National Child Health Strategy – Every Newborn Action Plan (ENAP)

Maldives

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List of abbreviations

CSC	**Civil Service Commission**
DHS	**Demographic and Health Survey**
ECD	**Early Childhood Development**
EPA	**Environmental Protection Agency**
FPA	**Family Protection Authority**
HF	**Health Facility**
HPA	**Health Protection Agency**
HRCM	**Human Rights Commission of Maldives**
HSD	**Health Services Division**
IEC	**Information, Education and Communication**
IGMH	**Indira Gandhi Memorial Hospital**
IUM	**Islamic University of Maldives**
JJU	**Juvenile Justice Unit**
LGA	**Local Government Authority**
QA	**Quality Assurance**
MBS	**Maldivian Blood Services**
MDG	**Millennium Development Goals**
MNDF	**Ministry of Defense and National Security**
MIA	**Ministry of Islamic Affairs**
MoLG	**Ministry of Law and Gender**
MOHI	**Ministry of Housing and Infrastructure**
MOFT	**Ministry of Finance and Treasury**
MOFA	**Ministry of Fishery and Agriculture**
MOE	**Ministry of Education**
MED	**Ministry of Economic Development**
MOEE	**Ministry of Environment and Energy**
MOYS	**Ministry of Youth and Sports**
MOH	**Ministry of Health**
MOHA	**Ministry of Home Affairs**
MOJ	**Ministry of Justice**
MOT	**Ministry of Transport**
MWSC	**Maldives Water and Sanitation Company**
NCD	**Non Communicable Diseases**
NDA	**National Drug Agency**
NDMC	**National Disaster Management Council**
NGO	**Non Governmental Organization**
UNICEF	**United Nations Children's Fund**
WHO	**World Health Organization**

I. Introduction

Maldives has achieved five out of eight Millennium Development Goals already by 2010, making it South Asia's the only MDG+ country. Strong emphasis on the social sectors has been one of the key factors to sustain concerted efforts of the Government and its international partners in eradicating extreme poverty and hunger (MDG-1), achieving universal primary education (MDG-2), reducing child mortality(MDG-4),improving maternal health (MDG-5), and combating HIV/AIDS (MDG-6)[1]. Rapid economic growth in the last decades was instrumental in ensuring almost universal coverage with basic social services and in improvement of living conditions. Furthermore, the rate of improvements in achieving gender equality (MDG-3), ensuring environmental sustainability (MDG-7) and developing a global partnership for development (MDG-8) has been slower and requires intensified efforts[2].

The country has made significant progress in reducing child and infant mortality, yet high neonatal mortality, accounting for around 66% of all deaths in under-five children in 2012, represents a major challenge. Child malnutrition and morbidity hinder full physical, cognitive and social development of children[3]. In addition, emerging issues related to adolescent health represent another critical challenge to be urgently addressed[4].

The Maldives Every Newborn Action Plan is the fulfillment of a commitment made to the global community to end all preventable newborn deaths, and the 67th World Health Assembly at Geneva in May 2014. The Action Plan is in synchrony with the Global Every Newborn Action Plan (2014) that sets out a vision of a world in which there are no preventable deaths of newborns or stillbirths, where every pregnancy is wanted and every birth celebrated, and where women, babies and children survive, thrive and reach their full potential. This document is the result of the concerted efforts of a diverse group of stakeholders and agencies who have been trying to make a change in neonatal mortality.

Ministry of Health (MOH) and the Health Protection Agency have developed the Every Newborn Action Plan & Child Health Strategy as an integrated, comprehensive, and data-driven road map to measurably improve services and care for newborns by 2020. It translates urgent need into lifesaving action by bringing together stakeholders and resources to protect newborns.

The aim of the ENAP is to decrease neonatal mortality by ensuring that national efforts place adequate focus on protecting the health of newborns. The plan does not seek to institute a new vertical programme to achieve this goal. Rather, it guides leaders to develop and implement activities within the existing Health Master Plan and National Reproductive Strategy and National Child Health Strategy.
A road map to save lives

Although Maldives has reduced the national overall under-five mortality rate in the last decade, this change largely reflects improvements in the health of infants and older children. Further decrease in neonatal deaths has not kept pace. Indeed, newborns have accounted for a disproportionate number of total under-five deaths.

1 Millennium Development Goals, Maldives Country Report 2010
2 Millennium Development Goals, Maldives Country Report 2010
3 Maldives Health Profile, Ministry of Health and Gender, March 2014
4 Global School-Based Student Health Survey, Country Report, Maldives 2009

There is a clear need to strengthen actions in order to improve child health and development in a systematic manner and to maintain all achievements made so far by the country. Such a demand for a comprehensive national child health strategy and every newborn action plan, which has a strong focus on the newborn health and which takes into account current situation and future trends, has been emphasized in the Health Master Plan for 2006-2015[5]. Similarly, the new Health Master Plan for 2016-2025 strongly reaffirms that development and implementation of health promotion strategies through a life course approach.

The Master Plan calls for a concerted action to address socioeconomic determinants of health by integrated multidisciplinary approach in collaboration with governmental, non-governmental, private and international partners[6]. It also recognizes the need to improve the national health care system by reducing financial inefficiencies and instability in public health sector, by filling the gap in human resources, by optimizing health information systems and supply system, and by improving the quality of care.

The Global Strategy calls upon the Governments to step up efforts to strengthen health systems in their capacity to deliver rights-based equitable, sustainable and quality health services for women, children and adolescents[7]. Furthermore, South-East Asia Regional Strategic Framework for Improving Neonatal & Child Health and Development[8] and Report of a regional meeting of WHO/SEARO[9]ensure technical support from a perspective of the continuum of care.

II. Situation analysis

The situation analysis follows strategic directions for action described in the South-East Asia Regional Strategic Framework for Improving Neonatal &Child Health and Development[10], the Strategic Framework for Prevention and Control of Birth Defects in South-East Asia Region[11] and the National Reproductive Health Strategy 2014-2018[12]. The analysis is further carried out to briefly describe the current state of the health care system in Maldives and to highlight important social, economic and environmental determinants beyond health care system. The analysis builds upon available data and information from official reports, surveys and strategic documents of the Ministry of Health and relevant documentation of the international agencies.

5 Health Master Plan, 2006-2015, Ministry of Health, the Republic of Maldives
6 Health Master Plan, 2016-2025, Ministry of Health, the Republic of Maldives
7 The Global Strategy for Women's, Children's and Adolescents' Health (2016-2030), United Nations 2015
8 South-East Asia Regional Strategic Framework for Improving Neonatal &Child Health and Development, World Health Organization and Unicef, 2012
9 2015 and beyond: the unfinished agenda of MDGs 4 and 5 in South-East Asia, Report of a regional meeting, 29 April –1 May 2014, Kathmandu, Nepal, World Health Organization 2014
10 South-East Asia Regional StrategicFramework for Improving Neonatal &Child Health and Development, World Health Organization and Unicef, 2012
11 Prevention and Control of Birth Defects in South-East Asia Region, Strategic Framework for 2013–2017, World Health Organization 2013
12 National Reproductive Health Strategy 2014-2018, Health Protection Agency, Ministry of Health, Maldives

1. General demographic profile

Preliminary results of the Population and Housing Census of Maldives for 2014 estimated the country's population at 341,256 (males and females representing 50.7% and 49.3%), a 14% increase since the last census in 2006[13]. The annual population growth rate has been steadily in decline (3.2%, 1.69% and 1.56%, in 1985, 2006 and 2014, respectively[14]), which can be attributed to the falling fertility rate, from 6.4 children in 1985-1990 to 2.1 in 2006[15]. Improving socioeconomic conditions and increased contraceptive prevalence rates, from 10% in 1985-1990 to 35% in 2009, led to considerable changes in age-specific fertility rates: age-specific fertility rates peaked at 20-24 years in 2000 with an increase to 25-29 years in 2006[16].

Crude death rate is also in a steady decline and it is currently estimated at 3-4 deaths per 1000 population during the last decade. Substantial falls in crude death rate were due to significant reductions of infant and child mortality rates over the last two decades. Consequently, life expectancy at birth has increased from 70.0 (2000) to 72.5 (2008) for males and from 70.1 (2000) to 74.1 (2008) for females[17], which can be attributed to a combination and interaction of several factors such as better access to healthcare, improvements in the quality of preventive, diagnostic and curative health services, and increased levels of education and health awareness[18].

As a result of increasing life expectancy and declining fertility and mortality rates, the population age structure in Maldives is undergoing significant changes. The percentage of population aged 0-14 has declined from around 41% in 2000 to 31% in 2006, while the percentage of population aged 15-64 steadily increased from around 55% (2000) to 63% (2006). At the same time, the percentage of the elderly people over 65 years of age increased from 3.8% (2000) to 5.3% (2006)[19].

Such a demographic transition poses 2 distinct socioeconomic challenges to Maldives. High proportion of adolescent population, in light of findings of high prevalence of risky behaviors and health issues[20], requires specific focus on physical,mental and social health and needs of adolescents. The growing numbers of adolescents also lead to the increase of the working age population and require long-term socioeconomic policies aimed at creating employment opportunities for the young people and maximizing their economic potential. On the other side of the demographic pyramid, the growing older population requires targeted programs for healthy aging[21]. Both challenges have direct implications on the choice of priorities for the governmental funding and investments.

13 Population and Housing Census: Preliminary Results – Revised, March 2014
14 Population and Housing Census: Preliminary Results – Revised, March 2014
15 Maldives Health Profile, Ministry of Health and Gender, March 2014
16 Maldives Health Profile, Ministry of Health and Gender, March 2014
17 Maldives Health Profile, Ministry of Health and Gender, March 2014
18 Maldives Health Profile, Ministry of Health and Gender, March 2014
19 Population and Housing Census, 2006, Ministry of Planning and National Development, 2007
20 Global School-Based Student Health Survey, Country Report, Maldives 2009
21 WHO Country Cooperation Strategy, Republic of Maldives, 2013–2017

2. Newborn health

Between 1990 and 2012, under-five mortality rate went down from 94 to 11 deaths per 1,000 live births. The MDG target for under-five mortality was set at 31/1,000 live births, which has been fully achieved well before 2015. This became possible due to a considerable reduction of infant mortality rate, which accounted for approximately 70% of under-five mortality, from 68 to 9 deaths per 1,000 live births in the same period. While half of infant deaths occurred in the neonatal period, the neonatal mortality reduced considerably from34 (1990) to 6 deaths (2012) per 1,000 live births[22].

The majority of under-five deaths are due to neonatal causes (70%), followed by acute lower respiratory infections (11%), injuries (6%), diarrheal infections (3%) and other unclassified causes (10%). In turn, most neonatal deaths are caused by congenital anomalies (29%), preterm birth (28%), birth asphyxia and birth trauma (25%), followed by sepsis and other infections (10%) and other unclassified causes (8%)[23]. With improved infection prevention practices and management of asphyxia in newborns, birth defects become a larger proportional cause of neonatal mortality[24].

Maldives has a very high birth registration rate (99%), with all deaths and stillbirths being routinely registered. Approximately 11% of women deliver at an age older than 35 years and consanguineous marriages are uncommon, although some degree of inbreeding may take place in smaller islands and atolls. According to WHO estimates, the overall prevalence of birth defects in Maldives is around 60.8 per 1,000 live births. The most common conditions include birth defects of cardiovascular system (13%), thalassemia and other haemoglobinopathies(11%), followed by neural tube defects (3.3%), Down syndrome (3%) and unquantified burden of glucose-6-phosphate dehydrogenase deficiency[25].

Thalassemia is one of the major health burdens in the country, in spite of the challenging geographical distribution; thalassemia screening is accessible in every atoll. Iron chelation medicine has been made available to thalassemia patients in their respective islands. Population-based screening and prenatal diagnosis for thalassemia is available in limited areas. Ultrasonography, although available, is used mainly to confirm and monitor pregnancies and localize placenta. When used for antenatal screening of birth defects, ultrasonography screening is available at hospitals and the expertise for prenatal diagnosis of birth defects is, however, limited. Genetic screening and counseling are available for thalassemia and no genetic laboratories are available for other tests. Folic acid supplementation is not used during adolescence or per-conceptional period, and is used only as a part of antenatal and postnatal packages during pregnancy and lactation. No food fortification programs exist in the country[26].

Assessment of perinatal mortality was carried out within the Demographic and Health Survey in 2009. Overall 34 stillbirths and 35 early neonatal deaths were reported in the survey, resulting in a perinatal

22 Situation of Newborn and Child Health in South-East Asia: Progress towards MDG 4, Regional Office for South-East Asia, World Health Organization, 2014

23 Situation of Newborn and Child Health in South-East Asia: Progress towards MDG 4, Regional Office for South-East Asia, World Health Organization, 2014

24 Prevention and Controlof Birth Defectsin South-East Asia Region, Strategic Framework for 2013–2017, World Health Organization 2013

25 Prevention and Controlof Birth Defectsin South-East Asia Region, Strategic Framework for 2013–2017, World Health Organization 2013

26 Prevention and Control of Birth Defects in South-East Asia Region, Strategic Framework for 2013–2017, World Health Organization 2013

mortality rate of 18 per 1,000 total births. Of 35 neonatal deaths examined by the DHS-2009, 51% of deaths occurred before day 1, 74% occurred between day zero and day 1 and 91.5% occurred during the first week of life[27].

3. Child health, nutrition and development

The most complete data-set related to the growth patterns and the nutritional status of children derives from the DHS-2009 and is based on a representative sample of 2,513 children under 5 years of age[28].

The findings suggest that child malnutrition, including micronutrient deficiencies, is a public health concern. The prevalence rates for stunting, wasting, underweight and overweight in under-five children were 19%, 16%, 17% and 6%, respectively. When disaggregated by age groups, stunting and wasting were apparent already in children less than 6 months of age (15% and 16%). The highest proportions of underweight children were in the age group of 24-35 months (21%) and in children born less than 24months after a sibling (26%).

Nearly all children (98%) were breastfed, almost two-thirds of infants (64%) were breastfed within one hour after birth, and 92% started breastfeeding within the first day. While exclusive breastfeeding was common in early infancy (69% of infants breastfed for 2 months), it was continued till 6 months only in 48% of infants. Compared to an earlier National micronutrient survey conducted in 2007[29], there appears to be a slight deterioration in breastfeeding within the first day (94.5% in 2007) and a more pronounced decline in the initiation of breastfeeding within first hour of life (80.5% in 2007). Similarly, in 2007 only 5.2% of infants received prelacteal feeding, while this percentage increased to 12% in 2009. Prelacteal feeding was more common among children whose mothers were assisted by a health professional during delivery and those born in a health facility (12%) as compared with births assisted by a traditional birth attendant (4.7%).

Poor nutritional status of infants and young children can be attributed to several factors. Limited diversity of food, inadequate nutrition counseling by health service providers and poor knowledge of mothers and caretakers about healthy nutrition practices are aggravated by the increasing commercialization and availability of breast milk substitutes and processed baby food[30].

A substantial progress has been achieved with vaccination coverage as it remains consistently above 98% for all childhood vaccines. The process for verification of measles and rubella elimination has started, and a policy decision has been taken to attempt validation of elimination of congenital syphilis and mother-to-child transmission of HIV[31].

Maldives was free of Polio for more than 2 decades, and in March 2014 WHO South-East Asia Region was officially certified polio-free. Inactivated Polio Virus has been introduced into the national

27 Situation of Newborn and Child Health in South-East Asia: Progress towards MDG 4, Regional Office for South-East Asia, World Health Organization, 2014

28 Demographic and Health Survey, The Republic of Maldives, 2009

29 Project Report, National Micronutrient survey 2007, Republic of Maldives, Ministry of Health, Unicef, The Aga Khan University

30 Health Master Plan, 2016-2025, Ministry of Health, the Republic of Maldives

immunization schedule in March 2015. Maldives had not seen cases of Maternal and neonatal tetanus even before 2000. WHO South-East Asia Region was declared as having eliminated maternal and neonatal tetanus in May 2016.

According to the DHS-2009, about 84% of children with diarrhea were taken to a medically trained health provider for advice or treatment, while 57% of children with diarrhea received ORS and 84% were given ORT. About 29% of children below 5-years had fever and of them about 84% were taken to a health facility or a medically trained provider for treatment[31].

Disability statistics is fragmentary, especially for the child population. According to the last systematic survey conducted by Handicap International in 2009, around 4.7% of the total population (range 9-12%) were found to have severe permanent functional limitations or disabilities. The most common types of disabilities are visual and speech impairments, mental illnesses and various degrees of impaired mobility[32]. The findings of the DHS-2009 suggest that around 9% of children in the age group 5-14 had visual impairment, 3% hearing impairment, 5% experienced difficulties in communicating, 7% in remembering, 2% in mobility and around 2% had difficulties in self-care. Overall, around 20% of households with children aged 5-14 reported impairments in at least one function.

Children with disabilities did not have access to education within the education system in Maldives until 1985. The Government started setting up classes for children with disabilities in 2006, with a vision to set up minimum one school in each atoll that enrolls children with special needs by 2010. As of 2010 there were 11 schools in the country (3 in Malé and 8 in six atolls) which provide education opportunities for children with disabilities[32]. The Disability Act (2010) sets out clearly that children with disabilities are entitled to full access to education without discrimination and lists specific support that children can receive from the government. Furthermore, the Inclusive Education Policy (2013) of Ministry of Education promotes the inclusive education rather than the previous Special Education Schools approach. A health screening program for school children of grade-1 and grade-7 has recently become mandatory. Followup mechanisms in place, such as awareness and inclusion of health subject in the curriculum.Also there is limitation to screening, development disorders are not included in screening.

There is limited evidence and data on early childhood development and on practices for early stimulation of children by parents. According to the DHS-2009, around 71% of children in the age 3-4 years attended any organized early childhood education program. Since then, the number of early childhood education facilities have dramatically increased leading to a significant increase in the enrollment rates. The guidelines for the content, duration and frequency of such programs have been developed by Ministry of Education, however the systematic quality assurance has still to be strengthened.

4. Adolescent health

31 Situation of Newborn and Child Health in South-East Asia: Progress towards MDG 4, Regional Office for South-East Asia, World Health Organization, 2014

32 Activities addressing rights of persons with disabilities: a baseline assessment, Human Rights Commission of Maldives, 2010

The Ministry of Education implemented the Global School-based Student Health Survey among schoolchildren aged 13-15+ in 2009. Overall, 3241 questionnaires were completed in 39 schools. The target group included children of both sexes in almost equal proportion (females=50.6% and males=49.4%) and covered Malé and Atolls (urban=47% and rural=53%). Children aged less than 12 years of age, 13-15 years of age and over 16 years of age represented 1.4%, 60% and 38.6% of the sample, respectively[33].

Nation-wide results of the survey demonstrated a high prevalence of adolescent health-related issues, with all rates significantly higher in atoll areas. Almost 20% of students seriously considered attempting suicide and high percentage of students self-reported signs of anxiety (14.8%, mostly caused by bullying at schools), depression (35%) and loneliness (16%). At the same time, only 26% of students reported that they had been taught effective stress management techniques in schools or elsewhere.

The prevalence of lifetime drug use was estimated at 5.4% and among students who ever had tried drugs, 67.7% were 13 years old or younger when they first tried drugs. Around 10% of respondents reported being involved in drug selling or buying, while the drug-related crime rates, involving children below the age of 16 years and the age group 16-24, had increased significantly in comparison with 2001.The prevalence rates of current alcohol and tobacco use were 6.7% and 11.6%. Among students who ever drank alcohol or smoked cigarette, 71.5% had their first drink of alcohol before the age of 14 years while 65% of students had their first cigarette before the age of 14 years. Overall, 36.0% and 5.5% of students had a parent or a guardian who used any form of tobacco or alcohol.

Results related to violence and injuries showed that more than one-third of students reported to experience bullying, physical fights, and serious injuries for one or more times. Approximately 23% of students did not go to school because they felt unsafe on their way to or from school and 17% of students reported being threatened with a weapon on school property. One quarter of students experienced stealing or deliberate damage to their property. The prevalence of reported sexual abuse and physical coercion to have a sexual intercourse was alarmingly high for both female (16.1%) and male students (17.8%).

Approximately 70% of students nationwide had ever heard of HIV/AIDS. One-third of students were taught in any of their classes during the school year about of HIV/AIDS and only 23% of students ever talked about HIV/AIDS and sexually transmitted infections with their parents or guardians. The earlier Reproductive Health Survey conducted in 2004 revealed that approximately 62% of sexually active youth reported having had their first sexual experience before the age of 18 years. A lack of knowledge about HIV/AIDS created serious misconceptions on important aspects related to HIV/AIDS: 34% did not know that people with HIV could look healthy, 13% believed that HIV could be contracted by sharing meals with someone who had AIDS, and 35% did not know if condoms could protect against HIV/AIDS.

5. Maternal health

33 Global School-Based Student Health Survey, Country Report, Maldives 2009

The Maternal and Newborn Health Continuum of Care Universal coverage of essential maternal and newborn health (MNH) services could prevent over two thirds of newborn deaths in Maldives.

The MDG-5 target has been achieved, though continued work needs to be done to maintain the good progress. Maternal mortality fell steadily since the beginning of the last decade from the high rate of 500/100,000 live births in the year 1990, the MMR has fallen to the rate of 41 per 100,000 live births in 2014, although an increasing trend was seen from 2007 to 2010[34]. The reduction in maternal mortality is attributed to considerable improvement and availability of maternal services. It should be noted that fluctuations are prominent due to the small population of the Maldives.

In-depth review of maternal deaths was initiated in 1997 to identify and focus interventions in reducing maternal deaths. Emergency obstetric care at atoll level was strengthened and institutional deliveries were widely promoted[35].

The coverage with antenatal care and skilled birth attendance is almost universal. Almost all women (99%) received antenatal care from a skilled provider and approximately 85% of women reported visiting antenatal clinics at least four times during pregnancy. Almost all women who received antenatal care were weighed, had their blood pressure measured, and had urine and blood samples taken. Around 52% of women were informed of the signs of pregnancy complications, while birth planning and preparedness were not mentioned at all[36]. Approximately 95% of births were assisted by a skilled health worker (gynecologist, doctor, nurse, midwife, or community/family health worker). Cesarean births are slightly more common among first births (39%) and births to women in urban areas (38%) and increase with the mother's education and wealth status.

6. Health care system

In Maldives, health services are rendered through both public and private sectors with primary healthcare being a foremost priority.

WHO has extensively developed a single framework to promote common understanding of a health system by defining a discrete number of building blocks that make up the system. The building blocks are: leadership and governance; financing; medical products, vaccines and technologies; health workforce; information, and service delivery[37].

The features of the health care system in Maldives have been described in other documents of the Ministry of Health[38][39]. The most relevant issues that have long-term consequences for sustainability and quality of child health services are reiterated to emphasize their critical importance in strengthening the national health care system.

6.1. Leadership and governance

34 Maldives Health Profile, Ministry of Health and Gender, March 2014
35 Maldives Health Profile, Ministry of Health and Gender, March 2014
36 Demographic and Health Survey, The Republic of Maldives, 2009
37 Everybody's business: strengthening health systems to improve health outcomes: WHO's framework for action, 2007
38 National Reproductive Health Strategy 2014-2018, Health Protection Agency, Ministry of Health, Maldives
39 Maldives Health Profile, Ministry of Health and Gender, March 2014

The health care system has undergone substantial changes in 2010-2011, when a decentralization initiative was enacted. This has led to a loss of strong line of command and unified health service management by the Ministry of Health and the resulting deterioration of health service provision due to loss of staff and disruptions in health information systems and supply chains. The Health Protection Act of December 2012 restored the previous system[40][41]. Further changes occurred since November 2013 with a new government developing and enacting a comprehensive Manifesto for social change and services. The Manifesto pledges to strengthen universal coverage of all population of Maldives with primary and specialist health services. A special attention is given to maternal health and child health, development and well-being and to ensuring that appropriate social security and insurance mechanisms are in place to protect families and communities from catastrophic spending on health. The Manifesto has also a strong focus on a revision of type of services to be provided at each level of care and corresponding infrastructural, human resource, financial and other requirements.
Current developments within the management of the health care sector need to be followed by targeted actions to clearly delineate roles and responsibilities of authorities at both national and atoll levels and to establish technically and economically viable organizational structure with full consideration of geographic and demographic circumstances. Managerial capacity at the central level will require further strengthening to effectively guide and assist local authorities in assessing, planning, implementing and monitoring health service delivery. These issues have been extensively addressed in the new Health Master Plan[42].

6.2. Financing

Maldives' National Health Accounts for 2011 indicated that the total national health expenditures amounted to Maldivian Rufiyaa (MRF) 2766 million (US$ 179 million), with per capita spending of MRF 8646 (US$ 561). Health spending as a share of the gross domestic product (GDP) was equal to 9.2%[43].

Almost 44% of the total funds originated from public sources, whereas 53% were private funds and the remaining 3% were contributed by international donors. The total expenditure on health as a percentage of total government expenditure in 2011 was 21.6%. The household out-of-pocket spending represented 49% of the total health expenditure. Almost 23% of the total health expenditure was spent on inpatient curative services, 19% on outpatient basic services, 12% on health administration and 3.5% on other health-related functions. Only 2% of the total health expenditure was allocated on preventive and primary care in 2011[44].

In 2012 Aasandha was introduced, with free universal access to the scheme for the entire population and with annual individual financial limits The universal social health insurance scheme, Aasandha, have attained sizable coverage of the country's population. Recent revision of the Aasandha scheme makes special provisions for a number of chronic conditions e.g. cancer, thalassemia, whereby no specific spending limit is set so as to ensure specialized services to these groups of patients. A number

40 National Reproductive Health Strategy 2014-2018, Health Protection Agency, Ministry of Health, Maldives
41 Health Master Plan, 2016-2025, Ministry of Health, the Republic of Maldives
42 Health Master Plan, 2016-2025, Ministry of Health, the Republic of Maldives
43 Maldives National Health Accounts 2011, World Health Organization 2014
44 WHO Country Cooperation Strategy, Republic of Maldives, 2013–2017

of issues may impact the financial viability of the universal health insurance, such as above-average usage of most outpatient and inpatient services, irrational use of medicines and a supplier-induced demand for specialized interventions. It is estimated that drugs account for around 20% of total insurance cost. Systematic public education campaigns that inform the public of the correct use of the insurance scheme still need to reach all.

6.3. Medical products, vaccines and technology

Most of the pharmaceutical procurement and supply are managed by private sector except for a fraction of drugs procured by the State Trade Organization (public organization with 17% private share) that manages supply of drug and medical commodities to public health facilities. Before the introduction of universal health insurance (the Aasandha) in early 2012, medicines were co-paid by patients (approximately USD 2.6 per prescription). Currently, the medicines are provided free of charge if prescribed by the public health facilities.

An essential medicines list exists but adherence by prescribers is very low with their choice open to around 2900 registered drugs. There is a paramount need for enforcement of the essential drug list and harmonization of current and future clinical protocols (e.g. FBNC, IMCI) in line with internationally recommended standards in order to ensure quality of care and to improve treatment outcomes. Issues(like reporting stock-outs and wastage due to expiry of medicines) are being currently addressed by developing a linkage of health facilities to a web-based order portal, where supply of required medicines can be planned and ensured in advance to prevent stock outs and shortages. Drug quality control is suboptimal with limited qualitative and quantitative testing capacity.

Overall, the health care infrastructure is of very good quality and most health facilities have proper standardized buildings with regular supply of water and electricity, and adequate waste disposal systems are in place in most facilities. However, medical equipment (and other commodities and supplies) provided to health facilities sometimes leads to imbalances and inadequate distribution of resources e.g. health centers are provided with equipment and supplies e.g. for newborn care, used rarely or occasionally, while tertiary hospitals face shortages due to considerably higher utilization rates.

6.4. Health workforce

Lack of adequately trained local human resources is of a major concern, although there has been a rapid expansion of medical services in the last ten years, mainly due to increasing recruitment of expatriate workforce. In 2005 there were 379 medical doctors with a doctor-to-population ratio of 1:775, while in 2010 there were 525 doctors with a doctor-to-population ratio of 1:609. In 2005, the number of nurses was 974 with a nurse-to-population ratio of 1:302, whereas in 2010, with the total number of nurses being 1868, the nurse-to-population ratio was 1:171. The nurse-to-doctor ratio was about 4:1[45].

An assessment carried out by Ministry of Health has identified a range of systemic issues related to human resources for health[46]. On the top level, weak leadership and management of human resources at all levels is exacerbated by fragmented information management systems and by insufficient and

45 WHO Country Cooperation Strategy, Republic of Maldives, 2013–2017
46 National Health Workforce Strategic Plan 2014-2018, Ministry of Health, Republic of Maldives

inefficient use of existing financial resources. This complex interaction of critical deficiencies at central level leads to an inadequate and inequitable planning and distribution of health workers, difficulties in attracting and retaining health workers in atolls and islands, lack of motivation in health workers due to absence of clear career and professional development opportunities. The training of competent and dedicated national workforce is slow with increasing tendencies for the graduates to emigrate or to switch to a private practice. The resultant health services tend to lack responsiveness and strong links to the local communities and create unnecessary and avoidable barriers to the effective service delivery.

It is widely recognized that currently high dependency on expatriate health workforce jeopardizes sustainability and continuity of health services. To address these concerns the national health workforce strategic plan for 2014-2018 has been developed to support planning, recruitment, deployment, retention, incentivisation and professional development of national clinical and managerial staff. The health workforce strategy follows a set of guiding principles that ensure availability, quality, cost-effectiveness and sustainability of health workforce and its responsiveness to the current and projected health needs of the population. The document is built along 3 strategic lines that address policy, leadership and management systems, pre-diploma and postgraduate education and training of health workers, and appropriate financing mechanisms and partnerships with the private sector and international institutions. The strategy also addresses the need for standardized international recruitment procedures and professional criteria for expatriate workforce in order to improve the quality of care[47].

6.5. Information system

Routine data collection systems from health facilities upwards are mainly functional due to computerization of reporting formats and internet connectivity, although some delays are reported. The Ministry of Health in collaboration with the National Centre for Information and Technology is currently developing a national integrated health information system with electronic health record of each individual. This will allow access to patient-based data for authorized users at all levels of care, ensuring a continuity of care and follow up[48].

The more serious challenge is the data processing and the use of data analysis in making operational decisions on the allocation-reallocation of resources to respond to the local health context in a timely and efficient manner. The country's capacity in the design, implementation and use of operational research, e.g. for assessment of quality of care, is limited. Furthermore, several important surveys have been conducted without full analysis of findings and targeted interventions to address gaps identified.

6.6. Service delivery

The public health care of Maldives is organized into a four-tier system with the island level health facilities referring patients to higher level health facilities in the atolls, regions and to central level depending upon the need and service availability. There were 1 tertiary level hospital, 5 regional hospitals, 14 atoll hospitals and 169 primary health care centers in 2014[49].

Given the geographic nature of Maldives, the distribution of health facilities is island-based, without

47 National Health Workforce Strategic Plan 2014-2018, Ministry of Health, Republic of Maldives
48 National Reproductive Health Strategy 2014-2018, Health Protection Agency, Ministry of Health, Maldives
49 Health Master Plan, 2016-2025, Ministry of Health, the Republic of Maldives

taking into account the size of catchment population. Although primary health care facilities have a grading scale, implying different numbers of staff and service profiles, this principle is not always upheld. Furthermore, persisting beliefs and inclination of the islands' population to immediately seek specialist care almost invariably leads to bypassing of primary health care level and overcrowding of the tertiary, and to a lesser extent of the secondary, level hospitals. The bypassing puts enormous pressure on the staff and creates heavy overcrowding, long waiting times and, eventually, substantial inefficiencies in distribution of financial, material and human resources. Geographic barriers and long travel distances have multiple effects on service delivery hampering timely delivery of medical commodities, promptness of the referral system and regular supervision and monitoring.

7. Socioeconomic and environmental determinants of health

Available data on mortality, morbidity, access to and utilization of health services disaggregated by place of residence, wealth quintiles and maternal education provide evidence that some inequities are still exist.

Perinatal mortality is highest among births to women who gave birth before age 20 and lowest among births to women age 20-29. First pregnancies have the highest proportions resulting in stillbirths or in early neonatal death. Perinatal mortality rates are higher in urban than in rural areas (22and 17 per 1,000 total births) due to upward referral of most at-risk pregnancies and sick newborns to the tertiary hospital in the capital[50].

The DHS-2009 data demonstrate significant differences in neonatal and infant mortality rates according to the place of residence, maternal age, level of education and nutritional status, and birth interval. Post-neonatal mortality rate in rural areas is more than double the rate in urban areas; to a lesser extent, a similar pattern is observed with under-five mortality rate, which is likely to reflect the quality of postnatal care and overall child health services in rural areas.

A regional comparison demonstrated that the North Central region was the most affected, with prevalence of stunting and underweight (23% and 24%). Overweight appears to be an emerging issue largely confined to urban areas (Male'). Stunting, wasting and underweight were mostly reported in children living in rural areas, in children born to mothers with the lowest educational levels and in children of parents in the lowest wealth quintiles

The 2009 DHS specifically addressed the various barriers and problems in accessing healthcare. Approximately 83% of women reported having one or more problems in accessing health care for themselves. The main problem in accessing health care was the concern that there would be no drugs available (72%). Two-thirds of women were concerned that there would be no provider, and 57% of women were concerned that there would be no female provider available at the health facility. More than a quarter of women reported that distance to the health facility and having to take transport was a problem (26% and 28%)[51].

In addition, a number of other challenges have been identified by the Government of Maldives and

50 Demographic and Health Survey, The Republic of Maldives, 2009
51 Demographic and Health Survey, The Republic of Maldives, 2009

World Health Organization's Country Office[52][53]. Many of them are related to the deteriorating environmental situation such as air pollution in Malé and industrial islands, lack of access to safe drinking water and improved sanitation and lack of sewage systems in some of the islands and the increasing pressure for appropriate solid waste management.

Violence against women and girls persists; with 1 in 3 women aged 15–49 experiencing some form of physical or sexual violence during their lifetime. Although not manifested, there is also a concern that some interpretations of cultural, religious, and traditional beliefs might create certain barriers to the right-based access to maternal and child health care[54].

52 WHO Country Cooperation Strategy, Republic of Maldives, 2013–2017

53 Addressing Social Determinants of Health in Maldives, Report of a national workshop in Male', Maldives, 23-25 November 2009, Ministry of Health and Family in Collaboration with WHO South-East Regional Office (SEARO)

54 WHO Country Cooperation Strategy, Republic of Maldives, 2013–2017

III. Strategic directions and interventions for child health

The situation analysis highlighted important achievements in expanding and in achieving almost universal coverage with health interventions at primary, secondary and tertiary levels of care. The health infrastructure and capacities to deliver health services are available in each island and significant improvements have been made in the overall health of the nation. As evidenced by the Health Master Plans, the leadership of the Ministry of Health has chosen a set of priorities that can lead to a future success not only in preventing child deaths but also in promoting overall child well-being and development. There are significant opportunities available in the country to build upon the progress achieved and upon positive experiences and practices, which need to be scaled up and complemented by new initiatives.

Maldives is still experiencing, gaps based on economic status, rural–urban location, education status and geography, which all represent important proximal and distal determinants of health. The disadvantaged population groups have the highest newborn, infant and child mortality rates and carry most of the burden of preventable disease and undernutrition. While the root causes of these inequalities can be addressed by adopting a rights-based, comprehensive and whole-of-government approach, the eventual success will be achieved by direct targeting the affected groups. Furthermore, maternal, newborn and child health cannot be improved in a sustainable way without interventions aimed at improving social and environmental conditions. Interventions beyond the health systems have an important and sustained effect on health by reducing exposure to risks and vulnerability to disease but also indirectly by increasing the informed demand for health services. Schooling, food security, income gains for the poor, empowerment of women and families, availability of safe drinking water and sanitation are important factors that can improve maternal, newborn and child health outcomes. Countries that have been more successful in reducing maternal and child mortality have achieved this result by adopting, in addition to modern clinical interventions, a combination of policies addressing all the above issues. In the same way, investing in the health of adolescents helps to prevent the inter-generational vicious cycle of ill-health and socioeconomic deprivation. It helps not only to produce health, but also to generate wealth because young people are central to the present and the future wealth and the well-being of the nation.

To address this complex combination of challenges, the National Child Health Strategy is built on the principles of child rights and equity. The Strategy emphasizes that other relevant sectors will be required to cooperate and efforts will be needed for strengthening health systems and enhancing technical managerial capacity at national and regional levels. The Strategy uses the principle of continuum of care across the life course. The available evidence suggests that health before and during pregnancy, maternal and newborn health have a profound impact on the future well-being of the developing child, with life-long and, sometimes, inter-generational effects. Such a holistic and comprehensive approach is important since maternal, neonatal and child health are closely linked with each other, not only intrinsically, but also programmatically because the specific interventions are delivered through, and use the resources of, the same health care system.

While important issues of reproductive, maternal and adolescent health have been addressed in the National Reproductive Health Strategy 2014-2018 and in the Youth Health Strategy developed by the Ministry of Youth and Sports, the overall objective of the National Child Health Strategy is to provide practical guidance for strengthening the provision of evidence-based interventions for child health and development, while specifically addressing inequalities. As such, the primary target group of the National Child Health Strategy is a child population in the age group 0-18, with a focus on newborn

health[55], birth defect prevention[56] and nutrition[57]. In addressing newborn health, the Child Health Strategy is modelled on the Every Newborn Action Plan which emphasizes delivery of packages of highly effective interventions along the continuum of care[58].

The integrated implementation of the Reproductive Health, the Youth and the Child Health strategies, under the umbrella of the Health Master Plan for 2016-2025 and with each strategy focusing on specific directions, will create required synergies and allow to use the resources of the nation in a more efficient and effective manner. Furthermore, the Strategies will provide an additional impetus to strengthen the national health care system, particularly in enhancing leadership and management capabilities of the Ministry of Health to design and to lead large-scale interventions, in building the competent national health workforce and in ensuring quality of services at all levels.

The Child Health Strategy 2016-2020 is focused on strategic directions, interventions and actions at three inter-linked levels:

1. Actions within the health care system to implement effective health service delivery strategies for the prioritized interventions along the continuum of care

2. Actions within the health care system to strengthen all health system components to improve the system's ability to ensure equitable access to quality newborn, child, nutrition and development services

3. Actions beyond the health care system to promote an enabling policy environment to mainstream child health and development into national development agenda, to address the key determinants of maternal and child health, nutrition and development and to tackle the inequities among population groups.

Level 1: Directions and actions within health care system to strengthen health service delivery along the continuum of care

Strategic directions	Life stages and continuum of care	Interventions
Strengthening implementation of evidence-based interventions along the continuum of care	Reproductive health, nutrition and pre-conception care	- Strengthening pre-marital counselling system throughout the country - Promoting family planning introduction of preconception counselling and iron folic acid supplementation - Preventing gender-based violence - Promoting healthy lifestyles and

55 Every Newborn. An action plan to end preventable deaths, World Health Organization and Unicef, 2014
56 Prevention and Controlof Birth Defects in South-East Asia Region, Strategic Framework for 2013–2017, World Health Organization 2013
57 Health Master Plan, 2016-2025, Ministry of Health, the Republic of Maldives
58 Every Newborn. An action plan to end preventable deaths, World Health Organization and Unicef, 2014

		prevention of substance abuse - Strengthening genetic counseling - Providing maternal nutrition informative counseling - Implementing National birth defects prevention and control strategy - Developing and implementing National policy and action plan on elimination of congenital rubella syndrome and prevention of mother-to-child transmission of HIV
	Pregnancy care	- Ensuring early registration of pregnancies - Ensuring comprehensive antenatal care by skilled attendant to prevent maternal mortality and stillbirths
	Care at child birth	- Ensuring skilled birth attendance - Ensuring infection prevention and control measures - Providing essential newborn care and management of sick newborns - Providing Kangaroo mother care and feeding support - Strengthening referral system for childbirth complications
	Postpartum care for mother and newborn	- Ensuring early postnatal care for mothers and newborns, with three visits after discharge - Initiating exclusive breastfeeding within the first I hour of birth - Ensuring infection prevention and control measures - Promoting Kangaroo mother care especially for low birth weight and premature newborns, including neonatal sepsis management - Providing intensive neonatal care for high-risk newborns - Providing maternal and child nutrition information and counseling - Strengthening referral system
	Health care in infancy and early childhood	- Strengthening integrated management of childhood illnesses and care for development with emphasis on growth monitoring and counseling - Ensuring immunization - Promoting infant and young child feeding practices - Preventing accidental injuries - Providing age-specific parenting information on early childhood development and stimulation

	Care of the healthy child and promoting child development	- Promoting early childhood development, including early detection and referral for developmental delays - Preventing and managing non-communicable diseases and disabilities - Ensuring oral health and hygiene in children aged 5-18 years - Providing age-specific parenting information on physical and mental development for children aged 5-18 years -Childhood obesity prevention

(mention

Level 2: Directions and actions to strengthen health care system to ensure equitable access to quality health services

Strategic directions	**Health care systems components**	**Interventions**
Strengthening health care system to ensure delivery of quality child health services	Leadership and governance	- Building a favourable policy environment and consensus to support whole-of-government implementation of child health strategy - Introducing quality standards and protocols and ensuring an efficient monitoring and accountability system to check and improve quality of services - Ensuring harmonization of clinical protocols and guidelines - Strengthening leadership and management capabilities
	Financing	- Securing adequate and uninterrupted financing for the implementation of the National Child Health Strategy - Advocating for harmonization of health care budget with stronger emphasis on primary health care and public health - Strengthening a system for tracking national health expenditures for mother and child health for greater accountability, better measurement of cost-effectiveness and better resource mobilization efforts
	Medical products, vaccines and technology	- Ensuring that all priority medicines for women and children are included in the national essential drug list - Ensuring availability of EPI vaccines

		- Developing e-technology and communication - Strengthening health infrastructure and ensuring supply of medical and non-medical commodities
	Health workforce	- Implementing national human resource policy - Ensuring certification and licensing of health workers - Strengthening recruitment procedures for national and expatriate staff
	- Information system and knowledge management	- Improving routine data collection, analysis and use - Developing capacity in operational research - Enhancing capabilities for data-based strategic and operational decision-making
	- Service delivery	- Strengthening clinical service provision at all institutional levels - Strengthening public health services at all institutional levels, including community based health care services - Establishing a monitoring mechanism to assure quality of services, including the public health services

Level 3: Directions and actions to address the key determinants of mother, newborn and child health, nutrition and development

Strategic directions	**Key sectors and partners**	**Interventions**
Achieving equity	MOFT MOH MOE MoLG LGA Local councils	-Identifying most deprived children and communities and developing targeted approaches to address their needs - Reducing out-of-pocket expenditures through strengthening of universal health coverage - Identifying most common barriers and addressing them through a systematic and sustainable approach
Strengthening public-private partnerships and collaboration	MOH MOHA MOFT MED NGO	- Regulating public and private health sectors - Increasing participation of NGOs and civil society in service delivery - Advocating for child-friendly communities initiatives

Involving families and communities	LGA MOH MOE MoLG Local communities	- Developing mechanisms to involve families and communities in health service provision - Involving families and communities in monitoring of health service delivery
Addressing environmental issues in line with existing national plans	MOEE MOH NDMC MOT MOFT NGO	- Ensuring access to safe water and sanitation - Reinforcing waste management practices - Preventing injuries, accidents and violence - Strengthening monitoring systems for air, soil and water pollution with chemical and toxic substances
Emergency preparedness	NDMC MNDF MOH	- Advocating for infrastructural changes e.g. in schools - Reinforcing curricula in schools - Strengthening health care system's capacity to ensure disaster and emergency preparedness, response and mitigation - Ensuring that the needs of children and women are considered in emergency preparedness and response plans

IV. Action plan and monitoring framework

Level 1: Directions and actions within health care system to strengthen health service delivery along the continuum of care

Life stages and pathways along the continuum of care	Interventions	Actions	Involved / Responsible	Indicators and sources
Strengthening implementation of evidence-based interventions along the continuum of care				
Reproductive health, nutrition and pre-conception care	Promoting family planning	- Revise the national family planning standards and guidelines developed in 2005 with emphasis on birth spacing and ensure wide dissemination to the public and health care providers	HPA MOH	- National family planning standards revised and disseminated to all health facilities by end of 2016 (MOH)
		- Ensure capacity development of health professionals on reproductive health and family planning counseling	HPA MOH	- Contraceptive prevalence rate, all methods and modern methods (%) (DHS)
		- Create awareness of family planning and commodities among women and men of reproductive age		
		- Develop mechanisms for reaching vulnerable groups (single mothers, substance users, people with mental illness and disabilities)	HPA MOH NGO MoLG	- % of high risk individuals who received family planning sessions during the year (MOH)
		- Develop communication strategies to prevent early marriages and pregnancy among adolescents	HPA MOE MOYS NGO Media	- Communication strategies developed and implemented (MOH, surveys)
	Promoting healthy lifestyles and prevention of substance abuse and sexual and domestic violence	- Advocatefor strengthening health promotional activities, through policy decisions, school health programs and community awareness programs to improve nutrition and physical activity	HPA FPA MOE Parliament	- Number of existing policies developed to promote nutrition and physical activity (MOH) - Number of school health programs and

			Trade Union Media	community health awareness programs conducted (MOH, MOE)
		- Advocate for enforcement of existing laws and regulations on tobacco control, substance abuse, breast milk substitutes, sexual and domestic violence	HPA Parliament Trade Union Media NDA JJU MGL	- Prevalence rates of sexual and domestic violence; current smokers; users of illegal drugs and alcohol; and mothers who use breast milk substitutes (HPA, DHS, surveys)
		- Strengthen advocacy and sensitization efforts to increase awareness of policy makers in promoting healthy lifestyles and preventing substance abuse sexual and domestic violence	MOH Parliament MOE MOES Media	- Number of advocacy briefs and campaigns organized for policy makers during the year (MOH)
		- Advocate for restriction and ban of advertising of infant formula, pre-packaged supplementary food, energy drinks	MOH Parliament MOE Media	- % decrease in all forms of advertising for infant formula, energy drinks and pre-packaged food during the year (MOH)
		- Promote participation of celebrities, public and religious leaders in promotion of healthy lifestyles	HPA MOH MIA Celebrities Media	- Number of events for promotion of healthy lifestyles with participation of celebrities, public and religious leaders (MOC)
		- Adapt treatment, rehabilitation and prevention guidelines and protocols and review health and rehabilitation services to be covered by the Aasandha scheme for substance users	HPA MOH NDA Service providers	- % of substance users covered by the Aasandha scheme (MOH, NDA, Aasandha annual report)
	Strengthening pre-maritalgenetic counseling	- Develop protocols and guidelines in the following areas: congenital anomalies, including pathological hemoglobin disorders, for at-risk population, and for mental health assessment and counseling	HPA MOH Service providers MBS	- % of newly-wed couples who received mental health assessment and counseling during the year (MOH) - % of service providers using the developed protocols and guidelines to provide genetic counseling on regular

				basis
		- Finalize the national birth defects strategy ensuring its alignment with the child health strategy	HPA MOH	- The national birth defects strategy is officially endorsed (MOH)
Pregnancy care	Ensuring timely and complete registration of pregnancies and comprehensive antenatal care	- Reinforce mandatory registration and record keeping of ANC cards of all pregnant women, to be verified through quarterly reviews and cross-matching with hospital records and home visits	HPA MOH Service providers	- % of pregnant women receiving 4 or more ANC checkups by a skilled provider (MOH) - % of pregnant women who received iron-folate supplements during pregnancy (MOH) - % of pregnant women with chronic diseases, past and current history of substance use (MOH) - % of pregnant women who received birth preparedness and birth planning sessions
		- Strengthen the implementation of existing ANC protocols and improve the quality of practices at all levels through regular supportive supervision, on-the-job training and random on-the-spot quality checks	HPA MOH Service providers	
		- Strengthen all components of ANC package, with particular emphasis on prevention of non-communicable diseases and substance abuse, promotion of healthy lifestyles and nutrition, and birth preparedness and planning	HPA MOH Service providers	
Care at child birth	Ensuring skilled attendance at birth	- Review existing clinical guidelines and protocols for MCH services with emphasis on the management of complications during and after deliveries, caesarean section, operative vaginal delivery, management of low birth weight and preterm newborns	HPA MOH Service providers	- Number of referral hospitals which use updated clinical guidelines and protocols (MOH)
		- Develop clinical protocols for safe abortions, including prevention, diagnosis and management of post-abortion complications, and quality standards for referral hospitals providing legal abortion services	HPA MOH Referral hospitals	- Clinical protocols are available and officially endorsed (MOH) - Prevalence rates of abortions by location, reason and women's age (%) (MOH)
		- Provide and ensure all facilities with standardized kits (equipment, tools, drugs and supplies) for basic and comprehensive emergency obstetric and newborn care based on the level of care	HPA MOH	- % of health facilities which have an updated inventory of assets and supplies for basic and comprehensive emergency obstetric and newborn care (MOH)
		- Ensure continuous capacity building and	HPA	- % of health workers by level of care

	upgrading of clinical skills for health workers at all levels of provision of delivery services	MOH	who received refresher courses and other types of capacity building during the year (MOH)
	- Ensure regular supportive supervision of health centers by the referral hospitals and MOH and of the referral hospitals by MOH	HPA MOH Service providers	- % of health facilities by type which received at least 2 supervision visits during the year (MOH)
Providing essential newborn care and sick newborn care	- Ensure periodic review and update of guidelines and protocols for essential newborn care and management of sick newborns; ensure their implementation in all health facilities	HPA MOH Service providers	- Maternal mortality ratio (MOH, DHS) - Stillbirth rate (MOH, DHS) - Neonatal mortality rate (MOH, DHS) - % of skilled attendance at birth, (MOH, DHS) - % of exclusive breastfeeding for six months (MOH, DHS) - % of newborns and mothers who received early postnatal care (MOH, DHS) - % of facilities with delivery services that are able to provide corticosteroids for pre-term labor (MOH, DHS) - % of facilities with delivery services that are able to provide neonatal resuscitation (MOH, DHS) - % of facilities that provide kangaroo mother care and feeding support (MOH, DHS) - Prevalence rate of neonatal sepsis (MOH, DHS) - % of sick newborns who were sent by health centers to the referral hospitals following referral protocols (MOH)
	- Ensure referral protocols for sick newborns are in place and are implemented	HPA MOH Service providers	

		- Ensure regular supportive supervision and capacity building of health workers at all levels	HPA MOH Service providers	- % of health facilities which received supportive supervision and capacity building in essential newborn care and management of sick newborns during the year (MOH)
		- Strengthen referral mechanisms, including medical transportation, evacuation and retrieval systems, for sick newborns	HPA HSD Service providers LGA MNDS Local communities	- % of sick newborns who were referred to the hospitals using medical transportation, evacuation and retrieval systems (MOH)
	Strengthening referral system for obstetric complications	- Provide all facilities with standardized kits (equipment, tools, drugs and supplies) for emergency obstetric care based on the level of care	HPA HSD Service providers	- % of health facilities by type which have an updated inventory of assets and supplies for emergency obstetric care
		- Ensure referral protocols for obstetric complications are in place and are implemented	HPA HSD Service providers	- % of pregnant women with obstetric complications who were sent by health centers to the referral hospitals following referral protocols (MOH)
		- Strengthen referral mechanisms, including in-utero transfer, medical transportation, evacuation and retrieval systems, for women with obstetric complications	HPA HSD Service providers LGA MNDS Local communities	- % of pregnant women with obstetric complications who were referred to the hospitals using medical transportation, evacuation and retrieval systems (MOH)
		- Establish maternity waiting homes in the key referral hospitals (allocation of flats from among social housing flats)	HPA HSD LGA MOHI	- Number of referral hospitals which are linked to properly equipped and furnished maternity waiting homes (HSD)
Postpartum care for mother	Ensuring postnatal care	- Review existing guidelines and protocols for	HPA	- % of women receiving3 postnatal care

and newborn		postnatal care, including home visits and outreach sessions by health workers	HSD Service providers	visits according to established schedule[59] (HPA)
		- Strengthen social and community support network for vulnerable mother-newborn pairs and ensure home-based follow up of cases (community awareness)	HPA MGL Local communities	- % of mothers from vulnerable groups who received home-based follow up on proper newborn care practices (MOH, DHS, surveys)
		- Promote good practices related to home care and community nursing for healthy newborns	HPA Service providers MGL Local communities	- % of mothers of healthy newborns who received counseling on home care and community-based opportunities for newborn care (MOH, DHS, surveys)
		- Advocate for 6 month paid leave for working mothers to ensure exclusive breastfeeding and promote appropriate home-based care of newborns	MOH MGL CSC Parliament	- Legislation on extension of paid leave is officially endorsed (MOH)
		- Strengthen social support and early detection system for post-delivery complications in mothers and newborns, including post-partum depression	HPA MOH Service providers	- % of mothers with post-delivery complications and of newborn children with postnatal complications identified through early detection system (MOH)
	Promoting kangaroo mother care for low birth weight and premature newborns	- Train health workers providing delivery services at all levels in kangaroo mother care and ensure regular supportive supervision	HPA HSD-MOH Service providers	- % of low birth weight and premature newborns under kangaroo mother care (MOH)
		- Increase awareness of mothers, families, communities and the public	HPA MGL LGA Media	

[59]First visit at 3 days after discharge, second visit at 2 weeks after discharge, and third visit at 6 weeks after delivery

	Providing intensive neonatal care for high-risk newborns	- Provide all referral hospitals with standardized kits (equipment, tools, drugs and supplies) for intensive newborn care	HPA MOH Referral hospitals	- Number of referral hospitals which have an updated inventory of assets and supplies for intensive newborn care (MOH)
		- Strengthen a system for early detection of sensory deficits e.g. retinopathy of prematurity, hearing deficits etc.	HPA MOH Referral hospitals	- Prevalence rate of sensory deficits (%) (MOH)
		- Ensure regular supportive supervision and capacity building of health workers in newborn intensive care units	HPA MOH	- % of health workers who received refresher training or other capacity building during the year (MOH)
	Strengthening referral system	- Ensure referral protocols for high risk newborns are in place and are implemented	HPA MOH Service providers	- % of sick newborns who were referred to the hospitals using medical transportation, evacuation and retrieval systems (MOH)
		- Strengthen referral mechanisms, medical transportation, evacuation and retrieval systems, for high risk newborns	HPA MOH Service providers LGA Local communities	

Health care in infancy and early childhood	- Strengthening integrated management of childhood illnesses and care for development with emphasis on growth monitoring and counseling	- Review and adapt IMCI package for the primary health care facilities and WHO's Guidelines for Hospital Care for Children[60] for the referral hospitals and ensure their implementation	HPA HSD Service providers	- IMCI package and guidelines for hospital care for children are updated, officially endorsed and distributed to all health facilities (MOH) - % of health facilities using IMCI and hospital care guidelines (MOH) -% of medical officers, pediatricians, community health officers and nurses trained in updated IMCI package
		Strengthen capacity of health care providers on IMCI		
		Ensuring availability of diagnostic and treatment facilities for prevention and management of common childhood illness		
	Ensuring immunization	- Identify bottlenecks and gaps in vaccination coverage and develop a mix of approaches to increase the coverage	HPA MOH Service providers	- % of children under 2 years who received all EPI vaccines (HPA, DHS)
		- Strengthen the quality of all components of the vaccination program, with emphasis on proper maintenance of the cold chain, record keeping and elimination of missed opportunities	HPA MOH Service providers	- % of health facilities reporting stock out of vaccines and supplies (MOH) - % of health facilities which have properly functioning cold chain and updated vaccination records (HPA)
		- Conduct regular refresher and on-the-job trainings to health workers on vaccine administration, cold chain, counseling of care-takers	HPA HSD-MOH Service providers	- % of health workers who received trainings during the last year (HPA)

60 Pocket book of hospital care for children: Second edition. Guidelines for the management of common childhood illnesses, World Health Organization, 2013

	- Strengthen the system for epidemiological surveillance to prevent outbreaks of vaccine preventable diseases	HPA MOH Service providers	- Incidence rates of vaccine preventable diseases (HPA)
Promoting infant and young child feeding practices	- Carry out a situation analysis on the status of implementation of existing legislation on essential nutrition interventions in order to identify obstacles, problems and issues not yet tackled	HPA MOH Parliament	- Situation analysis with an intervention plan is completed (HPA)
	- Conduct an assessment on advertising unhealthy food products targeted to children and advocate for zero tolerance on the advertisement and promotion of breast milk substitutes, junk food, pre-packaged food	HPA MOH UN agencies HRCM	- Assessment conducted on advertising unhealthy food products targeted to children - % decrease in all forms of advertising for infant formula, energy drinks and junk food during the year (MOH, MOC)
	- Ensure up-to-date knowledge and skills among health workers at all levels on responsive feeding practices for young children and effective counseling and interpersonal communication skills to promote positive care-giving practices in communities	HPA HSD Service providers	- % of health workers who received training and other capacity building on infant and young child feeding and counseling practices during the year (HPA)
	- Strengthen information, education, communication and social mobilization to raise the awareness of the public and target groups on prevention of micronutrient deficiencies and promotion of proper complementary and supplementary feeding	HPA MOH Media MOE	- Prevalence rates of micronutrient deficiencies (%) (MOH, DHS, surveys) - Prevalence rates of appropriate complementary and supplementary feeding practices (DHS, surveys) - Number of journalists trained in health communication (MOC, MOH)
	- Develop and implement health education programs for increasing awareness of the public on healthy nutrition, including training of media on effective promotion of health communication and nutrition messages to maximize reach and impact	HPA MOH Media MOE	
Preventing accidental injuries	- Improve data collection and analysis on injuries in childhood and adolescence depending on type of injuries, location and risk factors	HPA MOH Service	- Prevalence rates of injuries by type,

			providers	location and severity (%) (MOH) - Number of referral hospitals adequately equipped to manage common injuries and traumas
		- Improve case management of paediatric patients with injuries at all levels through a review of current practices in paediatric emergency/trauma care, availability of child-sized instruments and medical/non-medical supplies, and knowledge and skills of service providers in case management	HPA MOH Service providers	
		- Increase awareness of children, adolescents, families, caretakers and the public on risks and hazards related to child injuries and traumas	HPA MOH MOE Media	- % of respondents who could list major risks and hazards related to child injuries and traumas (MOH, DHS, surveys)
	Providing age-specific parenting information on early childhood development and stimulation	- Develop essential information, reference and learning materials for parentson early childhood development and stimulation	HPA MOE Media	- Age-specific information materials for parents are available
Care of the healthy child and promoting child development	Promoting early childhood development, including early detection and referral for developmental delays	- Review national ECD program with emphasis on children with special needs	HPA MOH MOE	- National strategy is harmonized with international ECD standards and officially endorsed (MOE, MOH)
		- Conduct systematic outreach sessions by health centers, with emphasis on early identification, correction and referral of young children with developmental difficulties or delays	HPA MOH MOE Service providers	- Number of children with developmental difficulties or delays identified through outreach sessions (MOH) - % of health facilities which regularly conduct outreach sessions focused on early identification (MOH)
		- Improve technical capacity of health care providers and educators at the primary level to conduct basic screening for developmental problems and for promotion of holistic child development	HPA MOH MOE Service providers	- % of health facilities, pre-schools and primary schools which conduct basic screening for developmental problems (MOH, MOE)
		- Establish evidence-based ECD training centre to provide training and methodological support to service providers	MOH MOE MOF	- ECD training centre is functional and has required infrastructure and budget (MOH, MOE)

		MGL	
	- Monitor the situation with social protection issues related to early childhood development e.g. abandonment and institutionalization, and promote alternative options to institutionalization	HPA MOH MOE MGL	- Prevalence rates of children in abandonment and in institutional care, per 1,000 children of 0-18 years of age (MOH)
Preventing and managing non-communicable diseases and disabilities	- Promote early interventions to improve early detection of sensory deficits, disabilities and chronic diseases through: a) Adopt and implement management packages for health workers to prevent and control non-communicable diseases, e.g. cardiovascular disorders and obesity b) promoting counseling and family planning for families with known history of chronic diseases c) identification and follow up through appropriate antenatal, delivery and postnatal services for women with chronic diseases e.g. cardiovascular diseases, obesity, diabetes, etc.	HPA MOH MGL	- % of health workers trained in the use of NCD packages (HPA) - Number of people with known family history of NCD, who received counselling for prevention (HPA) - % of families with known history of chronic diseases which received counselling (step survey) - Incidence rates of newly identified cases of chronic diseases by type (HPA)
	- Review and align existing protocols for the case management of developmental disorders and most common chronic diseases in childhood e.g. cardiovascular diseases, chronic lung diseases, diabetes, cancer etc.	HPA MOH Service providers	- Number of referral hospitals which have a complete set of protocols for most common chronic diseases in childhood (MOH)
	- Strengthen referral system for diagnosis, treatment and rehabilitation of children with special needs and disabilities	HPA MOH Service providers	- % of children with special needs and disabilities referred from health centers to hospitals in Maldives and abroad (MOH) through the referral system
- Ensuring oral health and hygiene in children aged 5-18 years	- Strengthen existing dental health services for children	HPA MOH Service providers	- Prevalence of caries in children (MOH)
	- Develop essential information and learning materials for children on oral health and hygiene	HPA MOH	- Information materials for children are available

	- Providing age-specific parenting information on physical and mental development for children aged 5-18 years	- Develop essential information, reference and learning materials for parentson physical and mental development for children aged 5-18 years	HPA MOH	- Information materials for parents are available

Level 2: Directions and actions to strengthen health care system to ensure equitable access to quality health services

Health care systems components	Interventions	Actions	Involved / Responsible	Indicators and sources
Strengthening health care system to ensure delivery of quality child health services				
Leadership and governance	Building a favourable policy environment and consensus to support whole-of-government implementation of child health strategy	- Review, on a regular basis, the state of adoption and implementation of the international agreements and conventions related to reproductive, maternal, newborn and child health[61] by the Government of Maldives	HPA MOH Parliament	- Updated checklist of enacted international agreements and conventions is available (MOH)
		- Create a steering committee, represented by relevant line ministries, civil society, Human Rights Commission and UN agencies, to guide and oversee the implementation of child health strategy	Ministries Parliament UN agencies Civil society, HRCM	- Minutes of meetings of the steering committee are available (MOH)
	Ensuring harmonization of clinical protocols and guidelines	- Align existing treatment guidelines and protocols related to child health with international standards and develop guidelines and protocols not yet in place	HPA IGMH MOH QA HF	- % of national guidelines and protocols which comply with international standards (MOH) - Number of new guidelines and protocols developed during the year (MOH)
		- Ensure that each health worker receives induction session and regular refresher or on-the-job training on the use of protocols	HPA IGMH MOH QA HF	- % of health workers who received induction session on available protocols (MOH) - % of health workers who received refresher training on available protocols (MOH)
	Introducing quality standards and protocols and ensuring an efficient monitoring and accountability system to improve quality of health	- Strengthen the role of quality assurance department of MOH in developing and enforcing quality of care standards for all preventive, diagnostic, curative, rehabilitative and promotive child health services	HPA QA MOH	- % of health facilities which received at least one visit by quality assurance department during the year (MOH) - % of health facilities which comply with minimum standards established by MOH (MOH)

61 A policy guide for implementing essential interventions for reproductive, maternal, newborn and child health (RMNCH): a multisectoral policy compendium for RMNCH, World Health Organization, 2014

	services	- Reinforce existing practice of maternal death reviews and establish a system for review of near-miss cases and perinatal death reviews	HPA MOH Service providers	- % of maternal deaths, near-miss cases and perinatal deaths reviewed by relevant committees (MOH)
	Strengthening leadership and management capabilities	- Strengthen leadership and management capabilities at MOH level to ensure satisfactory health service provision to the population and adequate technical and managerial support to health facilities at all levels	MOH	- % of respondents who report overall satisfaction with health services (DHS, surveys) - % of respondents who report trust in the government health sector (DHS, surveys) - % of key stakeholders which are aware of the government's medium term health sector investment plans (MOH, surveys)
		- Identify training needs, future role and responsibilities of key non-replaceable staff in health care management and develop customized capacity building programs	MOH	- Official reports on training needs assessment are available and training plan developed (MOH) - Number of key MOH staff who received training (MOH)
		- Revise existing mechanisms and procedures for supervision and monitoring to ensure regular, systematic, integrated and comprehensive support to health facilities; develop guidelines and tools for integrated supportive supervision and monitoring of the child health services	HPA MOH Service providers	- Guidelines and tools are available and officially endorsed (MOH) - Adjustments to the supervision mechanisms and procedures are officially endorsed (MOH)
		- Develop clear terms of reference, authority and responsibility for MOH departments, units and individuals involved in management and supportive supervision and monitoring of child health services	MOH	- TOR are available and officially endorsed (MOH)
Financing	- Securing adequate and uninterrupted financing for the implementation of the National Child Health Strategy	- Present the child health strategy package to the Government and provide annual updates on the implementation, with estimated required funding and other support	MOH MOFT Parliament	- The child health strategy officially endorsed with earmarked funding and provisions for future adjustments to the funding (MOH)
	- Advocating for harmonization of health care budget with stronger	- Conduct annual review and analysis of health sub-accounts for reproductive, maternal and child health and develop	MOH MGL HRC	- Official publication of health accounts is available and duly distributed to stakeholders (MOH)

	emphasis on primary health care and public health	advocacy briefs to the Government	Civil society UN agencies	- Official publication of advocacy briefs are available and duly distributed to stakeholders (MOH)
	- Strengthening a system for tracking national health expenditures for mother and child health for greater accountability, better measurement of cost-effectiveness and better internal and external resource mobilization	- Conduct annual review and analysis of health accounts	MOH MOFT UN agencies	- Official publication of health accounts is available and duly distributed to stakeholders (MOH)
		- Make required adjustments to the amount of funding and distribution of resources	MOH MOFT Parliament	- Amount of funds received additionally to the earmarked funding (MOH, MOF)
		- Mobilize additional external financial support for priority interventions for mother, newborn and child health	MOH MOFT UN agencies	- Amount of external grants and donations for maternal, newborn and child health received during the year (MOH)
Medical products, vaccines and technology	Ensuring that all priority medicines for women and children are included in the essential drug list	- Implement procurement of medicines according to the national essential drug list and ensure that medicines and commodities for mother, newborn and child health are duly included in the procurement list	HPA MOH	- The essential drug list is available and officially endorsed (MOH) - Medicines and medical commodities for maternal, newborn and child health are duly covered by the essential drug list (MOH)
		- Promote procurement of essential drugs from a MOH-approved list of pharmaceutical suppliers with due credentials and certification for good manufacturing practice	MOH MOFT Trade Union Civil society	- The inventory of pharmaceutical suppliers is available and officially endorsed (MOH) - % of procurement from the certified suppliers (MOH, STO)
		- Conduct regular IEC campaigns for the public to promote the acceptance and the use of generics	MOH Media	- Number of IEC campaigns which specifically targeted the promotion of the generics (MOH, MOC) - % of respondents who could list benefits of using the generics (DHS, surveys, facility-based surveys)
		- Develop partnerships with certified laboratories in the region for lot/sample testing of medicines	MOH UN agencies	- % of procured lots which were tested by the regional laboratories (MOH)
		- Enforce regulations for quality and good practice for private clinics, hospitals and pharmacies	MOH MOJ Parliament	- % of private institutions which were monitored and inspected during the year (MOH)
		- Conduct regular surveys on the rational use of drugs in a representative sample of health facilities	HPA MOH Service	- % of health facilities which were surveyed for rational use of drugs during the year (MOH)

			providers	
	Ensuring availability of EPI vaccines	- Maintain the cold chain and ensure regular supply with vaccines and medical/non-medical suppliesn\	HPA MOH Service providers	- Vaccination coverage rates for BCG, DPT3 Polio3, Measles, Tetanus and Hepatitis B3 (MOH) - % of facilities which reported stock out of EPI vaccines (MOH)
	Developing e-technology and communication	- Ensure that patients' electronic record systems used by different health programs are accessible to authorized users in all levels of care	MOH MOC	- Patients' electronic system is unified and available for use (MOH)
		- Develop privacy and data protection protocols for patients' electronic records	MOH	- Privacy and data protection protocols are available, officially endorsed and distributed to all health facilities (MOH)
		- Develop national geographical information system, linking all levels of care and referral pathways, for the management staff of MOH	MOH UN agencies	- Geographical information system is functional and staff is trained to use it (MOH)
		- Strengthen existing system for teleconferences between MOH and service providers at all levels	MOH Service providers	- Number of teleconferences conducted during the year (MOH)
	Strengthening health infrastructure and ensuring supply of medical and non-medical commodities	- Ensure that all health facilities have level of care-specific medical and non-medical equipment and furniture	HPA MOH	- % of reports of service disruption due to non-availability and non-functioning of medical and non-medical equipment and furniture (MOH)
		- Ensure that all health facility have timely and adequate supply of medical and non-medical supplies and have a stock of life-saving medicines at all times	HPA MOH	- % of health facilities with no stock out of the free vaccines, essential drugs and medical and non-medical supplies during the year (MOH) - % of health facilities which maintain forecast of requirements in medicines, medical products and technologies (MOH) - % of health facilities with contingency plan for obtaining medical supplies in the event of emergencies and disasters
		- Ensure that a proper inventory of assets is available in all health facilities and regular calibration and maintenance of medical equipment is performed	HPA MOH Service providers	- % of health facilities which maintain proper updated inventory of assets (MOH) - % of health facilities which performed routine maintenance and calibration of

				medical equipment (MOH)
		- Ensure that a proper quality assurance mechanism for laboratories is in place	HPA MOH Service providers	- % of laboratories that meet approved quality standards (MOH)
		- Conduct regular refresher courses for laboratory technicians	HPA MOH	- % of laboratory technicians who received refresher training during the year (MOH)
Health workforce	Implementing national human resource policy	- Develop operational plan for the implementation of the national policy	MOH Medical and Nursing Councils Allied Health Council UN agencies	- The operational plan is available and officially endorsed (MOH) - % of national health workers out of the total workforce by specialty (MOH) - Number of national students undergoing general practitioners' and specialist training in Maldives and abroad during the year (MOH)
		- Develop long-term partnerships with international universities for pre-diploma and post-diploma education	MOH UN agencies	- Number of active partnerships with international universities (MOH)
		- Adopt competence-based curricula for training of new cadre of general practitioners, nurse-midwives and laboratory technicians and ensure that all post-diploma training and refresher courses include further development of key clinical competencies	MOH Medical and Nursing Councils Allied Health Council FHS	- Competence-based curricula are introduced and implemented in medical schools (MOH) - % of health workers who received post-diploma training and refresher courses based on competence-based curricula during the year (MOH)
	Ensuring certification and licensing of health workers	- Strengthen and sustain certification and licensing policies and procedures e.g. competency examinations, renovation of licenses	HPA MOH	- Certification and licensing policies and procedures are available and officially endorsed (MOH) - % of health workers certified and who had their licenses renewed based on new certification and licensing policies and procedures (MOH) - Number of episodes of suspension of health care services due to non-compliance to national standards and regulations - Number of health workers whose license to

				practice was not granted or not renewed
	Strengthening recruitment procedures for national and expatriate staff	- Strengthen existing recruitment policies and procedures and introduce mandatory orientation, induction and continuing education programs for all staff	HPA MOH Medical and Nursing Councils Allied Health Council	- Recruitment procedures are updated and officially endorsed (MOH) - % of expatriate and national staff recruited following the updated procedures during the year (MOH) - % of expatriate and national staff who received refresher courses during the year (MOH) - % of expatriate and national staff who received orientation and induction sessions during the year (MOH)
Information system	Improving routine data collection, analysis and use	- Ensure timeliness, completeness, accuracy and quality in submission health facility-based data and statistics	HPA MOH Service providers	- % of health care providers and programs providing complete and timely reports on annually reportable indicators by end of June of the following year (MOH) - % of tertiary and secondary hospitals implementing ICD-10 and reporting coded information to MOH (MOH) - Number of core health indicators reported/not reported in the Maldives Statistical year book (MOH)
		- Strengthen the system of integrated monitoring of health programs through: a) increasing the frequency of monitoring b) improving the monitoring tools c) capacity building of key staff involved in monitoring d) providing feedback to LGA and health facilities c) checking the implementation of recommendations	HPA MOH Service providers	- Improved monitoring tools are available and officially approved (MOH) - % of health facilities which received at least 2 monitoring visits during the year (MOH) - % of health facilities which received written action-oriented feedback from the monitoring visits (MOH) - % of health facilities which improved their performance based on the feedback during the year (MOH)
		- Develop island/atoll health profiles (total population, child population, % of women in 15-49 age group, key morbidity and behavior indicators, service utilization and coverage	HPA MOH Service providers	- % of health facilities which have an updated island/atoll health profiles during the year (MOH)

		rates etc)		
	Developing capacity in operational research	- Earmark governmental funding for health research and studies	MOH MOFT	- % of health care budget earmarked for health research and funding (MOH)
		- Develop research partnerships with international agencies, research institutions and universities	MOH MOFT MOE UN agencies	- Number of research findings published using primary and secondary data (MOH) - Number of research articles on health aspects of Maldives published in national or international peer-reviewed journals (MOH)
		- Provide short-term and long-term capacity building in research methodologies for key staff	MOH MOE UN agencies	- Training plan for key staff is available and officially endorsed (MOH) - Number of staff who received training in research methods (MOH)
	Enhancing capabilities for data-based strategic and operational decision-making	- Develop a system for complementary data collection e.g. through lot quality assurance sample surveys (LQAS) to assess coverage and quality of health services from equity perspective (data disaggregated by wealth, education etc) and demographic and health survey (DHS) to enable targeted interventions to address deprivations and inequalities in health service provision for women, newborns and children	HPA MOH Service providers	- Number of population based survey findings published (MOH) - Number of new interventions developed and resulted from the population based surveys (MOH) - % of policy decisions supported with data and information (MOH)
		- Prepare regular analytical overviews on the progress of implementation of the child health strategy for the leadership of MOH	HPA MOH	- Number of analytical overviews submitted to the leadership of MOH (MOH)
Service delivery	Strengthening clinical service provision at all institutional levels, including community-based health care services	- Improve coordination and cohesiveness between public health and clinical services provided by health facilities (bundling of services)	HPA MOH Service providers	- % of patients who received integrated services when visited a health facility (MOH)
		- Develop outreach and community-based interventions provided by health facilities e.g. home visits for ANC, PNC, nutrition counseling, growth monitoring, children with disabilities or chronic diseases, high risk families etc.	HPA Service providers LGA Communities	- % of health services delivered through outreach and community-based interventions (MOH)
		- Strengthen linkages between health centers	HPA	- % of health centers which received

		and referral hospitals for pediatric consultations and technical support e.g. through regular teleconferences, on-the-job training, visits to referral hospital by health centers, quarterly clinical conferences etc.	MOH Service providers LGA	technical support and consultations from the referral hospitals during the year (MOH)
		- Set up mobile health clinics/specialist teams from referral hospitals and develop regular schedule to visit islands/health centers in their catchment area	HPA MOH Service providers LGA	- Number of islands covered by mobile health clinics and specialists' teams during the year (MOH)
		- Ensure that all referral hospitals have multidisciplinary teams and all required resources to manage acute maternal and neonatal complications and critical conditions in childhood e.g. multiple traumas, pediatric surgery etc.	HPA MOH Hospitals	- Hospital-based incidence rates of maternal, neonatal and childhood conditions by type during the year (MOH)
	Establishing a monitoring mechanism to ensure quality of services, including the public health services	- Review and update the list of indicators for quality control and for a system of supportive supervision and regular monitoring	HPA QA MOH	- The updated list of indicators for quality control is available

Level 3: Directions and actions to address the key determinants of mother, newborn and child health, nutrition and development

Interventions	Actions	Lead Responsible	Involved sectors	Indicators and sources
Achieving equity				
Identifying most deprived children and communities and developing targeted approaches to address their needs	- Conduct vulnerability analysis and mapping of deprivation in terms of type of deprivation, geographical location and affected population groups, with particular emphasis on areas with multiple deprivations and on maternal, newborn and child health	MoLG MOH MOE JJU	LGA MOFT MOT MOC MOHA MOYS	- Number of islands and atolls in which vulnerability analysis was carried out (MOH, MGL, HRC, JJU, MOE)
	- Design multisectoral interventions, provide targeted support and ensure regular monitoring and supervision, in close coordination with all stakeholders	MLG MOH MOE JJU LGA	MOFT MOT MOC MOHA MOYS UN agencies	- % of islands and atolls identified as vulnerable or deprived for which multisectoral plan of action is designed (MOH, MGL, HRC, JJU, MOE)
Reducing out-of-pocket expenditures through strengthening of universal health coverage	- Identify population groups and individuals who are not current users of the insurance scheme	MOH MLG MOE	LGA	- % of population covered by the Aasandha scheme (MOH, Asandha annual report) - % of new users who joined the Aasandha scheme during the year (MOH, Aasandha annual report)
	- Extend the coverage with health services to the excluded population groups	MOH MoLG MOE	LGA	
	- Provide awareness raising campaigns to the public on the benefits of the insurance scheme through mass media, local councils, schools and other channels	MOH MLG MOE	LGA MOYS MIA Media	
Identifying most common barriers	- Conduct analysis of the most	MOH	Other relevant ministries	- % of population using primary

and addressing them in a systematic and sustainable approach	common and service or location-specific barriers with regards to health services, with a focus on maternal, newborn and child health, provided by health facilities	MoLG Service providers		care services (DHS, surveys) - % of population able to obtain prescribed medicines with 24 hrs of prescription (DHS, surveys) - % of population living within 30-minute travel time to a referral hospital (MOH) - % of population who had obtained transport services within 2hrs of emergency referral (MOH)
	- Develop programmatic multi-sectoral response to eliminate or reduce the barriers and to improve service utilization	MOH MoLG	Other relevant ministries	
Strengthening public-private partnerships				
Regulating public and private health sectors	- Strengthen the regulatory function of MOH through: a) reviewing of terms of reference and responsibility and allocating required resources and authority b) enhancing monitoring system and tools c) capacity building of key staff	MOH	MOFT	- Updated terms of reference are available (MOH) - Number of inspection visits and quality assessments carried out by MOH staff during the year (MOH) - Number of MOH staff who received capacity building in regulatory affairs (MOH)
Increasing participation of NGOs and civil society in service delivery	- Identify partners at island, atoll, regional and national level to involve them in health service delivery and demand generation	MOH MOE	MOYS LGA	- The list of functional partners is available (LGA, MOH, MOE) - Number of initiatives by location and type jointly implemented with partners (LGA, MOE, MOH)
	- Involve civil society to ensure public oversight and third-party monitoring of the quality of services	MOJ NGO MGL	MOH	- % of health facilities which received third-party monitoring visits during the year (MOH)
Advocating for child-friendly communities initiatives	- Develop terms of reference for school student councils and pilot the initiative in selected schools	MOH MOE LGA	MOYS	- % of schools with functional students' councils

	with eventual scale-up	Unicef		
	- Conduct regular surveys of children and their parents and care-takers on the quality of and satisfaction with basic public social services	MOH Service providers	MOE LGA MOYS	- % children and their care-takers satisfied with public social services (MOH, MOE, surveys)
	- Conduct regular surveys of public and school-based play areas and grounds for compliance with safety standards	MOH MOE LGA	LGA MOHI	- % of playgrounds which meet safety standards (MOE, MOH, surveys)
	- Promote participation of children in planning and organizing cultural, religious and social events	MOE LGA MOYS Media	MOH Unicef	- Number of events organized with participation of children during the year (MOYS, MIA, surveys)
	-Promote reporting of child issues in the national media	Media	MOYS MOE MOH	- Number of publications and media broadcasts during the year (Media, surveys)
	- Establish and promote child and youth associations	MGL MOYS MOJ	MOH MOE	- % of islands and atolls which have functional youth and child associations (MOE, MOJ, MGL, surveys)
Involving families and communities				
Developing mechanisms to involve families and communities in health service provision	- Establish a steering committee with clear terms of reference (e.g. planning of health services, providing feedback on quality of services, developing action plans to address local health issues etc) and with representation of families and key stakeholders at the community level in all islands and atolls	LGA MLG Local communities	MOH MOE	- % of islands and atolls which have a functional steering committee (MOH)
	- Design information and	HPA	LGA	- % of health facilities which

	education campaigns and materials to promote community- and home-based care of newborns and children	MOH	Local communities	used IEC package during the year (MOH)
	- Design information and education campaigns and materials to promote demand for maternal, newborn and child health services, birth preparedness and essential newborn care practices	HPA MOH Service providers	LGA Local communities	- % of health facilities which used IEC package during the year (MOH)
Involving families and communities in monitoring of health service delivery (community social group concept)	- Establish health facility committees with participation of elders, religious leaders and other influential local community members	HPA MOH MoLG LGA Local communities	NGO	- % of health facilities with functional health facility committee (MOH)
	- Develop tools for community monitoring and feedback system e.g. based on partnership-defined quality approach	HPA MOH MoLG	LGA Local communities	- % of health facilities monitored with the participation of local communities
Addressing environmental issues in line with existing national plans				
Ensuring access to safe water and sanitation	- Ensure regular maintenance of community water tanks and planning safe water harvesting during dry seasons	MOEE MWSC MOHI	LGA Local Communities HPA	- % of population with access to safe drinking water (DHS) - % of population with access to improved source of toilet facilities (DHS) - % of islands which have written record of regular maintenance of community water tanks (LGA, MOH)
	- Advocate to build sanitation systems in the islands that are prone to floods	MOEE MWSC MOHI	LGA Local Communities HPA	
	- Promote awareness and education on appropriate use of water and sanitation systems, and	MOEE MOH MOE	NGO LGA	

	personal/community hygiene			
Reinforcing waste management practices	- Review existing and develop new protocols, standard operating procedures and required infrastructure for waste management in health facilities	MOH	MOEE International Organizations	- % of health facilities which have procedures, protocols and infrastructure for waste management (MOH)
	- Advocate to other ministries and agencies to strengthen appropriate waste management approaches in the country	MOH	International Organizations	- Number of projects for waste management in which MOH provided its technical expertise (MOH, LGA, MOEE)
Preventing injuries, accidents and violence	- Review and update existing legislation and regulations to reduce avoidable risk factors for injuries e.g. manufacture, storage and distribution of harmful substances in child-proof containers and packaging; standards for playground equipment at schools and pre-schools etc	MOH MOE Parliament Trade Union	Other relevant ministries	- Number and type of new and updated legislation (MOH)
	- Strengthen inter-sectoral collaboration for existing national legislation, programs and initiatives e.g. on road safety, occupational health, violence prevention	MOH MOE Parliament Trade Union MOHA MGL JJU	Other relevant ministries	- Number and type of intersectoral initiatives carried out by MOH (MOH)
	- Strengthen coordination and joint work of multidisciplinary teams for management of child abuse, neglect and domestic violence	MOH MOHA MGL JJU	Other relevant ministries	- Number of cases by type and location managed by multidisciplinary teams during the year (MOH, JJU, MGL)
	- Introduce issues of child safety awarenessthrough health facility-	MOH MOE	Other relevant ministries	- % of sessions by type which included issues of child safety

	based and outreach sessions and home visits by health facility staff	MOHA MGL JJU		during the year (MOH)
	- Update school curricula for training in safe life skills	MOH MOE	Other relevant ministries	- % of schools which use updated curricula (MOE)
	- Organize health education and awareness raising programs on road safety, handling potentially harmful substances, domestic accidents etc	MOH MOE MOHA MGL JJU	Other relevant ministries	- % of school children who have adequate knowledge of prevention strategies and behavioral traits to reduce accidents (MOE, MOH, surveys)
Strengthening monitoring systems for air, soil and water pollution with chemical and toxic substances	- Strengthen monitoring systems for air, soil and water pollution with chemical and toxic substances	MOEE	HPA	- Number of tests carried out for water microbiology, water chemistry and food chemistry during the year (MOH)
	- Introduce proper domestic waste management system (separate, reuse, reduce, recycle) that minimizes soil, water and air pollution	MOEE EPA MWSC HPA	LGA	- % of households which use proper domestic waste disposal (Surveys)
	- Decrease the use of chemical fertilization through strengthening regulation and increasing awareness among farmers, distributors and the public	MOFA MOEE HPA	LGA Trade Union Media	- % of farmers who use chemical fertilizers (MOH, MOEE, surveys)
	- Develop and promote community-based mechanisms for monitoring and reporting air, soil and water pollution with chemical and toxic substances	MOEE HPA MOFA	LGA	- Number of islands and atolls self-reporting cases of pollution during the year (MOH, LGA)

Emergency preparedness				
Advocating for infrastructural changes e.g. in schools	- Promote inclusion of Disaster Risk Reduction and Climate Change guidelines in planning of infrastructural projects and works	NDMC MOHI	MLG MNDF MOH MOE MOFT	- Number of infrastructural projects which followed the guidelines (MOHI)
Strengthening health care system's capacity to ensure disaster and emergency preparedness, response and mitigation	- Update and distribute standard operating procedures for health facility staff for most common emergencies	MOH NMDC	LGA	- % of health facilities which have standard operating procedures during the year (MOH)
	- Conduct regular trainings and practical drills for health facility staff in management and mitigation of most common emergencies	MOH NDMC	LGA	- % of health facilities which received trainings during the year (MOH)
	- Ensuring that the needs of children and women are considered in emergency preparedness and response plans	MOH NMDC		- Emergency preparedness and response plans have specific sections to address the needs of children and women
Reinforcing curricula in schools	- Introduce main principles and concepts of the Disaster Risk Reduction adapted for children in the school curricula	NDMC MOE	MLG MNDF MOH	- % of schools which use revised curricula (MOE)

List of outcome level indicators for maternal, newborn and child health

Category	Indicator	Source
Maternal health	Maternal mortality rate per 100,000 live births	MOH, DHS
	Prevalence rate of low birth weight (%)	MOH, DHS
	Prevalence of pre-term births (%)	MOH, DHS
	Skilled attendance at birth (%)	MOH, DHS
	Antenatal corticosteroid use (%)	MOH
Newborn health	Total neonatal mortality rate per 1,000 live births	MOH, DHS
	First day mortality rate per 1,000 live births	MOH, DHS
	Early neonatal mortality rate per 1,000 live births	MOH, DHS
	Late neonatal mortality rate per 1,000 live births	MOH, DHS
	Distribution of total neonatal deaths by causes	MOH, DHS
	Still birth rate per 1,000 total births	MOH, DHS
	Prevalence of exclusive breastfeeding at 6 months (%)	MOH, DHS
	Rate of early postnatal care for mothers and babies (%)	MOH
	Newborn resuscitation (%)	MOH
	Kangaroo mother care and feeding support (%)	MOH, DHS
	Prevalence of neonatal sepsis (%)	MOH
Child health	Under five mortality rate, per 1,000 live births	MOH, DHS
	Distribution of under five deaths by causes	MOH, DHS
	Prevalence rate of under-weight (weight-for-age) and stunting (height-for-age) in under five children (%)	MOH, DHS
	Prevalence of overweight (weight-for-height) in under five children (%)	MOH, DHS
Health financing	Total Expenditure on Health as percentage of Gross Domestic Product	MOH

	Private Expenditure on Health as percentage of Total Expenditure on Health	MOH
	Out-of-Pocket Spending on Health as percentage of Private Expenditure on Health	MOH
	Percentage of government spending on preventive and public health	MOH
	Percentage of government spending on mother, newborn and child health	MOH

References

A policy guide for implementing essential interventions for reproductive, maternal, newborn and child health (RMNCH): a multisectoral policy compendium for RMNCH, World Health Organization, 2014

Activities addressing rights of persons with disabilities: a baseline assessment, Human Rights Commission of Maldives, 2010

Addressing SocialDeterminants of Health inMaldives, Report of a national workshop in Male', Maldives, 23-25 November 2009, Ministry of Health and Family in Collaboration with WHO South-East Regional Office (SEARO)

Demographic and Health Survey, the Republic of Maldives, 2009

Everybody business: strengthening health systems to improve health outcomes: WHO's framework for action (2007)

Every Newborn. An action plan to end preventable deaths, World Health Organization and Unicef, 2014

Global School-Based Student Health Survey, Country Report, Maldives 2009

Health Master Plan, 2006-2015, Ministry of Health, the Republic of Maldives

Health Master Plan, 2016-2025, Ministry of Health, the Republic of Maldives

Maldives National Health Accounts 2011, World Health Organization 2014

Maldives Health Profile, Ministry of Health and Gender, March 2014

MillenniumDevelopment Goals, Maldives Country Report 2010

National Health Workforce Strategic Plan 2014-2018, Ministry of Health, Republic of Maldives

National Reproductive Health Strategy 2014-2018, Health Protection Agency, Ministry of Health, Maldives

Project Report, National Micronutrient survey 2007, Republic of Maldives, Ministry of Health, Unicef, The Aga Khan University

Pocket book of hospital care for children: Second edition. Guidelines for the management of common childhood illnesses, World Health Organization, 2013

Prevention and Controlof Birth Defectsin South-East Asia Region, Strategic Framework for 2013–2017, World Health Organization 2013

Population and Housing Census: Preliminary Results – Revised, March 2014

Population and Housing Census, 2006, Ministry of Planning and National Development, 2007

South-East Asia Regional Strategic Framework for Improving Neonatal & Child Health and Development, World Health Organization and Unicef, 2012

Situation of Newborn and Child Health in South-East Asia: Progress towards MDG 4, Regional Office for South-East Asia, World Health Organization, 2014

The Global Strategy for Women's, Children's and Adolescents' Health (2016-2030), United Nations 2015

WHO Country Cooperation Strategy, Republic of Maldives, 2013–2017

2015 and beyond:the unfinished agenda ofMDGs 4 and 5 in South-East Asia, Report of a regional meeting, 29 April –1 May 2014, Kathmandu, Nepal, World Health Organization 2014