPA, 2010 uncovered the failure by health care workers to take respiratory counts in children presenting with pneumonia. Only 34% of children were observed to have had a breath/respiratory count taken, presumably leaving numerous pneumonia cases to go undiagnosed.
- **Widespread use of non-recommended diarrhoea treatments:** The KDHS, 2008/09 shows that there is increased use of antibiotics for non-bloody diarrhoea cases with 14.2% of children reported to have received antibiotics, yet only 2.6% of children in the same period were reported to have had bloody diarrhoea. Anti-motility drugs too have increasingly becoming the alternative to ORS and zinc with uptake at 8.7%. The 2010 KSPA also established a similar pattern in assessed facilities. The majority (60%) of children presenting with diarrhoea or dysentery with dehydration received an antibiotic, while 73% of those that were without dehydration received an antibiotic.
- **Failure to educate caregivers and promote early care seeking behaviours:** Few health workers promote immediate care-seeking behaviours amongst caregivers and educate

mothers on the danger signs and symptoms of main childhood diseases. During the KSPA, 2010, only 36% of health workers were observed to describe signs and symptoms for immediate care seeking while 61% discussed follow up visits with the patients/caregivers.

- **Significant knowledge gaps amongst healthcare workers:** DCAH currently estimates about 34% of the health workers managing children are trained in IMCI. While this is a slight improvement from 2010, the training pace is too slow. Training of health workers is largely hindered by the costs associated with the trainings estimated to be \$11,000 per course. On average, a single district might require 3-4 trainings. With about 300 districts in Kenya, the overall required trainings funds amount to \$9.9m - \$13.2m. GOK and partners are therefore limited in supporting the roll out the IMCI training on a larger scale.
- **Lack of a quantification and forecasting function at all levels in the supply chain:** At the national level, supply of essential medicines to lower level facilities works through a push system. Since supply of medicines is not matched with the use or need at facility level, inadequate stock levels and stock outs are common in facilities. At the higher-level facilities, supply works on the pull system, allowing facilities to order only those drugs that they need. Overall, there is lack of central or regional-level tracking system of facility stock levels and consumption of drugs. As a result, the common supply chain challenges, such as inadequate order sizes, late deliveries, low stocks, and expiries go undetected. The lack of a data capture and tracking of distribution and consumption makes accurate quantification and forecasting of commodities on a national-level impossible and increases the risk of national commodity insecurity. According to KSPA 2010, only 19% of facilities assessed reported to always receive correct amount of medicines ordered in government facilities compared to 65% in NGO, 56% in private for-profit and 41% in FBO facilities.
- **Limited implementation of community case management:** The community strategy, while highlighted as one of the major foundations of integrated management of child health and overall population health, remains limited in its reach . There is only a small proportion of community units set up and an even smaller proportion of CHWs trained on integrated community case management of childhood illnesses. As of July 2011, the Community Health Department reported establishing 1,422 community units with few of these functioning fully. This leaves room for poor practices at the community level around disease prevention, early care seeking and adherence to treatments. A few vertical community programs have been implemented in Kenya but very few of these have a holistic, integrated approach to tackling overall health issues at the community level.
- **Lack of integration of services at MCH:** When child health services are scattered in numerous units in a health facility, it increases the chance of delays and missed opportunities in prompt diagnosis and treatment of childhood diseases. The ideal set up that has proven to reduce missed opportunities consists of comprehensive and integrated child services offered under one roof at MCHs-what is called a 'one stop shop' for children. The majority of facilities across the public and the private sector in Kenya have not taken this approach in caring for children.
- **Lack of a coordinated advocacy, communication and social mobilization unit:** The division is yet to finalise a communication strategy to guide efforts in increasing awareness and creating demand for pneumonia and diarrhoea at community level. As a result, communication activities sometimes are uncoordinated, inconsistent in timing and are inadequate both in

quantity and content. Most of the messages developed so far for communication to the public are often not adapted to local context. All these factors have contributed to the low uptake of recommended treatments amongst caregivers.

- **Monitoring and evaluation:** The division is in the process of finalising a monitoring and evaluation framework to support routine monitoring and evaluation of the child health programs. The data tools used at facility level may not be available in sufficient quantities and currently do not include some major child health components such as zinc. Supportive supervision by the department is not done routinely due to lack of funding, and a mechanism for consistent reporting and feedback at all levels is also lacking.
- **Operational research:** There is inadequate operational research to inform on policy changes across various areas in child health and this greatly affects quick adoption of new and highly efficacious recommendations as well as change in regulation as with the case of Vitamin A, zinc sulphate or antibiotics for use in community case management.

2.2.2.2 Disease-specific Barriers

Diarrhoea

- **Policy gaps in Diarrhoea:** Although zinc and ORS are included in the community health workers kit, there is still not a policy allowing for use of zinc at community level for community case management.
- **Decline in oral rehydration therapy corners in MCHs across health facilities.** ORT corners are areas within the MCH units for rehydration of children with diarrhoea. At the ORT corners, health workers demonstrate use of ORS and zinc and provide additional education to mothers on nutrition, feeding of children, hygiene and sanitation practices, danger signs and symptoms in children to promote good health, prevent infections and promote early care seeking amongst caregivers. KSPA, 2010 established that only 25% of facilities offering child health services had an ORT corner.
- **Insufficient quantities of zinc and ORS procured:** Current funding allocated for procurement of zinc and ORS commodities is not enough to cater for the overall need in the public sector. This can be partly attributed to lack of proper quantification and low consumption of zinc due to inadequate prescriptions by health workers. The need for zinc in Kenya is high with estimated 21m diarrhoeal episodes annually, yet the funding available can support procurement of only about 14% of the required zinc tablets and 66% of the required ORS sachets in the public sector. This is based on the 2011-12 procurement plan (KEMSA, 2011).

Pneumonia

- **Rapid Diagnosis in pneumonia:** Prompt diagnosis of pneumonia in children presenting with ARIs is key to these children receiving appropriate care. In children with ARIs, breath counts are taken to classify pneumonia. However, the majority of HCWs do not follow recommended practice as evidenced by findings from the KSPA 2010 where respiration counts were only observed in 25% of the ARIs cases presented at the surveyed facilities. There is need to ensure that HCWs are compliant with standards and guidelines for case management at all levels.
- **Management of severe pneumonia:** Whilst the guidelines are very clear on the management of severe cases of pneumonia in children through immediate care at lower level facilities and

urgent referral to higher level hospitals for specialized care, often there are breakdowns in the system particularly when it comes to accessing urgent care at higher level facilities. Such facilities should, should have in place basic equipments critical for managing severe pneumonia such as oxygen delivery systems that include oxymeters and oxygen concentrators if they are expected to address severe pneumonia cases, .

2.2.3 Private sector barriers

The private sector in Kenya plays an important role in health care service provision with about 20-30% of childhood diseases being treated from this sector. Understanding and addressing the private sector specific barriers that hinder uptake of recommended treatments for main child killers is critical in driving down overall mortality rates.

- **Limited access to recommended treatments:** Currently, there is a drug classification disconnect between zinc and ORS in the private sector. While ORS is classified by PPB as a general sales drug allowing for its use at the lowest level of distribution-shops and in the community, zinc, on the other hand, is currently classified as a 'prescription only' drug--restricting it's use exclusively to those patients with prescriptions.
- **Significant knowledge gaps** exist amongst healthcare workers in the private sector across the three disease areas. This is due in part to funding limitations on the part of DCAH to support dissemination and trainings of revised IMCI guidelines as well as the dispersed nature of private sector facilities, especially the lowest level of drug shops and outlets in rural areas. Knowledge gaps amongst health care workers result in unnecessary delays in diagnosis, widespread use of non-recommended diarrhoea treatments such as use of anti-diarrhoeals and antibiotics in diarrhoea, banned monotherapies such as chloroquine and metakelfin in malaria and lastly leads to reduced interactions with clients on health promotion, prevention, care seeking, treatment and subsequent compliance.
- **Limited diagnosis, especially with malaria and pneumonia:** Numerous malaria cases go undetected as testing for malaria in children presenting with fever in health facilities is not routine. The policy has been to treat all children with fever presumptively as malaria leading to possible over treatment, but now testing is being done as far as possible to diagnose malaria. According to MIS 2010, only 12% of children with fever were tested for malaria. This scenario is likely to be replicated in pharmacies where 12% and 9% of children suffering from ARIs and diarrhoea respectively seek treatment. Using rapid breathing timers to diagnose children with pneumonia is also not routine in private sector just as it is not in the public sector.
- **Limited availability of drugs:** According to the Kenya Service Provision Assessment 2010, only 58% of NGO facilities and 47% of private for profit facilities had available the IMCI recommended set of essential medicines-ORS, one antibiotic, and ACTs. While this could be as a result of a number of factors including lack of consistent supply, lack of knowledge on required commodities or limited access to distributors, there is need for the products to be made more available in the private sector.

3. CURRENT MOH/PARTNERS' EFFORTS AND IDENTIFICATION OF PRIORITY AREAS

As listed below, the government and partners have numerous efforts underway to improve access to child health services generally, and to treatment for diarrhoea, pneumonia, and malaria in particular.

3.1 Cross-disease initiatives

The following efforts have been deployed by MoH and its partners

- **Cost of Under-five Services:** To increasing access to child health services and improve on child survival in Kenya, the Government has implemented a 'free of charge' policy for all services to children under five years in public facilities. KSPA, 2010 established that 77% percent of facilities assessed charge outpatient care user fees for sick children. 61% of these were Government hospitals, which were more likely to charge for clients' charts (29%) and registration (32%) than NGOs (15% & 24%) and FBOs (22% & 29%). Public facilities are also less likely to charge for medicines used in treatment of sick children-8% were observed to charge for medicines compared to private for profit at 86% and FBO facilities at 82%.
- **Policy and Strategic direction:** The Ministry of Public Health & Sanitation has developed and disseminated the Child Survival and Development Strategy for the period 2008-2015 to guide implementation of Child Health Programs in Kenya. The CSDS is the reference point for GoK and supporting partners.
- **Development of IEC and Job aids for HCWs:** The Ministry of Public Health & Sanitation through DCAH has developed and distributed various materials to facilities to facilitate easy delivery of quality services to children. Such materials include simplified clinical guidelines in the form of an IMCI chart booklet, summarized clinical processes in management of specific childhood diseases in the form of wall charts.
- **Trainings:** The DCAH has provided IMCI training to 34% of health care workers across the country.
- **National Child Health Campaigns:** Through the 'Malezi Bora' branded national initiative, MOPHS has continued to create awareness and educate the public on prevention and treatment of pneumonia, diarrhoea, malaria and other common childhood illnesses. The campaigns are run twice every year and adopt different themes related to child diseases for each run. Ranging from maternal & newborn care, breast feeding, immunization, hand washing, waste disposal, and many others. The campaigns are an acceleration of routine services packaged as combination of several interventions that include mass communication to the public through community outreaches, posters and radio messages. In the public sector, there are intensified efforts in health facilities to expand service entry points for children under-five.
- **Community Linkages:** The Ministry of Health in 2006 developed a community health strategy to provide overall guidance on community case management, health promotion, disease prevention, care seeking and treatment compliance at community level for all the defined life cycle cohorts. So far, over 1400 community units have been set up with about 28,400 community health workers recruited to offer level 1 service to the community.

3.2 Disease-specific initiatives

3.2.1 Diarrhoea

- **Adoption of WHO recommendations and development of diarrhoea policy and guidelines:** The Ministry of Health has developed a diarrhoea management policy that includes management with zinc and ORS. The policy was launched in March 2010. The policy seeks to reduce diarrhoea associated mortality and morbidity in children below five years and outlines key policy strategies including capacity building, home-based case management, case management in health facilities using zinc and low osmolarity ORS, prevention of diarrhoea, advocacy, IEC and behaviour change communication as well as logistics management. In addition, operational guidelines for Oral Rehydration Therapy (ORT) corners have been developed to guide scale up treatment in health facilities.
- **Revision of guidelines:** Clinical IMCI guidelines have been revised to incorporate zinc and low osmolarity ORS in the management of diarrhoea as well as other new developments in child health in recent years.
- **Essential Medicines List:** Since adoption of zinc as part of the treatment for diarrhoea, the Department of Pharmacy included zinc into the essential medicines list. Additionally, the government and partners have continued to commit funding for procurement of zinc sulphate dispersible tablets for management of diarrhoea. The zinc procured by the government is channelled to public health and some FBOs facilities.
- **New Vaccine:** With regard to prevention, plans are underway for the introduction of the rotavirus vaccine in early 2013.
- **Targeted implementation:** PATH has provided continued support to DCAH to scale up on essential treatment for diarrhoea and other childhood illnesses in Western Kenya. PATH's focus has been in Western Kenya- the region with the second highest diarrhoea prevalence at 19%. In addition to direct technical support to facilities in Western region, this project has supported mass communication efforts adapted to the local context to create awareness and generate demand for child diarrhoea services.
- **IEC and Behaviour Change:** IEC materials have been developed with support of PSI AND PATH and disseminated to various parts of the country, including social mobilization and advocacy via media, radio and TV.
- **Technical assistance:** USAID-funded MCHIP provides technical assistance to DCAH and has seconded one member of staff to DCAH. Additionally, UNICEF/WHO continues to provide technical assistance to DCAH and supported development of guidelines, trainings and supporting materials. In 2009, UNICEF procured ORT corner equipments for facilities in the public sector as part of the efforts to revive ORT corners.

3.2.2. Malaria

- **Availability of ACTs:** Due to increased resistance to the sulphur based antimalarial drugs, the government adopted ACTs as first line treatment for malaria. These are included in the essential medicines list and are readily available in the public sector at no cost to the patients. In addition, MOH is procuring child-friendly formulations in the form of dispersible ALs.

- **Affordable medicines for malaria (AMFm):** Through the AMFm Initiative, there is noted increase in access to effective malaria treatment through the dramatic reduction of the price of ACTs in the private sector. In addition, 732 of the targeted 5880 private sector providers had been trained on malaria case management by November 2011. Access to ACTs at community level in malaria endemic regions (Western and Nyanza provinces) will be increased through distribution of ACTs by CHWs starting 2012.
- **Malaria Diagnosis Policy:** Kenya has adopted a diagnosis-based malaria treatment policy for all age groups at all levels of health system. At higher level of health care, microscopic diagnosis remains the gold standard for diagnosis. An integrated malaria training curriculum focusing on the use of RDTs has been adopted.
- **Quantification and Forecasting function:** The Division of Malaria Control (DOMC) conducts an annual quantification of malaria medicines requirements, which are reviewed quarterly to correct for consumption and in the medium term for morbidity patterns. This has ensured that the right malaria commodities are procured, in the right quantities and at the right time.
- **Prevention Efforts:** With regard to prevention, long lasting Insecticide Treated Nets (LLINs) are distributed for free to both pregnant women and young children (under 1s) in public facilities. Additionally, there has been a widespread Indoor residual spraying initiative at no cost to households in targeted malaria endemic areas.

3.2.3 Pneumonia

- **Pneumococcal Vaccine:** With regard to prevention, a new vaccine to protect against pneumonia (pneumococcal vaccine) was rolled out to the public sector in February 2011. In the introduction year, the vaccine is targeted at all children below 1 year. All frontline vaccinating health workers were comprehensively trained on the new pneumococcal vaccine in 2011.
- **Pneumonia Working Group:** MOPHS has embraced the Global action plan for prevention and control of pneumonia (WHO, UNICEF 2009), branded as Kenya Action for Prevention and Control of Pneumonia (KAPP)-a key initiative to tackle childhood pneumonia in the community. Through KAPP, MOPHS is advocating for integrated Community Case Management (iCCM) in the community including identification and referral for severe pneumonia. Policy dialogue is on going for use of antibiotics by community health workers in regions with poor access to health services. DCAH provides the secretariat while the chair is currently held by WHO is rotational and membership drawn from various stakeholders.

4. PROPOSED PROGRAM OF TARGETED INTERVENTIONS

4.1 Overall Goal & Objectives

The Division of Child and Adolescent Health continues to be guided by the Child Survival and Development Strategy 2008-2015, as well as the other existing national strategic plans in all its operations. DCAH through this implementation plan will seek to achieve one overall goal:

- **To contribute to the reduction in health inequalities and reduce under five mortality rate from 74 to 33**

The Division of Child and Adolescent health has four objectives it will seek to achieve through this plan as outlined in the table below.

Goal	Objectives
To contribute to the reduction in health inequalities and reduce under five mortality rate from 74 to 33	Objective 1: Expand access to integrated case management of childhood illnesses in all levels in health care service delivery across the public and private sectors
	Objective 2: Increase public awareness and generate demand for diarrhoea and pneumonia management in children under five years
	Objective 3: Increase availability and efficient use of essential medicines used in management of diarrhoea and pneumonia
	Objective 4: Strengthen the monitoring and evaluation of pneumonia and diarrhoea disease management
	Objective 5: Strengthen access to appropriate diarrhoea and pneumonia treatment through private sector channels

Summary of Strategic Objectives, Interventions and Activities Outline

This section outlines the strategies that DCAH will employ to achieve the objectives outlined above and overall contribute to dramatic uptake of diarrhoea and pneumonia treatments. The strategies outlined here are aligned to the high impact interventions (HII) that DCAH identified as critical to implement to promote overall Child Survival and Development (Child survival & development strategy 2008-15) and will focus not only on the public sector but the private sector as well. Interventions targeted at the two sectors will primarily focus on demand generation at community level, improved service delivery in health facilities and pharmaceutical outlets and increased product availability to service the increased need.

Objective 1: Expand access to Integrated Case Management of childhood illnesses in all levels of health care service delivery across the public and private sectors:

1. Disseminate existing child health policies and guidelines to national and sub-national levels
2. Develop an operation research strategy to guide policy changes in child health
3. Review drug policy on zinc, amoxicillin and cotrimoxazole to allow use at community and increase unrestricted access through private sector outlets
4. Carry out annual MCH integration rapid results initiative (RRI) to promote increased treatment coverage for diarrhoea, pneumonia, and malaria

5. Improve on public/private health care workers' and community health workers' skills on management of diarrhoea and pneumonia through updated training and continuous mentorship
6. Strengthen integrated supportive supervision to HCWs at all levels of care to ensure quality of care in health facilities across private and public sectors
7. Revitalize oral rehydration therapy corners in public and private health facilities to increase access to diarrhoea management services and information on diarrhoea prevention and management at home

Objective 2: Increase availability and efficient use of essential medicines used in management of childhood illnesses

1. Strengthen the commodity management function of essential medicines and ensure security of the commodities used in diarrhoea and pneumonia and other childhood illness
2. Strengthen procurement of essential medicines and ensure sufficient quantities of diarrhoea and pneumonia commodities are procured
3. Procure basic oxygen delivery equipments for management of severe pneumonia at selected "pneumonia friendly" facilities
4. Set up and operationalise an efficient commodity management system to promote commodity security
5. Institute an annual Commodity management data capture and reporting quality assessment to support effective forecasting and quantification of diarrhoea and pneumonia commodities

Objective 3: Increase public awareness and generate demand for diarrhoea & pneumonia management in children < 5 years through advocacy, communication and social mobilization (ACSM).

1. Strengthen the coordination of ACSM activities in DCAH to enforce standardized messaging and routine messaging and continued local mobilization of resources
2. Roll out routine and targeted mass communication operations to promote increased awareness and uptake of recommended treatments for diarrhoea and pneumonia
3. Roll out massive social mobilization operations at community level to support increase awareness and uptake of effective treatments for uncomplicated diarrhoea and pneumonia cases in the community

Objective 4: Strengthen the monitoring and evaluation of pneumonia and diarrhoea disease management

1. Develop/revise and implement on a monitoring and evaluation framework
2. Institute performance management system for Child Health to enforce full implementation of identified interventions in pneumonia and diarrhoea
3. Improve on HCWs skills on Monitoring & Evaluation

Objective 5: Strengthen access to appropriate diarrhoea and pneumonia treatment through private sector channels

1. Advocate for the reclassification of zinc from prescription only to OTC-pharmacy to support increased access to zinc by caregivers in private sector.
2. Increase availability of zinc and ORS products by engaging with the top of the supply chain players
 - a. Engaging manufacturers and importers to understand and align incentives to promote increased access to zinc/ORS through their networks of sales representatives

- b. Engaging manufacturers to co-pack zinc and ORS and support quality management of diarrhoea in both public and private sector.

Key deliverables & outcome targets

Through a set of strategies outlined above, the Division will aim to gradually increase coverage of diarrhoea and pneumonia services and subsequently contribute to the reduction of overall child mortality from 74/000 to the MDG target of 33/1000 by 2015. Annual diarrhoea episodes have been calculated as shown in the table below and will form the basis of assessing achievements. Overall, DCAH aims to achieve 80% uptake in diarrhoea and pneumonia management by 2015. The table below shows the yearly episodes and uptake targets to the year 2015. The year format adopted in this plan is aligned with GoK's fiscal year- beginning July to June of the following year. The coverage targets will apply across zinc and ORS for diarrhoea, and antibiotics for pneumonia.

Year	Baseline	Annual Projected Diarrhoea Episodes	Pneumonia Episodes	Annual % Coverage Targets ¹³	Annual Target Diarrhoea Episodes (at target coverage levels)
2011/12	Antibiotics for	20,900,619	N/A	50%	10,450,309
2012/13	Pneumonia- 50%	20,473,212	N/A	60%	10,236,606
2013/14	Zinc - 0.2%	18,658,900	N/A	70%	9,329,450
2014/15	ORS- 39%	16,832,202	N/A	80%	8,416,101
2015/16		15,086,975	N/A	90%	7,543,487

4.2 Proposed Interventions

Objective 1: Expand access to Integrated Case Management of childhood illnesses in all levels of health care service delivery across the public and private sectors:

Increasing access to quality child health services to reach more children with effective treatments will be a priority focus for DCAH. The following interventions will be undertaken to achieve this objective.

Intervention 1.0: Disseminate existing Child health Policies and guidelines relating to Diarrhoea and Pneumonia to both public and private facilities.

Development of policies and guidelines without widely disseminating them to the intended primary and secondary users cannot guarantee widespread implementation on the same, yet this has been the case in Kenya. It is imperative therefore that all health care workers and all partners working in child health in the country be brought up to date on the most recent recommendations.

¹³ Disease specific targets will be revised in early 2012 following the setting up of DCAH's Monitoring and Evaluation framework

Activity 1.1.1: Disseminate Diarrhoea policy and IMCI guidelines to national and sub national levels to increase awareness at public and private facilities.

Dissemination of diarrhoea policy and IMCI guidelines is paramount in priming the country for intensified scale up efforts. DCAH plans to have immediate disseminations in quarter one and two of 2012 with an additional provision for policy disseminations in the year 2014/15 to cater for probable policy changes as well as orientate new health workers in the system. The planned dissemination will begin from the regional/provincial and lastly to county level (under new devolved government)-national dissemination of current diarrhoea policy took place in March 2010. Participation in the dissemination forums will be very much targeted to ensure immediate actions towards implementation. At regional level, key provincial and district health management members¹⁴ with oversight over MCH services, pharmaceutical services and overall hospital services will participate. These managers totaling approximately 2,000 health managers will then be tasked and facilitated to disseminate the policies and guidelines to facilities within their jurisdiction-public and private included.

Activity 1.1.2: Print and distribute guidelines and job aids to public and private facilities.

To support the dissemination, the main child health clinical guidelines will be printed in sufficient quantities and distributed to public and private facilities as well as simplified job aids. These job aids include the IMCI chart booklets with step-by-step guides on assessment, classification and treatment of children illnesses. Diarrhoea wall charts, MCH process map posters/ wall charts, ORT corner guidelines, CHWs manuals will also be printed and distributed. The printing of these materials will be targeted for all the quarters in year 2011/2012 with a provision for subsequent replenishments in year 2, 3 and 4 of implementation. Multiple and effective channels of distribution will be employed to ensure the materials reach the intended users and consequently support increased implementation on the guidelines.

Intervention 1.1: Develop an operation research (OR) strategy to guide policy changes in Child Health

There has been limited operational research (OR) carried out on diarrhoea and pneumonia diseases, yet OR forms a critical component of strengthening health care services and improving on overall health outcomes. The absence of regular child health OR will be addressed by developing an OR strategy in the first year 2011/2012 advocating for increased focus on child health related OR and highlighting key priority areas to guide future research. Immediate OR needs such as evidence on effective and safe use of antibiotics and zinc for community case management will be addressed through an OR in the first year and future OR needs provided for annually in the plan. It is expected that evidence generated from OR activities will support quick adoption of new strategies and provide significant lessons in scale up of interventions. An OR technical working group will be constituted to guide the process.

¹⁴ Health management teams to include: district and provincial pharmacists, clinical officers, nursing officers and hospital managers

Intervention 1.2: Review drug policy on Zinc, Amoxicillin and Cotrimoxazole

To further ensure expansion of diarrhoea and pneumonia services, there will be need to ensure that the recommended treatments are available at all possible points of service provision. Critical to this are the pharmaceutical outlets where most patients source for drugs upon prescription by clinicians or directly for drugs with OTC classification.

Activity 1.2.1: Hold advocacy forums with Pharmacy & Poison Board (PPB)

Together with key stakeholders- Department of Pharmacy & partners- DCAH will in the first year between January and June 2012 hold advocacy forums with PPB to make a case for reclassification of zinc from prescription only drug to over the counter pharmacy or general sales category. For pneumonia DCAH will pursue a reclassification of antibiotics to allow for use at community level in selected areas with poor access to health services.

Activity 1.2.2: Review the drug policy to reclassify zinc from a prescription-only drug to an over the counter-pharmacy or general sales drug

It is expected that PPB will give guidance on the requirements for the reclassification of both Zinc and antibiotics to be achieved. DCAH will work to ensure that these requirements are met. DCAH will pursue this activity in quarter 1 and 2 of 2012.

Intervention 1.3 Carry out annual MCH integration rapid results initiative (RRI) to promote increased access to child health services in public and private sector facilities

To support the expansion and coverage of child health services in public and private sectors, DCAH will implement an annual MCH integration rapid results initiative (RRI)-a result based management system adopted as part of Public Sector Reforms by GoK in 2004 to stimulate collective and aggressive action towards increasing and improving service delivery across all ministries in GoK. The RRI will seek to increase *reach of child services* in the country through holistic care of children until national coverage is achieved. DCAH will include participation of other departments and programs involved in any child health activities to ensure all children related services are addressed. The RRI will be implemented over a period of 100 days where both public and private facilities with support from national and regional health teams will be expected to intensify on their efforts to offer comprehensive services (including diarrhoea, pneumonia, malaria, TB, HIV, immunization, growth and development monitoring, nutrition, deworming, Vitamin A supplementation) to all children under five years under one roof at the MCH. Facilities with some form of integrated MCH will be supported further to include missing services through mentorship while facilities yet to integrate will be supported comprehensively through on-the-job-trainings, mentorships, provision of commodities, provision of requisite job aids among many others.

Weaknesses identified in the health systems built around child health services such as inefficient flow of commodities and supplies and weak sample transportation systems will be addressed during the RRI. Mass communication efforts will be held to supplement and generate additional demand at community level. The results of the RRI will be monitored through a midterm and end

term review and progress reported back to national, regional and facility teams participating in the RRI.

Intervention 1.4: Improve on health care workers’ and community health workers’ skills in managing Diarrhoea and Pneumonia in public and private sector

It is essential that a critical mass of both public and private HCWs and CHWs beyond the current 34% be trained in IMCI for increased and improved assessment of patients, classification of disease, identification of treatment, treatment of children and counseling of the caregivers. To achieve this, the following activities will be undertaken:

Activity 1.4.1: Review current IMCI, CIMCI/ICCM training materials and produce shorter and more scalable versions to facilitate training/education of more health care workers

The current IMCI training curriculum is quite detailed and requires that HCWs be trained over a long period of time between 8-11 working days while the Community IMCI/Integrated Community Case Management (ICCM) takes at least 6 working days of training for the CHWs. The training period can extend beyond these times depending on the size of the class. As a result, the trainings are residential and therefore have huge transportation and accommodation costs. Additionally, the participants and facilitators manuals are too lengthy and do not make for an easily referable source of information beyond the training as seen in the table below. Printing of the detailed and multiple facilitators and participators manuals also contribute to increased costs of the training.

	No. of Modules	Participants Booklets	Facilitator’s manual
IMCI	7 Modules	<ul style="list-style-type: none"> • Introduction to IMCI- 20 Pgs • Assess and classify> 100 pgs • Identify Treatment- >50 pgs • Treat the Child- 100 pgs • Counsel the mother- >100pgs • Follow up – 50 pgs 	150 pages
CIMCI/ICCM	TBC	TBC	TBC

DCAH will embark on a revision exercise of IMCI, and ICCM with the aim of shortening the trainings and developing shorter and scalable versions. One of the shortened forms to be considered for adaptation is the WHO computerized training tool- ICAT.

Activity 1.4.2: Train public and private health care workers as well as community health care workers on revised/shortened IMCI and ICCM modules.

Depending on availability of funding and recognizing that revision and approval of training materials may take a considerably long time (approx 3-6 months), DCAH will in the period before the revision continue training public and private HCWs and CHWs on the old curriculum though will consider using an in-house shortened format. Upon revision, untrained CHWs and HCWs will be trained on the IMCI and ICCM courses. These trainings will assume the following formats:

- Pre-service training of medical students in training institutions to prepare them for service delivery upon graduation
- In-service training of practicing HCWs & CHWs employing various avenues such as decentralized trainings to the regional and county health management teams and tie trainings to public and private facility's performance
- Exploit the continuous medical/professional education mode of providing training to serving HCWs in public and private sectors through the various professional associations set up for practicing health workers

Activity 1.4.3: Roll out mentoring of HCWs

To ensure continuous capacity building of HCWs skills in Child Health, DCAH will institute a mentorship component into its child health program. Mentorship guidelines and mentorship packages/checklists will be developed. DCAH will solicit for guidance from programs with strong mentorship component in the Ministry such as the Malaria and HIV programs. DCAH will subsequently identify existing child health regional mentors, mentoring organizations such as Kenya Paediatric Association to offer routine mentorship services to HCWs in both the public and private sectors.

Activity 1.4.4: Roll out training of CHWs

DCAH with the aim of expanding community child health services will mobilize for resources to support the roll out of community strategy in targeted regions and thereafter liaise with the health sector system financing (HSSF) unit to develop an execution plan for incorporation of CHWs into the HSSF mechanisms and ensure the inclusion of key child health indicators in facility performance tracking.

Intervention 1.5: Strengthen integrated supportive supervision to HCWs at all levels of care in public and private sector

There is need to strengthen routine and well coordinated supportive supervision by national and regional staff to ensure that comprehensive and holistic approach to the care of a child and quality services are routinely offered to all children below five years seeking care from health facilities. The 2010 KSPA revealed that only 36% of children presenting for consultations were assessed for the three main IMCI symptoms: cough or difficulty breathing, diarrhoea, and fever, while a meager 13% are assessed for the general danger signs in children (inability to eat/drink, vomiting everything and febrile convulsions). Such shortcomings in service delivery should be identified early for immediate interventions and facilities with good practices identified and used to support other facilities grappling with implementation. Towards improving on service delivery, DCAH will undertake the following activities:

Activity 1.5.1: Develop/revise a supportive supervision checklist on key service delivery areas.

A standardized supervisory checklist for childhood illnesses will be developed to facilitate provision of on-the-job trainings and mentorship to HCWs on their weakest points. A supervision checklist will be developed to improve on comprehensive and holistic

assessment of all service delivery areas and health systems built around these services. These supervision areas include:

- Assessing the HCWs ability to correctly assess sick children, classify degree of illness, identify and offer treatment to sick children
- Assessing the CHWs ability to correctly communicate disease prevention messages, assess sick children, classify degree of illness and offer prompt referrals

The supervision teams upon identification of weaknesses in service delivery in specific facilities will be expected to offer on the spot on-job-trainings or provide mentorship to the health care workers. The teams will also offer solutions to weaknesses identified in health systems.

Activity 1.5.2: Carry out on a quarterly basis integrated supportive supervision

Supportive supervision on child health services will be carried out quarterly by national, regional and county level multi-disciplinary teams.

Activity 1.5.3: Carry out an annual quality of care facility based assessment

An annual nationwide audit of service delivery in randomly selected health facilities across the public and private sector will be conducted to assess:

- Comprehensive Implementation and adherence to child health guidelines
- Implementation and adherence to commodities and supplies management guidelines
- Identify HCWs and CWHs specific weakness and develop targeted strategies to improve on skills
- How efficiently the community linkages with facilities work
- How prompt and efficient the Inter facility referral systems work
- Availability of commodities, equipments and supplies used in child health and efficiencies of systems supporting commodities
- Availability of lab services supporting child health
- Integration of child health services at MCH

Findings from the audit will be disseminated to stakeholders highlighting the strong areas/facilities as well as the weakest areas and jointly formulate solutions to address these.

Intervention 1.6: Revitalize Oral rehydration corners in public and private health facilities to increase access to diarrhoea management services and information on diarrhoea prevention and management at home

The Division will aim to increase uptake of recommended diarrhoea treatments as well as promote adherence to key prevention interventions by revitalizing ORT corners in health facilities offering child health services. Currently, caregivers of children with diarrhoea particularly those with dehydration experience delays in care as a result of multiple referrals and long queues and hardly get to be provided with practical demonstrations on effective use of prescribed treatments. The division will achieve this by rapidly scaling up of ORT corners in main under fives entry points in facilities. The ORT corners will serve to:

- Immediately assess children for dehydration, classify diarrhoea and identify appropriate treatment
- Offer immediate oral rehydration therapy with ORS for children with dehydration,
- Administer zinc sulphate tablets and Vitamin A for all children with diarrhoea.
- Provide demonstrations to caregivers on hand washing, proper mixing of ORS and administering of ORS and zinc at home.
- Counselling on continued care and feeding of the convalescing child at home during and after diarrhoeal episodes.
- Provide information on other child services including recognition of danger signs and symptoms in children e.g. immunizations, HIV counselling and testing, nutrition and growth monitoring and disease surveillance.

Activity 1.6.1: ORT Corners mapping

To kick off the intervention, an inventory of all functional ORT corners in the country will be taken and ORT corners gradually established where none exist.

Activity 1.6.2: Roll out ORT corner operational guidelines to national, regional and county levels.

HCWs and CHWs attached to facilities without ORT corners will be orientated on functions of an ORT corner and best support to offer ORT services at MCH.

Activity 1.6.3: Routine assessment of functional ORT corners

There will be regular assessment on functional ORT corners to support scale up and strengthening of existing ones.

Objective 2: Increase availability and efficient use of essential medicines used in management of childhood illnesses

Service delivery is not complete without availability of drugs and supplies required to offer treatment. Drugs used in facilities have to be the right ones recommended to treat children; they have to be available in the right quantities to ensure demand is met they have to be delivered as and when needed. DCAH in collaboration with other stakeholders (KEMSA & DOP) will pursue the following interventions

Intervention 2.1: Strengthen the commodity management of essential medicines and ensure security of the commodities used in diarrhoea and pneumonia and other childhood illnesses in the public sector.

DCAH currently lacks a child health commodities and supplies coordinating arm or function to support national commodity security. It is important therefore for DCAH to become more involved in commodity management as this directly impacts on service delivery and subsequent uptake of recommended treatments. The following activities will be undertaken to strengthen

the commodity management function of essential medicines (ORS, Zinc, amoxicillin, Cotrimoxazole, Vitamin A, de-wormers etc.) related to child health:

Activity 2.1.1: Establish a national Child Health stakeholders commodity security committee (CHSCSC)

As with every new establishment, there is need to set up a steering team to not only oversee initialization of the function, but also to coordinate activities geared towards ensuring commodity security. The committee will seek to achieve the following:

- Set up a well-coordinated annual national forecasting and quantification of child health commodities and calculate regular estimates of quantities of commodities required to meet demand. The quantified requirements will then be used to guide the procurement process.
- Routine monitoring of availability, consumption, adjustments of child health commodities at national, regional and facility level and timely reversal of negative trends likely to result in stocks or an over supplies. The CHSCSC will maintain contact with all health facilities through KEMSA.
- Ensure procurement of child health commodities is aligned to recommendations from the CHSCSC
- Increased funding allocation for child health commodities by constantly advocating for increased allocation of resources.

Upon successfully setting up a national CHSCSC, DCAH will decentralize the CHSCSC function further to the levels in new devolved government- county level.

Activity 2.1.2: Annual Child Health Commodities forecasting and quantification function:

As part of commodity planning at DCAH through the national CHSCSC together with KEMSA, and county level CHSCSC will undertake an annual forecasting and quantification guided by regularly monitored consumption and estimated increase in need to establish the annual requirements per commodity. This will ensure that only the approved products are procured, in the right quantities to meet the estimated need and ensure they are procured when and as needed.

Intervention 2.2: Strengthen procurement of diarrhoea and pneumonia medicines

Target: Public Sector

Activity 2.2.1: Advocate for increased allocation of resources from the Government and donors to procure adequate commodities to match the need for diarrhoea and pneumonia management.

Activity 2.2.2: Align procurement of zinc, ORS, amoxicillin and cotrimoxazole to recommendations from the CH stakeholders' commodity security subcommittee

Activity 2.2.3: Procure sufficient quantities of zinc sulphate 20mg, ORS, amoxicillin and cotrimoxazole.

Intervention 2.3: Set up and operationalise an efficient commodity management system

Routine monitoring of availability and consumption of child health commodities at national, regional and facility level and timely reversal of negative trends cannot be efficiently done without the existence of (1) an efficient distribution system that supplies drugs to facilities based on consumption. (2) A Commodity information system to collect, analyze and provide reports and feedback.

Activity 2.3.1: Advocate for of the expansion of the pull system for all health facilities, including those at the lower level. Health facilities will subsequently be equipped with the capacity to place orders through the pull system once approved.

Activity 2.3.2: Strengthen Commodity management tools

To support the new set up of commodities management, existing tools will be revised to take account of new inclusions under the pull system. Such new revisions will include: drugs consumption data, drugs received from central stores data, drugs expired/lost or damaged, and buffer stocks. The revised tools will be disseminated to health facilities through a devolved structure.

Activity 2.3.3: Set up a commodity information system at national, county and health facilities level.

A web-based platform to allow reporting, ordering, tracking of dispatches and receipt of commodities is proposed for this function. This will support automated and quick facility stock reporting and consumption reporting and new ordering, orders review, approval and orders dispatch by central medical stores-KEMSA. Feedback mechanisms in commodity management will be established at facility, county and national levels.

Activity 2.3.4: Develop SOPs for the new system

With a new distribution system set up KEMSA-health facility-community linkages standard operating procedures will be developed to guide efficient flow of commodities to intended destinations.

Intervention 2.4: Institute an annual commodity management quality assessment in public sector

DCAH will include the commodity management aspect in the multi-disciplinary support supervision package indicated under objective one-intervention 1.5 to promote good commodity management practices. As well, DCAH will institute a mechanism to conduct a nationwide annual commodity management audit to identify on weak areas and guide on targeted formulation of solutions.

Activity 2.5.1: Procure equipments and supplies needed for an operational ORT corner

A need assessment will be carried out before the procurement of the supplies and equipments.

Intervention 2.5: Procure basic oxygen delivery equipments for management of severe pneumonia at select “pneumonia friendly” facilities

Severe pneumonia cases require referral to facilities that are equipped with oxygen treatment, IV fluids and other specialized needs. Many of these referral facilities lack consistent oxygen supplies.

Activity 2.5.1: Carry out a needs assessment to identify equipment needs at target “pneumonia friendly” facilities

Activity 2.5.2: Procure oxygen delivery systems for identified facilities. Oxygen concentrators, Pulse oxymeters and innovative breathe counters will be greatly preferred.

Objective 3: Increase public awareness and generate demand for diarrhoea & pneumonia management in children under five years through advocacy, communication and social mobilization (ACSM).

Availing services at facility and community levels without investing in demand creation will lead to underutilized services. Advocacy, communication and social mobilization are therefore core in ensuring that the public is educated on all aspects of health promotion, disease prevention and home based case management of main child killers.

Intervention 3.1: Strengthen the coordination of ACSM activities in DCAH:

ACSM activities in Kenya have been characterized by lack of coordination that has resulted in proliferation of non standardized messages, which are rarely adapted into local context. An ACSM committee with the mandate to coordinate all ACSM activities related to diarrhoea, pneumonia and other child health services is therefore necessary.

Activity 3.1.1: Establish an ACSM committee at the national level to coordinate all ACSM activities relating to child health in Kenya.

The division is in the process of finalizing a child health communication strategy which will guide advocacy, communication and social mobilization. The committee will have clear terms of reference in development of annual advocacy and communication plans. The committee will also have oversight of research on communication needs and standardization and validation of all child health communication messages to the public.

Activity 3.1.2: Disseminate to all levels a child survival communication strategy to guide implementation of ACSM activities endorsed by the ACSM committee.

Activity 3.1.3: Resource Mobilization

The ACSM committee will mobilize resources to support routine and all year round communication and advocacy activities to promote increased awareness and uptake of recommended treatments for diarrhoea and pneumonia. The ACSM committee will explore the possibility of partnering with corporate organizations such as mobile companies as part of their corporate social responsibility to utilize the numerous SMS and

voice opportunities the mobile platform presents for mass communication on health promotion, disease prevention, correct treatment and management of sick children at home.

Intervention 3.2: Roll out routine mass communication operations to promote increased awareness and uptake of recommended treatments for diarrhoea and pneumonia.

Target: The general public

Repeated communication with the end users of health care services is critical for sustaining demand for services at high levels and for changing caregiver behavior. For diarrhoea and pneumonia there is a need to incentivize caregivers to seek care as early as possible when their child is ill; to increase awareness of zinc and ORS as the appropriate treatment for diarrhoea, and to increase awareness of fast-breathing as an important danger sign of pneumonia. These messages will be presented in a clear, targeted manner- and will be integrated in existing child health communication frameworks. DCAH would like to eliminate ad hoc, sporadic and short communication activities that do not result in lasting impressions on caregivers and instead institute planned and regularized mass communication efforts.

Activity 3.2.1: Revise and roll out the communication strategy to provide a framework for all communication activities

Activity 3.2.2: Review existing BCC/IEC materials, identify areas with additional needs and use this to guide the development of new materials – with specific focus on the three areas for enhanced messaging as presented above.

Activity 3.2.3: Develop and roll out standardized messages that are adapted to the local context in line with the national diarrhoea and pneumonia policy guidelines. Formative studies will be undertaken to inform the development of the messages and targeting off audiences. Various communication channels will be utilized and will include TV, radio, mobile platform, and print media. Diarrhoea communication strategies will promote use of both Zinc and ORS unlike the previous communication strategies that have mostly focused more on ORS and basic prevention interventions such as hand washing.

Activity 3.2.4: Monitor and evaluate communication activities to assess for impact and guide development or revision of communication content or approaches to reflect the assessment findings.

Intervention 3.3: Roll out massive social mobilization operations at community level across the country

In addition to the mass communication activities directed to the public, communities will directly be engaged through community dialogue and action days. During these dialogue and action days, ACSM teams will target public gatherings to educate the community on diarrhoea, pneumonia and other childhood illnesses. Current events that already mobilize communities in the context of

health topics (e.g., Maternal & Child Health Weeks; immunization campaigns) will be mapped and leveraged to convey messages on diarrhoea and pneumonia.

Activity 3.3.1: Support community dialogue and action days across the country through the devolved structures.

ACSM regional and county level teams will initiate Community leader meetings with key opinion leaders in community such as village elders to appeal for their support in the effort to promote child survival in their communities.

Activity 3.3.2: Support FBOs to conduct ACSM activities.

Acknowledging the role that faith based community groups play in influencing behaviours and practices ACSM teams will engage these groups in the same approach used with the community leaders.

Activity 3.3.3: Support for regional and county-level themed child health days to further increase awareness amongst community members.

On such days, the multi-disciplinary management units will team up with ACSM teams to jointly offer health education/promotional, preventive, curative and counseling services at specific points in the community.

Objective 4: Strengthen the monitoring and evaluation of pneumonia and diarrhoea disease management

Monitoring and evaluation is not only crucial in ensuring that implementation of strategies takes place, but it also avails the necessary apparatus in measuring progress of implemented upon strategies. A sound M & E system is therefore necessary for the success of any program. The following M & E interventions will be undertaken to support scaling up of diarrhoea and pneumonia treatments.

Intervention 4.1: Develop/revise and implement on a monitoring and evaluation framework for the DCAH

Activity 4.1.1: Constitute an M&E working group

A monitoring and evaluation framework for the department of family health will be developed and disseminated to all divisions under the department. This framework will guide monitoring and evaluation work in all the programs under the department to include support supervision, reporting, feedback as well as any quality assessments conducted in the department. Through the framework, joint planning between programs and departments and supporting partners with shared/common interests and support areas will be embedded in DCAH operations.

Activity 4.1.2: Develop and disseminate new and revise existing tools for use in public and private sector facilities

Current facility data capture tools will be revised to incorporate revised guidelines in management of children. These tools will be aligned to HMIS requirements and will be disseminated to all facilities in the public and private sector offering services to children. Sufficient copies of the tools will be printed to cover all facilities.

Intervention 4.2: Institute performance management system for Child Health Programs

Activity 4.2.1: Adopt and customize the standards based management and recognition (SBM-R)

To further ensure that there is following up with implementation. A performance based approach to implementation will be adopted where all activities undertaken within the division in relation to diarrhoea and pneumonia management will be tied up to performance with key national, regional and county officials tasked with specific activities. Performance will be assessed on a quarterly basis.

Intervention 4.3: Improve HCWs skills on M&E

Real progress against set goals can only be assessed if there is accurate capturing of data at service delivery points, complete and accurate reporting and analysis generated. It will be impossible to achieve this without ensuring that the key people handling these critical processes have the capacity to do so. Health care workers will therefore be orientated on data capture, reporting, analysis using the new program tools and use of data generated for decision making, using appropriate indicators.

Objective 5: Strengthen access to appropriate diarrhoea and pneumonia treatment through private sector channels

The private sector in Kenya caters for a significant proportion of children suffering from diarrhoea and pneumonia. It therefore cannot be overlooked and is an important component to achieving overall treatment targets. There are three broad areas in the private sector that if tackled, have the potential to dramatically increase uptake of recommended diarrhoea and pneumonia treatments. They are: (1) demand generation, (2) service delivery, and (3) product availability. Since interventions to generate demand and to improve service delivery for diarrhoea and pneumonia have been extensively addressed above, this section will focus on the third area of product availability.

Intervention 1.2: Advocate for the re-classification of Zinc from prescription only medicine to OTC-pharmacy.

The current drug classification of zinc sulphate restricts its use by caregivers without prescriptions confining its use to only those children whose caregivers visit health facilities and further receive zinc specific prescriptions. A revision of the classification to an over-the-counter drug can therefore not be over emphasized and will ensure that many more of the caregivers visiting pharmacies without prescriptions or stay away from health facilities without treatment, have immediate access to zinc sulphate. To this end, DCAH together with DOP will engage with PPB in

several forums seeking the re-classification of zinc sulphate to ensure increased access in the private sector.

Intervention 1.3: Increase availability of Zinc, ORS, Amoxicillin and Cotrimoxazole

Increased uptake in the private sector cannot be achieved without a corresponding increase in availability of the requisite products across all players in the private sector supply chain. The following will be undertaken to this end.

Activity 1.3.1: Engage manufacturers and importers to align incentives to promote increased access to zinc/ORS

The key decision makers on the products to be manufactured, quantities to be distributed and products to be marketed remain the players at the top of the supply chain - the actual manufacturers and the first line buyers. With complete buy-in and support from these, the potential for scale up can be enormous. DCAH plans to hold advocacy forums in which;

- The realistic demand forecasts for the zinc and ORS market will be shared with manufacturers and first line buyers based on the quantification carried out in 2011, showing projected product requirements through to year 2015.
- DCAH and stakeholders will engage with manufacturers and first line buyers to increase their investment in product promotion, sales and distribution reach for zinc, ORS. Promotion targeted at all private pharmaceutical outlets could be considered to kick off the marketing exercise as an incentive and in-kind support to suppliers. DCAH has a provision for this initial marketing support factored in the scale-up budget and partners working in private sector initiatives can assist with the execution of this proposal. As part of the engagement in this scale-up initiative manufacturers and first line buyers will be requested to identify opportunities and partnerships to widen their distribution networks to increase access to zinc and ORS especially in remote areas.

Activity 1.3.2: Engaging manufacturers to co-pack Zinc and ORS and guarantee quality management of diarrhoea in both public and private sector.

DCAH will engage with manufacturers and their representatives to propose the co-packaging of zinc and ORS. Given the differences in uptake levels of the two products, It is apparent that zinc and ORS are not prescribed and dispensed together. Co-packaging of zinc and ORS will guarantee joint dispensing of zinc and ORS, subsequently increasing uptake levels of the two products.

SUMMARIZED DRAFT BUDGET – BY INTERVENTIONS

The preliminary budget for Kenya’s Scaling Up Strategy for Essential Treatments in Children is estimated to cost USD 59.5M over five years. The projected expenses for each of the five primary interventions are outlined below, with the highest expenses expected for demand generation interventions (45%) and improved procurement and distribution (26%). This initial budget estimate is inclusive of costs that will be leveraged from existing government and partner budgets that have complementary goals and activities; in early 2012, these opportunities for leverage will be further refined through a resource mapping exercise across partners, and the budget estimates, and projected gaps, will be updated accordingly.

Summarized Budget by Objectives

Objective/Year	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	Yr 1- Yr 5
	Y1 Cost (\$)	Y2 Cost (\$)	Y3 Cost (\$)	Y4 Cost (\$)	Y5 Cost (\$)	Y5 Cost (\$)
Objective 1 : Case Management	428,888.89	995,000.00	942,222.22	1,303,333.33	942,222.22	4,611,666.67
Objective 2 : Commodities, Equipments and Logistics	2,288,405.31	3,657,302.76	3,745,421.97	3,029,806.06	2,749,916.70	15,470,852.80
Objective 3 : Advocacy, Communication & Social Mobilization	3,373,222.22	5,810,444.44	5,974,888.89	5,850,444.44	5,587,111.11	26,596,111.11
Objective 4: Monitoring and Evaluation	1,658,333.33	130,000.00	4,783,555.56	280,000.00	2,638,555.56	9,490,444.44
Objective 5: Private Sector	59,333.33	1,270,000.00	1,176,666.67	843,333.33	-	3,349,333.33
Total Budget 2011-2016	7,808,183.09	11,862,747.21	16,622,755.30	11,306,917.17	11,917,805.59	59,518,408.36

Summarized Budget By Interventions:

Description	Y1 Cost	Y2 Cost	Y3 Cost	Y4 Cost	Y5 Cost	Y5 Cost
	(USD)	(USD)	(USD)	(USD)	(USD)	(USD)
Intervention 1: Policy & guidelines dissemination	321,111	77,778	33,333	377,778	33,333	843,333
Intervention 2: Review drug policy on Zinc, Amoxicillin and CTX	2,778	0	0	0	0	2,778
Intervention 3: Develop an OR strategy	44,444	33,333	33,333	33,333	33,333	177,778
Intervention 1: Review and shorten IMCI case management	18,333	8,333	0	16,667	0	43,333
Intervention 2: Improving HCWs skills	8,889	842,222	842,222	842,222	842,222	3,377,778
Intervention 1: Institute annual MCH integration RRI's	33,333	33,333	33,333	33,333	33,333	166,667
Objective 2: Commodities, Equipements & Logistics						
Intervention 1: Strengthening of Quantification and Forecasting of CH Commodities	7,444	28,222	13,778	19,111	7,111	75,667
Intervention 2: Strengthen Procurement of commodities	2,075,172	3,211,347	3,365,633	2,673,706	2,696,039	14,021,897
Intervention 3: Set up and operationalize an efficient commodity management system	23,944	51,722	0	0	0	75,667
Intervention 4: Strengthening Support Systems	181,844	366,011	366,011	336,989	46,767	1,297,622
OBJECTIVE 3: Advocacy, Communication and Social Mobilization						
Intervention 1: Advocacy	301,889	239,111	266,889	212,444	12,444	1,032,778
Intervention 2: Communication	2,791,889	5,116,889	5,209,111	5,116,889	5,209,111	23,443,889
Intervention 3 : Social mobilization	279,444	454,444	498,889	521,111	365,556	2,119,444
OBJECTIVE 4: Monitoring and Evaluation						
Intervention 1. Update and Provide more data collection tools.	1,433,889	0	4,664,667	166,667	2,508,556	8,773,778
Intervention 2: Develop M & E framework	6,111	0	5,556	0	0	11,667
Intervention : Institute performance management system for Child Health	201,667	113,333	113,333	113,333	113,333	655,000
Intervention 3. Improve data management skills	16,667	16,667	0	0	16,667	50,000
Objective 5: Strengthen access to appropriate diarrhea and pneumonia treatment through private sector channels						
Intervention 1: Advocate for the re-classification of Zinc from prescription only medicine to OTC-pharmacy and provision to allow use zinc and antibiotics for pneumonia at community level	6,000	0	0	0	0	6,000
Intervention 2: Increase availability of Zinc, ORS, Amoxicillin and Cotrimoxazole in the private sector (co-packaging of zinc and ORS, distribution of free samples, communication materials)	53,333	1,270,000	1,176,667	843,333	0	3,343,333
ANNUAL TOTAL BUDGET	7,808,183	11,862,747	16,622,755	11,306,917	11,917,806	59,518,408

