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CHILD HEALTH LEADERSHIP AND NETWORKS IN MOZAMBIQUE FROM 2000 TO THE PRESENT: COUNTRY PERSPECTIVES

CASE STUDY REPORT ANNEXES

MARCH 2020

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CONTENTS

ANNEX A: DESK REVIEW

Enhancing Outcomes for Child Health: Country Perspectives on Leadership, Networks, Governance and Other Drivers of Change

MOZAMBIQUE CASE STUDY

JUNE 8, 2018

DESK REVIEW TABLE OF CONTENTS

ACRONYMS

AAP	American Academy of Pediatrics
ANC	Antenatal Care
APEs	Community Health Workers (Agentes Polivalentes Elementares)
BSC	Balanced Score Card
CAADP	Comprehensive Africa Agriculture Development Programme
CDC	Center for Disease Control
CHW	Community Health Worker
cMYP	Comprehensive Multi-year Plans
CPR	Contraceptive Prevalence Rate
CSO	Civil Society Organizations
DALY	disability-adjusted life years
DHS	Demographic Health Surveys
DOT	Directly Observed Treatment
DPS	Provincial Health Directorate (Direcção *Provincial* de Saúde)
ENAP	Every Newborn Action Plan
ENDE	National Development Strategy (Estratègia Nacional de Desenvolvimento)
EPI	Expanded Programme on Immunization
EU	European Union
FANTA	Food and Nutrition Technical Assistance
FORSSAS	Health and Social Welfare Systems Strengthening (Fortalecimento dos Sistemas de Saude e Acccao Social)
FP	Family Planning
FRELIMO	The Front for the Liberation of Mozambique
GAIN	Global Alliance for Improved Nutrition
GDP	Gross Domestic Product
GFF	Global Financing Facility
HBB	Helping Babies Breath
HIV	Human Immunodeficiency Virus
IC	Global Financing Facility's Investment Case
iCCM	Integrated Community Case Management
IHP+	International Health Partnership plus related initiatives
IMCI	Integrated Management of Childhood Illnesses
IMR	Infant Mortality Rate
INGO	International Non-governmental Organizations
JHPIEGO	John Hopkins Program on International Education in Gynecology and Obstetrics
MCEE	Maternal and Child Epidemiology Estimation
MCH	Maternal and Child Health
MCHIP	Maternal and Child Health Integrated Program
MCSP	Maternal and Child Survival Program
MDG	Millennium Development Goals
MDM	Mozambique Democratic Movement
MICS	Multiple Indicator Clusters Survey
MISAU	Ministry of Health (Ministério de Saúde)
MM	Maternal Mortality
MMEIG	Maternal Mortality Estimation Inter-Agency Group
MMR	Maternal Mortality Ratio
MOH	Ministry Of Health
MPTF	Multi-Partner Trust Fund

MTEF	Medium-Term Expenditure Framework
NGO	Non-Governmental Organization
NHS	National Health Service
NICHD	National Institute for Child health and Development
NMR	Neonatal Mortality Rate
ODA	Official Development Assistance
ORS	Oral Rehydration Salts
PAMRDC	Mozambique's Multi-sectoral Plan for Chronic Malnutrition Reduction
PARPA	Poverty Reduction Strategic Plan (*Plano de Acção para a Redução da Pobreza Absoluta*)
PEPFAR	President's Emergency Plan for AIDS Relief
PES	The Economic and Social Plan (Plano Economica e Social)
PESS	Health Sector Strategic Plan (Plano Estrategico do Sector Saude)
PHIT	The Mozambique Population Health Implementation and Training
PMI	President's Malaria Initiative
PPP	Public Private Partnerships
PQG	Five Year Government Plan (Plano Quinquenal do Governo)
PRN	Nutritional Rehabilitation Program
RENAMO	Mozambican National Resistance
RMNCAH	Reproductive, Maternal, Neonatal, Child, and Adolescent Health
SCIP	Strengthening Communities through Integrated Programming
SDC	Swiss Agency for Development Cooperation
SDG	Sustainable Development Goals
SDSMAS	District Service of Health and Social Affairs (Serviço Distrital de Saúde)
SSA	Sub Saharan Africa
SUN	Scaling up Nutrition
SWAp	Sector-Wide Approach to Health
THE	Total Health Expenditure
TMP	Traditional Medicine Practitioners
U5MR	Under-five Mortality Rate

INTRODUCTION

Mozambique is a low-income country in southeastern Africa bordering Tanzania, Malawi, Zambia, Zimbabwe, South Africa and Swaziland. Approximately 70% of its population live and work in rural areas [1]. In 2015, the country's ranking in the Human Development Index was 180th out of 187 countries [2]. The low level of education and lack of capacity are the main constraints across all sectors [3].

Mozambique was successful in reaching Millennium Development Goal Four, however has not met targets for neonatal mortality and maternal mortality [4]. The government has responded at the highest level to be included as a second wave Global Financing Facility country, and an investment case was completed in 2017 [5].

Table 1. Key Demographic Indicators, Mozambique, 2015

Total population	28,011,000
Total Under-five population	4,844,000
Population growth rate[1]	2.91%
Crude Birth Rate[2]	40.4%
Total Fertility Rate	5.45
Age-specific Fertility Rate (15-19 years)	153.7 (SSA: 110.4; LIC: 106.3)

Source: United Nations, Department of Economic and Social Affairs, Population Division (2017)

EPIDEMIOLOGICAL AND DEMOGRAPHIC PROFILE OF THE COUNTRY

The population was 28 million with an annual growth rate of 2.91% in 2015 (Table 1). The population structure was typical of sub-Saharan Africa (SSA) with 44.7% of the population between the ages of 0-14 years. Fertility rate has remained persistently high at 5.45 (2015), one of the highest in the world, compared to other countries globally and in SSA. The rates are even higher in rural areas (6.6) compared to urban areas (4.4). While life expectancy at birth has steadily increased since 2000, it has been restrained by the impact of HIV on mortality rates [4].

In 2016, the top four causes of death among the entire population were not changed from 2005: HIV, malaria, lower respiratory infections and tuberculosis [6]. The top-ten causes of disability-adjusted life years or DALYs (that is, causing the most death and disability combined) were all related to communicable, maternal, neonatal and nutritional diseases. The prevalence of HIV in 2012 was reported at 11.5% (1.4 million people infected), and malaria is endemic (with 3.2 million infected in 2012) [4]. The country also faces repeated disease outbreaks such as cholera, measles and meningitis (2010).

ECONOMIC AND DEVELOPMENT CONTEXT

Mozambique is a designated low-income country by the World Bank. The country's GDP has increased substantially since the mid-80s when the government embarked on a series of macro-economic reforms combined with donor assistance, and supported by continuing political stability (multi-party elections

[1] Average annual rate of population change (%)
[2] Number of births over 5-year period divided by person-years lived, expressed as Average annual rate of population change (%)

began in 1994) [2]. GDP, in purchasing power parity terms, went from $4 billion in 1993 to about $37 billion in 2017; however, close to 50% of the population lives below the poverty line [7]. Subsistence agriculture is the main form of employment.

GDP growth rate was at an annual rate of 6-8% up to 2015 but stalled in 2016 as the country went through a major debt crisis [3]. There is renewed optimism at the discovery of massive natural gas deposits off the coast that have the potential to infuse the economy after 2022. While Mozambique's economic performance has been impressive, the pace of poverty reduction has not kept up [8]. The result has been increasing inequality, with women in rural areas being the most marginalized [9]. The majority of women in the labor-force work in the agricultural sector as unskilled labor, and are particularly hard hit by extreme poverty, HIV, low levels of education, maternal health risks, limited economic prospects, and cultural beliefs that disadvantage their wellbeing [9].

POLITICAL CONTEXT

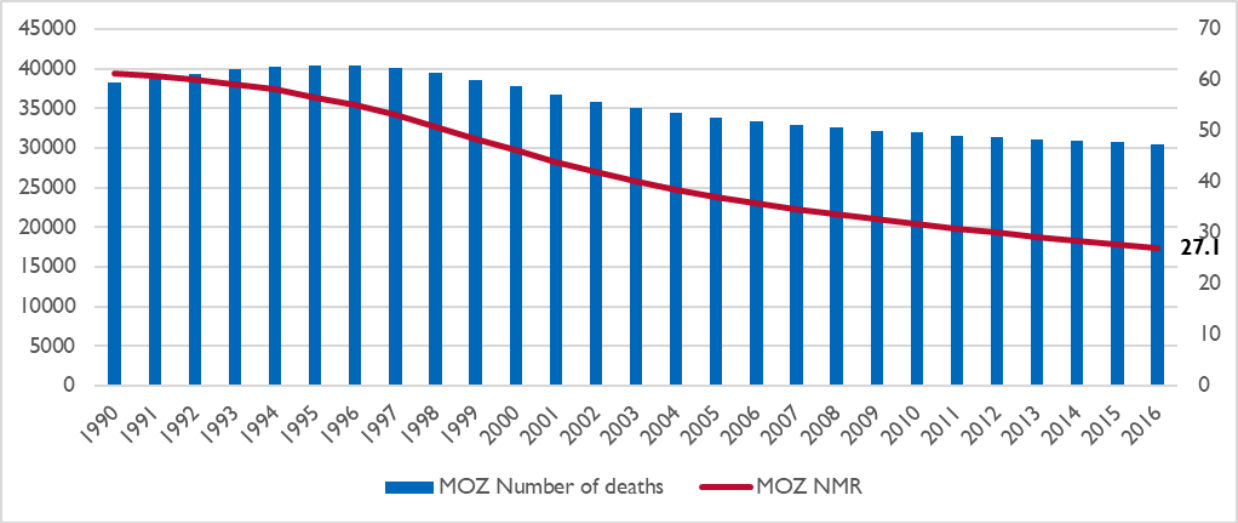
Mozambique gained its independence in 1975 after five centuries of Portuguese colonization, endured a 15-year civil war, and while there has been peaceful transitions of power in recent decades, there remains remnants of active conflict and political tensions between the main political parties [2]. The Front for the Liberation of Mozambique (FRELIMO), the Mozambican National Resistance (RENAMO), and the Mozambique Democratic Movement (MDM) are the main political parties [10]. FRELIMO won the presidential elections in 2014, retaining a comfortable majority in parliament. RENAMO has intermittently engaged in low-level insurgencies, although peace talks have led to a ceasefire that has held thus far [11].

CHILD HEALTH OUTCOMES

NEONATAL MORTALITY RATE AND NUMBER OF DEATHS

In 2016, neonatal mortality rate (NMR) was 27.1 deaths per 1000 livebirths (30,469) a 56% reduction from 1990. Despite the decline, Mozambique still has quite a way to go to reach the Sustainable Development Goal (SDG) target of 12 deaths per 1000 livebirths.

Figure 1. Trends in NMR and Neonatal deaths, Mozambique, 1990 - 2016

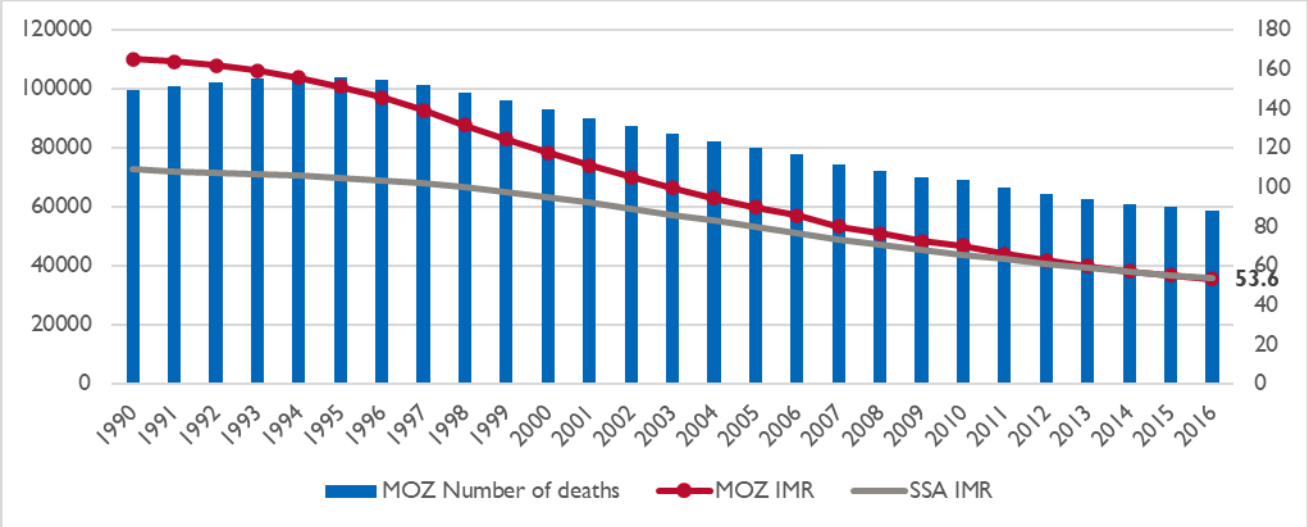


Source: UN Inter-agency Group for Child Mortality Estimation, 2017 (http://data.unicef.org)

INFANT MORTALITY

Infant mortality rate (IMR) declined rapidly leading up to 2015 getting close to the Millennium Development Goal (MDG) target of 52.7 deaths per 1000 livebirths. In 2016, IMR was 53.6 deaths per 1000 livebirths (58,681 deaths). The rate of decline appears to have slowed over the last few years, however.

Figure 2. Trends in IMR and Infant deaths, Mozambique, 1990 – 2016

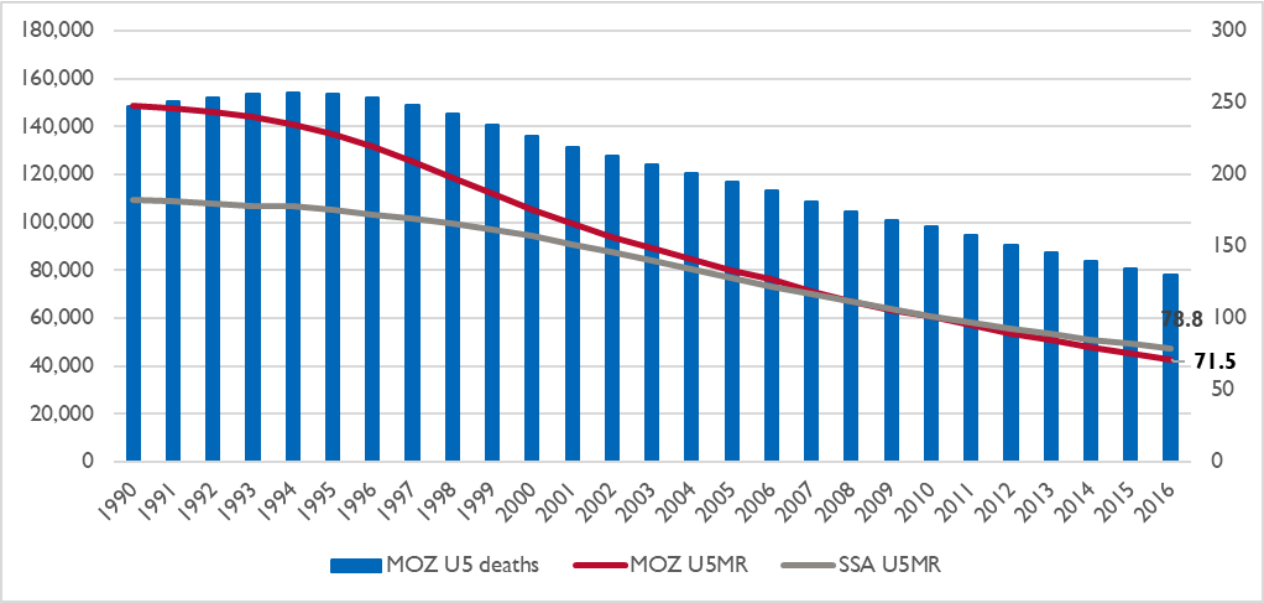


Source: UN Inter-agency Group for Child Mortality Estimation, 2017 (http://data.unicef.org)

UNDER-FIVE MORTALITY

Mozambique has seen an impressive decline in under-fiver mortality, surpassing their MDG target (80 deaths per 1000 livebirths), and by 2016 reaching 71.5 deaths per 1000 livebirths (Figure 3). However, the SDG target is lower, at 25 deaths per 1000 livebirths.

Figure 3. Trends in U5MR and U5 deaths, Mozambique, 1990 - 2016

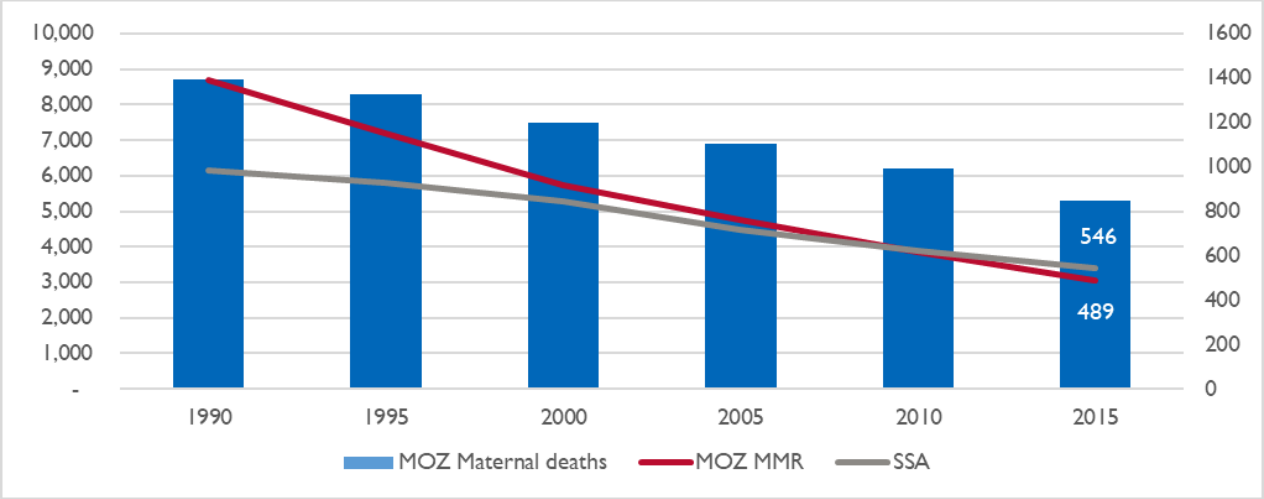


Source: UN Inter-agency Group for Child Mortality Estimation, 2017 (http://data.unicef.org)

MATERNAL MORTALITY

Despite a steady decline in the number of maternal deaths, Mozambique did not attain its MDG target of 325 deaths per 100,000 livebirths. The maternal mortality ratio (MMR) was 489 in 2015, much higher than the SDG target of less than 70 deaths per 100,000 livebirths.

Figure 4. Trends in Maternal Mortality Ratio and Deaths, Mozambique, 1990 - 2015



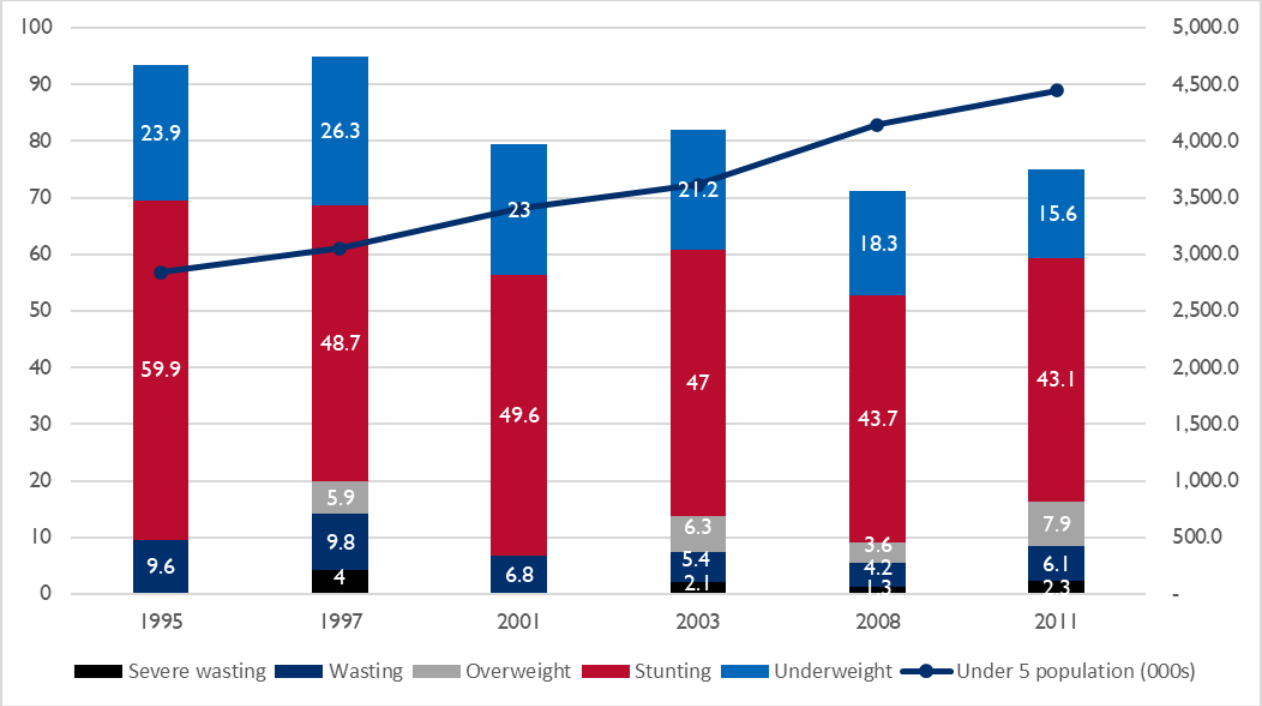
Source: WHO, UNICEF, UNFPA, World Bank Group and UNDP (MMEIG) - November 2015

Mozambique has one the highest rates of maternal mortality (MM) in sub-Saharan Africa [12]. Direct causes of maternal mortality are reported to include uterine rupture (29%), obstetric hemorrhage (24%), sepsis (17%), and complications associated with abortions; while indirect causes included HIV (54%) and malaria (40%) [4]. A study found that social determinants of maternal mortality and morbidity included: lack of transportation that impeded travel to medical facilities and medical costs, such as buying medicines; reduced ability to purchase food; lack of decision making power; gender inequality and intimate partner violence; and lack of structured community groups [12]. Single, divorced, and widowed women were described as particularly vulnerable. Evidence from rural Mozambique show huge disparities within rural areas, and direct causes of MM included eclampsia (50%) and sepsis (25%), while indirect causes included TB (38.5%) and HIV (30.8%). [13]

MALNUTRITION

In 2011, approximately 75% of children under-five suffered from malnutrition (Figure 5). The prevalence of stunting remains high at 43%, followed by underweight 15.6%, and overweight is becoming more of a concern with close to 8% of children under-five considered overweight in 2011.

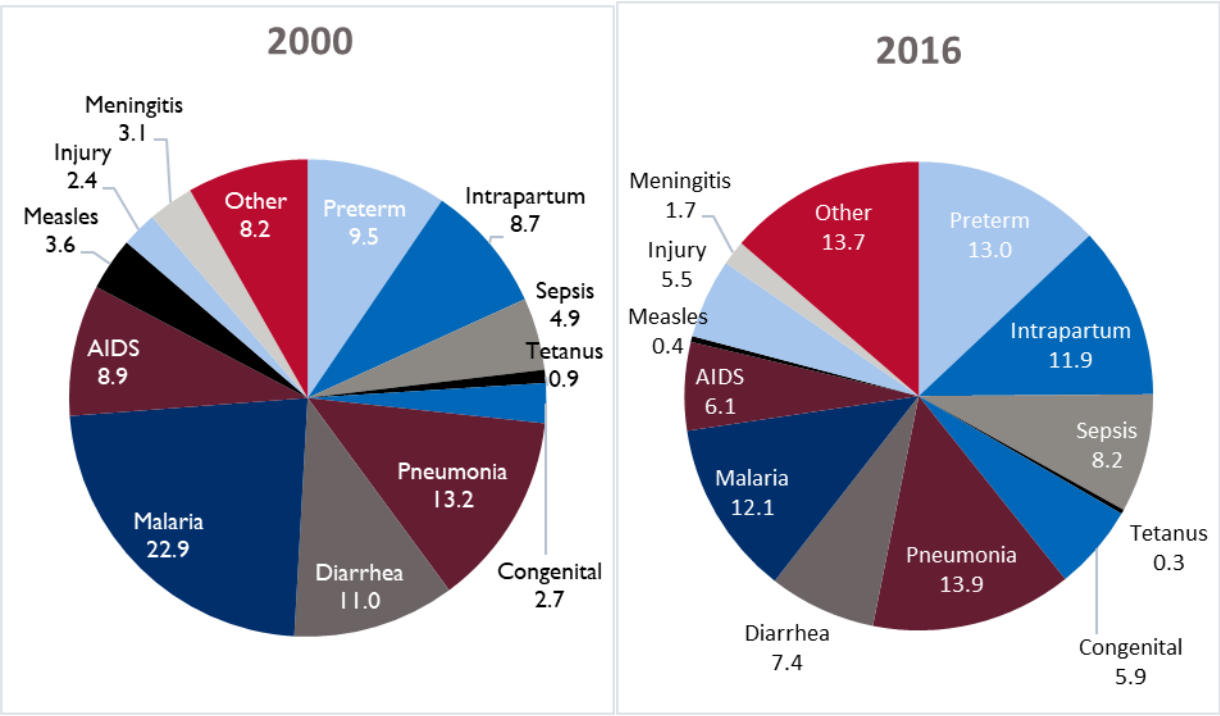
Figure 5. Child Malnutrition Estimates, Mozambique



Source: MICS (http://data.unicef.org)

CAUSES OF DEATH

Figure 6. Cause of death in Children Under-five, Mozambique 2000 & 2016



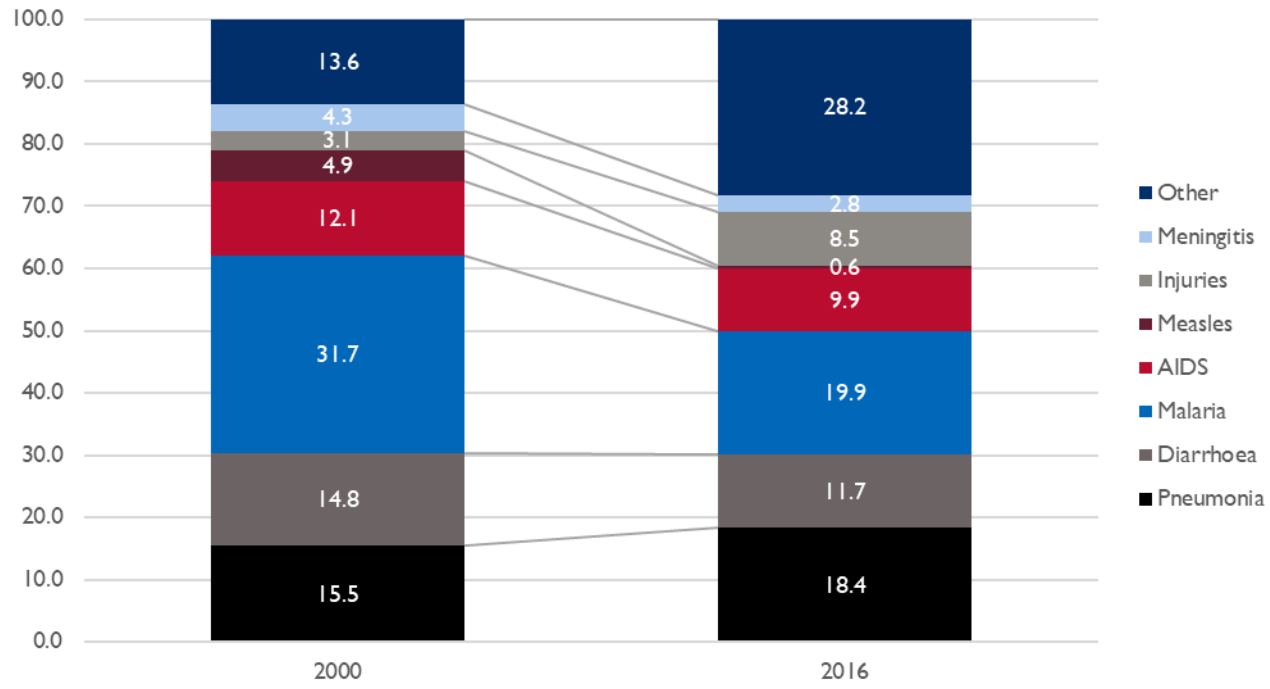
Source: WHO and Maternal and Child Epidemiology Estimation Group (MCEE), 2017 (http://data.unicef.org)

Among all children under-five (Figure 6), infectious diseases have declined from 62.8% in 2000 to 41.9% in 2016. Malaria as a cause of death led the decline (22.9% in 2000 to 12% in 2016), while pneumonia has remained unchanged at around 13%, and diarrhea declined slightly from 11% to 7.4%. The conditions surrounding the birthing period exhibited a mixed pattern. While preterm and intrapartum causes of death slightly declined, congenital anomalies more than doubled (2.7% in 2000 vs. 5.9% in 2016). Injuries and other causes of death also increased during this time period.

When excluding neonates (Figure 7), the main causes of death in children 1-59 month-olds continue to be childhood infections (excluding injuries and other) that accounted for 83.3% in 2000, and declined to 62.8% in 2016. In this same age group, while malaria proportion of deaths has declined, it still remains the number one cause of death at close to 20% in 2016, but closely followed by pneumonia at 18.4%. Injuries increased from 3.1% to 8.5% and other causes of death more than doubled (13.6% to 28.2%) during this same time period.

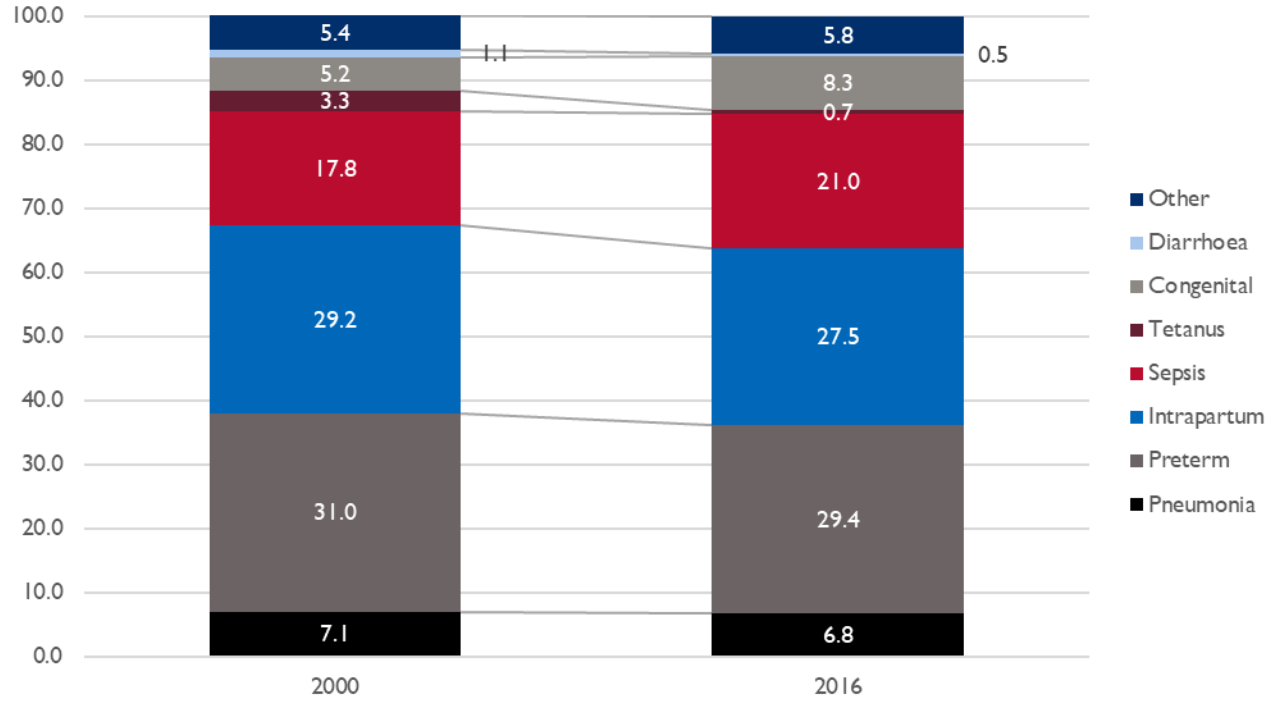
In neonates (Figure 7a), little progress has been made in the causes of deaths with preterm (29.4%), intrapartum-related causes (27.5%) and sepsis (21%) remaining the main direct causes in 2016.

Figure 7. Cause of death in Children 1-59 Months (%), Mozambique 2000 & 2016



Source: WHO and Maternal and Child Epidemiology Estimation Group (MCEE), 2017 (http://data.unicef.org)

Figure 7a. Cause of death in Newborns 0-1 months (%), Mozambique 2000 & 2016



Source: WHO and Maternal and Child Epidemiology Estimation Group (MCEE), 2017 (http://data.unicef.org)

COVERAGE OF KEY INTERVENTIONS

This section reviews the coverage and trends in some of the key interventions along the Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCAH) continuum of care. We start first with key coverage interventions on reproductive and maternal health, delivery, newborn care, immunization and Vitamin A supplementation. This is followed by care-seeking indicators for infections including pneumonia, diarrhea and malaria. Finally, we discuss nutrition coverage including indicators on complementary feeding (minimum acceptable diet, minimum diet diversity, and minimum diet frequency). Appendix A provides outcome and coverage targets in the country's latest (2014-2019) Health Sector Strategic Plan that are related to RMNCAH.

INTERVENTIONS ALONG THE CONTINUUM OF CARE

Figure 8 shows the key interventions along the continuum of care.

REPRODUCTIVE AND MATERNAL HEALTH

Coverage remains low for the "demand for family planning satisfied by modern contraceptive methods" at only 28% in 2011, which declined substantially from 2004. This is far from the SDG target to ensure universal access to sexual and reproductive health services including family planning.

DELIVERY

For care around delivery and birth, while over 90% of women attended at least one antenatal care visit, only half of pregnant women attended the recommended four or more antenatal care visits. The difference between the almost universal access to at least one antenatal care visit and four or more visits suggests care constraints and missed opportunity for care continuity.

In 2016, there was a slight increase from 2011 in the number of pregnant women that gave birth in a health facility but the percentage of 55% is still low compared to other countries. In addition, only 54.3% of pregnant women received skilled attendance at birth. There was no data from Mozambique on postnatal care for mothers.

NEWBORN CARE

In 2013, coverage of early initiation of breastfeeding was 69%, although better than other sub-Saharan countries, it represents a decline for Mozambique (this could also represent differences in reporting between DHS and MICS surveys). Coverage of exclusive breastfeeding for six months has not seen much improvement and was at 41% in 2013.

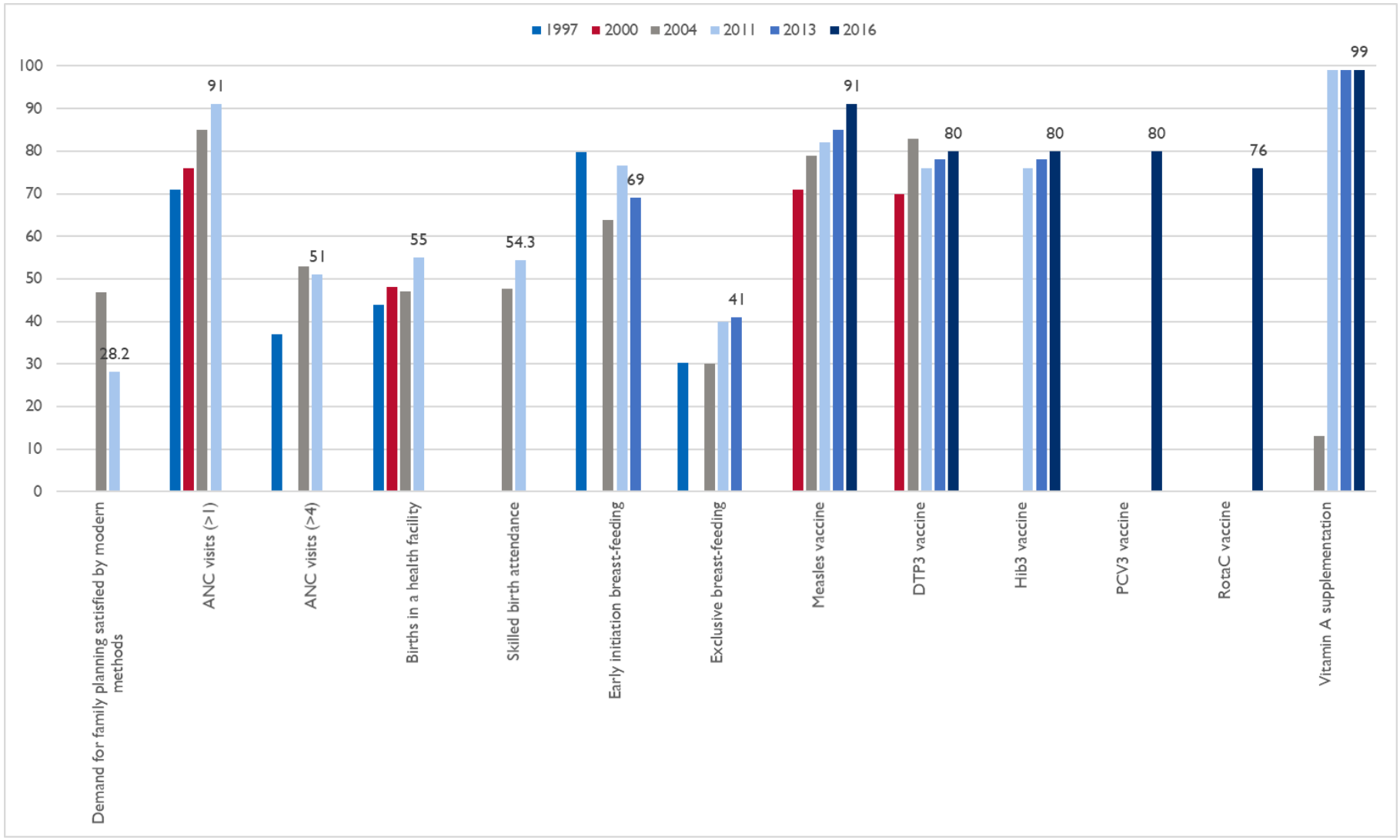
IMMUNIZATION

Routine immunization coverage by antigen at the time of the survey (according to vaccination card and history) was 91% for measles, 80% for DTp-Hib-HpB3, and 80% for PCV3. Newly introduced Rota virus vaccine had 76% coverage in 2016.

VITAMIN A SUPPLEMENTATION

Vitamin A supplementation has been at near universal levels since 2011.

Figure 8. Coverage and time trends for selected reproductive, maternal, newborn and child health indicators along the continuum of care

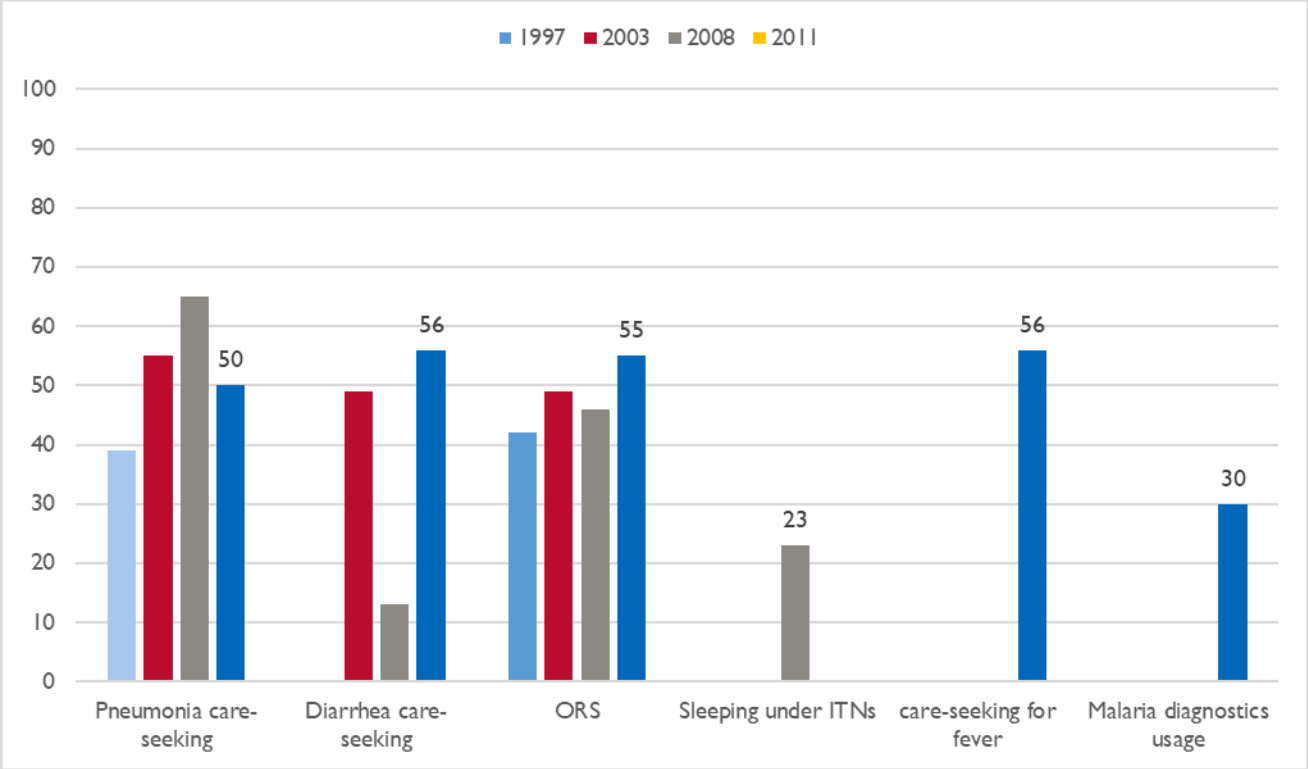


Source: DHS & MICS (http://data.unicef.org)

CARE-SEEKING FOR PNEUMONIA, DIARRHEA, AND MALARIA

Coverage for pneumonia and diarrhea care-seeking was 50% and 56% respectively in 2011. Children under-five with diarrhea receiving oral rehydration salts was 55% in 2011, showing a steady improvement since 1993. There was no data for coverage of ORS + Zinc. In 2008, 23% of children under-five were sleeping under insecticide treated bed-nets, which is extremely low given the country's malaria burden. In 2011, coverage of children with fever in the last two weeks for whom advice was sought was 56%, and only 30% of children with fever were clinically diagnosed (using finger or heel stick).

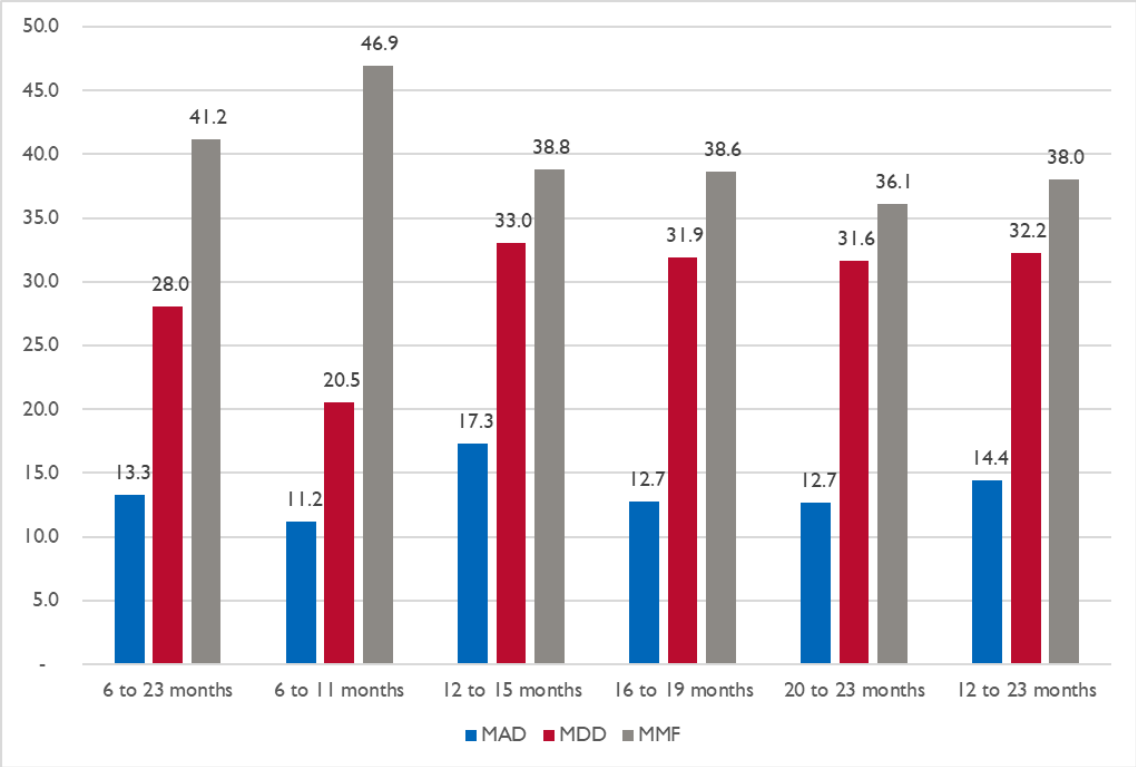
Figure 9. Coverage and trends for care-seeking for Pneumonia, Diarrhea and Malaria



Source: DHS (http://data.unicef.org)

NUTRITION

Figure 10. Complementary Feeding by Age, Mozambique 2016



Source: DHS (http://data.unicef.org)

In 2016, of all children aged 6-23 months, the prevalence of minimum acceptable diet, diet diversity, and meal frequency was 13.3%, 28%, and 41.2% respectively. When breaking down prevalence by age, there was some variance in acceptable diet ranging from 11.2 in 6-11 month olds to 17.3 in 12 -15month olds. Diet diversity was at 20% for the 6-11 month olds, and a little over 30% for the other age groups. Meal frequency was 47% for the younger age group (6-11 months) then declined to approximately 38% for older children up to 23 months. One study to assess knowledge and practices around exclusive breastfeeding in Mozambique found many barriers as up to 60% of infants are introduced to various combinations of water, traditional medicines, and porridges before 6 months [31].

DISPARITIES

There are huge disparities in health status and coverage of interventions in Mozambique by district, economic status, education, and access to basic services and health services [4]. Appendix C exhibits the disparities in some of the coverage indicators presented here.

POLICIES, PROGRAMS AND STRATEGIES

The enabling environment and supportive policy framework has been touted as one of the main drivers of Mozambique's health and development success in the past couple of decades. Rebuilding the primary health care system, with a focus on maternal and child health, has been a priority since the end of the civil war in 1992 [2].

MACRO-LEVEL ECONOMIC AND DEVELOPMENT POLICIES

The Poverty Reduction Strategy Papers, known as "Plano de Acção para a Redução da Pobreza Absoluta" (PARPA) began to be produced in 2001 and include PARPA I, II, and III.

The country national planning framework follows five-year plans, the most recent the 2015-2019, "Plano Quinquenal do Governo" (PQG), has five objectives: 1) national unity, peace and protection of sovereignty; 2) human and social development; 3) job creation; 4) infrastructure development; and 5) sustainable and transparent management of natural resources.

The National Development Strategy for 2015-2035, "Estratègia Nacional de Desenvolvimento" (ENDE) was approved by the government in 2014, although it does not have a clear implementation plan. The Economic and Social Plan (PES) is the key annual planning document approved and monitored by the parliament. There is also an international cooperation policy adopted in 2010, and a Busan Action Plan in line with the Busan Partnership for Effective Development Cooperation.

HEALTH-SECTOR POLICIES AND STRATEGIES

The health policy framework is articulated in several documents namely: the Five-Year Government Programme, the Action Plan for Reduction of Absolute Poverty (PARPA), the Economic and Social Plan (Plano Economica e Social – PES), and the Health Sector Strategic Plan (Plano Estrategico do Sector Saude – PESS), and the Medium-Term Expenditure Framework (MTEF) [10]. PESS 2014-2019 underwent a long and participatory process, includes a comprehensive implementation and costed plan [1].

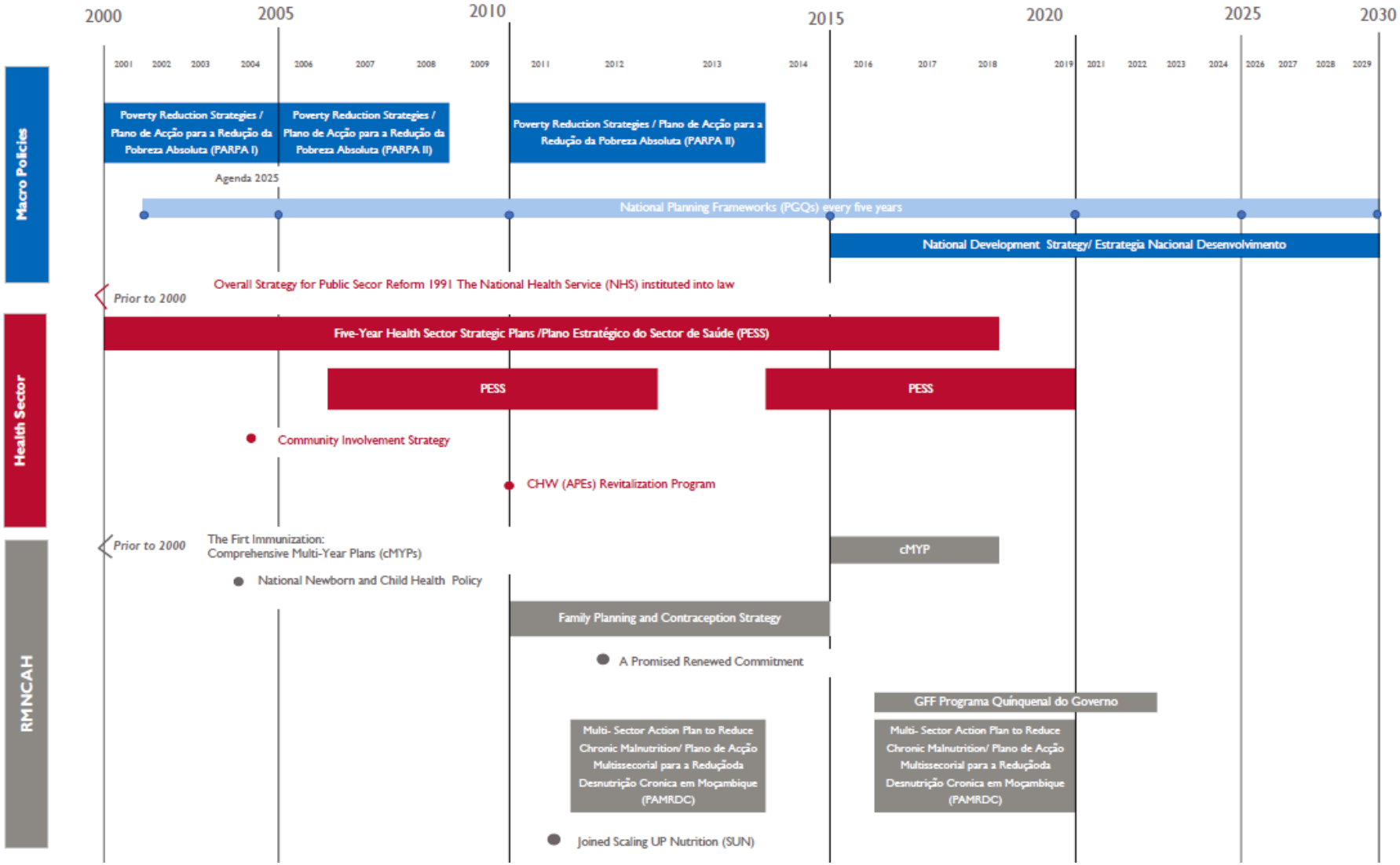
A Sector-Wide Approach to Health (SWAp) has been used since around 2000. Health is one of seven priority sectors, whose planning and budgeting is guided by the Health Sector Strategic Plan (PESS), the current of which is for 2014-2019 [4]. The PESS lays out seven strategic objectives: 1) improve access and utilization of health services; 2) improve quality of care; 3) reduce geographical inequalities in access and utilization; 4) improve efficiency of health services; 5) strengthen health partnerships; 6) increase transparency and accountability in use of public resources; and 7) strengthen the health system overall [4]. PESS is the result of interactions between a working group of stakeholders led by the Ministry of Health (MOH) including: DANIDA, Fortalecimento dos Sistemas de Saude e Acccao Social (FORSSAS), John Hopkins Program on International Education in Gynecology and Obstetrics (JHPIEGO), entities from the MISAU, provincial directorates, Swiss Agency for Development Cooperation (SDC), USAID and WHO [14].

A UNICEF analysis concluded that in 2012 and 2013, despite the PESS's goal to deconcentrate resources from central to provincial and district levels, this has not occurred sufficiently from central, but more successfully from provincial to district level (UNICEF, 2015).

There is the Family Planning and Contraception Strategy for 2010-2015 (2020), which has four objectives: increase availability and quality of family planning (FP) services; increase demand for FP; strengthen monitoring and evaluation; and increase engagement and mobilization of resources and coordination mechanisms [15]. At the 2012 London Summit on FP, Mozambique committed to increase modern contraceptive prevalence rate to 34% by 2020 and increase budget for procuring contraceptives from 5% of the total cost to 10% by 2015 and 15% by 2020.

Mozambique adopted the Fast-Track Targets in 2015, started a phased roll-out of test and treat in 2016, and plans to extend antiretroviral therapy coverage to 81% of adults and 67% of children living with HIV by 2020 (UNAIDS, 2016).

Figure 11. Timeline



CHILD HEALTH POLICIES AND PROGRAMS

The National Health Sector Strategic Plan is aligned with the African Union Multi-Sector Framework on Reproductive, Maternal, Neonatal and Child Health that was developed to ensure alignment across continent, sub-regional and country policy and budget actions [12]. Mozambique joined the "Committing to Child Survival: A Promise Renewed" campaign in 2012, and pledged to reduce under-five mortality to 20 or fewer deaths per 1,000 live births by 2035 [16].

The government is committed to the Global Financing Facility's Investment Case (IC). The ICs costed implementation strategy (2017-2022) was developed with the government and in consultations with civil society including historically under-served groups (World Bank, 2017). This process aligned the IC with the Government's Health Sector Plan (PESS for 2014-2019) and guided by the Government's five-year PQG and Poverty Reduction Plan. The IC is put together as a "comprehensive and technically sound roadmap" to improve RMNCAH-N by identifying health system bottlenecks and proposing evidence-based interventions including: strategies to orient multi-sectoral engagement in sexual and reproductive health (SRH) services; a country-wide platform for community-based service delivery; a national plan to train and assign APEs to provide RMNCAH-N services; a balanced scorecard (BSC) to hold facilities accountable for results and incentivize performance-based payments; funding for under-resourced districts; improve birth and death data in the health information systems (DHIS2-SISMA); and change management support to improve capacity of frontline workers.

Table 2. Global Financing Facility Mozambique Investment Case: Program Components and Projected Expenditures in US$ Millions.

Program Components	Projected Annual Expenditures					
	2018	2019	2020	2021	2022	Total
Enhancing coverage, access and quality of primary health care services	179.0	177.1	177.0	177.0	173.0	883.0
Strengthening the health system	47.0	45.0	44.0	44.0	40.0	219.9
Enabling the Ministry of Health (MISAU) to effectively manage the implementation of the IC	7.4	7.6	8.2	8.7	7.0	39.1
Total Costs	**233.4**	**229.7**	**229.2**	**229.7**	**220.0**	**1,142.0**
Government	186.0	187.0	192.0	196.0	202.0	963.0
IDA/GFF	32.2	25	21.5	20	6.3	105.0
Multi-Donor Trust Fund (Netherlands)	7.2	7.2	7.7	6.7	6.7	35.5
Common Fund (PROSAUDE)	5.5	5.5	3	2	0	16.0
Single-Donor Trust Fund (USAID)	2.5	5	5	5	5	22.5
Total Available Funding	**233.4**	**229.7**	**229.2**	**229.7**	**220.0**	**1,142.0**

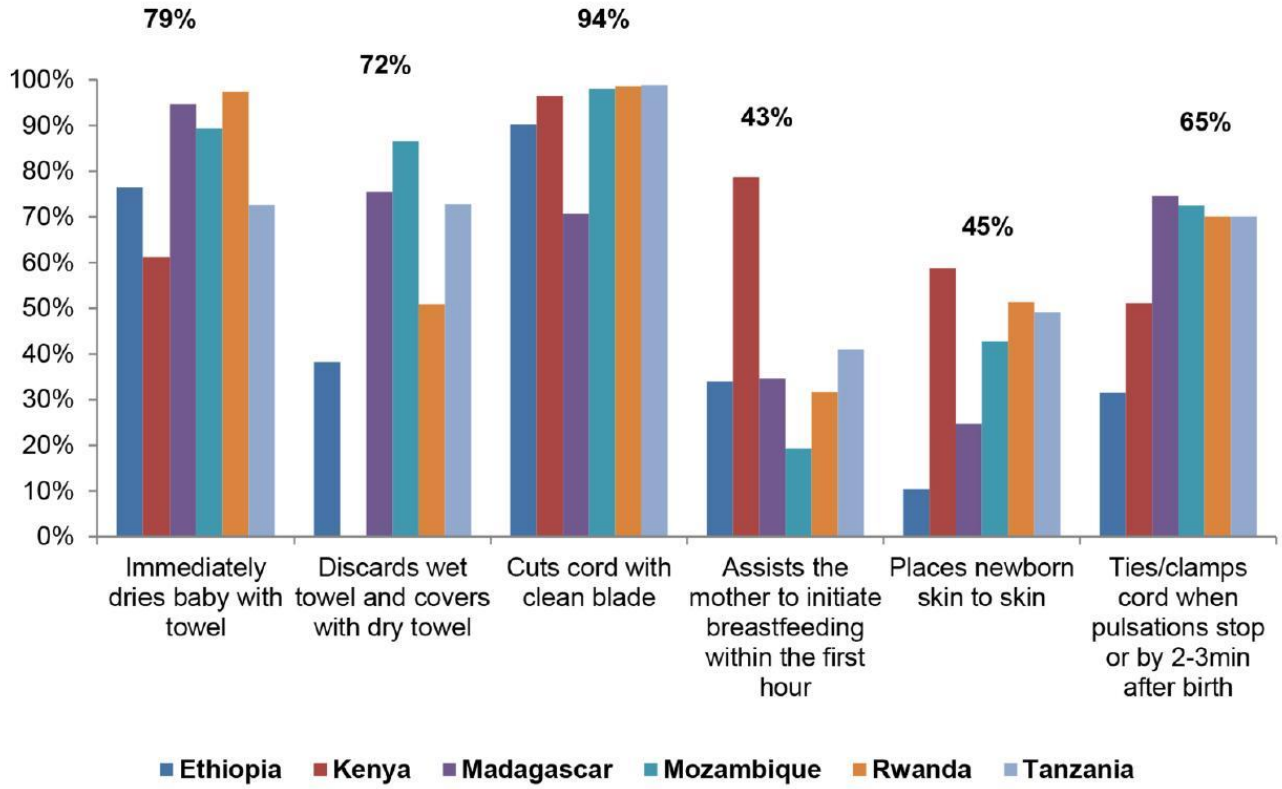
Source: [5]

ESSENTIAL NEWBORN CARE

There are many global initiatives such as Every Newborn Action Plan (ENAP), the Global Strategy for Women's, Children and Adolescents' Health and the Mother-Baby Friendly Birthing Facilities Initiative that are being implemented in Mozambique.

As part of the Maternal and Child Health Integrated Program (MCHIP), a multi-country health facility assessment was conducted using surveys from 2009 and 2012 to identify gaps in and barriers to newborn care in facilities, with Mozambique being one of the countries [17]. The assessment found major gaps in health facility readiness for immediate newborn care particularly in relation to the availability of supplies and equipment and health worker knowledge and performance of key routine newborn care practices such as skin-to-skin contact and breastfeeding initiation (Figure 12).

Figure 12. Observations of immediate newborn care in several countries



Source: [17]

Helping Babies Breathe (HBB) is an evidence-based training program being implemented by MCSP in Mozambique. HBB is an initiative of the American Academy of Pediatrics (AAP) in collaboration with WHO, USAID, Save the Children's Saving Newborn Lives program, The National Institute for Child health and Development (NICHD) and other global health stakeholders.

IMCI/ICCM

In 2011, over 90% of health facilities had a staff member trained in Integrated Management of Childhood Illnesses (IMCI) [4]. Data from the 2011 DHS indicate demand for these services at community level, and that health facility management of childhood illnesses was not satisfactory with coverage for children 12-23 months stagnating at 64% since 2003 while coverage among children younger than 12 months dropping from 53% to 46% (PESS, 2016).

A study in 2014 reviewed policy and implementation of Integrated Community Case Management (iCCM) across several countries including Mozambique [18]. In Mozambique, as in many other countries, iCCM did not exist as a stand-alone policy or program, and was often not referred to as such. iCCM implementation is seen as part of the revitalization of community health workers (CHWs), or "Agentes Polivalentes Elementares" (APEs) as they are known in Mozambique, who also provide other child and adult services, and iCCM policy development became entwined with, and slowed by the need to upgrade existing cadres and create new ones [18].

An impact evaluation to assess the contribution of the CHW program on improving care-seeking under iCCM in Nampula province showed improved timely and appropriate treatment of fever in children living far from facilities. Trained, supplied and supervised APEs (or CHWs) provided consistent care and performed significantly better than first level facilities [19].

IMMUNIZATION

The Mozambique Extended Programme on Immunization (EPI) was incepted in 1979, and Comprehensive Multi-year Plans (cMYP) prior to 200. The latest 2015-2019 cMYP sets targets to strengthen EPI in line with "global vision for immunization (GIVS) and global vaccine action plan (GVAP)" [20]. It is also linked to the country's Medium Term Expenditure Framework (MTEF) and International Health Partnership (IHP+), and along with the Health Sector Strategic Plan contribute to the "achievement of MDG 4&5" [20]. As part of an assessment of funding sustainability for the program, the cMYP concluded that the EPI is heavily dependent on donor support, with 90% of the total immunization cost and 87% of the total vaccine and injection safety supplies costs in the 2015-2019 period were from external funds.

Table 3. Projected EPI Target Population 2015 – 2019 (Millions)

	2015	2016	2017	2018	2019
Population	25.73	26.42	27.13	27.84	28.57
Births	1.11	1.14	1.67	1.20	1.23
Surviving infants	1.04	1.06	1.09	1.12	1.14
6 – 59 months	4.22	4.33	4.45	4.57	4.69
Under-five	4.40	4.52	4.64	4.76	4.89
Pregnant women	1.29	1.32	1.36	1.40	1.43
Women (child-bearing age)*	6.41	6.58	6.76	6.93	7.11

*Includes pregnant women Source: [20]

NUTRITION

Mozambique's Multi-sectoral Plan for Chronic Malnutrition Reduction (PAMRDC) is the main framework for action in nutrition, the first covering 2011-2014, followed by 2016-2020 [21]. In 2011, Mozambique joined the Comprehensive Africa Agriculture Development Programme (CAADP), which is an African-led program to reduce hunger and poverty through agricultural development, and is implemented through the Strategic Plan for Agricultural Development (under Mozambique's Vision 2025) [16]. Also in 2011, the country joined the Scaling up Nutrition (SUN), a global movement that unites national leaders, civil society, bilateral and multilateral organizations, donors, businesses and researchers, and in 2014 the SUN Movement Multi-Partner Trust Fund (MPTF) funded the Civil Society Platform to mobilize resources for the implementation of the PAMRDC and to engage stakeholders at national and provincial levels to incorporate nutrition-related interventions in their plans and targets [16]. The government also adopted the Nutritional Rehabilitation Program (PRN) in 2014 for the treatment of moderate and severe

acute malnutrition [16]. USAID Mozambique has been involved in several nutrition related projects through Feed the Future including for example the Strengthening Communities Through Integrated Programming (SCIP), and the Food and Nutrition Technical Assistance III Project (FANTA) [16]. The Feed the Future strategy is a "collaborative framework that builds upon projects implemented by the Mozambican and US governments, and also engages private sector and investments through the Global Alliance for Improved Nutrition" (GAIN).

GOVERNANCE AND PARTNERSHIPS

There is very large number of partners working on health generally and RMNCAH specifically. Appendix B provides a list of key players. Since its independence, project support has been dominated by a presence of external aid personnel [8]. In the 2000s, after ineffective implementation of structural adjustment programs, there was a stronger focus on recipient responsibilities, which in 2010 more strongly shifted towards the need for governance/decentralization, energy and the strengthening of civil society [8, 9].

The emergency of many health initiatives, funding arrangements and powerful vertical donors presents a challenge to the coordination and implementation of health programs [10].

GOVERNMENT AND MINISTRY OF HEALTH

The MOH is responsible for developing sector policies and strategies, mobilizing and allocating funds; and monitoring and implementing plans. At the district level, the Provincial Health Directorate (DPS) is part of the provincial government and therefore reports to the provincial governor. They are responsible for coordinating implementation of provincial sector plans, monitoring progress, distributing resources and providing logistical and technical services at the district level. The allocation of resources to different levels of government is done directly from the central level. The management, resource, and provider responsibilities between different levels is very complicated (there is a description in the PESS that elaborates on the different ways MOH, DPS and Districts for Service of Health and Social Affairs (SDSMAS).

According to the PESS, governance challenges arise due to the wide range of policies and strategies that require better coordination. Also, poor management capacity and inadequate report are noted as challenges to the public sector decentralization. While the government has a decentralization plan in place, this appears to be riddled with challenges and inefficiencies.

US GOVERNMENT

US government represents the largest donor to health sector strategies. Through Acting on the Call, USAID currently supports RMNACH specifically training provincial and district level health staff, supports the MOH's plan for developing medical commodities and supply chain, assists the MOH in improving paper-based maternal and child health (MCH) monitoring tools, and in establishing a Food and Nutrition Surveillance System to improve quality of information systems [22]. The CDC opened an office in Mozambique in 2000. The CDC supports the MOH by "addressing immediate needs and by building long-term capacity" through PEPFAR and the President's Malaria Initiative (PMI) [23].

BILATERAL DONORS AND ODA

Donor aid in the country is largely coordinated through the country's G19 which includes bilateral government donors, the World Bank, the African Development Bank, and the European Commission [9]. A few countries discontinued budget support in 2016 due to the country's debt crisis [3].

The EU and its member countries represents the largest source of ODA, accounting for 75% of total ODA [3]. Among largest donors are WB, US, EU, UK, the Netherlands, Sweden and Norway. The BRICS have gained stronger political and economic role in the country in recent years.

Fifteen partners signed a specific memorandum of support to pool funds into a Common Fund (Prosaude) to the health sector to ensure alignment of programs with country priorities and mechanisms [10]. However, nearly all also allocate portion of their budgets to provide direct support to NGOs and institutions.

UN AGENCIES

The UN agencies have been intricately involved in RMNCAH in the country for many decades. In June 2017, a Joint Programme "Improving Sexual, Reproductive, Maternal, Newborn, Child and Adolescent Health in Mozambique was signed between the UNFPA and DFID to support the government in improving access to quality services for all, focusing on vulnerable groups by increasing demand, use and quality of services. The program will be implemented by three UN agencies (UNFPA, UNICEF and WHO) within the Investment Case.

COMMUNITY PARTICIPATION

Active engagement and representation of civil society has generally been weak [10]. Partners' plans indicate a commitment to continue the reinforcement of civil society capacity and their participation in public debates [3]. There is a large international NGO presence, and an NGO Code of Conduct, formation of NGO working group through the SWAp mechanism and the commitment of several civil society organizations to the principles of the International Health Partnership have been positive developments in the few years [10].

PRIVATE SECTOR AND PPPS

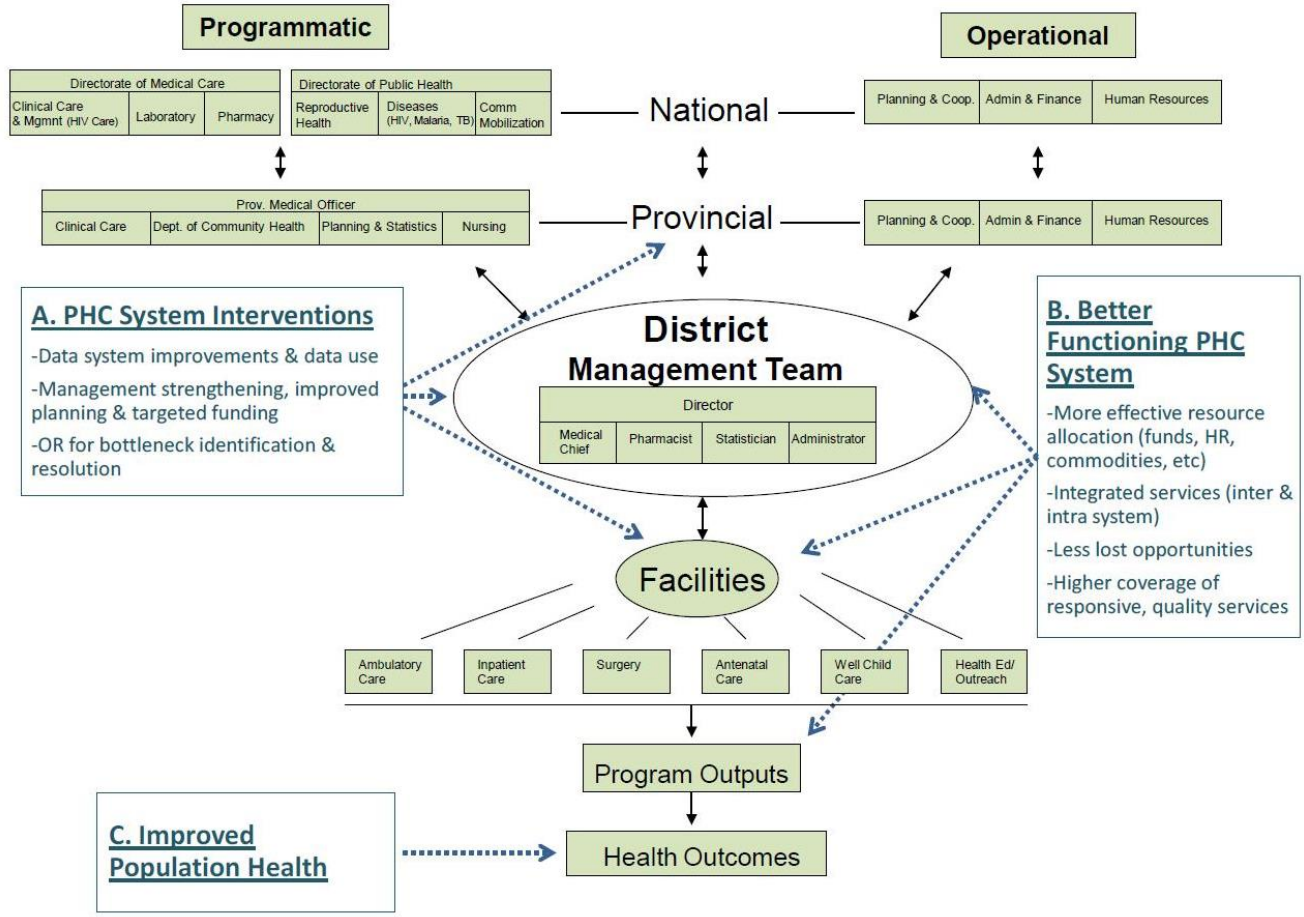
PPPs for financing and provision of health care services have not been sufficiently explored in the country [10].

PARTNERSHIPS AND INITIATIVES

The Mozambique Population Health Implementation and Training (PHIT) Partnership aims to improve primary health care system within several countries including Mozambique through strengthening health system capacity, specifically effective resource allocation, integration of services, and high coverage of quality service. In Mozambique it focused on Sofala Province, the largest and poorest province in the country [24, 25]. PHIT partners include Sofala Provincial Health Directorate, Health Alliance International, The Ministry of Health Beira Operations Research Center, Eduardo Mondlane School of Medicine (UEM), and the University of Washington.

HEALTH SYSTEMS

Figure 13. Organization and Decision-making structure of the Health System



Source: [24]

ORGANIZATION OF THE HEALTH SYSTEM

There are four types of service providers: public sector (through the NHS); private sector including for-profit (largely in urban areas) and non-profits (NGOs with strong linkages to the public sector) community level service providers; and traditional medicine practitioners [4].

The Public sector, the National Health Systems (NHS) is the main provider of health services. The Health system is organized into central, provincial and district levels. At the central level is the Ministry of Health (MOH or MISAU) supported by 11 provincial health directorates (DPS) and 131 Districts for Service of Health and Social Affairs (SDSMAS).

The MOH oversees 11 provincial health directorates and 148 district health, women and social welfare directorates. These supervise implementation of health care in 1392 health units. At the national level, the MOH sets and manages health policies and programs and operational support services (including

procurement and distribution of medicines and medical supplies to the provincial level). Directorates oversee operations and management functions, including for primary health care services.

A district management team is responsible for supporting and managing health facilities. This shift to district level management has occurred as part of the continuing decentralization process [24]. However, district health directorates remain underfunded with limitations in their technical, managerial and workforce capacity that deters their ability to take on their devolved responsibilities [24].

Levels I and II represent the primary health care system, while Levels III and IV facilities provide secondary and tertiary healthcare services. At primary level, there are health centers and health posts which provide priority health programs. Health centers provide a comprehensive package of MCH services including antenatal care (ANC), labor and delivery, postpartum care, family planning counseling, HIV prevention and treatment, TB, malaria, health child and child-at-risk consultations, immunizations, and treatment for injuries and diseases. The MOH's policy calls for two MCH nurses at each health center, and one medical technician and general doctor at the larger centers [15].

The secondary level consists of the district, general and rural hospitals (generally serving more than one district and constituting the first level of referral). Both the primary and secondary levels provide primary health care services. At the tertiary level are provincial, central and specialized hospitals that offer differentiated care. There are three referral hospitals in Maputo, Beira, and Nampula.

Only 34% of facilities meet basic infrastructure requirements, and only 43% have priority drugs in stock and not expired [7]. NHS are not structured around an integrated package of services, and generally based on vertical programs "on the basis of international strategies" [4].

PRIVATE SECTOR

This is comprised of largely Private-not-for-profit (PNFP) health service providers – mainly Civil Society Organizations (CSOs) with strong ties to the public sector – and minimally private-for-profit providers, which are exclusively in urban areas [20]. PNFPs are dominated by international non-governmental organizations and religious entities who have historically been focused on HIV-related programs [10]. In 2005, there were 145 INGOs and their numbers are estimated to have increased substantially since then [10].

FINANCING

While the economy is witnessing an upsurge, investments in health have not increased at the same rate, and at a slower rate than in other SSA countries. Health spending per capita was $79 (PPP in 2011 constant international dollars) (Figure 14). Total health expenditures (THE) accounts for 7% of gross domestic product (GDP), and government health expenditure was 8.8% in 2014, which was still below the Abuja target of 15% of the government budget allocated for health. The out-of-pocket expenditure corresponds to 9.5% of THE – far below the sub-Saharan African country average of 35%. In 2015, 75% of the overall government budget was funded by external donors [26]. Investment in health is expected to grow to 23% in the 2014-2019 period, with that mostly being directed towards MCH programs (21%), malaria (22%), nutrition (16%) and EPI (14%) [4].

Figure 14. Trends in Total Health Expenditures as % of GDP and Government Expenditures, Mozambique

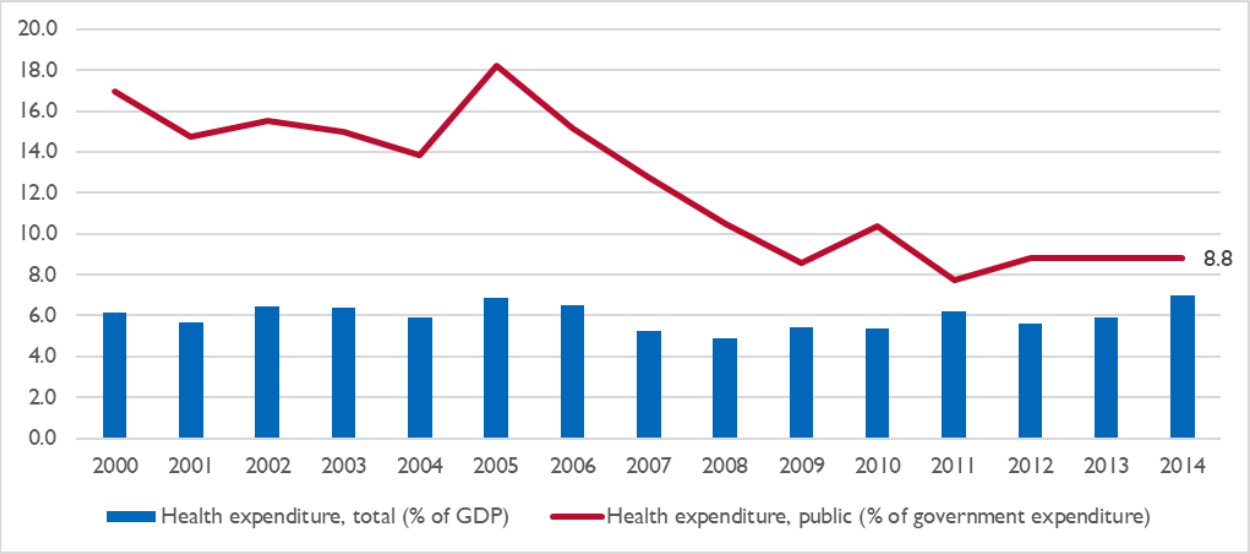
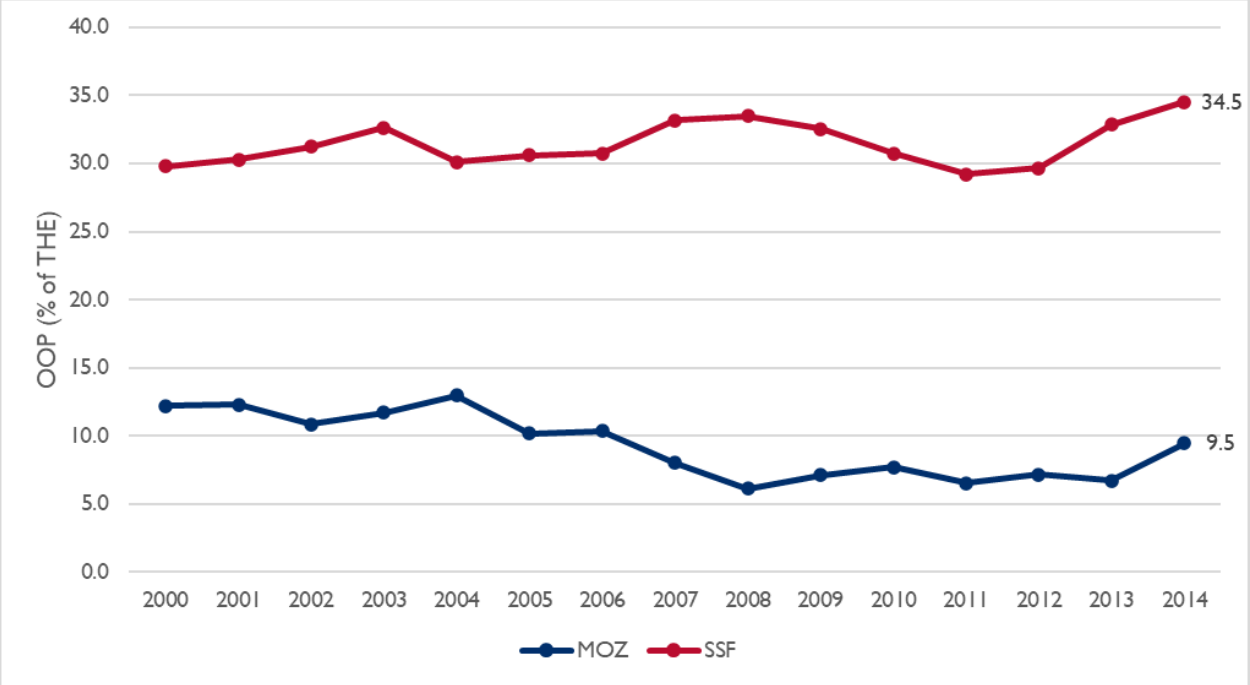


Figure 15. Out-of-Pocket Health Expenditures as % of Total Health Expenditures, in Mozambique compared to Sub-Saharan Africa Countries Average, 2000 – 2014



HUMAN RESOURCES FOR HEALTH

One of the major health system's challenges in the country is low health worker density (Table 4). There are approximately 34,500 health workers of which 3.2% are physicians [20]. Few facilities have a complete core team with major quality constraints particularly in remote areas. According to the GFF investment case, this is linked to insufficient per capita health expenditure and absenteeism (estimated at

23.4%) [7]. Provider capacity is low, compounded by low motivation and incentives, and a top-heavy workforce consisting largely of administrative staff.

Table 4. **Human Resources for health Indicator**	**2013**
Health worker density of dentistry personnel per 1,000 population	0.02
Health worker density of nursing and midwifery personnel per 1,000 population	0.4
Health worker density of pharmaceutical personnel per 1,000 population	0.06
Health worker density of physicians per 1,000 population	0.06

To respond to human resource needs and shortages, the MOH developed the National Human Resources for Health Development Plan 2008-2015 [27].

SUPPLIES AND MEDICINES

Logistics for drugs, vaccines and equipment is managed at central level through two institutions: The Central Medicines Stores (responsible for drug logistics, rapid tests and laboratory agents), and the Supply Center (responsible for managing supply chains for consumables, equipment). The pharmaceutical area is strongly dependent on external funding. In 2005, an evaluation confirmed the availability of high quality medicines as one of the main achievements in this sector; however, slow and inefficient procurement, inefficient warehousing and distribution, ineffective regulation, and shortage of qualified staff remain as major barriers [10].

DELIVERY PLATFORMS

COMMUNITY LEVEL: COMMUNITY HEALTH WORKERS

The presence of CHWs or APEs as they are known in Mozambique dates back to 1978. They trained and operated under a national program; however, the program was interrupted and stalled in 1989 during the civil war. Although it was formally re-launched, the program has not had much success due to issues with lack of training, resources and perceptions about the program within communities and amongst the APEs themselves. With support from the Ministry and partners, a Community Involvement for Health Strategy was developed in 2007, particularly to support the implementation of strategies such as ICCM [28]. According to the Health Sector Plan, by the end of 2012, around 1213 APEs had been trained across the country [4]. While officially considered volunteers, APEs receive monthly stipends from the Ministry of Health equivalent to US$40, which are sometimes paid by implementing partners in areas where they support iCCM [10].

The National Health Strategic Plan 2007 - 2012 mentions CHWs (APEs) and community treatment. Specifically related to child health, National Newborn and Child Health Policy proposed revitalization of CHWs, treatment at the community level and newborn care [18]. In 2010, a CHW Revitalization Programme was launched that details the treatment for pneumonia, diarrhea and malaria, followed by a CHW curriculum for home visits and treatment. While there are efforts to expand coverage and continuity of care through community health workers, challenges remain in financing, training, monitoring and integrating them within the health system and health facilities [7].

The MOH also created the Traditional Medicine Institute in charge of promoting knowledge and use of traditional medicine, improving traditional practitioners' practice. The plan states that around 4,743 traditional medicine practitioners (TMPs) have referred 60,972 patients to health facilities, and that some TMPs are community Directly Observed Treatment volunteers and offer home care. TMPs are being trained to better integrate and improve their engagement in health delivery.

PRIMARY HEALTH CARE

Since its inception in 1975, the National Health Service (NHS) rapidly expanded primary health care, making NHS the major provider of formal health services [24]. Despite successes in expanding infrastructure and high utilization rates, challenges within primary health care remain in chronic resource shortages, vertical funding and management challenges that limit coverage and quality [24].

An assessment of the primary health care system suggested that provider competencies are weak, and adherence to clinical guidelines are weak. They find that at current performance levels, the country will not be on track to meet the SDGs. There are also high levels of dropouts from child immunizations related to the little continuity in care delivery over time. Demand for care in the primary health care system is affected by perceptions of low quality [29].

TERTIARY CARE

The system is challenged by staff, equipment shortages and barriers of quality of care that affect access to antenatal care, obstetric care, and newborn care [17, 30]. There is a need to increase the number of maternity wards that offer basic and full emergency obstetric care packages that are equipped with full birthing kits [4].

CONCLUSIONS

- Through extensive investments in health and infrastructure in the past few decades, Mozambique has managed to drastically reduce the rates of child mortality and reach its MDG targets for under-five and infant mortality. Major improvements were seen in maternal mortality. Challenges remain in relation to targets and coverage interventions that require an effective and efficient health system such as access to family planning, newborn and obstetric care.

- Mozambique has succeeded in its development and health agenda through the support of a large and diverse network of donors and partners. Investments into the system, particularly its primary health care system, has been and continues to be through vertical programs and funding. While there are efforts to coordinate donor engagement, and integrate implementation at district and facility levels, this is a major bottleneck in moving forward.

- Decentralization is moving forward, and this is a focus of the PESS 2014 – 2019. The lack of capacity at district level to take on devolved responsibilities slows down the process. Addressing these implementation barriers will be critical in scaling up integrated programs to address disparities in different districts.

- There are strong efforts to train and integrate CHWs to respond to RMNCAH, and PESS includes targets to scale-up the number of CHWs to meet 70% of the number needed for service provision. There are regulatory barriers in terms of minimum requirements for hiring and training CHWs; if these targets are to be met, then these barriers have to be addressed.

- In addition to supply-side interventions that respond to health system's constraints, there is a need for demand-side interventions to improve awareness about available services, engage and involve community in planning and implementation, and incentivize women and men to use reproductive, child and maternal health services.

- Accountability and transparency are major goals of the government and donor partners for Mozambique's development and health strategy. For RMNCAH targets and goals to be met, the indicators that monitor accountability and transparency should be included in RMNCAH implementation plans and activities (Appendix A includes the indicators as outlined in the PESS 2014-2019).

APPENDICES

APPENDIX A. RMNCAH INDICATORS AND TARGETS – SELECTED FROM PESS 2014 – 2019*

		Baseline	Year	Source	2019 Target
Reduction of maternal and neonatal mortality	MMR (per 100,000 livebirths	408	2011	DHS	190
	NMR (per 1000 livebirths)	30	2011		23
	SBA	54.3%	2011	DHS	75%
	Unmet contraception needs	28.5%	2011		20%
	Contraception rate	11.3%	2011	DHS	30%
Improvement in child health and nutrition	DTP3 Coverage (12-23 months	70.9%	2011	DHS	94%
	Under-five chronic malnutrition	43%	2011	DHS	17%
	U5MR (per 1000 livebirths	97	2011	DHS	55
	IMR (per 1000 livebirths)	64	2011	DHS	45
	Low birth weight rate	6.8%	2011	DHS	4.5%
Access/utilization	# (and %) of HIV positive pregnant women that received ART in the last 12 months for PMTCT	80,779 (79%)	2012	HIS	90%
	# of children (and % receiving ART)	25,891 (22%)	2012	HIS	80%
	% of fully vaccinated children	78.8%	2012	HIS	94%
	Ratio of health professionals in general medicine, nursing and obstetrics/MCH per 100,000 people	68.2	2012	e-SIP	77
	Exclusive breastfeeding for infants between 0-5 months	42.8%	2011	DHS	50%
	Institutional births coverage	63.8%	2012	HIS	75%
	PNC coverage	62%	2012	HIS	90%
	# if APEs providing services at the community level (and % in relation to APEs needed)	1,213 (24.2%)	2012	DEPROS	3,550 (71%)
	% new users of modern contraceptive methods	24.4%	2012	HIS	32%
Quality/ Humanization	Acute malnutrition recovery rate	62%	2012	HIS	80%
	% under-five children with ARI symptoms receiving antibiotics	12.1%	2011	DHS	40%
	ANC coverage (4 visits)	51%	2011	DHS	80%
	Intrapartum stillbirth rate	0.23%	2012	HIS	0.15%
Equity	Inhabitants/health facility	16,300	2012	HIS	TBD
	Beds/1000 inhabitants	0.86	2012	HIS	>1
Effectiveness and efficiency	Individual productivity (service unit/staff member)	5,689	2012	HIS	5000-6000
	DTP1-DTP3 dropout rate	8.4%	2012	HIS	5%
Improved partnerships	Proportion of external funds on budget and on-cut	27%	2012	REO/EFS	>90%
	# (and %) of health facilities with established and functional co-management committees	349 (24%)	2012	DEPROS	715 (50%)
	Budget execution rate of funds managed by MOH	87%	2012	PNCT	95%

Transparency and Accountability	% budget needed to purchase contraceptives met by the State budget	5%	2012	SB	12%
	% of provinces that satisfactorily meet required supply chain management control and drug dispensation procedures	33%	2012	CMAM	90%

* Only RMNCAH and RMNCAH-related indicators and 2019 targets are included here, adapted from PESS (Table 2. Health Sector Indicator Framework and PESS 2014-2019 Targets).

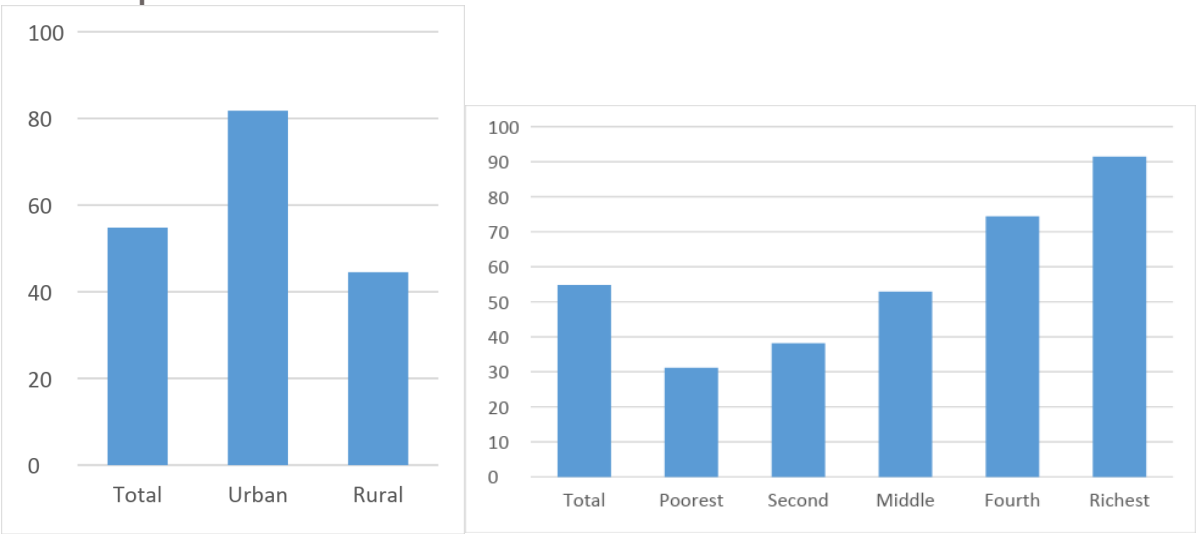
APPENDIX B. LIST OF KEY STAKEHOLDERS IN MOZAMBIQUE

This is only a list of key players since all NGOs are too many to list here.

	Multilateral and international financial institutions
ADB	Africa Development Bank
EC	European Commission
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
UNFPA	United Nations Fund for Population Activities
UNICEF	United Nations Children's Fund
WB	World Bank
WFP	World Food Programme
WHO	World Health Organization
	Bilateral Institutions
AECID	Agence Espanola de Cooperacion International para el Desrrollo
AFD	Agence Francaise d Development
CIDA	Canadian International Development Agency
DANIDA	Danish International Development Agency
DFID	UK Department for International Development
FINIDA	Finnish International Development Agency
FICA	Coeperation Flanders
GTZ	German Development Agency
IRISH AID	Ireland
	Italian Cooperation
JICA	Japanese International Cooperation Agency
NORAD	Norwegian Agency for Development Cooperation
SDC	Swiss Development Cooperation
	The Netherlands
USAID	US Agency for International Development
	Foundations and NGO networks
MONASO	Network of national NGOs working on HIV/AIDS
NAIMA	Network of International NGOs working on HIV, TB, and malaria
	The Clinton Foundation
JHPIEGO	Johns Hopkins Program for International Education in Gynecology and Obstetrics
Pathfinder	Pathfinder International
HAI	Health Alliance International

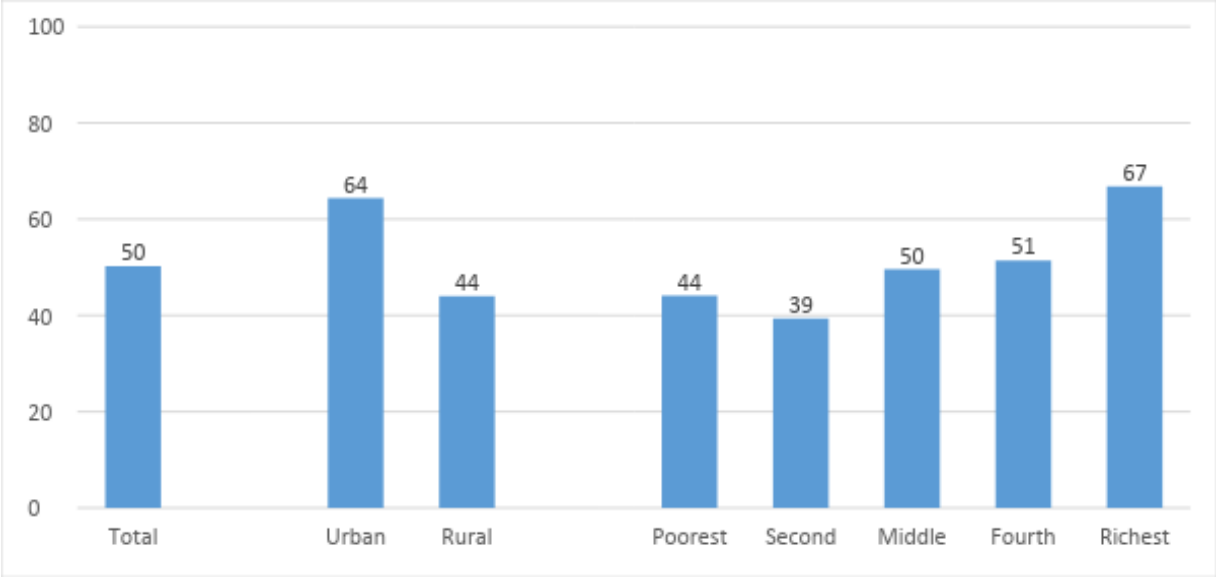
APPENDIX C. ADDITIONAL FIGURES AND GRAPHS

Figure c1. Disparities in Coverage of Institutional Deliveries, by Residence and Wealth, Mozambique 2011



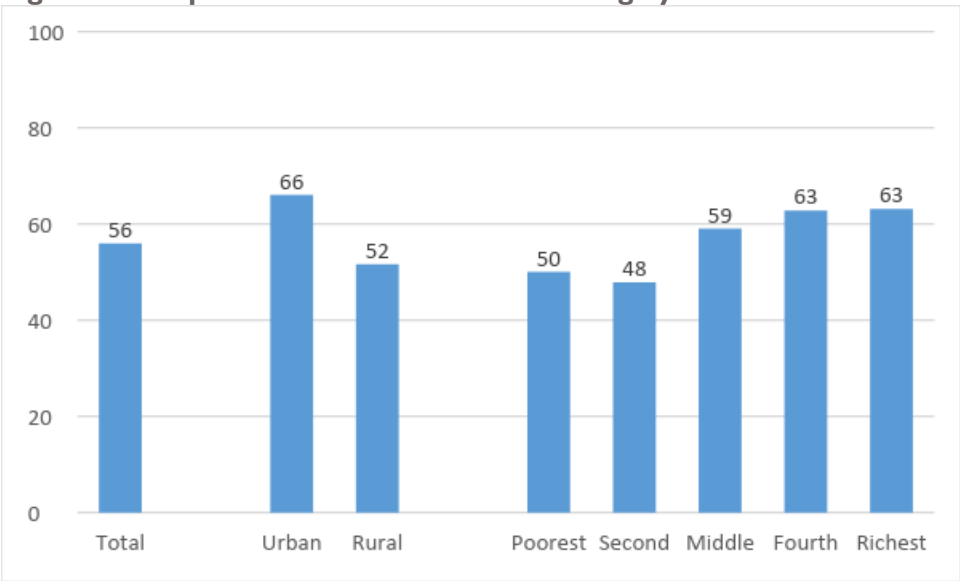
Source: DHS, 2011 (http://data.unicef.org)

Figure c2. Disparities in Pneumonia care-seeking by Residence and Wealth, Mozambique 2011



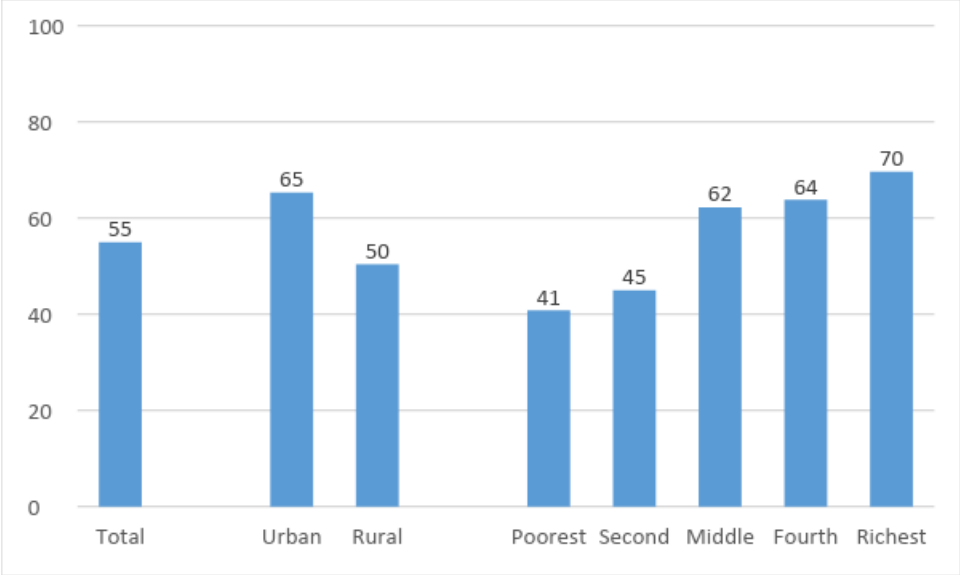
Source: DHS & MICS (http://data.unicef.org)

Figure c3. Disparities in Diarrhea care-seeking by Residence and Wealth, Mozambique 2011



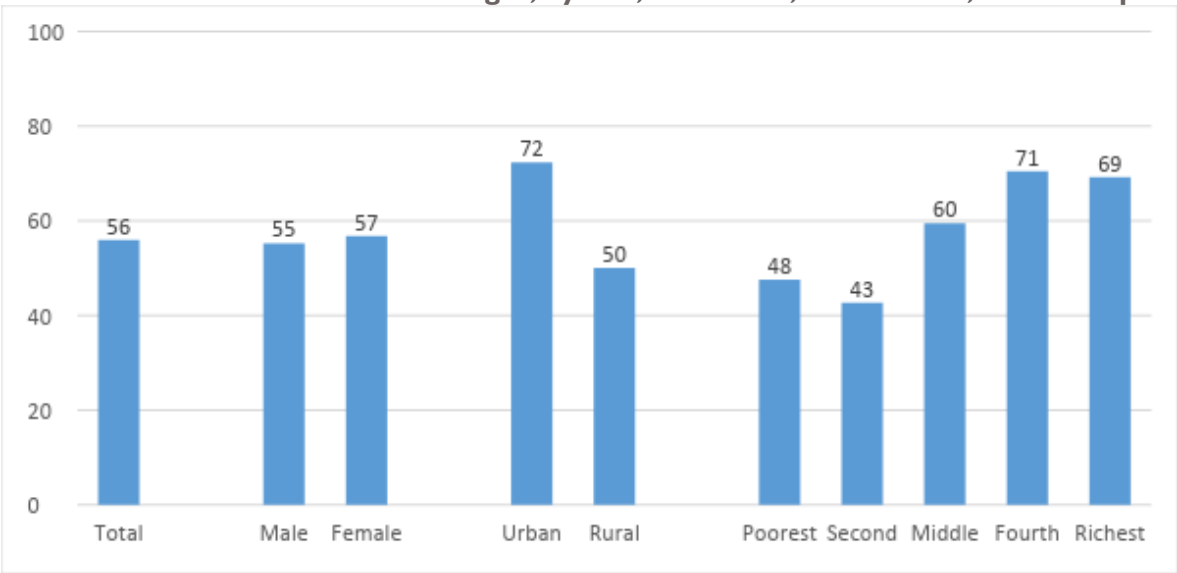
Source: DHS (http://data.unicef.org)

Figure c4. Disparities in access to ORS, by Residence and Wealth, Mozambique 2011



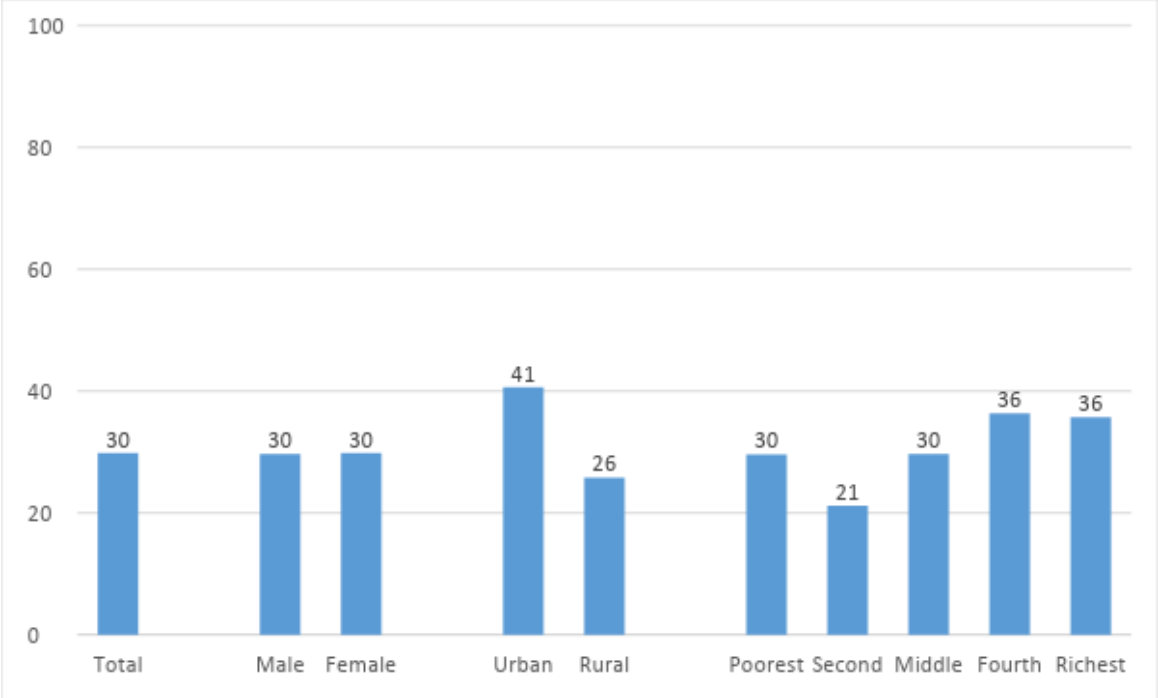
Source: DHS & MICS (http://data.unicef.org)

Figure c5. Percentage of children under five years old with fever in the last two weeks for whom advice or treatment was sought, by Sex, Residence, and Wealth, Mozambique 2011



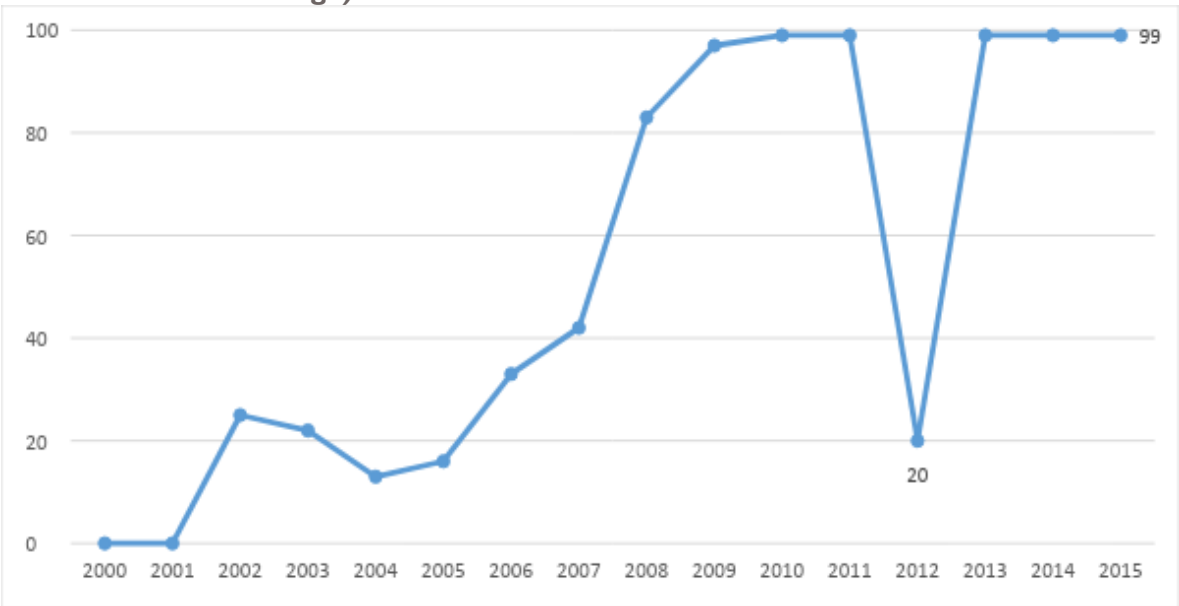
Source: DHS & MICS (http://data.unicef.org)

Figure c6. Malaria Diagnostics Usage: Percentage of children 0-59 months of age who had a fever in the last two weeks and who had a finger or heel stick for malaria testing, Mozambique 2011



Source: DHS & MICS (http://data.unicef.org)

Figure c7. Vitamin A Supplementation: two dose coverage - proportion of 6 to 59 month-olds receiving two high-dose vitamin A supplements in a calendar year (lower of semester 1 and semester 2 coverage)



Source: UNICEF global databases, 2017, based on administrative reports from countries

Other Health Issues

Figure c8. HIV

	Estimated number of pregnant women living with HIV, 2016	Estimated early infant diagnosis coverage (%), 2016	Estimated number of children living with HIV, 2016	# of children receiving ART, 2016	Estimated coverage of children receiving ART (%), 2016	Estimated number of children (aged 0-14) who died of AIDS, 2016
Mozambique	120,000	45	200,000	76,000	38	9,200
United Republic of Tanzania	92,000	40	110,000	54,900	48	6,500
Sub-Saharan Africa	1,300,000	44	1 900 000	804,000	42	100 000
Eastern and Southern Africa	970,000	52	1 400 000	688,000	51	59 000
West and Central Africa	330,000	20	540 000	116,000	21	43 000
World	1,400,000	43	2 100 000	919,000	43	120 000

REFERENCES

1. *Joint Assessment of the Mozambican Health Sector Strategic Plan (PESS, 2014 -2019).* 2013. International Health Partnership + Related Initiatives.
2. *Mozambique Multidimensional Poverty Analysis.* Maputo, Mozambique: Embassy of Sweden, 2019.
3. *Country Strategy for Development Cooperation: Mozambique 2016-2019*. Ministry of Foreign Affairs of Finland, 2017
4. Republic of Mozambique Ministry of Health. *Health Sector Strategic Plan 2014-2019*.
5. Republic of Mozambique Ministry of Health. *Global Funding Mechanism in Support of All Women and All Children: Global Financing Facility Investment Case Proposal*. 2017.
6. Institute for Health Metrics and Evaluation (IHME). *Global Burden of Disease Profile: Mozambique*. Seattle, WA: IHME, University of Washington, 2018.
7. *Program Appraisal Document on a Proposed Grant from the International Development Association and the Global Financing Facility to the Republic of Mozambique for a Mozambique Primary Health Care Strengthening Program.* World Bank. 2017.
8. *Mozambique Country Evaluation Brief*. Chr. Michelsen Institute. Norway Agency for Development Cooperation. 2016.
9. Mozambique. *Country Development Cooperation Strategy (CDCS) 2014 -2020*. United Agency for International Development, 2015.
10. *World Health Organization (WHO) Country Cooperation Strategy*. WHO Press, World Health Organization. Geneva. 2016
11. CIA Factbook. April 24, 2018; Available from: https://www.cia.gov/library/publications/the-world-factbook/geos/mz.html.
12. Firoz, T., et al., *Community perspectives on the determinants of maternal health in rural southern Mozambique: a qualitative study.* Reproductive Health, 2016. **13**: p. 123-131.
13. Sacoor, C., et al., *Health and socio-demographic profile of women of reproductive age in rural communities of southern Mozambique.* PLoS ONE, 2018. **13**(2): p. 1-16.
14. Bosch-Capblanch, X., Auer, C., Mandjate, S., Muloliwa, A., Guterwan, A., Curry, M., Wang, A. *Characterisations of the Health Information System in Mozambique.* Paper Based Health Information System in Comprehensive Care, 2017.
15. Curtin, B., Kantner, A, Alleman, P., Thatte, N. Evaluation, *USAID/Mozambique: Family Planning Assessment*. Global Health Technical Assistance Bridge II Project, 2012.
16. *Mozambique: Nutrition Profile.* United Agency for International Development, 2014.
17. de Graft-Johnson, J., et al., *Cross-sectional observational assessment of quality of newborn care immediately after birth in health facilities across six sub-Saharan African countries.* BMJ Open, 2017. **7**(3): p. e014680.
18. Bennett, S., et al., *Policy challenges facing integrated community case management in Sub- Saharan Africa.* Tropical Medicine & International Health, 2014. **19**(7): p. 872-882.
19. Guenther, T., et al., *Contribution of community health workers to improving access to timely and appropriate case management of childhood fever in Mozambique.* J Glob Health, 2017. **7**(1): p. 010402.
20. Republic of Mozambique Ministry of Health. *Comprehensive Multi-Year Plan (cMYP), 2015 -2019.* National Immunisation Program, 2014.
21. Republic of Mozambique Ministry of Health. *Multisectorial Plan for Chronic Malnutrition Reduction in Mozambique 2011-2014*, 2010.
22. *Acting on the Call Ending Preventable Child and Maternal Deaths: A Focus on Health Systems*. USAID, 2017.
23. *Centers for Disease Control in Mozambique*. Atlanta, GA: Centers for Disease Control, 2019.
24. Sherr, K., et al., *Strengthening integrated primary health care in Sofala, Mozambique.* BMC Health Services Research, 2013. **13**(Suppl 1): p. 1-12.

25. Magge, H., et al., *Tackling the hard problems: implementation experience and lessons learned in newborn health from the African Health Initiative.* BMC Health Services Research, 2017. **17**: p. 39-52.
26. Health Policy Project. Health Financing Profile, Mozambique, 2017.
27. Republic of Mozambique Ministry of Health. *National Plan for Health Human Resources Development (NPHHRD) 2008–2015.* Maputo, Mozambique: Ministry of Health National Directorate of Human Resources; 2008. Accessed February 18, 2019. <*hrhplan_english.pdf*>.
28. Inguane, Ceslo. *iCCM in Mozambique: InSCALE Stakeholder Analysis Report*, 2017. <*mozambique-stakeholder-analysis-report.pdf*>.
29. Geelhoed, D., et al., *Utilization of and Barriers to HIV and MCH Services among Community ART Group Members and Their Families in Tete, Mozambique.* AIDS Research & Treatment, 2013: p. 1-8.
30. Chavane, L., et al., *The magnitude and factors related to facility-based maternal mortality in Mozambique.* Journal of Obstetrics & Gynaecology, 2017. **37**(4): p. 464-470.
31. Arts, M., et al., *Knowledge, beliefs, and practices regarding exclusive breastfeeding of infants younger than 6 months in Mozambique: a qualitative study.* Journal of Human Lactation, 2011. **27**(1): p. 25-32.

ANNEX B: DETAILED METHODOLOGY

Child Health Leadership and Networks from 2000 to the Present: Country Perspectives

Final Study Description

USAID CIRCLE Project
October 28, 2018

DETAILED METHODOLOGY TABLE OF CONTENTS

BACKGROUND AND RATIONALE

In 2015, USAID commissioned a mapping of global child health leadership to better understand the evolution of child health since 2000, the current network of global stakeholders and leaders, and the potential implications for USAID's future investments in child health. This landscaping exercise explored how the global child health community might strengthen leadership and reposition child health to improve outcomes. To reach the Sustainable Development Goals (SDGs) for 2030, it was strongly recommended that countries be at the center of reframing the future child health agenda and that in-depth country reflections on child health progress, leadership, and the effectiveness of stakeholder networks be more systematically documented.

USAID proposes to conduct a country-focused analysis to begin to complement the global mapping report findings with the perspectives of some country level stakeholders. This follow-on activity will document context and facilitate a deeper understanding of child health leadership, networks, and political commitment for child health at the national level in three USAID priority countries: Mozambique, Tanzania, and Uganda. Findings are intended to contribute to investment, policy, and programmatic decisions and to enhance collaboration of stakeholders in these countries.

RESEARCH QUESTIONS

For the purposes of this study, child health is defined as the health of children from birth to 5 years. Quantitative measures and trends will be drawn from existing published sources. The under-five mortality rate (U5MR), the infant mortality rate, the neonatal mortality rate (NMR), and rates of wasting and stunting will be used to describe overall, impact level change in child health at country level over the past decade or more. Changes in impact are likely the result of improvements in multiple sectors including health, the economy, education and others. Intermediate outcome and output indicators will be used to describe the effects of health programs. Health program component indicators may relate to leadership, stakeholder collaboration, national policy and guidelines, service delivery interventions and approaches, human resources, information use, financing (including donors), and supply logistics.

Change in child health activities and results will be mapped over approximately 15 years starting about the year 2000. This starting point was selected based on shifts in the support of child health at the global level and availability of existing country data on child health resources, strategy, and outcomes such as the timing of health sector five-year plans. The focus will be on the national level for each country and data gathering will be limited to this level. Each country will be considered a separate case study, and all country case studies will be reviewed together to identify similarities and differences in factors that shaped progress in child health.

The aim of the study is to understand the effectiveness of leadership and stakeholder networks in improving child health over the past 15 years in the selected countries. This study will also suggest how these, and other drivers of change might be harnessed to advance child health going forward, especially for USAID. More specifically, the study will answer the following questions:

- What strategies were employed to improve child health over time? (Strategies are defined as policies, plans of action, implementation and their results)

- What were the key facilitators and barriers to progress in child health since approximately the year 2000?

- Who were important leaders and organizations in child health in each country and what role did they play to influence progress and results?

    a. Applying organizational network analysis theory, what were the structure, relationship characteristics, and dynamics of country child health organizations and networks?

    b. What role did USAID contributions play in progress in child health, particularly with the Call to Action for Child Survival[3], A Promise Renewed (APR)[4], and Ending Preventable Child and Maternal Death (EPCMD)[5] initiatives?

- Applying a conceptual framework developed by Shiffman and others,[6] what factors shaped the development of child health networks? What was their influence on priorities, policy and results in each country?

As shown in Table 1, the Shiffman framework identifies factors that shape the development and effectiveness of networks in three broad categories including: Issue Characteristics (in this case child health, Network and Actor Features, and the Policy Environment.

Table 1. Network Emergence and Effectiveness

Network emergence and effectiveness are more likely if….	
Issue Characteristics	
Severity	Problem is perceived to have high mortality, morbidity or cost
Tractability	Solutions are perceived to exist and are not controversial
Affected groups	Group is easy to identify and viewed sympathetically
Network and Actor Features	
Leadership	Capable, well connected, respected champions exist
Governance	There are appropriate governing structures able to facilitate collective action
Composition	Diverse actors are involved and well linked (creativity)
Framing strategies	Issue is positioned so that it resonates especially with political elites
Policy Environment	
Allies/opponents	Groups interests are aligned
Funding	Donor funding is available and applied
Norms	It is an issue that many expect will be addressed

[3] https://www.unicef.org/childsurvival/index_62639 accessed 06_04_2018

[4] https://www.apromiserenewed.org accessed 06_04_2018

[5] https://www.usaid.gov/ActingOnTheCall accessed 06_04_2018

[6] Shiffman, Quissell, Schmitz, Pelletier, et al. A framework on the emergence and effectiveness of global health networks. Oxford University Press: Health Policy and Planning, August 29, 2015.

- Building on what is learned about leadership and stakeholder networks, what might be done differently by USAID and others to enhance progress on child health over the next 5 to 10 years in the selected countries?

STUDY DESIGN

A. SUMMARY OF STUDY METHODS

Methods to be utilized in the country analysis include a desk review and secondary data analysis, in-depth interviews with child health stakeholders at national level, an organizational network analysis (ONA), and facilitated findings reviews. Table 2 illustrates the relationship among methods, research questions, and the type of data collected.

Table 2. Study Methods and Research Questions

Method	Research Questions						
	A Strategies	B Enablers & Barriers	C Call to Action, APR, EPCMD	D Past Leaders, Organizations, Partnerships	E Recent Leaders, Organization networks	F Network Factors (Shiffman *et al.*)	G Way Forward
Desk Review*	✓	✓	✓	✓	✓	✓	
In-depth interviews	✓	✓	✓	✓	✓	✓	✓
Organizational network analysis					✓	✓	✓
Group reviews	✓	✓		✓	✓	✓	✓

*Data for desk review will not be collected from participants in study countries or globally, but will be collected from published and gray literature reports, documents, and websites.

B. CHILD HEALTH TRACER INTERVENTIONS

The study will document the evolution of child health programs and results in terms of strategy, leadership, and stakeholder network effectiveness. Key child health interventions will be "traced" in greater detail over time in each country to document if and how these factors affected changes in child health program performance. These topics (also referred to as "tracer interventions") include:

- Integrated Management of Child Illness (IMCI) - integrated Community Case Management (iCCM)
- Child Immunization
- Complementary feeding of young children

- Newborn Health (Kangaroo Mother Care [KMC], management of Possible Serious Bacterial Infection [PSBI], milestones from Every Newborn Action Plans)[7]

The tracer interventions are not mutually exclusive; interactions within and between topics are expected.

IMCI and iCCM were chosen because they are the most common approaches used for integrated service delivery for child illness especially in sub-Saharan Africa (SSA), and an extensive review has recently been completed. Newborn health was chosen because NMR has been increasing rapidly as a proportion of U5MR in countries and consequently greater attention has been paid to it over the period of interest. Child immunization has been the most effective health intervention for reduction of child mortality since the late 1980s and is primarily provided through government service. Nutrition expands the scope of the review to include the most important underlying condition for child survival and because programs are often managed through different divisions and across sectors. This will be further focused on complementary feeding of children under 2 years.

C. COUNTRY SELECTION

Among USAID focus countries, specific study countries were selected based on rate of child mortality reduction, political stability, domestic resources for health, PMI presence, GFF engagement, health systems strength, and equity. Other selection criteria included willingness and feasibility of Mission and MOH participation in the study given level of effort needed within a specified time frame. Resources limited the number of countries that might have been included and feasibility of participation further limited the geographic scope and range of health system capabilities among countries. Thus, findings will be primarily applicable to each country. As noted in Table 3, the three countries selected include Mozambique, Tanzania, and Uganda.

Table 3. Country Selection Criteria

Country	2017 MCH Funding in USD (million)	Domestic Resources for health (% of GDP)	GFF	PMI	Political Stability	Health System Service capacity score assigned by USAID	Equity index	Annual Under Five Mortality Reduction Rate	Gavi
Mozambique	18,000	13%	first wave	yes	Stable	Medium	Low	5.6%	yes in 2018
Tanzania	16,000	17%	first wave	yes	More stable	Medium	Low	5.3%	yes in 2018
Uganda	16,000	13%	first wave	yes	Stable	Medium	Medium	7.3%	yes in 2018

[7]The indicators available for tracking newborn health are not particularly robust hence more recently developed indicators for KMC and PSBI case management will be sought. If these are not available, country-reported ENAP indicators will be used.

D. ETHICAL CONSIDERATIONS

The study protocol will be submitted to institutional review boards (IRBs) in the United States, Tanzania, Uganda and Mozambique for research ethics review according to local requirements. Qualitative in-depth interviews, organizational network analysis participation, and group meeting participation will be voluntary and confidential. All interviews will begin with a standard, written informed consent process. Interview recordings, transcripts, coded interviews, and any qualitative written submissions will be stored by a unique code rather than by individual information and will be password protected. Any illustrative quotes used in reports will not be identifiable by person or by organization, and written permission for use will be obtained beforehand. Raw qualitative data will not be submitted to public databases nor to the funder and will be destroyed within three years after reports are published.

E. CULTURAL AND LANGUAGE CONSIDERATIONS

Interviews and meetings will be conducted in English in Tanzania and Uganda, and in Portuguese in Mozambique. All respondents in Mozambique will have worked at the national level where the official language used is Portuguese. For study instruments, transcripts, and reports, English will be used in Tanzania and Uganda. For Mozambique, study instruments will be translated from English to Portuguese, translated back and finalized for use. Transcripts will be entered in Portuguese and translated into English for coding and analysis. Reports will be written in both English and Portuguese.

In-depth interviews will be conducted at a convenient time and place for the respondent, in a quiet, private location to ensure confidentiality.

STUDY METHODOLOGY

A. DESK REVIEW

The desk review is the first phase in the larger study. Preliminary information related to child health outcomes and associated problems will be collected from peer-reviewed literature as well as global and local reports and policy documents to understand and better characterize the evolution and status of child health. Desk review data will not be collected from study participants in-country or globally. The collected data will include historical trends of mortality rates and coverage of key related interventions, as well as information describing barriers and facilitators to developing, implementing, and scaling-up child health interventions in the context of government health systems and other important sources of health care provision. Table 4 summarizes the tools to be used to collect and organize desk review data.

Table 4. Desk Review Tool Summary

Name and Purpose	Data Source	Data Collection Tool
Child Health Trends and Indicators: Develop an epidemiologic and demographic profile of child health	• Peer-reviewed publications • Global and national policy documents and reports • Partnership for Maternal, Newborn, Child Health (PMNCH) Millennium	Attachment A; Attachment B, Worksheets No. 1 and 2

Name and Purpose	Data Source	Data Collection Tool
globally and for each country and for comparison	Development Goal (MDG) success factor studies, Countdown 2015 case studies • Official MDG reports • IMCI Grand Convergence review • Secondary quantitative data sources such as Demographic and Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS) • Demographic data from http://www.census.gov/population/international/ • U5MR and cause of death http://childmortality.org • World Development Indicators	
Country Health Systems Profile: Develop a profile specific to major child health programs for each country and the platforms that were/are used to deliver them (e.g. community health workers, decentralized district management platforms, etc.)	• National Demographic data • National health plans and policies • National health accounts • Peer-reviewed or grey literature analyses using DHS; Service Provision Assessment (SPA) surveys; Service Delivery Indicators (World Bank) • UNICEF RMNCH Landscape Analysis • Countdown 2030 database	Attachment B: Worksheet No. 3
Tracer Interventions Process Timelines for each country: For IMCI-iCCM, Child Immunization, Complementary Feeding, and Newborn Health, map strategies, including global initiatives and country level policies by year, outcome domain; partners involved, budget; and results of monitoring and impact evaluations. Note barriers and enablers to progress and document effects of the Call to Action, APR, and EPCMD.	• USAID child health websites, national and country level offices • National health plans and policies • Program and health sector evaluations • DHS • MICS • EQUIST: www.equist.info	Attachment B: Worksheet No. 4
Stakeholder roles and actions for each country: Map key stakeholders and determine their role, investments and/or actions,	• Global and national policy documents and reports • Websites of different organizations such as governments, partners, and foundations • USAID country Mission documents	Attachment B, Worksheet No. 5

Name and Purpose	Data Source	Data Collection Tool
and agendas in relation to child health generally, and for tracer interventions		
Overall Child Health Program Process Timelines: To summarize and document barriers and facilitators of progress for child health overall, including the political economy of child health.	• Peer-reviewed literature • USAID child health strategies and reports • Countdown case studies • PMNCH success factors studies • MOH annual reports	Attachment B, Worksheets No. 6a-d

Data collection and analysis for each component of the desk review will occur concurrently and iteratively. Citations for documents reviewed will be stored in the data collection worksheet (Attachment B: Worksheet No. 0) and Endnote, a reference manager software.

B. IN-DEPTH INTERVIEWS

The purpose of the in-depth interviews (IDIs) is to seek expert and experienced opinion on what contributed to or impeded momentum and achievement of child health results in each country since around the year 2000. This includes what and how key strategies worked (or didn't), the role of leaders and leadership processes, and how factors such as governance and coordination, the policy environment, and the framing of child health influenced progress. Open ended questions and probes will be used to document evidence of progress related to these contributors. Progress may be demonstrated by the promulgation of policies, priority setting, resource allocation, harmonization of effort, critical systems performance, and/or coverage of effective interventions. In addition, respondents will be asked to reflect on future opportunities and the most effective way forward from both organizational and collaboration perspectives.

Approximately 15 to 20 semi-structured, IDIs will be conducted in-country to document child health program evolution and results from approximately 2000 to the present. Respondents will be selected based on depth of knowledge and experience with child health and its components over this period and will represent a range of organizational affiliations, qualifications, and specific areas of expertise.

Table 5. Types of Respondents

Types of Organizational Affiliation	Sample Areas of Expertise	Sample Qualifications
Country government (e.g. MOH, MOF)	IMCI-iCCM Immunization Child nutrition Newborn health Maternal/reproductive health Health systems Supply management	Doctor, health worker Economist Program director Program manager Researcher Donor Business manager Advocate
Multilaterals (e.g. UNICEF, WHO)		
Global Partnerships (e.g. Gavi, GF)		
Bilateral donors (e.g. USAID, DFID)		
Foundations (e.g. Gates, CIFF)		
Academic Institutions		
Non-Governmental Organizations		
Faith-based Organizations (FBOs)		

Professional Associations Private Sector (e.g. drug suppliers)	Policy and planning HR/Training Information systems	

Potential respondents will be identified through the desk review and in consultation with the USAID Mission and technical leadership in each country. One master list of potential respondents will be created for the IDIs and for the ONA (described below). The initial list for the IDIs and ONA interviews will be reviewed and prioritized into first-tier respondents (highly knowledgeable/experienced in child health along the time frame of interest) and second-tier respondents (to balance input, fill gaps - as time allows). In addition, any individuals or important actors suggested by respondents during interviews will be noted and continuously reviewed. Additional interviews may be done with those identified, if further detail or clarification is needed, if they fill significant gaps in time-frame, content or representativeness, or if they contribute to triangulation of key information. Ultimately the master list will be finalized to list only those scheduled for interviews for the IDIs and for the ONA. Code numbers will be assigned to each name for use in identifying respondents on the data collection instruments, recordings, and transcripts.

The interview instrument (See Annex C) is designed based on the study questions and experience with the global child health leadership study, and will be refined by desk review findings, USAID Mission, and local researcher review.

C. ORGANIZATIONAL NETWORK ANALYSIS (ONA)

In recent years, there has been an effort to examine how social and organizational networks impact health systems and health outcomes.[8] Organizational Network Analysis is a methodology developed to study how individuals, communities, organizations, and other entities connect and interact with one another.[9] It uses quantitative methods and associated visualization software to examine the relationship between agents (people and organizations) to describe the pattern of relationships in the whole network and positions of organizations in the network to understand system processes and aspects of performance. Through this process, ONA uncovers the patterns of complex interactions that occur within and between different types of institutions, organizations and government departments.

The ONA for this study will document the recent relationships and positions of organizations working on child health. It will help assess the extent to which certain organizations have leveraged their positions and forged successful partnerships and networks to influence policies, plans, and programs in child health. Additional areas of analysis include establishing the key organizations that are: a) influential, b) sought for the latest evidence, and c) recognized leaders that can bring the child health community together to discuss controversial topics and build common goals and directions for the future.

The ONA methodology will contribute to the understanding of the top "network and actor features." This includes identification of key leadership organizations based on confirmed relationships in the child health network, the overall density of relationships, the extent to which there are isolated sub-groups

[8] For a review of these efforts, see Varda, D., Shoup, J.A., and Miller, S. 2012. A systematic review of collaboration and network research in the Public Affairs literature: Implications for public health practice and research. *American Journal of Public Health*, 102: 564—571; Friedman, S.R. and Aral, S. 2001. Social networks, risk-potential networks, health, and disease. *Journal of Urban Health*: Bulletin of the New York Academy of Medicine, 78:411-418.
[9] Valente, T.W., Coronges, KA, Stevens, GD, and Cousineau, MR. 2008. Collaboration and competition in a children's health initiative coalition: A network analysis. Evaluation and Program Planning, 31:392-402.

or clusters of organizations, and how they are linked into the overall network through "bridging" ties or organizations that provide important pathways for communication and coordination.

The ONA will determine how organizations are interacting and communicating around key themes of interest, the intensity of the interaction and the relationship quality. This will contribute to identifying opportunities and modalities for more effective stakeholder engagement and thus better child health results in the future.

In order to construct an accurate picture of organizational relationships, we have selected a recall period of 2015, or post MDGs until the present. (The desk review and qualitative survey will explore the longer historical trajectory of child health progress beginning around 2000.)

The basic starting point of a network definition is that it is viewed as a group of three or more organizations connected in ways that facilitate the achievement of a common goal.[10] Organizations and respondents will be identified through the desk review process, consultation with key informants in selected countries, and with USAID Missions. The list is likely to include national government (e.g., MOH, Ministry of Social Welfare); donors or development partners (e.g. USAID, UNICEF, WHO); financing partners (e.g. World Bank, GFF); implementing partners; private sector networks or private health providers; NGOs; FBOs; professional associations; and research institutions.

The master list of potential organizations and respondents as described above will also include respondents for the ONA. To get a more accurate picture of relationships, it may be necessary to seek out essential individuals who were engaged with a particular organization during the time period of interest but have either retired or have joined another organization.

The ONA questionnaire contains characteristics of the respondent and the organization, followed by a table that lists all the organizations in the study and notes whether a relationship exists (see Annex E). If a relationship exists, a series of questions are asked about the type of working relationship related to child health since 2015. These relationships are grouped into the categories of a) strategies, policies, plans, or legislation; b) capacity development; c) program implementation; and d) accountability mechanisms. These questions may be adapted to reflect individual country context.

Further questions in the survey explore the intensity of the relationship between the respondent organization and every other organization with which they have a relationship. This is organized by increasing levels of intensity: 1) communication - interactions as necessary to inform one another and/or access resources; 2) coordination - interactions to exchange ideas, build consensus, and ensure that overlap is minimized; 3) collaboration - having an ongoing, reciprocal working relationship.

The last area assesses the quality of the relationship between organizations as trust is a central component of a functional network. Relationship quality is measured by a 5-point Likert scale: poor, fair, good, very good, or excellent. Respondents are also asked to identify the five top organizations that have been: a) most influential in child health since 2015, b) who they would turn to for the latest

[10] Provan, Keith, Fish, Amy and Sydow, Joerg, Interorganizational Networks at the Network Level: A review of the Empirical Literature on Whole Networks, *Journal of Management* 2007 33:479-516.

research and evidence, and c) which are best suited to convening the child health community to discuss important and/or controversial issues in developing child health strategies, policies and programs.

Table 6. Definitions of ONA Measures

Measure	Definition
Degree centrality	Calculated by counting the number of adjacent links to or from an organization or a person. It was conceptualized by Freeman, 1979, as a measure of activity and it reflects the potential power of having direct relationships. These direct links reduce the reliance on intermediaries to access information or resources. The assumption is that more connections are better than fewer connections.
Betweenness centrality	Measures the extent to which organizations or individuals fall between pairs of other organizations or individuals on the shortest paths (geodesics) connecting them. It represents potential mediation or flow of information or resources between organizations in the network. It is used to assess power, as an organization may control the flow of information and potential resources, thereby increasing dependence of others who are not directly connected in the network.
Multiplexity	Describes multiple relationships among the same set of organizations. In this study four types of binary relationships are specified: 1) developing key strategies, policies, and legislation; 2) building capacity; 3) developing and implementing accountability mechanisms; and 4) implementing child health programs
Intensity	Describes the level of interaction between different organizations or nodes. Two measures of levels of intensity are used: frequency of interaction and type of interaction (communication, coordination or collaboration).
Relationship quality	Reflects how well a relationship fulfills expectations and needs of the involved parties and is a significant measure of relationship strength. Although no consensus has been reached on its dimensionality, studies consistently suggest trust and commitment as the key indicators of relationship quality. For this study, relationship quality is measured using a 5-point Likert scale: poor, fair, good, very good or excellent
Centralization	An expression of how tightly the network structure is organized around its most central point. The general procedure involved in any measure of graph centralization is to look at the differences between the centrality scores of the most central point and those of all other points. Centralization, then, is the ratio of the actual sum of differences to the maximum possible sum of differences.
Density	Defined as the sum of the ties divided by the number of possible ties (i.e. the ratio of all tie strength that is actually present to the number of possible ties). The density of a network may give us insights into such the speed at which information diffuses among the nodes and the extent to which organizations have high levels of social capital or constraint.

In-person interviews will be required for the ONA. In some instances, respondents for the IDIs and the ONA will be the same. Because it may lengthen the time requested of the respondent by 30 to 45 minutes, these respondents will be asked if this is feasible and if so, whether a longer, one-sitting

interview or a follow up interview would be preferred. In a one-sitting interview, the respondent will be interviewed using the IDI and the ONA instruments. If a follow-up interview is preferred, the IDI will be done first, followed by the ONA interview as soon as possible afterward. In other instances, the respondent may be a different person than for the in-depth interview, but from the same organization. In this case, the person will be invited separately. Separate informed consent will also be obtained for the ONA component.

D. GROUP REVIEW OF DATA AND FINDINGS

Study findings will be drawn from the three data collection methods of desk review, IDIs, and the ONA. To provide a check on early versions of key observations and findings within each country, a small group of key informants will be invited to participate in a confidential, facilitated meeting to review summary statements, to clarify their context, language, and accuracy, to identify any gaps in information, and recommend any further data checking or analysis as needed. The group review will take place after IDIs and ONA interviews are completed. At the simplest level, this process is intended to document "did we hear what we thought we heard?" This group meeting will also be used to characterize the future context for child health in country (5 to 10 years) and to identify opportunities for consideration of future policy and program directions based on early findings.

Participation in these country-level group meetings will be voluntary and written informed consent will be obtained beforehand. The meetings will not be recorded. Content notes of meetings will be kept without attribution to individual participants, and information will be summarized and synthesized and fed into the overall final report. There will not be separate reports, and notes will be destroyed within three years after the final report is published.

After the first draft country case study findings and conclusions have been completed, a meeting of local and international researchers from all three countries and possibly other child health thought leaders in sub-Saharan Africa will be held to compare and contrast findings and conclusions. The main purpose of this meeting will be to help country teams consider findings from a broader perspective and to identify any useful learning that may be shared among countries as they apply study results. For this meeting, report summaries only will be shared. Raw qualitative data, personally or organizationally identifiable data, and country group meeting notes from countries will not be shared. Participants in the meeting will not be individually quoted.

ANALYSIS

Desk review information will be presented in spreadsheets and timelines and separate reports prepared for each country. Quantitative information will be assembled in standard graphs and formats for each country for use during the facilitated reviews and overall analysis. Qualitative information, largely from other studies, will be extracted by questionnaire themes and factors and combined with IDI coded information during the analysis phase.

In-depth interviews will be recorded with permission, transcribed, coded, and excerpted in Dedoose, a web-based qualitative data analysis platform.[11] Interviews from Mozambique will be in Portuguese, transcribed, and translated before coding. First-level coding will be aligned with the questionnaire and include child health enablers and barriers, strategy themes including the tracer interventions, leadership, coordination, effects of the specific global initiatives, and future directions. Second-level coding will focus on identifying drivers of policy and priority for child health, including factors from the Shiffman et al. Framework and others. For example, these latter codes could include:

(Network and Actor features)

- Leadership in child health
  - Strong leader or champion
  - Weak or no leadership
- Governance
  - Statement of effective group action or coordination (past or present)
  - Statement of group inaction, weak coordination or lack of leading institution (past or present)
- Composition
  - Diverse interests among groups
  - Similar interests among groups
  - CSOs role
- Framing Strategies - public positioning of child health issue

(Policy environment)

- Level of political commitment (past and present)
  - Group aligned with CH
  - Opponent or competes with CH
- Funding for child health
- Norms and social values for CH

(Issue characteristics)

- Perception of severity of child health problems
- Perceptions of effectiveness of solutions or interventions for child health
- Importance of children as an affected group in need

Information will be excerpted by first- and second-level codes and summarized across interviews, comparing by respondent type and time frame. The information will be assembled together with desk review findings into process chronologies using the tracer interventions and trends in child health results.

[11]Dedoose Version 8.0.35, web application for managing, analyzing, and presenting qualitative and mixed method research data (2018). Los Angeles, CA: SocioCultural Research Consultants, LLC. www.dedoose.com.

The ONA data will be analyzed using UCINet software and visualization of network plots will be developed using NetDraw. We will use a confirmation process to measure relationships. The criteria indicate that both organizations need to acknowledge the relationship for the relationship to be listed in the confirmed results. The ranking of intensity and quality of relationship will use the lowest level identified if the organizations list different levels of engagement. We will use "incoming ties" as the metric for analyzing and to develop plots for the three nominations for organizations: most influential, resource for new knowledge or research, and best coordinator. Standard network measures listed in Table 6 will be used in combination with desk review and IDIs to address the study objectives.

The IDIs will provide historical information on stakeholders, stakeholder engagement, and coordination. The formal ONA will be done to more explicitly characterize connections and interactions over the recent past. The ONA information will be used to help shape conclusions and recommendations for future stakeholder engagement.

REPORTING

Study findings will be disseminated in reports and presentations to USAID, country stakeholders, and global stakeholders, and study participants (see Table 7). The main product will be country-specific case study reports and presentations including findings from the desk review, IDIs, and the ONA. A cross country report and overall slide deck will also be produced.

Table 7. Reports and Audiences

Focus	Audiences	Potential Products
USAID	Country USAID Missions MNCH Regional Bureaus PCMD Team	• Country-specific reports • Slide deck • Cross country report • Dissemination presentations
Country Stakeholders	Interviewees	• Country specific report executive summaries
	Country government and core stakeholder organizations	• Country-specific reports • Dissemination presentation
Global Stakeholders	Child Health Task Force Steering Committee	• Presentation • Country-specific reports • Cross country report

ANNEX C: INSTRUMENTS

Child Health Country Perspectives Study
In-depth Interview Guide Draft
Note: Adjust time period to reflect start year chosen for this country

Date:

Code Number of Respondent:

Main areas of expertise:

Interviewer:

BACKGROUND AND CONSENT

Thank you very much for setting aside time to talk with me today.

The USAID-funded CIRCLE Project is exploring progress on child health in this country by exploring the effects of leadership, governance, and networks on programs and outcomes over the past 10-15 years. You are being interviewed because you and your organization are important stakeholders in the child health community. This is a confidential interview that will take about an hour. First, I would like to review the consent form with you.

[Allow time for the respondent to read the informed consent form. Review the contents from all sections of the informed consent form with the respondent. (See attached form). Ask if he/she understands and agrees to continue. Ask him/her to sign the form, put it in the secure bag and provide one copy to the respondent.]

To make sure I capture all your feedback, is it all right with you if I record this interview?

Before I begin, do you have any questions?

INTRODUCTION

We would like to understand your perspective of the major strategies and events that helped or constrained achieving improved child health in [country]. For the purposes of this study, we would like to focus on approximately the past 15 years (since ~2000) and on all children under five years, including newborns.

1. **In the past 15 years, how have you engaged in child health?** *(Probe: any areas of specialization?)*

    a. **Which organizations have you worked for during this time?**

2. **What do you think were the most important successes for child health here?**

    a. **What were the biggest disappointments?** *(Probe: What were missed opportunities, if any?)*

3. **Were there any contextual changes that contributed to the success or failure of child health outcomes here? If so, what were they?** *(Probe: economic, political, development policy changes?)*

EVENTS AND STRATEGIES

Instruction to interviewer: Ask questions 3 and 4 for child health generally, then tailoring the topics to this respondent, ask 3 and 4 for specific examples (IMCI-iCCM, immunization, newborn health or nutrition-complementary feeding). Ensure that present day is included.

4. **Reflecting over the time period from 2000 to now, what were the major strategies and events that advanced the child health agenda and helped achieve results?**

5. **What were the major barriers or bottlenecks that critically challenged progress?**

6. **Were there external global or regional initiatives or situations that enabled progress in child health? If so, what were they?** *(Probe: EWEC, IMCI, PEI, PMI, HIV/Pepfar, SSA regional or AU initiatives.)*

7. **Were there external situations that created barriers or bottlenecks that challenged progress in child health? If so, what were they?**

If the Call to Action, APR, and/or EPCMD were active in this country, ask the following question.

8. **What did the Call to Action, APR, and/or EPCMD do in this country?**

    a. **How did [each] influence progress?** *(Probe: enabling and inhibiting)*

    b. **How would progress have been different if [each] had not been implemented here?**

LEADERS AND STAKEHOLDERS

9. **Who were important leaders (people in this country) that advanced the child health agenda?** *(Probe: nationals and where they sat)*

    a. **What did [leader] do that was important?**

10. **Were there any leaders outside the country that had an important effect here? If so, who were they and what did they do? (***Probe SSA and neighboring countries)*

11. **Who were leading organizations in earlier years in child health?**

    a. **What did they do? How were they influential?** *(Probe: what did they do to support the tracer interventions – IMCI-iCCM, child immunization, complementary feeding, newborn health?)*

12. How did the key stakeholders for child health work together? *(Probe: technical working groups, strategy development/review groups, ICCs, Newborn health, nutrition groups, CCMs, NGO coordinating groups)*

   a. **How effective was this coordination?** *(Probe for changes over time periods)*

13. How have stakeholders and their influence changed from [for each country identify time clusters around background, policy and program turning points and ask about each cluster]?

FACTORS

Instructions to interviewer for #14: Use the key strategies or events reported by the respondent in question 4. For strategy 'x'…

14. How did the *[strategy/event]* affect political commitment for child health? *(Probe for what affected priorities, policies/programs, resources)*

15. How would you describe country political commitment to child health now and in the context of Sustainable Development Goals? *(Probe: How is it prioritized relative to other health issues)*

   a. **Why is it at this level?**

   b. **What needs to be done to raise political commitment to child health now?**

THE FUTURE

16. What is your vision of success for child health 10 years from now?

17. What are the three most important things that should be done to more rapidly achieve that vision?

18. How would you strengthen the collaboration of organizations, groups, and partnerships to get these things done?

19. Is there anything else you would like to add? To ask us?

Thank you for your time.

Child Health Country Perspectives Study
Organizational Network Analysis Survey

BACKGROUND

1) **Name of your primary organization:** (*Insert dropdown menu)*
_____

2) **What is your position/job title?**
_____
   a. Head of Office
   b. Technical Director/Advisor
   c. Program manager/implementer
   d. Monitoring and Evaluation
   e. Researcher
   f. Any other_____(specify)

3) **How many years have you been in your position?**
   a. Less than 1 year
   b. 1-2 years
   c. 3-5 years
   d. 6-9 years
   e. 10+ years

4) **How many years have you worked with your organization?**
   a. Less than 1 year
   b. 1-2 years
   c. 3-5 years
   d. 6-9 years
   e. 10+ years

5) **Do you work full time or part time (less than 25 hrs. a week)?**
   a. Full time (25 hours or more per week)
   b. Part-time (less than 25 hours per week)

6) **How would you categorize your organization?**
   a. International NGO/PVO (has activities in more than one country)
   b. Local/national NGO or CSO (does not have activities outside the country)
   c. UN Agency
   d. Multilateral agency (World Bank, ADB, etc.)
   e. Bilateral agency (e.g. DfID, CIDA, NORAD, USAID, etc.)
   f. Academic/research institution
   g. Intergovernmental agency
   h. Professional association
   i. Network
   j. Project
   k. Media, newspaper, communications
   l. Consulting firm
   m. Other_____ (specify)

7) **What is the approximate number of full-time equivalent employees in your organization working in your country?**

8) **Overall, how important is improving the child health to the overall mission of your organization? (Please use a scale ranging from 1=very little importance to 5=great importance)**

9) **Please estimate the percent of your organization's work activities that are related to child health:**
   a. No activities related to child health directly
   b. 1-24%
   c. 25-49%
   d. 50-74%
   e. 75-100%

10) **[Excluding those who responded (a) to Q10]: What areas of child health does your organization work on?** ***Check all that apply***
   a. Breastfeeding
   b. Immunizations
   c. Complementary feeding
   d. Essential Newborn Care
   e. Prevention and treatment of childhood illnesses
   f. Prevention and control of micronutrient deficiencies
   g. Treatment of moderate or severe acute malnutrition
   h. Growth monitoring and promotion
   i. Prenatal care
   j. Post-natal care
   k. Routine child health information systems and reporting
   l. Child health surveys, assessments and surveillance
   m. Food security
   n. Water, sanitation and hygiene
   o. Early childhood development
   p. Other [please list]

11) **Does your organization engage in the following activities?** ***Please answer Yes or No***
   a. Policy dialogue and advocacy
   b. Program strategies/design
   c. Planning and budgeting
   d. Coordination
   e. Social and behavior change
   f. Service delivery/program implementation
   g. Scaling-up implementation
   h. Providing technical advice and expertise
   i. Capacity development/training
   j. Quality assurance
   k. Accountability and governance mechanisms
   l. Evidence generation, including evaluations, studies and research
   m. Knowledge management
   n. Support to your organization's field offices

o. Other activity (child health related) please specify

12) **Are there other organizations that you also currently work for or represent?**
   a. Yes
   b. No

13a. If yes, what are they? (List up to 2 responses)
1) _____
2) _____

ORGANIZATIONAL NETWORK ANALYSIS

In this section, we would like to know about the relationships you have had in the recent past with organizations. The organizations are presented along with a series of questions about different aspects of your how you are connected.

First, we would like to know whether your organization has a **relationship with another named organization or agency in *Column 2*. *If there is no relationship or if it's your own organization, then you can skip to the next row and do not answer any further questions in columns 3-9 for that organization.*** At the end, please enter up to five additional organizations with whom you interact and the types of linkages you have with them, if it's applicable.

Columns 3 relates to frequency of contact for any reason **since 2015, the end of the MDG era** with the named organization.

Columns 4-7 relate to the types of activities that you may have worked on with each organization **since 2015, the end of the MDG period.**

Column 8 refers to the highest level of intensity of interaction with an organization.
The options are: 1=**Communication** (interaction as necessary to inform others or to check on specific issues), 2=**Coordination** (moderate-intensity interaction to share new ideas, ensure that duplication/overlap is minimized, etc.), 3=C**ollaboration** (a close, on-going, reciprocal, working relationship); Only one option can be selected that reflects the highest level of connectivity.

Column 9 asks you to identify the overall quality of the relationship with a particular organization. (The choices are: 1= Poor; 2=Fair; 3= Good; 4=Very Good or Excellent)

Recent Relationship with Organizations

Column 1: Organization	**Columns 2: Existence of relationship**	**Column 3: Frequency of contact**	**Column 4: Type of working relationship - a**	**Column 5: Type of working relationship - b**	**Column 6: Type of working relationship -c**	**Column 7: Type of working relationship – d**	**Column 8: Intensity of working relationship**	**Column 9: Quality of relationship**
(1) Name of Organization	(2) Does your organization have a **relationship** with _____? **0=No 1=Yes 2=My own organization**	(3) About how often has your organization met with _____ (in person or phone/skype, etc.) for any reason **since 2015**? **0=Have not met 1=At least monthly 2= Quarterly (every 3 months) 3=Twice a year 4=Once a year 5=Only Once**	(4) Has your organization worked with ____ on child health related **strategies, policies, plans, or legislation since 2015**? **0=No 1= Yes**	(5) Has your organization worked with ____ on child health related **capacity development since 2015**? **0=No 1= Yes**	(6) Has your organization worked with____ to support **implementation of child health programs and interventions since 2015**? **0=No 1= Yes**	(7) Has your organization worked with____ to **develop, monitor, or implement accountability mechanisms** for child health **since 2015**? **0=No 1= Yes**	(8) What best describes your **organization's working relationship** with _____ **since 2015**? **1=Communication 2=Coordination 3=Collaboration**	(9) What is the **overall quality** of your organization's relationship with_____? **1= Poor 2=Fair 3= Good 4=Very Good or Excellent**
1)								
2)								
3)								
4)								
5)								
ADD all orgs								

13) **Please list up to five organizations that you believe have been most influential for contributing to improvements in child health (in order of influence with 1 being the most influential). That is, whose views, ideas, and/or research have been most listened to and have had the greatest impact. Influence might occur in any area (i.e., technical, functional, administrative, etc.).** ***Refer to the list from the ONA above if it helps.***

Most influential:

1. _____
2. _____
3. _____
4. _____
5. _____

14) **What organization do you look to for providing or having the latest evidence on child health for developing child health policies, programs, guidelines, training materials or capacity building of health workforce in child health.** ***Again, please list up to five such organizations in order of importance starting with the number 1, as the first organization you turn to. Refer to the list from above if it helps.***

Provide latest evidence in child health:

1. _____
2. _____
3. _____
4. _____
5. _____

15) **Who would you say have been or still are the best coordinators child health, that is, who have the respect and credibility from other organizations to working effectively with multiple stakeholders?** ***Again, please list up to five such organizations in order of importance starting with the number 1, as the first organization you nominate for this coordinating role.***

Best child health coordinators:

1. _____
2. _____
3. _____
4. _____
5. _____

FOR MORE INFORMATION

Coordinating Implementation Research to
Communicate Learning and Evidence Project (CIRCLE)
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