



**PLANNING AND INTERNATIONAL HEALTH DIVISION**

# **MALDIVES HEALTH PROFILE 2016**

**MINISTRY OF HEALTH**  
MALÉ, REPUBLIC OF MALDIVES

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## GENERAL PROFILE OF THE MALDIVES

The Maldives is an archipelago in the Indian Ocean located 600 km south of Indian sub-continent. It consists of 1192 tiny coral islands that form a chain stretching 820 km in length and 120 km in width. These islands cover a geographical area approximating 90,000 square kilometers of which land area comprises of only 298 square kilometers. The islands form 26 natural clusters (atolls) which are administratively grouped into 20 administrative atolls.

Currently a total of 188 islands are officially inhabited (Census, 2014). There is an ongoing population consolidation program for sustainable development, where islands with very small population living in islands with limited or no potential for further growth and development are relocated with full community support to larger islands with better infrastructure and facilities. In addition, there are 109 islands designated as tourist resorts and around 128 islands used for industrial purposes (Census, 2014).

The last census conducted in Maldives in 2014 recorded a total population of 344,023 with males and females representing 50.8% and 49.2% respectively (Census, 2014). Maldives consist of a homogenous population speaking one language (Dhivehi) and all are Sunni Muslims. A high rate of literacy in the Maldivian population is maintained for several years and currently stands to be about 98% among both men and women (Census 2014). Universal access to primary and secondary education is reached at every corner of the country.

Maldivian economy, though small in size is buoyant with an average annual growth rate of 6.5% per annum over the past decade (Statistical Yearbook, 2015). The economy is highly dependent on the tourism Industry which accounts for around 25.4% of the direct GDP and almost 75% when counting direct and indirect income (Statistical Yearbook, 2015). Tourism serves a stimulus to almost all other sectors of the economy such as transport, construction, trade, and financial services. Fishing, which is the second main industry, forms the only economic gain from exports. The country lacks land based natural and mineral resources which make all economic production highly dependent on imports, creating a heavy dependence on foreign exchange. Intensive agricultural production is limited because of the poor quality of soil (porous, deficient in nitrogen and potassium) and the limited availability of fresh water. Most of the staple food items, basic necessities and items for the tourism industry and the country's population are imported. Many of the aspects in the country's economy present a challenging situation of it being vulnerable to external shocks.

The health care facilities of Maldives are graded to three levels depending on the range of services available in these facilities. The government is committed to improving the health services in the country and improving the accessibility of services at the very peripheral levels, which due to the dispersed nature of the population in very small islands exerts diseconomies of scale. To provide financial security and ensure better access to healthcare, all citizens of the Maldives are now

covered by a universal health insurance scheme “*Aasandha*”, fully financed by the government.

This booklet intends to give a brief overview of the current health situation in the country including access to services and health resources.

### **Vision of Ministry of Health**

To have a nation with a healthy population which are health literate and practice healthy lifestyles, and have easy and effective access to quality health services in the region where they reside which is covered by a health care financing mechanism.

### **Mission of Ministry of Health**

Protect and promote health of the population with enabling policies, relevant modern ICT and healthy environments; provide social health insurance; develop an efficient, sustainable health system and provide need based, accessible, affordable and quality health services in partnership with private sector and community.

## **HEALTH SITUATION**

Noticeable improvements have been seen in reducing Infant Mortality Rates, Maternal Mortality Rates and increased life expectancy. On the disease front, most of the communicable diseases have been either eradicated or controlled. Maldives have been certified by World Health Organization as a “Malaria Free Country” in 2015. This is an addition to other vaccine preventable diseases that have been controlled to such an extent that diseases like polio, neonatal tetanus, whooping cough and diphtheria are non-existent in the country. Leprosy and Filariasis have reached to zero transmission levels and elimination targets. Tuberculosis and HIV prevalence have been maintained at very low levels. However, there is a potential public health threat due to the debilitating situation of drug abuse and the high risk behaviours of the key affected populations.

Increased and improved access to good quality healthcare based on primary health care approach, high priority on protective and promotional health, the high levels of literacy and improvements in the socio economic situation of the people have contributed to the achievements gained over the past few decades.

## Progress towards Achieving MDG Goals

<b>Goal 1</b>	Eradicate Extreme Poverty and Hunger	Achieved with some setbacks
<b>Goal 2</b>	Achieve Universal Primary Education	Fully Achieved with continuous progress
<b>Goal 3</b>	Promote Gender Equality and Empower Women	On Track with some setbacks
<b>Goal 4</b>	Reduce Child Mortality	Fully Achieved with continuous progress
<b>Goal 5</b>	Improve Maternal Health	Achieved with some setbacks
<b>Goal 6</b>	Combat HIV/AIDS, Malaria and Other Diseases	Fully Achieved with continuous progress
<b>Goal 7</b>	Ensure Environmental Sustainability	On Track with some setbacks
<b>Goal 8</b>	Develop a Global Partnership for Development	On Track

Source: NBS 2014

## POPULATION TRENDS

Since the early 1990s the population growth rate has shown steady decline. The Population and Housing Census of Maldives conducted in 2014 recorded the size of the population at 407,660 (including foreigners). The local population of Maldives is recorded as 344,023 with an average annual population growth rate at 1.65 % (Census, 2014).

### Population trends, 1990 – 2006 (Census years)

	1990	1995	2000	2006	2014
<b>Population</b>	213,215	244,814	270,101	298,968	344023 *
<b>Numerical Increase</b>	33,127	31,599	25,287	28,867	45055
<b>Average Annual growth</b>	3.43	2.73	1.96	1.69	1.65

Source: Data of years 1990 – 2006 is from Analytical Report of Census 2006

\*total Maldivian population only, including Maldivians living abroad

## SEX AND AGE STRUCTURE

The proportion of male and female population differed much in the early years which diminished with time. The proportion of the female population increased from 45.7% in 1911 to 49.2% in 2014. The disparity in the male female composition over time can be clearly seen from the presentations of the sex ratios.

### Total Maldivian population by sex 1911-2014

No	Census		Total Maldivian Population			Average Annual growth rate
	Year	Month/date	Both Sexes	Male	Female	
1	1911	October	72,237	39,244	32,993	-
2	1921	March	70,413	38,174	32,239	-0.27
3	1931	April	79,281	43,235	36,046	1.18
4	1946	June	82,068	44,308	37,760	0.23
5	1953	June	77,273	41,656	35,617	-0.86
6	1957	June	83,075	44,614	38,461	1.81
11	1962	June	92,744	49,454	43,290	2.20
16	1967	30-Jun	103,801	55,346	48,455	2.25
21	1972	30-Jun	122,673	64,924	57,749	3.34
23	1977	31-Dec	142,832	75,224	67,608	2.77
24	1985	29-Mar	180,088	93,482	86,606	3.20
25	1990	2-Mar	213,215	109,336	103,879	3.43
26	1995	25-Mar	244,814	124,622	120,192	2.73
27	2000	31-Mar	270,101	137,200	132,901	1.96
28	2006	28-Mar	298,968	151,459	147,509	1.69
29	2014	20-Sep	344,023	174,666	169,357	1.65

Source: Census, 2014

### Sex Ratio (Males per 100 Females)

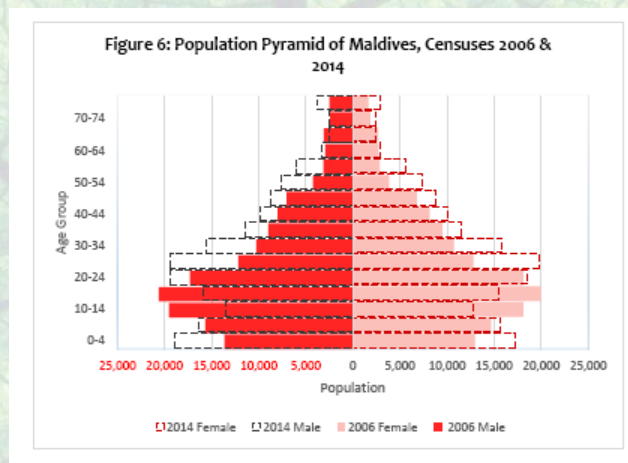
No.	Year	Month/date	Sex Ratio (males/100 females)
1	1911	October	119
2	1921	March	118
3	1931	April	120
4	1946	June	117
5	1953	June	117
6	1957	June	116
11	1962	June	114
16	1967	30-Jun	114
21	1972	30-Jun	112
23	1977	31-Dec	111
24	1985	29-Mar	108
25	1990	2-Mar	105
26	1995	25-Mar	104
27	2000	31-Mar	103
28	2006	28-Mar	103
29	2014	20-Sep	103

Source: NBS, 2014

The sex ratio recorded in 1911 was 119 males per 100 females. It ranged between 119 and 114 till the late 1960s. The sex ratio started to dramatically fall from then on. In 1985 it was at 108 and fell to 105 in the next 10-year period. Currently the sex ratio of the total population stands at 103 (Census, 2014). The lowering of the sex ratio shows improvements in women's health over the years.

The general shape of the population pyramid indicates relatively young population with smaller proportion in the older age categories and larger proportion of the population in the less than 20 years of age categories. While 47% of the population is below the age of 25 years, 19% represent youth between the ages 18 and 24 years (Census, 2014). On the other hand, the youth group (18 – 34 year olds) as specified by Maldives represent 35% of the population

## Population Pyramids 2006, 2014



### FERTILITY AND MORTALITY TRENDS

The slow population growth is a reflection of the falling fertility rates. Based on census figures, the total fertility rate (TFR) declined from 6.40 children in 1990 to 2.46 children in 2014. Fertility decline was more prominent in the atolls (rural) population than in Male' (urban) yet remains high. As a consequence of the population cohort of the high fertility time reaching the reproductive age, increases in the crude birth rate has been seen in recent years. The patterns of age-specific fertility rates (ASFR) have shown increased age of child bearing. The ASFR peak at 20-24 years in the year 2000 increased to 25 – 29 years in 2014.

Crude Death Rate (CDR) stands constant at 3 per 1000 population from year 2010-2014. Significant falls in CDR was seen to be mainly associated with the fall in the infant and child mortality rates over the last two decades. Access to better health care and expansion of health services to the atoll populations and effective immunization programs played a major role in the fall of death rates.

Trends in the age sex ratio of the deaths show that the disparity in deaths among males and females in the child population have been declining over the years while deaths among the older population groups were seen to be declining among women.



## LIFE EXPECTANCY

The life expectancy trends in the population show marked improvement which indicates improvement in the health status of the population. The life expectancy at birth has increased from 70.0 to 73.1 for males while it has increased from 70.1 to 74.8 for females from year 2000 to 2014, respectively. Several factors may have contributed to the increase in life expectancy such as improved accessibility to health care, improved diagnostic and other health services, and increased awareness within the population leading to increased healthcare seeking behavior and healthy lifestyles.

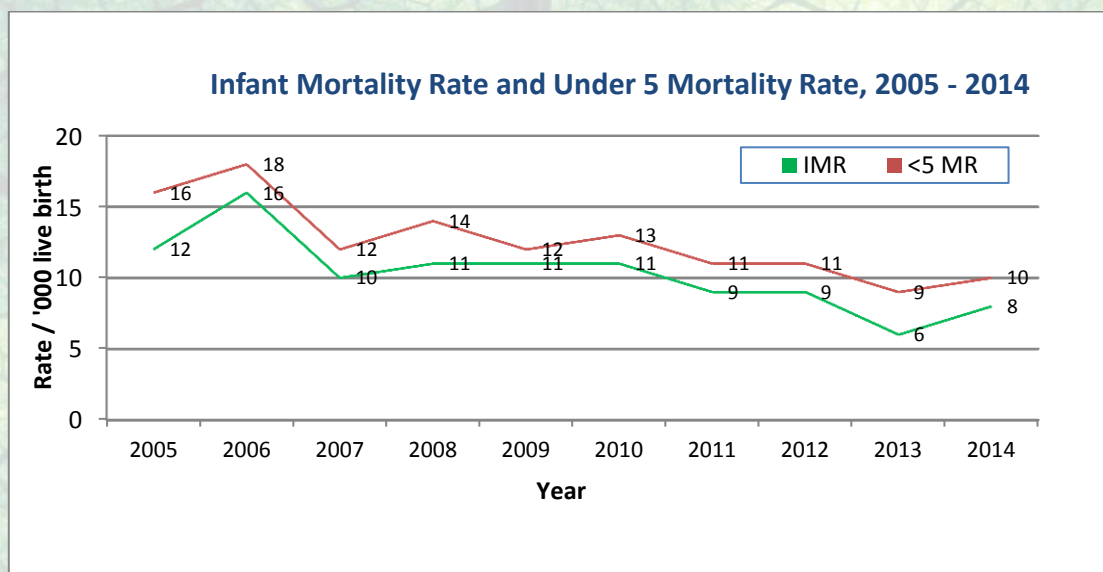
Life expectancy at birth, 2000-2014		
Year	Male	Female
2000	70.0	70.1
2001	70.2	70.7
2002	70.0	70.9
2003	70.4	71.3
2004	71.1	72.1
2005	71.7	72.7
2006	72.0	73.2
2007	72.3	73.7
2008	72.5	74.1
2009	72.5	74.2
2010	72.6	74.4
2011	72.8	74.8
2012	73.0	74.8
2013	72.97	74.66
2014	73.13	74.77

Source: NBS, 2014

## CHILD MORTALITY

Maldives has made significant progress in reducing child and infant mortality. The MDG target of reducing child mortality has already been achieved.

Under 5 Mortality Rate stood at 48 per 1000 live births in 1990 while Infant Mortality Rate stood at 34 per 1000 live births. The MDG target for Maldives is to reduce Under Five Mortality to 16 per 1000 live births by the end of 2015. The Infant and Child Mortality Rates fell steeply during the 1980s and 1990s. As of 2014, Under 5 Mortality Rate is 10 per 1000 live births and Infant Mortality Rate is 8 per 1000 live births.

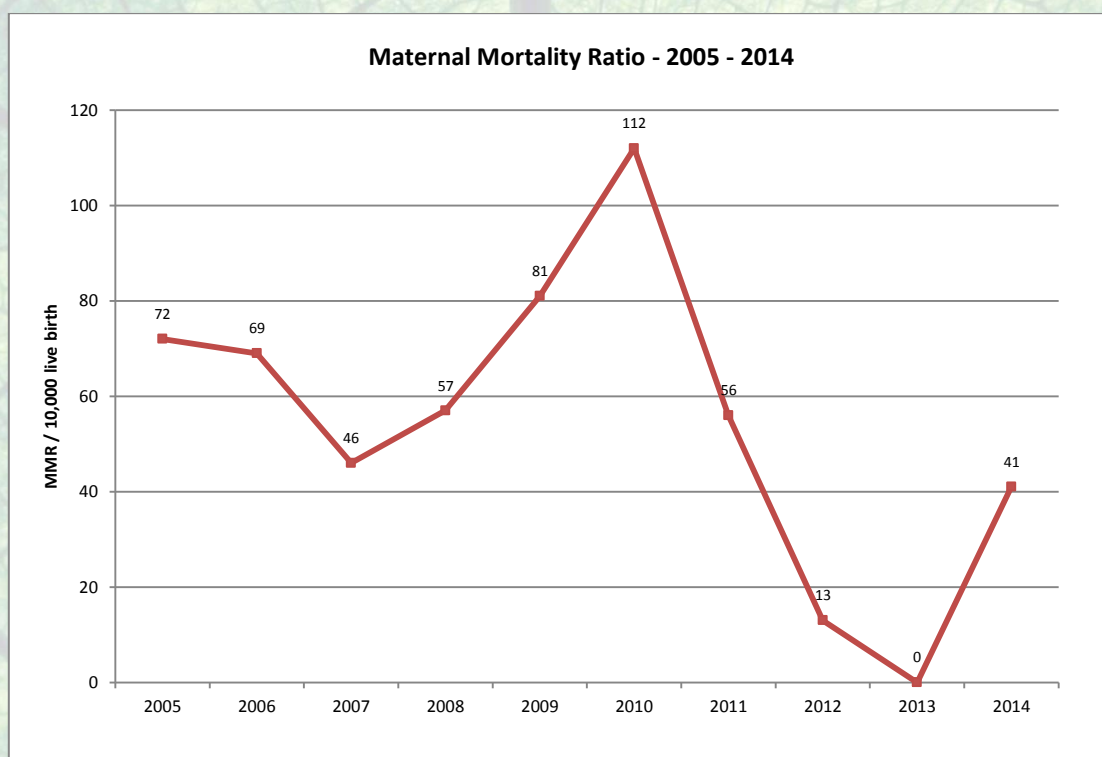


Source: Vital Registration System, 2014

A greater challenge for further reduction in infant mortality now lies with reducing neonatal death rate. In 2014, neonatal deaths accounted for 63% of infant deaths. More importantly in 2014, 89% of the neonatal deaths took place within the first week of life. It has to be noted that a good number of these are premature births and babies born with congenital anomalies including congenital heart defects and neural tube defects. Chances of survival of some of these premature infants may not be possible if an appropriate neonatal intensive care or resuscitation measures are not available in most of the health facilities. IV drug use among mothers is among one factor that attribute to preterm births and sepsis among neonates. The government is currently working on improving the neonatal care at the regional/atoll hospitals and health center with establishment of Neonatal Intensive Care Units and Neonatal Care facilities and training staff on providing these services. Level III NICU facilities have been established at the central referral hospital, IGMH, with additional services being provided

## MATERNAL MORTALITY

Improvements in maternal health are evident by the reduction in maternal mortality over the years. Though the rate of decline in maternal mortality was not as fast as that of the child mortality, maternal mortality ratio also steadily declined. In-depth review of maternal deaths was initiated in the year 1997 to identify and focus interventions in reducing maternal deaths. Emergency Obstetric Care (EmOC) at atoll level was strengthened. In order to provide comprehensive EmOC in all atolls, the atoll level health centers were upgraded to Atoll Hospitals with comprehensive EmOC facilities. Institutional deliveries were encouraged and the phasing-out of the services of traditional birth attendants with little or no training were seen to bring positive outcomes in reducing maternal mortality.



Source: Vital Registration System, 2014

The MDG target of Maternal Mortality Ratio (MMR) to be reached by 2015 was 125 per 100,000 live births from the high rate of 500 per 100,000 live births in the year 1990. The Health Master Plan targeted MMR to fall to below 50 by 2015. MMR fell steadily since the beginning of the last decade. Although an increasing trend was seen from 2007 to 2010, the MMR has fallen to the lowest recorded rate of 13 per 100,000, while there has been no record in 2013. It should be noted that fluctuations are prominent due to the small population of the Maldives leading to a smaller denominator in calculating the MMR.

## **MORBIDITY TRENDS**

Maldives is in a status of epidemiological transition, moving from a high burden of communicable diseases towards an increasing burden of non-communicable diseases. We now face the challenge of controlling non-communicable diseases and addressing social determinants of health while also continuing to strengthen preparedness and control of emerging and re-emerging communicable diseases.

### **Communicable Disease Control**

There has been continued improvement in situation of most communicable diseases, while in other diseases, achievements have been sustained.

The most remarkable achievements in the past 2 years with regard to communicable diseases include Maldives being declared Malaria free and the submission and approval of dossier for Lymphatic Filariasis elimination, which is the major step in the process to certify Maldives as having eliminated lymphatic Filariasis. Vaccination coverage remains consistently above 98% for all childhood vaccines, and vaccine preventable diseases have been controlled. 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.

However, considerable burden of some communicable diseases remain a challenge. Dengue is one of the highest priority diseases with considerable morbidity and hospitalization. Although the case fatality rate has decreased, outbreaks and seasonal increases in between outbreak years have continued to require considerable efforts to control. However, compared to the 2011 outbreak, the outbreak of 2015 had fewer cases and fewer deaths. Every dengue death is now reviewed and corrective measures taken according to the recommendations of the review. Acute respiratory infections, acute gastroenteritis and unspecified viral fevers constitute the largest share of burden of common communicable diseases, although deaths and complications from these diseases are uncommon.

Diseases with specific control programs such as TB have also been revived with new strategic plans, and better case finding and case management. HIV program is also now working under a new strategic plan, and have kept pace with recent developments in case management, with all patients now being started on Anti-Retroviral Therapy (ART) at diagnosis regardless of CD4 count, as per the latest guidelines. On the prevention side, Maldives is moving from voluntary counselling and testing to a more provider-initiated model as per WHO guidelines.

## Annual Number of Notified Communicable Disease Cases From 2011-2015

#	Disease	2015	2014	2013	2012	2011
1	Acute Respiratory Infection	208910	173437	160112	156009	113834
2	Viral Fever	94124	74931	57796	69974	70608
3	Acute Gastro Enteritis /Diarrhoea	30442	19954	25949	22796	18979
4	Conjunctivitis	10174	19370	5181	4224	2878
5	Chickenpox	2228	1753	2261	1561	1186
6	*Dengue Fever	1866	775	681	1083	2909
7	Hand Foot and Mouth Disease	1312	2598	408	79	71
8	Typhoid Fever	134	145	143	81	23
9	Scrub Typhus	43	54	77	55	91
10	Mumps	43	57	17	18	69
11	Poliomyelitis /AFP(Acute Flaccid Paralysis)	5	1	2	4	4
12	Tetanus	0	0	0	0	0
13	Rubella	3	0	0	0	0
14	Measles	0	0	0	0	0
15	Whooping Cough	0	0	0	0	0
16	Diphtheria	0	0	0	0	0

\* Cases of Mumps laboratory confirmatory tests were not done.

\* Dengue fever includes DHF (Dengue Haemorrhagic fever) and DSS (Dengue Sudden Shock Syndrome)

\*\*\*Tetanus reported among adults only

Source: Health Protection Agency 2016

Tuberculosis (TB) though of low prevalence, continues to persist and has a high risk of increasing transmission in Maldives due to overcrowding and poor housing conditions in Male', the capital city. Prevalence among drug user population and the increasing migrant population from high prevalent countries also contributes to this. Multi Drug Resistant-TB (MDR-TB) is also emerging in the country and stigma towards tuberculosis is still very high. These pose significant challenges in controlling TB.

The prevalence of HIV is low. The 2008 behavioural and biological survey (BBS) of key affected populations has shown that risk of HIV and STIs are significant due to the practice of unsafe and harmful practices such as unprotected sex, commercial sex work, MSM and needle sharing among injecting drug users. These evidences show the increased risk of HIV spread in the country. Hepatitis B is also a significant disease that has high risk of transmission, particularly among adults. Although preventive measures such as safe blood practices and vaccination against Hepatitis B infection under Extended Program on Immunization are being maintained, there is a need to strengthen the surveillance of Hepatitis B infections. Maldives also needs to develop a comprehensive strategy for prevention and control of Hepatitis B, with a particular emphasis on women of reproductive age.

### **Non-Communicable Diseases**

With lifestyle changes associated with development and consequently the high prevalence of risk factors such as tobacco use, consumption of sugary and fatty foods and drinks and sedentary lifestyles, chronic non-communicable diseases (NCD) have emerged as the major causes of morbidity and mortality in the country. Cardiovascular diseases (CVDs), chronic respiratory diseases, accidents and injuries, diabetes and cancers are the leading causes of death in the country. In terms of the number of lives lost due to ill-health, disability, and early death, NCDs (inclusive of injuries) account for 78% of the total disease burden, and 22% of the DALYs come from communicable diseases, maternal and child health, and nutrition issues all combined (NCD policy brief 2011, Maldives).

To identify risk factors for NCDs, population based survey was conducted in 2011. A total of 1780 individuals aged 15-64 years participated in the survey (664 men and 1,116 women). The proportion of smokers among the respondents was 37.7% of men and 3.4% of women. Obesity is also found to be high particularly among women – 14.5% of females compared to 8.6% of males are obese (World Health Organization [WHO], 2011).

With the emerging lifestyle changes associated with development, chronic NCDs account for up to 70% of all deaths and are considered as the main cause of morbidity and mortality in the country.

## Twenty Leading Causes of Death for All Ages, 2014

ICD	CAUSE	Male	Female	Total
I30–I52)	Other forms of heart disease	87	69	156
I20–I25)	Ischaemic heart diseases	83	44	127
I60–I69)	Cerebrovascular diseases	75	48	123
I10–I15)	Hypertensive diseases	40	28	68
J40–J47)	Chronic lower respiratory diseases	24	39	63
A30–A49)	Other bacterial diseases	24	26	50
N17–N19)	Renal failure	26	16	42
R50–R69)	General symptoms and signs	22	10	32
E10–E14)	Diabetes mellitus	16	13	29
J80–J84)	Other respiratory diseases principally affecting the interstitium	9	13	22
J95–J99)	Other diseases of the respiratory system	13	9	22
C76–C80)	Malignant neoplasms of ill-defined, secondary and unspecified sites	12	8	20
R00–R09)	Symptoms and signs involving the circulatory and respiratory systems	10	9	19
E70–E90)	Metabolic disorders	10	7	17
C15–C26)	Malignant neoplasms of digestive organs	9	6	15
J60–J70)	Lung diseases due to external agents	5	7	12
C30–C39)	Malignant neoplasms of respiratory and intrathoracic organs	9	1	10
K70–K77)	Diseases of liver	9	1	10
C51–C58)	Malignant neoplasms of female genital organs	0	9	9
W65–W74)	Accidental drowning and submersion	7	2	9

The Maldives has one of the highest known incidences of Thalassemia in the world. It is estimated that one in six Maldivians carry the carrier trait and about 60-70 children are born with the disease every year though only one-sixth of them are diagnosed. The growing number of chronic renal diseases has also emerged as a major health concern of the population. Added to these physical disease conditions is the issue of mental health and psychosocial wellbeing which have not been given as much focus in the past, however, it is now in the limelight, but requires major policy and legislative initiatives and investment. National Policy and a Strategic Plan on mental health are being developed.

Prevention of NCDs is given priority by the government. The Health Master Plan proposed for 2016-2025 focuses on prevention of CVDs, Diabetes, renal diseases, COPD and selected cancers. A multi-sectoral Action Plan on the Prevention and Control of NCDs (2016-2020), which is aligned with the Global NCD Targets, is in place. Tobacco Control Act aligned with the global tobacco control treaty WHO Framework Convention on Tobacco Control (FCTC) is in force since 2010.

The Ministry of Health is working towards strengthening of the provision of health services for early detection and treatment of non-communicable diseases. Addressing the social determinants of lifestyle diseases to achieve and sustain positive changes for better health is also an important area. The enactment of the Tobacco Control Act in 2010 is a major achievement in this area. However, more work is required to strengthen this area, particularly in the effective implementation of the law as well as health promotion. It is expected the National NCD Action Plan when implemented would comprehensively address the major determinants of non-communicable diseases.

## **NUTRITIONAL STATUS**

### **Children's Nutritional Status**

Despite improvements in many areas of health, malnutrition among children continues to be an area of public health concern. However, there are improvements and gains on nutrition as well. Past studies have shown that percentage of children under 5 years who are underweight has gradually declined from 43% in 1996 to 17.3% in 2009. Similarly, stunting declined from 30% in 1996 to 18.9 % in 2009; wasting declined from 17% in 1996 to 10.6 % in 2009 (MDHS, 2009).



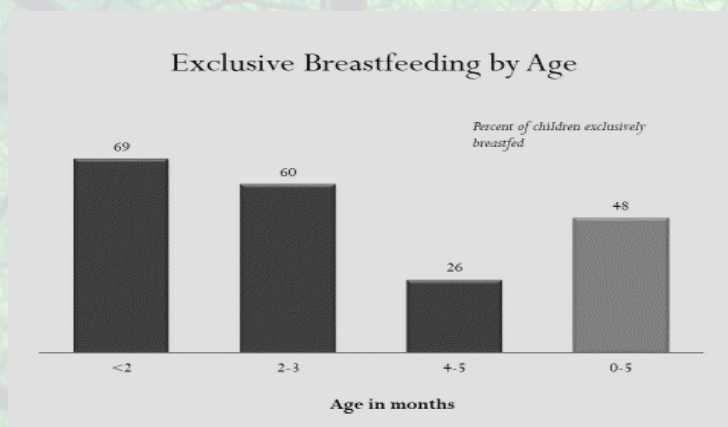
Percentage children under 5 with under-nutrition			
Indicator	Year / Source		
	1996/MICS I	2001/MICS II	2009/MDHS
Stunting	30	25	19
Wasting	17	13	11
Under-weight	43	30	17

The results of recent health screening of grade 1 students in 2015 showed that 41% of the students are in normal weight while 22% of children are overweight and obese and 37% are underweight (School Health Screening, 2015). These findings are similar to the screening results of grade 1 students from 2014 which also showed 22% of the children were overweight and obese while 34% were underweight (School Health Screening, 2014).

### Breast Feeding

Early breastfeeding is important for an infant's health and growth. Early breastfeeding provides a newborn with colostrum which is a key supplement for the infant's immune system. In Maldives 64% of newborns are breastfed within the first hour of life and 92% of newborns within the first day (MDHS, 2009). However, 12% of the newborns are given food or liquids other than breast milk (pre-lacteal feeds).

According to MDHS 2009, 48% infants below 6 months were exclusively breastfed. In 2001 the proportion was only 10% (MICS, 2001). Promotion of exclusive breastfeeding through the baby friendly hospital initiative and awareness created in the area has resulted in this improvement. However, it is noteworthy that exclusive breastfeeding practice significantly decreases with increasing age of child. At 0-1 month 68.9 % infants were being exclusively breastfed and this decreased to 59.8 % by 2-3 months and then decreased sharply to 25.5% between 4-5 months (MDHS 2009). The median duration of Exclusive breastfeeding is 2.2 months (MDHS 2009). It is envisaged that stronger incentives and increased flexibility for working mothers will improve this situation.



Source: MDHS 2009

## Micronutrient Deficiencies & Intake among Children

The micronutrient survey of 2007 showed that the weaning and feeding practices of infants and children are a major factor for the continued malnutrition problem. The study found micronutrient deficiencies, especially deficiencies in iron, zinc and Vitamin A to be of significant concern.

Percentage of children (6 months to 5 years) with micro-nutrient deficiencies	
Indicator	Percentage
Anaemia	26.3
Iron deficient	57.3
Zinc deficient	16.0
Vitamin A deficient	
Moderate	50.1
Severe	5.1

Source: Micro-nutrient Survey 2007

The MDHS 2009 found that 82% of children 6-35 months of age consumed foods rich in Vitamin A in the last 24 hours prior to the survey. Among these children 66% consumed foods rich in iron. The survey found that 48% of children who are 6 months to 5 years of age were given Vitamin A supplementation.

## Nutritional Status of Women

Women with a body mass index (BMI) below 18.5 are considered too thin, reflecting chronic energy deficiency. Women with a BMI over 25 are overweight, while a BMI over 30 is considered obese. In 2009, it was found that 46% of women in the Maldives are overweight or obese (MDHS, 2009). The proportions of women who have a BMI below 18.5 have declined from 23% in 2001 to 8% in 2009.

### **Micronutrient deficiencies in women**

Anaemia is a chronic health problem among women in the Maldives. In 2001, the Multiple Indicator Cluster Survey reported that 51% of women of reproductive age were anaemic and that the rate was at 56% among pregnant women. The National Micronutrient Survey 2007 showed that overall, 15.4% women of reproductive age were anaemic to some degree; 0.3% severely anaemic and 15.1% moderately anaemic. While 2007 survey indicated to a dramatic reduction in the proportion of women with anaemia, it found that overall, 38% of women were iron deficient. Among women, 26.8% were found to have zinc deficiency and 4.7% women and 39.3% women have severe and moderate vitamin A deficiency respectively.

## **ACCESS TO HEALTH CARE**

### **Maternal and Child Health Services**

A lot of work has been undertaken to improve maternal, child health and reproductive health situation in the country. Universal coverage in immunization has been maintained. Different studies in the recent past have shown that there is almost universal coverage of antenatal care in Maldives. Almost every birth takes place in a health care facility attended by skilled providers. However, improvements are required to ensure quality in antenatal, intra-partum and postpartum care. Survey data over the years showed a decline in contraceptive prevalence.

## Antenatal Care

90% of women went to their first ANC visit during the 1st trimester of pregnancy, as recommended.

85% of women had 4 or more ANC visits, as recommended

Less than 1% of women had no ANC visits

More than 99% of women received antenatal care from a skilled provider (gynaecologist, doctor, nurse, midwife, or community/family health worker) at least once

### Components of Antenatal Care

87% took iron tablets or syrup during last pregnancy

52% were informed of signs of pregnancy complications

More than 99% had blood pressure measured

More than 99% were weighed

98% had blood samples taken

97% had urine samples taken

Source: MDHS 2009

## Delivery and Postnatal Care

95% of women in the Maldives deliver in a health facility.

95% of births were delivered by a skilled provider (Skilled provider includes gynaecologist, doctor, nurse, midwife or community/family health worker)

46% of mothers had a postnatal check-up within 4 hours after delivery

21% of mothers had a postnatal check-up within 2 days after delivery

6% of mothers had no postnatal check-up within 41 days of delivery

Source: MDHS 2009

## Immunization

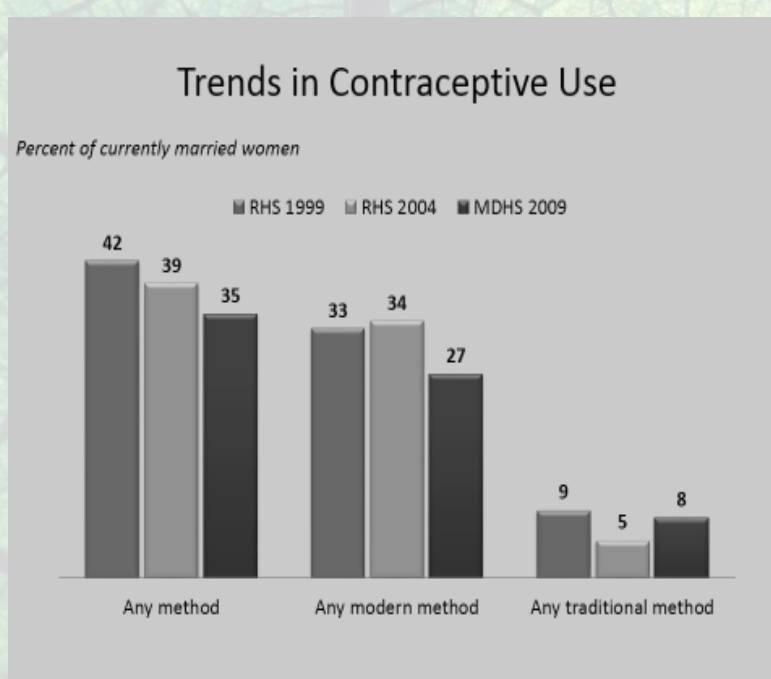
Maldives has long maintained universal high coverage of EPI. Since early 1990s, the coverage rate has been maintained over 90 percent for all vaccines. The MDHS 2009 found that 93% of children aged between 12 and 23 months have received all the recommended immunizations. In 2001 this coverage was at 85% (MICS, 2001).

Percentage of children (12-23 Months) fully immunized		
Year	Percentage	Source
2001	85	MICS I
2009	93	MDHS

## Family planning and contraceptive use

The commitment to promote family planning has increased over the past years. However, other challenges do exist with regard to contraceptive use and adopting family planning methods. Given the investments in the area, more qualitative research is needed to identify and explore in-depth reproductive health related issues so that these can be better addressed in an evidence based manner.

Despite the improvements made to increase access to family planning services, evidence from surveys conducted over the last 10 years has shown that the contraceptive prevalence rate had declined. Proportion of married women using any modern methods of contraception reduced from 33% in 1999 to 27% in 2009.



Maldives Demographic and Health Survey (MDHS) 2009 indicate that women in the Maldives demonstrate contraceptive use behaviour that is quite different from commonly occurring patterns. Contraceptive prevalence in the Maldives show a decline with increasing education as evident in use of modern methods declining from 36% among women with no education to 21% among women with more than secondary education. Unlike many other countries, the differences in contraceptive prevalence by wealth status or urban-rural residence also are not substantial. The female sterilization was the most commonly used method and there is higher reliance on female sterilization among women with no education. While pill use declines with increasing education, male condom use increases with increasing education.

## **EMERGENCY PREPAREDNESS AND RESPONSE**

Maldives is committed to implementing the International Health Regulations 2005 (IHR 2005). The country has a well-functioning surveillance system for communicable diseases. It needs further development for early response such as including auto-alert functions and improving event-based surveillance. Laboratory surveillance, surveillance for hospital acquired infections and antimicrobial resistance also needs to be developed. The international ports of entry have been strengthened to cover health requirements to prevent the international spread of disease and health hazards with minimal interference with international trade and travel.

Maldives has a comprehensive Pandemic Preparedness Plan. The Ministry of Health is collaborating with other sectors to prepare multi-hazard preparedness plans and health sector preparedness plans that are required under the IHR 2005. A national IHR Committee coordinates activities required to achieve IHR core capacities among the different sectors, and relevant public health legislature is being developed and implemented.

## **HEALTH CARE RESOURCES**

Despite the achievements in the health sector, it is a daunting challenge for Maldives to sustain accessibility of health services equitably throughout the country. The delivery of services is hampered by the geographical nature of the country with numerous islands scattered throughout and often the means of transport is by sea which can be affected by unfavourable weather. In terms of cost effectiveness and sustainability, it is not favourable to have hospitals or health centers in each island as the population in some islands reach up to a few hundred only. Moreover, due to the limited and unreliable public transport system, people in many islands are unable to travel or have to pay high amounts to the private transport services to reach appropriate health care. Considering these factors, health care services provision in Maldives is a costly undertaking.

A systematically organized public transportation system is a necessary pre-requisite for the full utilization of health care delivery system. A sustainable marine transport network will increase accessibility and mobility of the people and is expected to increase economic regeneration at all levels through revitalization of the urban setting and land use. One of such effort by the health sector is the introduction of the sea ambulance in the year 2014.

The health system has been undergoing fundamental changes of reform. Such reforms include the introduction of urgent and appropriate public health measures with special health programs. This program is targeting to adolescence and prevention of cancer and chronic diseases as well as non-communicable diseases.

Strategies to improve utilization of enabling platforms such as telemedicine, e-health programs and the initiatives for increased financial health protection are of importance. There is a need to strengthen the health care system to meet the increasing health care demands and the challenges of social determinants of health amidst financial and resource shortages.

## **HUMAN RESOURCES FOR HEALTH**

Lack of adequately trained human resources is still a major concern in the health sector. A large expatriate workforce contributes to delivery of health services both in public and private sector. Large expatriate workforce presents difficulties in patient-doctor communication and interactions, especially at community level. It also means that there is a high staff turnover thus impacting on quality of services.

The population for every practicing doctor was 447 in 2014, and the population per practicing nurse was 147 in 2014. In 2014, for every 10,000 of the population there were 9 specialists available.

## Distribution of Medical Personnel by Locals and Expatriates, 2014

TYPE OF HEALTH PROFESSIONAL	PUBLIC SECTOR						PRIVATE SECTOR	
	MALÉ		ATOLLS		REPUBLIC		REPUBLIC	
	Expat	Local	Expat	Local	Expat	Local	Expat	Local
Doctors (MBBS)	49	76	305	11	354	87	5	18
Doctors (Specialists)	98	63	98	4	196	67	13	30
Nurses	407	411	621	739	1028	1150	133	25
Laboratory Scientists / Laboratory technicians/ laboratory assistants	30	70	102	57	132	127	18	8
Physiotherapists	12	11	9	1	21	12	3	2
Radiographers	18	13	26	10	44	23	10	2
Dental technicians / dental assistants	1	25	2	1	3	26	0	11
Community Health Workers	0	3	0	234	0	237	-	-
Family Health Workers	0	0	0	272	0	272	-	-
Foolhumaas (TBAs)	0	0	0	49	0	49	-	-
<b>Total</b>	<b>615</b>	<b>672</b>	<b>1163</b>	<b>1378</b>	<b>1778</b>	<b>2050</b>	<b>182</b>	<b>96</b>

\* Note: Pvt. Sector data includes ADK Medica & IMDC (in Addu City) only

Source: Ministry of Health



## FINANCIAL RESOURCES

The government's commitment for improving the health services is evident by the health expenditure by the government. After several attempts to provide the benefits of health insurance, all Maldivians now enjoy a universal health insurance scheme fully financed by the government.

### Allocations and Expenditure of Government Budget on Health Sector, 2004 – 2014

Year	Total GDP at Constant basic prices (in million Rf)	Total GDP at Current basic prices (in million Rf)	Public health exp. (% of Total GDP)	GDP growth rates	Health expenditure as % of national Budget
2004	13,675.79	13,767.75	3.1	13.16	11.3
2005	12,489.42	12,703.67	4.1	-8.12	8.7
2006	14,935.54	16,683.21	4.1	19.89	9.7
2007	16,512.19	19,737.33	4.0	10.17	9.4
2008	18,526.44	24,212.91	5.5	12.67	12.8
2009	17,852.96	25,403.39	5.6	-5.33	12.6
2010	19,113.23	27,316.54	3.7	7.17	9.0
2011	20,351.03	31,583.72	1.3	8.71	3.1
2012	20,622.35	34,177.36		2.50	
2013	21,490.20	37,077.31		4.70	
2014	22,748.05	41,052.26		6.48	

Source: NBS, 2015

## National Health Accounts – Health System Expenditure & Financing, 2011

Selected ratio indicators for expenditures on health	
Total health expenditure (THE) % GDP	9.2
GGHE as % of GDP	4.1
External resources on health as % of THE	3.3
General Government expenditure on health % of THE	44.0
Private expenditure on health as % of THE	52.7
Out of pocket expenditure as % of THE	49.4
Social Security funds as % of GGHE	19.6
B.values underlying ratios and levels	
2011	
Health System Expenditure & Financing	
Financing Agents Measurements (Million NCU)	
Total expenditure on health	2,767
General government expenditure on health	1,217
Ministry of Health	220
Social security funds	251
Private expenditure on health	1342
Private insurance	92
Non-profit institutions serving households (e.g. NGOs)	5
Out of pocket expenditure	1250
Financing Sources Measurement (Million NCU)	
Rest of the world funds / External resources	91
Macro-economic Variables (Million NCU)	
Gross domestic product (GDP)	29,936
General government expenditure (GGE)	12,824
Households final consumption	5,595
Exchange rate (NCU per US\$)	15.42
Population (in thousands)	320

Source: NHA survey, Ministry of Health 2012

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Ministry of Health