Maldives Health Profile

2014

Ministry of Health & Gender

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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 187 islands are officially inhabited. 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 107(2014) islands designated as tourist resorts and around 14 islands used for industrial purposes.

The population of Maldives in 2014 was projected to be 341,848. The last census in 2006 recorded a total population of 298,968 (Census, 2006) with males and females representing 50.7% and 49.3% respectively. Maldivians are 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. Universal access to primary and secondary education is reached at every corner of the country.

Maldivian economy, though small in size is buoyant with a growth of 6-8% per annum over the past decade. The economy is highly dependent on the Tourism Industry which account for around 34% of the direct GDP and almost 75% when counting direct and indirect income - 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 foodstuffs, 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 delivery system of Maldives is organized into a four-tier referral 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. 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. Having experienced several fall backs of the divided and corporatized health care delivery initiated in the year 2009, several steps has been taken to bring back the health facilities under the leadership of Ministry of Health and Gender but managed in a decentralized system. 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.

POLICY GOALS OF THE MALDIVES HEALTH SYSTEM

1. To ensure people have appropriate knowledge and behaviours to protect and promote their health
2. To ensure safe and supportive environments are in place to promote and protect health and wellbeing of the people
3. To reduce burden of disease and disabilities and improve quality of life
4. To ensure all citizens have equitable access to comprehensive primary health care
5. To establish and enforce appropriate quality assurance and regulatory framework for patient and provider safety
6. To build public private partnerships in health
7. To build a competent and professional health workforce
8. To ensure health system is financed by a sustainable and fair mechanism
9. To enhance the response of health system in emergencies
10. To build a culture of evidence based decision making within the health system

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. There have been no indigenous case of malaria since 1984 and vaccine preventable diseases 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 Filaria 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. Emerging zoonotic diseases with possible links to environmental and climate change causes significant morbidity in the community. Diseases such as dengue fever, seasonal influenza and diarrhoeal diseases have emerged as the major causes of morbidity among the different sections of the population

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

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

Source: DNP 2014

POPULATION TRENDS

Since the early 1990s the population growth rate has shown steady decline. The Population and Housing Census of Maldives conducted in 2006 recorded the size of the population at 298,968 with average annual population growth rate at 1.69 percent (Ministry of Planning & National Development, 2006).

Population trends, 1990 - 2006(Census years)

	1990	1995	2000	2006
Population	213,215	244,814	270,101	298,968
Numerical Increase	33,127	31,599	25,287	28,867
Average Annual growth	3.43	2.73	1.96	1.69

Source: Analytical Report of Census 2006

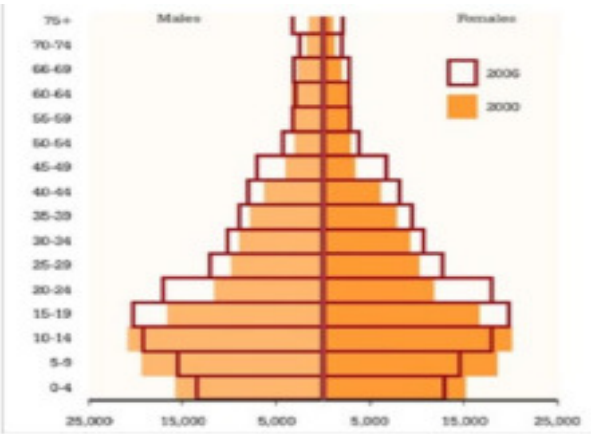
SEX AND AGE STRUCTURE

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% in 1911 to 49% in 2006. The disparity in the male female composition over time can be clearly seen from the presentations of the sex ratios.

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. The lowering of the sex ratio clearly 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 51% of the population is below the age of 25 years, 24% represent youth between the ages 18 and 24 years.

Population Pyramids 2000, 2006



FERTILITY AND MORTALITY TRENDS

The slow population growth is a reflection of the falling fertility rates. The total fertility rate (TFR) declined from a high of 6.4 children to 2.1 in 2006. Fertility decline was more prominent in the atolls (rural) population than in Male' (urban). 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 2006.

Crude Death Rate (CDR) over the years had shown a steady decline and it has stabilized between 4 and 3 per 1000 population during the years of the last decade or so. The CDR stands at 3 per 1000 population as of 2012. 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 72.5 for males while it has increased from 70.1 to 74.1 for females from year 2000 to 2008 respectively. Several factors may have contribute 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, 2000-2012

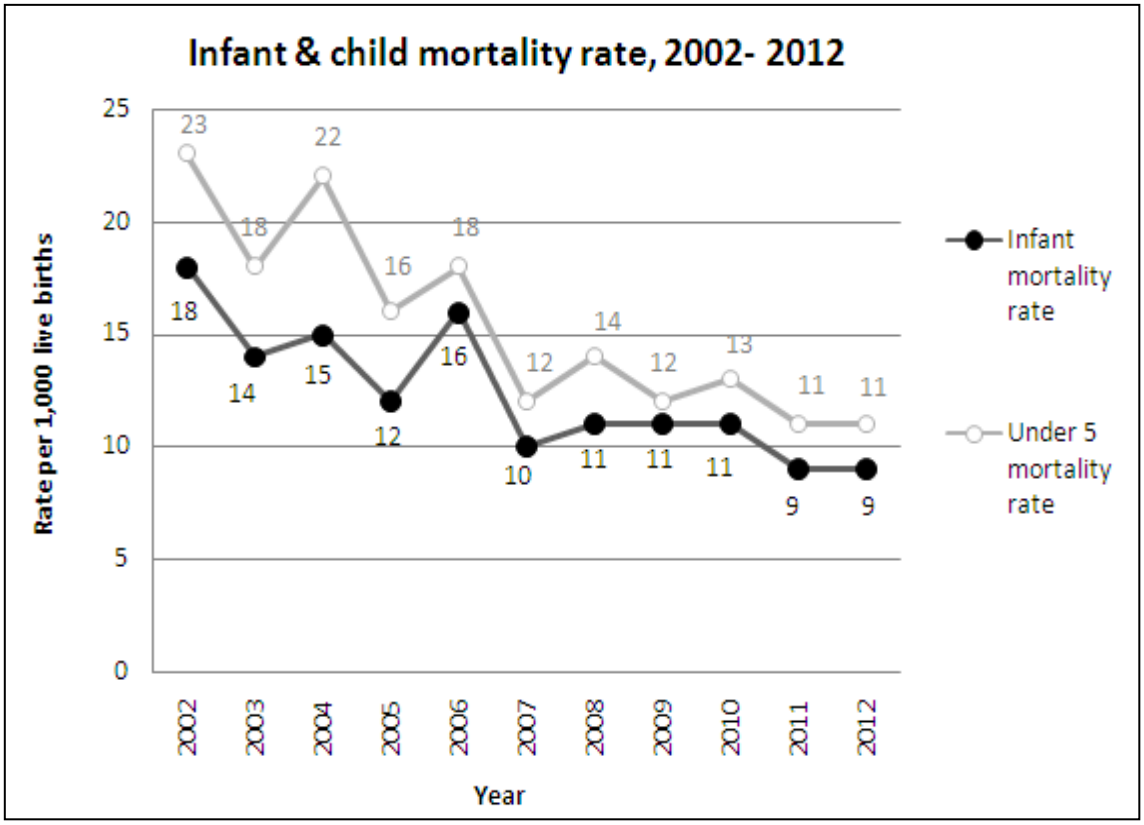
Year	Male	Female
2000	70.0	70.1
2001	70.2	70.7
2002	70.0	70.9
2003	70.4	71.3
2004	71.1	72.1
2005	71.7	72.7
2006	72.0	73.2
2007	72.3	73.7
2008	72.5	74.1
2009	72.5	74.2
2010	72.6	74.4
2011	72.8	74.8
2012	73.0	74.8

Source: DNP 2013

CHILD MORTALITY

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

Under-Five Mortality Rate stood at 48 per 1000 live births in 1990 while IMR 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. Infant and Child Mortality Rates fell steeply during the 1980s and 1990s. As of 2012, under 5 mortality rate is 11 per 1000 live births and infant mortality rate is 9 per 1000 live births.



Source: Vital Registration System 2013

A greater challenge for further reduction in infant mortality now lies with reducing neonatal death rate. In 2012, neonatal deaths accounted for 66% of infant deaths. More importantly in 2012, 75% 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 the 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 the traditional birth attendants with little or no training were seen to bring positive outcomes on reducing maternal mortality.

Source: Vital Registration System 2013

The MDG target of 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. 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

Notable achievements have been made in the control of many of the infectious diseases. The country is considered Malaria free as no indigenous cases of Malaria is seen since 1984.Vaccine preventable diseases have also been controlled to such an extent that diseases like polio, neonatal tetanus, whooping cough and diphtheria are non-existent. Filaria and Leprosy are progressing towards the regional elimination target. No new case of Filaria was detected during the past 3 years.

The progress towards achievement of the MDG goals in 2010 marked, fully achieved status for the MDG goal 6; combating HIV/AIDS, malaria and other diseases.

Dengue, diarrhoeal diseases, acute respiratory infections (ARI) continue to cause significant morbidity among children and adults. In 2012, ARI, viral fever and diarrhoeal diseases were the communicable diseases with the highest incidence, amounting to 4748, 2130 and 694 per 100,000 population respectively. Diseases such as scrub typhus and toxoplasmosis have also emerged and continue to be endemic.

Further improvements are still required in access to safe drinking water, improving sanitation and waste management.

Annual number of notified Communicable disease cases from 2010-2012

		2012	2011	2010
1	Acute Respiratory Infection	156,009	113,834	92553
2	Viral Fever	69,974	70608	54718
3	Acute Gastro Enteritis /Diarrhoea	22,796	18979	18509
4	*Dengue Fever	1083	2909	920
5	Conjunctivitis	4224	2878	4606
6	Chickenpox	1561	1186	864
7	Scrub Typhus	55	91	61
8	Hand Foot and Mouth Disease	79	71	984
9	Mumps	18	69	50
10	Acute Flaccid Paralysis	4	4	4
11	***Tetanus	0	3	8
12	Rubella	0	1	1
13	Measles	1	0	7
14	Whooping Cough	0	0	1
15	Diphtheria	0	0	0

*Dengue fever includes DHF (Dengue Hemorrhagic fever) and DSS (Dengue Sudden Shock Syndrome)
***Tetanus reported among adults only
Source: Health Protection Agency 2013

Tuberculosis 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', prevalence among drug user population and the increasing migrant population from high prevalent countries. 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 behavioral 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. While infants are vaccinated under the routine EPI and safe blood practices are maintained, surveillance needs to be strengthened, and Maldives 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 the emerging lifestyle changes associated with development; chronic non-communicable diseases have emerged as the main cause of morbidity and mortality in the country. Cardiovascular diseases, chronic respiratory diseases, accidents and injuries 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 (DALYs), NCDs (inclusive of injuries) account for 78% of the total disease burden. Only 22% of the DALYs come from communicable diseases, maternal and child health, and nutrition issues all combined (NCD policy brief 2011, Maldives).

The NCD risk factor survey conducted in Male' in 2004 found that smoking which is a major leading cause of NCD, is among the highest in South Asia, with a prevalence of 45% among males and 12% among females. Obesity is also found to be high particularly among women – 17% of females compared to 9% of males are obese. The results of the survey shows approximately 50% of the women 35 years and above are overweight and/or obese.

Prevention of NCDs is given a high priority by the government. The Health Master Plan 2006 -2015 focuses on prevention of CVDs, diabetes, renal diseases, COPD and selected cancers.

Thalassaemia is also an area of concern with a national prevalence of 20% as evident from research conducted by a local NGO, Society for Health Education. The growing number of end stage 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 in the limelight till very recently, thus needing a high focus and investment.

The Ministry of Health & Gender 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. Implementation of the Tobacco Control Act is a major achievement in this area. However more work is required to strengthen this area, in legislature as well as health promotion.

TWENTY LEADING CAUSES OF DEATH FOR ALL AGES, 2012

ICD	CAUSE	MALE	FEMALE	TOTAL
I30–I52	Other forms of heart disease	80	68	148
R95–R99	Ill-defined and unknown causes of mortality	73	42	115
I60–I69	Cerebrovascular diseases	74	37	111
I20–I25	Ischaemic heart diseases	70	28	98
I10–I15	Hypertensive diseases	44	41	85
J40–J47	Chronic lower respiratory diseases	30	27	57
E10–E14	Diabetes mellitus	19	20	39
A30–A49	Other bacterial diseases	17	17	34
R50–R69	General symptoms and signs	15	15	30
J95–J99	Other diseases of the respiratory system	19	8	27
N17–N19	Renal failure	14	9	23
R00–R09	Symptoms and signs involving the circulatory and respiratory systems	10	10	20
C15–C26	Malignant neoplasms of digestive organs	12	6	18
W65–W74	Accidental drowning and submersion	13	4	17
C30–C39	Malignant neoplasms of respiratory and intrathoracic organs	10	6	16
J60–J70	Lung diseases due to external agents	7	8	15
J80–J84	Other respiratory diseases principally affecting the interstitium	8	7	15
K70–K77	Diseases of liver	10	5	15
E70–E90	Metabolic disorders	7	7	14
P20–P29	Respiratory and cardiovascular disorders specific to the perinatal period	9	4	13

Source: Vital Registration System 2014

NUTRITIONAL STATUS

CHILDREN'S NUTRITIONAL STATUS

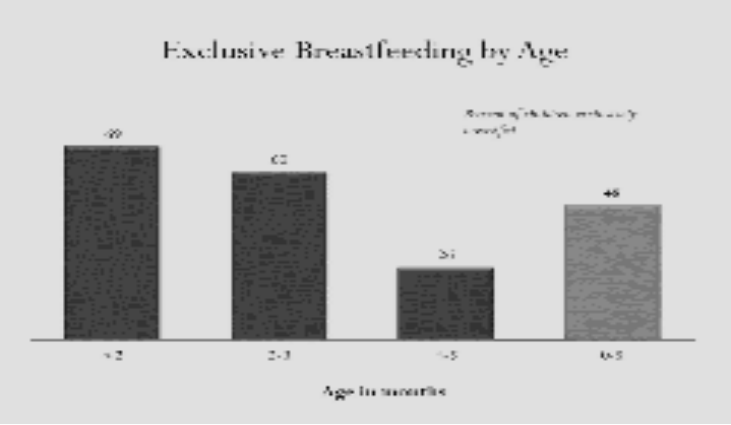
Despite improvements in many areas of health, malnutrition among children continues to be an area of public health concern. However, there are improvements and gains on nutrition as well. Past studies have shown that percentage of children under 5years who are underweight has gradually declined from 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.

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

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 (prelacteal feeds).

Children who are exclusively breastfed up to 6 months of age found to be 48% in 2009. In 2001 (MICS, 2001) this proportion was only 10%. Promotion of exclusive breastfeeding through the baby friendly hospital initiative and awareness created in the area has resulted in this improvement. Looking at the breastfeeding patterns, the data shows that most mothers breastfeed exclusively up the age of 4 months, after which the proportion of exclusively breastfed babies fall. 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, that the weaning and feeding and practices of infants and children is 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.

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.

Percentage of children (6months to 5 years) with micronutrient deficiencies	
Indicator	**Percentage**
Anaemia	26.3
Iron deficient	57.3
Zinc deficient	16.0
Vitamin A deficient	
Moderate	50.1
Severe	5.1
Source: Micronutrient Survey 2007	

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 proportion 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 women have any anaemia and that the rate is 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, intrapartum and postpartum care. Survey data over the years showed a decline in contraceptive prevalence.

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 Maldives Demographic Health Survey 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 II
2009	93	MDHS

Antenatal and postnatal care

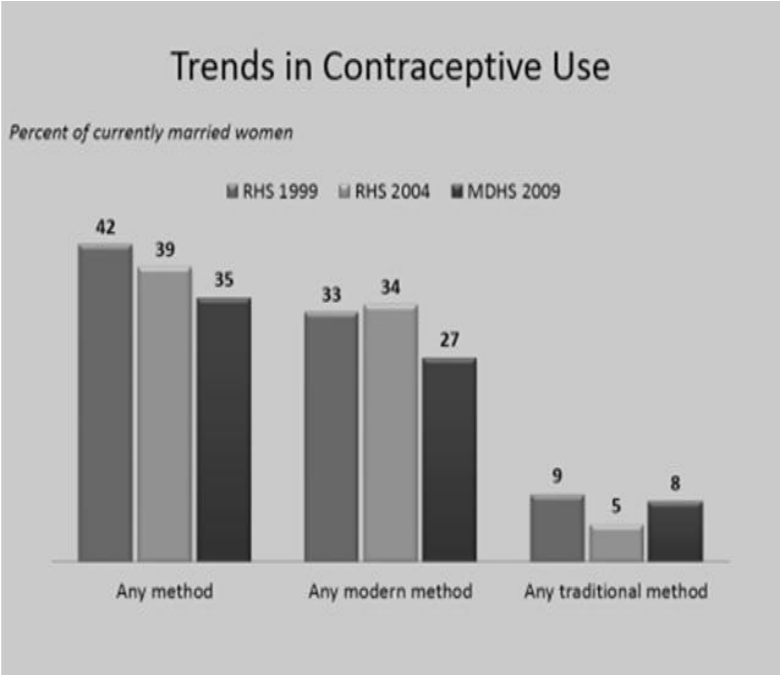
Antenatal Care
90% of women went to their first ANC visit during the 1st trimester of pregnancy, as recommended.
85% of women had 4 or more ANC visits, as recommended
Less than 1% of women had no ANC visits
More than 99% of women received antenatal care from a skilled provider *(gynaecologist, doctor, 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 gynecologist, 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

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 RH related issues so that these can be better addressed in an evidence based manner.

Despite the improvements made to increase access to FP 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 percent among women with no education to 21 percent 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 (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 & Gender 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 the four tier 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.

HUMAN RESOURCES FOR HEALTH

Lack of adequately trained human resources is still a major concern in the health sector. A large expatriate workforce contribute 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 609 in 2010, and the population per practicing nurse was 171 in 2010. In 2010, for every 10,000 of the population there were 6 specialists available.

Distribution of medical personnel by locals and expatriates, 2010

TYPE OF HEALTH PROFESSIONAL	PUBLIC SECTOR				TOTAL PUBLIC SECTOR		TOTAL PRIVATE SECTOR		GRAND TOTAL
	MALE'		ATOLLS						
	Expat	Local	Expat	Local	Expat	Local	Expat	Local	
General Practitioners	58	39	218	6	276	45	4	5	330
Doctors (Specialists)	44	45	82	0	126	45	22	2	195
Nurse	342	264	639	569	981	833	44	10	1868
Lab. Technicians1	28	109	94	41	122	150	3	1	276
Physiotherapists	11	0	8	0	19	0	3	0	22
Radiographers	14	9	21	0	35	9	6	2	52
Dentists2	1	18	4	1	5	19	1	7	32
*Pharmacists / Pharmacy Asst **	0	0	0	0	0	0	177	70	247
Community Health Workers	0	2	0	276	0	278	NA	NA	278
Family Health Workers	0	0	0	313	0	313	NA	NA	313
Traditional Birth Attendant	0	0	0	214	0	214	NA	NA	214
TOTAL	**498**	**486**	**1066**	**1420**	**1564**	**1906**	**260**	**97**	**3827**

^ Private sector includes ADK and IMDC only

1 - Includes laboratory technicians, laboratory assistants, food technologists and microbiologists

2 – Dentists, dental mechanics and dental hygienists

Source: Ministry of Health 2011

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 – 2013

Year	Total GDP at constant basic prices (in million Rf)	Total GDP at current basic prices (in million Rf)	Public health expenditure (% of total GDP)	GDP growth rates	Health expenditure as % of national budget
2004	13,767.80	13,678.00	3.1	7.5	11.3
2005	12,489.00	12,704.00	4.1	8.6	8.7
2006	14,936.00	16,683.00	4.1	16.8	9.7
2007	16,512.00	19,737.00	4.0	27.2	9.4
2008	18,526.00	24,213.00	5.5	62.3	12.8
2009	17,853.00	25,403.40	5.6	14.2	12.6
2010	19,113.20	27,316.50	3.7	1.3	9.0
2011	20,351.00	31,583.70	1.3	1.0	3.1
2012	20,621.80	32,469.40	NA	1.0	NA
2013	21,387.60	35,341.00	NA	2.1	NA

Source: Department of National Planning, 2014

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	
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