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# Islamic Republic of Iran



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# Contents

- Foreword .....3
- Introduction .....5
- Communicable diseases.....7
- Noncommunicable diseases ..... 11
- Promoting health across the life course ..... 17
- Health systems .....21
- Preparedness, surveillance and response .....29
- Demographic profile ..... 35
- Analysis of selected indicators .....36
- References .....37



# Foreword

The Government of the Islamic Republic of Iran and WHO are working together to effectively improve the public health situation in the country with special emphasis on the five key regional priorities:

- health security and prevention and control of communicable diseases;
- noncommunicable diseases, mental health, violence and injuries, and nutrition;
- promoting health through the life-course;
- health systems strengthening; and
- preparedness, surveillance and response.

The strategic directions to address these priorities are broadly in line with WHO's 12th General Programme of Work, the Programme Budget 2016–2017 endorsed in May 2015 by the Sixty-eighth World Health Assembly and the five strategic areas of work endorsed by the WHO Regional Committee for the Eastern Mediterranean in 2012.

Reliable and timely health information is essential for policy development, proper health management, evidence-based decision-making, rational resource allocation and monitoring and evaluation of the public health situation. While the demand for health information is increasing in terms of quantity, quality and levels of disaggregation, the response to these needs has been hampered because of fragmentation and major gaps and weaknesses in national health information systems.

The strengthening of health information systems is a priority for WHO in the Region. Intensive work with Member States since 2012 has resulted in a clear framework for health information systems and 68 core indicators that focus on three main components: 1) monitoring health determinants and risks; 2) assessing health status, including morbidity and cause-specific mortality; and 3) assessing health system response. In order to successfully achieve this important goal, concerted and aligned action at national and international level are required to address the gaps and challenges in the health information systems of all countries. This will ensure the generation of more effective evidence to monitor improvement in the health situation, nationally, regionally and globally.

This comprehensive health profile is intended to serve as a tool to monitor progress in the health of the population. WHO's collaboration with its Member States will strengthen the national health information systems, and enable the generation of timely and reliable evidence to assess the health situation and trends, and the health system response. Most important, it will provide the information needed by health policy and decision-makers.

The Islamic Republic of Iran has undertaken a number of measures to provide quality health care services to all. Health and equal access to health care is a constitutional right of all citizens. The primary health care network, particularly in rural areas, has been key to realizing this right and the improvements in health indicators. There are, nevertheless, numerous challenges due to the current epidemiological transition and changes in demographic characteristics and social determinants of health. The Health Transformation Plan, launched in 2014 and aimed at improving quality of care for all citizens and achieving universal health coverage, has fostered a series of fundamental changes throughout the health care system. It has encouraged the active participation of a wide range of stakeholders, within and beyond the health system, which has led to better financial risk protection for citizens. An effective health observatory system is essential for continuous, evidence-based monitoring and evaluation of the Health Transformation Plan. In addition, an effective strategic framework will be needed to provide valid and transparent data to all stakeholders involved in the health system.

Dr Ala Alwan

WHO Regional Director for the  
Eastern Mediterranean

Dr Hasan Hashemi

Minister of Health and Medical Education  
Islamic Republic of Iran

# Introduction

The population of the country has increased by 29.1% in the past 25 years, reaching 79.5 million in 2015. It is estimated that 28.2% of the population lives in rural settings (2012), 17.5% is aged between 15 and 24 years (2015) and life expectancy at birth is 74 years. The literacy rate for youth (15–24 years) is 98.0% (2012); for all adults the rate is 84.3%, and for adult females 79.2%.

The burden of disease attributable to communicable diseases is 9.7% (2012); for noncommunicable diseases it is 76.4% and for injuries 14.0%. The share of out-of-pocket expenditure is 52% (2013).

The public health issues facing the country are presented in the following sections: communicable diseases, noncommunicable diseases, promoting health across the life course, health systems strengthening and preparedness, surveillance and response. Each section focuses on the current situation, opportunities and challenges faced and the way forward. In addition, trends in population dynamics and in selected health indicators are analysed to provide policy-makers with evidence and forecasts for planning.





# Communicable diseases

HIV

Tuberculosis

Malaria

Neglected tropical  
diseases

Vaccine-preventable  
diseases

# Communicable diseases

- The government developed the 4th national strategic plan for HIV response with due consideration to the UNAIDS targets of 90-90-90 by 2020 needed to end the AIDS epidemic.
- Tuberculosis control is a priority programme in the Ministry of Health and Medical Education.
- The dramatic reduction in malaria is mainly as a result of the implementation of malaria control through a solid health care infrastructure.
- A national strategic plan on neglected tropical diseases has been developed relying on the scientific evidence, and a national committee on dengue fever has been established.
- The government has successfully eliminated maternal and neonatal tetanus, and is moving towards measles elimination.

## HIV

The HIV prevalence is low (0.1%) among adults aged 15–49 years (1). The population most affected is people who inject drugs, with an overall HIV prevalence of 13.0%, although 92.0% of people who inject drugs are using sterile injecting equipment; for female sex workers the prevalence is 4.0% (2). The estimated number of pregnant women living with HIV is less than 1000 (3) while antiretroviral therapy coverage to prevent mother-to-child transmission is 23.0% (2). Routine testing is administered on 100% of blood collected, and estimated antiretroviral therapy coverage is 7.0% (2).

There is a national strategic plan on HIV and AIDS in place. The government developed a fourth national strategic plan for HIV response with due consideration of the UNAIDS targets of 90-90-90 by 2020<sup>1</sup> needed to end the AIDS epidemic. In line with these goals, a programme for the prevention of mother-to-child transmission was initiated in 2014 and expanded during 2015. Improvement of access to key populations, implementation of provider-initiated testing and counselling, rapid improvements in treatment coverage and strengthening of the surveillance system are additional national programmes.

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<sup>1</sup> By 2020, 90% of all people living with HIV will know their HIV status; 90% of all people with diagnosed HIV infection will receive sustained antiretroviral therapy; 90% of all people receiving antiretroviral therapy will have viral suppression.

## Tuberculosis

In 2013, the tuberculosis-related mortality rate was estimated at 3.2 per 100 000 population (4). A total of 11 359 detected tuberculosis cases were reported in 2013, of which 6112 were new sputum smear-positive cases (4). The treatment success rate for new and relapsed cases registered in 2012 was 87.0% (4). Drug-resistant tuberculosis is estimated at 5.0% among new cases and 48.0% among previously treated cases (4).

Tuberculosis control is a priority programme in the Ministry of Health and Medical Education. The private sector (non-national private tuberculosis programme) is contributing a significant number of cases.

The contribution of the private sector needs to be enhanced, taking into account patient flow. In line with the tuberculosis control programmes in the country, 13 zonal reference laboratories have been established with culture and antibiogram facilities to provide rapid diagnostic services by applying modern methods. In addition, hospitalization and treatment services are provided for multidrug-resistant tuberculosis cases across six areas of the country.

## Malaria

The country is considered low risk for malaria transmission, which is limited to small geographic areas. The total number of confirmed malaria cases decreased by 93.1%, from 23 562 in 2003 to 1629 in 2012, of which 51.7% (842) were imported, 73.2% from Pakistan and 25.7% from Afghanistan (5). In 2013, 13.0% of the confirmed cases were caused by *Plasmodium falciparum* and 87.0% by *P. vivax* (5). Coverage in target areas for people with at least one long-lasting insecticidal net who had slept under a net the previous night was 57.0%.<sup>2</sup> Only three provinces in the south-eastern part of the country still have malaria transmission, mainly in districts in border areas with Pakistan. With this trend it is predicted that falciparum malaria elimination will be achieved within the next few years. The dramatic reduction in malaria is mainly a result of the implementation of malaria control through a solid health care infrastructure. Social and economic development allowing better housing, extensive use of air-conditioning, etc., have also played a role. The main potential obstacle is the continued risk of importation from neighbouring countries, especially Pakistan. Border coordination is crucial for successful elimination and prevention of reintroduction. G5 collaboration may play a vital role in this regard.

Starting 2016, it is unlikely that the country will be eligible for support from the Global Fund to Fight AIDS, Tuberculosis and Malaria, and the government should be prepared to take over financial support. The problem of mobile populations is critical in the elimination phase; health services for the different risk groups should be tailored to their needs and situations, and should be comprehensive and supported by appropriate communications.

<sup>2</sup> Ministry of Health and Medical Education, unpublished data, 2014.

Within the malaria elimination programme, existing capacity should be strengthened to ensure the requirements for surveillance, supervision and intersectoral collaboration. Within the malaria elimination programme, existing capacity should be strengthened to ensure the requirements for surveillance, supervision and intersectoral collaboration.

## Neglected tropical diseases

The country was certified free of dracunculiasis in 1997, but is still endemic for cutaneous and visceral leishmaniasis and under surveillance for blinding trachoma (6). In 2012, the number of reported cases of cutaneous leishmaniasis was 20 921 and there were 93 cases of visceral leishmaniasis. In 2013, 21 cases of leprosy were reported (6).

Blinding trachoma has been in the eradication phase for a long time in the country, and actions have been taken towards obtaining a trachoma elimination certificate. The spread of dengue fever on the southern borders is a major concern. In response to this, vector surveillance studies started in 2013, and a national strategic plan has been developed using the scientific evidence. A national committee on dengue fever has been established and implementation of the national strategic plan is in progress. Although all the interventions for prevention and control of dengue fever can be considered opportunities for the country, given the situation of this disease in neighbouring countries, import of the infection is still possible.

The aims of the country are rapid containment and strict vector control. However, there is no confirmed report on local transmission inside the country; considering the existence of dengue fever in neighbouring countries, the occurrence of an outbreak is likely.

## Vaccine-preventable diseases

Immunization coverage among 1-year-olds improved between 1990 and 2013 for BCG from 95.0% to 99.0%, for DTP3 from 91.0% to 98.0%, for measles from 85.0% to 98.0% and for polio from 90.0% to 98.0% (7). Neonatal tetanus coverage increased as well during the same period from 71.0% to 95.0% (7). In 2013, hepatitis B (HepB3) vaccine coverage among 1-year-olds was 99.0% (7).

The Expanded Programme on Immunization is remarkably strong and has achieved several successes in controlling vaccine-preventable diseases through its high routine vaccination coverage and continuously monitoring the incidence of this group of diseases. The government has successfully eliminated maternal and neonatal tetanus, and is moving towards measles elimination. *Haemophilus influenzae* type b vaccine has been introduced as a component of the pentavalent vaccine, aiming at reducing morbidity and mortality from bacterial meningitis and bacterial pneumonia caused by *H. influenzae* type B. In addition, the government is planning to introduce inactivated polio vaccine soon.

# Noncommunicable diseases

Noncommunicable diseases

Mental health and substance abuse

Violence and injury

Disabilities and rehabilitation

Nutrition

# Noncommunicable diseases

- The national programme for prevention and control of noncommunicable diseases enjoys the highest level of political support.
- The country has a national mental health policy that is compliant with international and regional human right instruments.
- Trachoma and other causes of corneal blindness have been controlled in many parts of the country.
- Important progress has specifically been made in food reformulation, focusing on fat and salt reduction.

## Noncommunicable diseases

Noncommunicable diseases are responsible for 76.4% of all deaths: cardiovascular diseases account for 45.7%, cancers 13.5%, respiratory diseases 3.8% and diabetes mellitus 2.2% (8). As a result, 17.0% of adults aged 30–70 years are expected to die from the four main noncommunicable diseases (9). More than 17.5% of adolescents (13–15 years of age) have ever smoked cigarettes (23.7% of boys, 11.0% of girls), while 35.4% live in homes where others smoke in their presence (10). The prevalence rate of physical inactivity among those aged 15–64 years old is 40.1% (31.5% of males, 48.8% of females) (11). Raised blood pressure affects 19% (18.8% of males, 19.02% of females) of adults (over 18 years of age), while obesity affects 16.84% (12.4% of males, 26.5% of females) (11). All 11 essential medicines for treatment of noncommunicable diseases are available in the public health sector.<sup>3</sup>

The prevention and control of noncommunicable diseases enjoys the highest level of political support as illustrated by the existence of the Supreme Council for Health and Food Security chaired by the President, as well as multisectoral committees at both national and provincial levels. A directorate for noncommunicable diseases' management centre within the Ministry of Health and Medical Education acts as a secretariat to a national multisectoral committee, gathering input from various units of the Ministry of Health and Medical Education and coordinating the health sector response. The directorate is responsible for prevention and control of hypertension, diabetes mellitus, injury and thalassemia. Several successful multisectoral interventions have already been implemented in the area of prevention (e.g. food reformulation and tobacco control) and efforts are under way to strengthen the national noncommunicable diseases surveillance system and health care (the new family practice model). A noncommunicable diseases surveillance system based on the WHO stepwise approach begun in 2004, and six rounds of the survey have been undertaken. Guidelines for the management of common noncommunicable diseases

<sup>3</sup> WHO Regional Office for the Eastern Mediterranean, unpublished data, 2013.

in primary health care are available, but dissemination and the quality of care provided are uneven. The country is in the process of developing a multisectoral action plan which will include a set of nationally-adopted targets and indicators based on WHO recommendations. This important milestone will contribute to clarifying the vision, objectives, options and roles of the various national stakeholders, thus reducing the fragmentation and overlapping responsibilities that currently impair coherence and coordination in the implementation and enforcement of priority interventions.

## Mental health and substance abuse

Neuropsychiatric disorders are estimated to contribute 16.6% to the burden of disease (12) and the suicide rate is 5.2 per 100 000 per year, which is relatively low and likely to reflect underreporting (13).

The country has a national mental health policy that is compliant with international and regional human rights instruments, as well as various national programmes (life and parenting skills training, a code of conduct with children, psychosocial support in disasters, suicide prevention). A range of primary health care health professionals (doctors, nurses and community health workers) have been trained to provide mental health services in institutional facilities and the community. Efforts have been made to increase the integration of mental health into primary health care and outpatient services. A pilot project on integrating mental health services into primary health care is ongoing in three provinces.

## Violence and injury

The proportion of deaths caused by injuries in 2012 was 14.0%; of this, unintentional injuries accounted for 87.0% (66.7% due to road traffic injuries and 8.5% as a result of fire, heat and hot substances) and 12.9% were due to intentional injuries (56.5% as a result of self-harm and 43.5% as a result of interpersonal violence) (8). In 2010, the estimated road traffic fatality rate was 34.1 per 100 000 population (14). For post-injury trauma care, there is a universal emergency access telephone number, and 50–74% of the seriously injured are transferred by ambulance (14).

There are specialized national emergency care training courses for medical doctors, but not for nurses. In 2010, laws existed on most road safety risk factors, but they are required to be made more comprehensive. A major challenge is the inadequate funding for the road safety lead agency. It is important to identify resources for the required funding. Actions should be taken to strengthen the trauma care system based on the recent assessment conducted in collaboration with WHO. The comprehensiveness of the current road traffic legislation needs to be strengthened. Formal emergency medicine training for all concerned medical personnel needs to be put in place. The Health Transformation Plan that started in May

2014 led to the expansion of air ambulance system. This provides an alternative means of transport for victims of road traffic injuries in order to maintain the “golden time” for patient transfer, overcome traffic in rush hours, reduce the mortality and morbidity rate of high risk patients (including myocardial infarction, cerebrovascular accident, high risk pregnant women and premature neonates), cover rural roads and remote and hard-to-access areas, and provide critical care during inter-facility transport. In order to provide the necessary curative and diagnostic care 24 hours a day, seven days a week, the Health Transformation Plan has made the attendance and residence of physicians in all university hospitals obligatory.

Based on the national 10-year road safety strategic plan, a national road traffic comprehensive databank will be developed in the near future. There is still a great need to strengthen the rehabilitation system for patients injured in road traffic accidents.

## Disabilities and rehabilitation

Prevalence of disability is 1.3%, and is higher among males (1.6%) than females (0.9%) (15). The types of disability and difficulty are: physical 34.4%, intellectual 23.5%, hearing 12.5%, visual 8.9%, and mental 7.3% (15). Multiple disabilities constitute 10.0% of all disabilities (15).

The UN Convention on the Rights of Persons with Disabilities was ratified in 2009. The High Commission for the Welfare of Persons with Disabilities that was established in 2007 within the Ministry of Welfare, Cooperation, Labour and Social Welfare is the national coordination mechanism for this. The Commission is chaired by the Minister of Social Welfare and has representation by persons with disabilities. The overarching disability legislation is the Comprehensive Act on the Rights of People with Disabilities (2004) and there is a strategic plan for the State Welfare Organization, 2011–2015 (2011). Lack of awareness about treatment, inequitable distribution of eye care professionals and the lack of trained eye care teams are the main challenges for eye health. The waiting time for cataract surgery has been reduced and the outcome is acceptable. Trachoma and other causes of corneal blindness have been controlled in many parts of the country, with major challenges including inadequate financial allocation, poor coordination between stakeholders and the cost of expensive high quality hearing aids, implantable hearing aids and cochlear implants.

Building on existing national efforts, there is a need for strengthening health sector disability action within the broader multisectoral circle through the adaptation of the WHO global disability action plan: Better Health for Persons with Disabilities 2014–2021.



## Nutrition

The estimated prevalence of various conditions due to malnutrition in children under-5 is summarized in the following indicators: 4.1% underweight, 4.0% wasting, 1.4% severe wasting and 6.8% stunting (16). Iodine deficiency affects 5.6% of the population (17). The prevalence of exclusive breastfeeding among children under 6 months was 23.0%, and low birth weight was 7.7%.<sup>4</sup>

The country is experiencing a nutritional transition with an increase in the rate of over-nutrition, while stunting is still prevalent among children aged under 5 years of age. The government is committed to developing and implementing various nutrition and food policies to combat increased rates of obesity and micronutrient deficiencies simultaneously. Measures such as mandatory flour fortification with iron and folic acid, milk fortification with vitamin D, weekly iron supplementation for adolescent girls in schools, and daily micronutrient supplementation for pregnant women and children under 2 years old through primary health care clinics are some examples of the government's efforts towards a healthier population. Developing food-based dietary guidelines is a priority, as well as further expanding research on vitamin D deficiency and the impact of flour fortification. Important progress has been made in food reformulation, focusing on fat and salt reduction. As an important identified source of salt, bread has been targeted to ensure a salt reduction in bread making from 2.3 to 1.8 g/100g flour. This was made possible through supporting bakeries to improve the quality of the wheat imported and used, as well as by providing subsidized yeast, thus reducing the overuse of sodium bicarbonate. These actions have been complemented with legislative measures limiting maximum levels of salt in the most consumed food items. Significant actions have been taken to reduce fat consumption, such as a revision of the standards for trans-fatty acids and saturated fatty acids in oil and fast foods and a reduction in palm oil imports to limit fatty acid intake.

These promising salt and fat reduction policies need to be scaled-up and other policy options should be explored (food subsidies, taxation). This would entail the development of measures to monitor and evaluate the impact of these policies.

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<sup>4</sup> WHO Regional Office for the Eastern Mediterranean, unpublished data, 2013.



# Promoting health across the life course

Reproductive,  
maternal, newborn,  
child and adolescent  
health

Ageing and health

Gender, equity  
and human rights  
mainstreaming

Social determinants  
of health

Health and the  
environment

# Promoting health across the life course

- There is high coverage of maternal and under-5 essential interventions as reflected by the reductions in related mortality.
- The elderly care programme is integrated into primary health care.
- Efforts by the Ministry of Health and Medical Education on gender, equity and rights issues are pursued through universal health coverage and ongoing work on health equity monitoring.
- The government endorsed the WHO regional environmental health strategy and framework for action 2014–2019.

## Reproductive, maternal, newborn, child and adolescent health

Maternal mortality declined between 1990 and 2015 from 123 to 25 per 100 000 live births (18) and the under-5 mortality rate decreased from 58 to 16 deaths per 1000 live births (19). The leading causes of under-5 mortality are acute respiratory infection (13.0%), prematurity (23.0%), intrapartum-related complications (11.0%) and congenital anomalies (19.0%) (20). The proportion of women receiving antenatal care coverage (at least one visit) is 97.2% and is 88.6% for at least four visits.

These achievements are consistent with the high coverage of essential interventions in the country (maternal and under-5) as reflected in the reduction in related mortality as well as the integration of infertility prevention services in the reproductive health package, one of the important measures carried out during recent years.

Given the high coverage of most of the essential interventions, more focus is needed on quality of care and on addressing the post-2015 agenda.

## Ageing and health

Life expectancy at birth rose by 10 years between 1990 and 2012 (from 64 to 74 years) (20). In 2010, the ageing population over 60 years represented 7.4% of the total population (21). The ageing population is the most rapidly growing section of the population. The National Council for the Elderly was established in 1979, with strong partnership between all concerned sectors. A system to collect data on the elderly is included in the periodical

registration system components of the national health information system. The elderly care programme is integrated into primary health care. Promoting healthy lifestyles is an essential component. Community health workers and volunteers support the implementation of the programmes and activities. Coordination and networking with other related programmes (emergency preparedness, mental health, etc.) are in place. Tehran is officially a member of the International Age-friendly Cities Network. Challenges are mainly related to the difficulties in coordination with other stakeholders outside the Ministry of Health and Medical Education, insufficient funding and human resources, and limited opportunities for capacity-building.

The way forward focuses on developing a national policy document for the care of older people, strengthening the functionality of the National Council for the Elderly and ensuring that age-friendly principles are mainstreamed into all national programmes.

## Gender, equity and human rights mainstreaming

The country falls among the high rated countries for human development; however, it ranks low at 109th among 152 countries for gender inequality (22). Female adult (above 15 years of age) literacy is 79.2% (2012) (23), and participation in the labour force is low at 16.4% (22).

Efforts by the Ministry of Health and Medical Education on gender, equity and rights issues are pursued through universal health coverage and ongoing work on health equity monitoring.

In the process, it is important to ensure that adequate attention is given to the institutionalization of gender-, equity- and rights-based approaches in health and related domains.

## Social determinants of health

The *Human development report 2014* ranked the country at 75 out of 187 countries across the world on the human development index (22). The urban population increased between 1990 and 2012 from 56.3% to 71.8%, while access of the rural population to improved water sources increased from 83.9% to 91.7% (24). In 2010, the age group 0–24 years accounted for 45.4% of the total population (21). Adult literacy rates in 2012 were 84.3% (25); overall unemployment was 13.1% and for youth (15–24 years) it was 28.9% (24).

One challenge is the lack of clarity of the expected role of health in addressing social determinants of health other than advocacy. Yet, several opportunities exist with the growing momentum to promote social determinants of health in a practical fashion. Moreover, health and other sectors have vast experience in community-based initiatives and healthy

cities programmes. These should be scaled up to advocate for the prioritization of social determinates in health planning and in related sectoral plans through the application of a health lens with adequate and systematic multisectoral coordination.

## Health and the environment

It is estimated that 19 200 people a year die as a result of environmental factors and the proportion of disability-adjusted life years attributable to environmental factors is estimated at 19.0% (26). Access to improved sanitation facilities is 89.0%, while access to improved drinking water is 96.0% (20), resulting in 700 deaths in 2012 due to inadequate access (27). It is estimated that 0.01% of the population uses solid fuels (biomass for cooking, heating and other usages) (28), resulting in an estimated 300 deaths per year as a result of indoor air pollution (29).

Air pollution, chemical pollution and other (modern) risk factors are increasingly responsible for the rising burden of noncommunicable diseases. Evidence indicates high levels of particulate matter in the air, above national standards, with a subsequent burden on the health of the population. The government has been working on building the capacity of the national scheme to scale up the water safety plan; developing a national environmental health monitoring system; and identifying risks in the occupational environment and improving access to health care.

The government has endorsed the WHO regional environmental health strategy and framework of action 2014–2019. The next step is to initiate a national multi-stakeholder process to develop a strategic environmental health framework for action in 2015–2016.

# Health systems

National health  
policies, strategies  
and plans

Integrated people-  
centred health  
services

Access to medicines  
and health  
technologies

Health systems,  
information and  
evidence

# Health systems

- The Health Transformation Plan that began in 2014 aims to reach universal health coverage and increasing the accountability of the health system.
- Strengthening national capacity for emergency-preparedness and response with a focus on risk management has been among the priorities identified in the national strategy and emphasizes the government's commitment to universal health coverage.
- A significant reduction in catastrophic health expenditure is one of the immediate outcomes of the Health Transformation Plan that has led to it receiving a satisfaction rate of 80% among the population
- There is local manufacturing capacity for vaccines and biologicals, and qualified technical and administrative human resources for health, as well as an active professional association.
- Studies on health service utilization, health literacy and consecutive stakeholders' satisfaction have been conducted.

## National health policies, strategies and plans

The country's national health planning cycle is addressed in the national health policy strategy and plan 2010–2015. Total per capita expenditure on health at the international exchange rate increased between 2005 and 2013 from US\$ 155.2 to US\$ 432.3, of which general government expenditure on health increased from US\$ 68.6 to US\$ 176.3 (30). General government expenditure on health as a proportion of total expenditure on health decreased during the same period from 44.2% to 40.8%, but total expenditure on health as a proportion of gross domestic product increased from 5.3% to 6.7% (30). In addition, the share of out-of-pocket spending was 52.1% in 2013, a decrease from 2005 when it was 53.1%, due to the implementation of the Health Transformation Plan (30). Total expenditure on health from external sources was 0.1% in 2005 and 0.0% in 2013 (30).

The development of the ongoing health sector strategy (2011–2016) and activities include: strengthening the policy and planning function, promoting inclusiveness in policy and planning and establishing a national health policy forum where various stakeholders engage in dialogue on national health priorities. A number of analytical tools are being utilized for fundamental activities such as burden of disease assessment, national health accounts, and cost-effectiveness analysis of various public health interventions. Strengthening national capacity for emergency preparedness and response, with a focus on risk management, is one of the priorities identified in the national strategy. The current administration (2013–2016) is fully committed to universal health coverage, aiming to provide insurance to all citizens and reduce the high out-of-pocket expenditure. Specific attention has been given



to extending coverage to 11 million people residing in urban slum areas and other deprived areas, with particular emphasis on reducing copayments for inpatient services for those referred from rural areas and for less affluent parts of the population. The stewardship of health financing, the multiplicity of public insurers and funds, the double tariff schedule for public and private providers, and the use of passive purchasing in compensating providers are among the main health financing challenges being tackled by the comprehensive Health Transformation Plan.

Political commitment to reforming the health financing system to enhance financial protection and pursue universal health coverage has been prominent in recent political discourse. Accordingly, in capitalizing on this commitment, the priority will be to develop a vision, strategy and roadmap to achieve universal health coverage by 2020, with particular focus on reducing the share of out-of-pocket expenditure to less than 20% and strengthening multisectoral collaboration among stakeholders under the stewardship of the Ministry of Health and Medical Education to harmonize health care, improve equity in health care financing, tackle social determinants and achieve universal health coverage. The major health policies announced by the Supreme Leader on 7 April 2014 (World Health Day) and the Sixth Development Plan of Iran (from April 2016) endorse policies and plans to achieve these targets by 2020.

## Integrated people-centred health services

Health service delivery data show the density of mental hospitals in 2011 averaged 0.05 per 100 000 population (31) and the density of hospital beds per 10 000 population was 17.0 in 2009 (32). Human resources for health data show the density of physicians is 8.9 per 10 000 population; the figure for nurses and midwives is 14.1 and for dentists is 1.9 (2005). Between 2005 and 2011 the density of pharmacists increased from 2.0 to 5.4 per 10 000 population (33). The number of psychiatrists working in the mental health sector is 1.49 per 100 000 population (2011) (32).

The country has experienced considerable health improvements over the two decades spanning the period 1980–2000 by ensuring access to primary health care through an elaborate network of health facilities. The primary health care networks were devised in 1981 by creating health houses in rural areas, focusing on basic health care financed from the governmental budget. Each health house serves 1500 people in its village and surrounding settlements (satellite villages), serving nearly 95% of rural inhabitants. The health house is staffed by locally sourced community health workers (*behvarz*) trained for two years at district level. Health houses are supervised and supported by rural health centres, which cover 6000 to 10 000 people. Each of the rural health centres has one or more general practitioners, several health technicians (mid-level workers responsible for a range of different activities, including occupational health, environmental health, communicable diseases, etc.), midwives and administrative personnel.

The corresponding structures in urban areas are health posts, which are similar to health houses but serve a much larger number of people (about 12 000 per health post). The health posts are under the urban health centres, which are responsible for urban residents and occasionally villagers from nearby rural areas. About 60% of hospitals are public and affiliated with the Ministry of Health and Medical Education (operated by the provincial universities of medical sciences and health services); the rest are privately operated or belong to other sectors such as the army, social security organization, Bank Melli Iran, National Iranian Oil Company, charitable trusts and other ministries, including the Ministry of Education and Ministry of Social Welfare. Despite good progress over the past 15 years, the health sector has been unable to sustain the pace of improvement required to respond to the needs of the population.

A major challenge for the health system is that, despite numerous experiences and pilot projects, there is not yet a consensus on the appropriate model for urban primary care. Some of the questions that have yet to be addressed include: whether family practice should be the main approach to primary health care in urban areas; whether this should be led by family physicians or by what has been called a non-physician public health expert; whether there should be a gatekeeper; and whether an effective referral system can be established.

The commitment to expanding social health protection to all the population and striving towards universal health coverage was reinforced in the country's fifth five-year development plan (2011–2015). In May 2014, the Health Transformation Plan was initiated by the Ministry of Health and Medical Education aiming to build upon the achieve universal health coverage and establishing people-centred, integrated health services as the overarching approach to service provision. After 18 months of implementation, and with strong political support from the Supreme Leader and appropriate budget and resource allocation by Parliament, the Health Transformation Plan has led to more equitable and better quality health care for the population; achievements ratified by a high-level team of WHO experts.

The key achievements and opportunities of the Health Transformation Plan include a high level of political commitment, high coverage of the registered population in the provinces, the establishment of e-family folders, capitation-based payment, a functioning referral system, rational use of medicines, and good linkage with the community through a hotline. The Health Transformation Plan has resulted in a meaningful, secure and sustainable rise in the proportion of GDP allocated to the health system budget. Among the immediate outcomes of the Health Transformation Plan have been provision of health insurance to an extra 10 million people (almost 98% coverage), reducing out-of-pocket payment in public hospitals to a maximum of 6% for inpatient services, free of charge normal vaginal delivery to reduce rates of Caesarean section, maintaining doctors in deprived areas, provision of 24-hour specialist services in public hospitals, increased emergency access through air ambulances and significant reduction of catastrophic health expenditure. All of which has led to a population satisfaction rate of 80%.

On the other hand, there are several gaps and challenges that need to be addressed. Key among these are: packages are largely curative, provider payment is detached from performance and productivity, different insurance schemes exist that have variable benefit packages and referral services, most providers do not have proper training in family medicine, and, most importantly, a formal evaluation of interventions and their effect on health outcomes has not been done so far. However, it should be noted that the National Institute for Health Research has been mandated by the Ministry of Health and Medical Education to conduct a continuous evaluation of the implementation of the Health Transformation Plan and family physician training programmes are being piloted in several leading universities in the country, before being expanded to other universities.

The Health Transformation Plan should continue to be the principal approach and reform strategy for advancing universal health coverage. The overall approach towards service provision should conform with people-centred, integrated, health services with the following key strategies: expand access to essential health services to underserved populations living in urban slums, suburban areas and large cities; encourage a consensus on the model of care and implement people-centred, integrated services as the foundation of service provision in urban settings; develop a system-wide approach to quality improvement; restructure hospital care and management to better support primary care and meet the expectations of the population; enhance human resources planning, training, management and distribution; link health care financing to ensure strategic purchasing of health services and increased financial risk protection to those not covered; design a single national plan for people-centred, integrated, health services in urban areas; consider piloting home-based care schemes instead of prolonged hospital care in view of the ageing population and increasing burden of chronic disease; develop indicators and standards for quality and safety at the primary health care level; and set up a performance payment mechanism. Decentralizing responsibility and authority to the provincial universities based on a decision space analysis should also be considered.

## Access to medicines and health technologies

Establishing a high quality performance management system, good manufacturing practices and a quality assurance system for pharmaceutical products and health expenditure is not overly excessive in comparison with health outcomes. Local manufacturing capacity for vaccines and biologicals exists, along with qualified technical and administrative human resources for health and an active professional association. Challenges include the high risk of natural disasters and hazards such as periodic droughts, floods and earthquakes; the negative impact of air pollution in big cities and frequent sandstorms in cities in desert areas; rapid urbanization and its impact on health, including the high burden of noncommunicable diseases and road traffic injuries; lack of full social insurance coverage; the centralized decision-making system in the health sector; weak data collection and analysis from the private sector with lack of an e-information system, especially in hospitals;

lack of an updated medicine policy document and implementation plan; and low access to controlled medicines.

Revenues from oil and natural resources can be harnessed to further strengthen the health system; target youth through effective health promotion programmes; support a well-developed and active private health sector, which, if properly regulated, can play a major role in the provision of secondary and tertiary care; and strengthen partnership with United Nations agencies through the United Nations Development Assistance Framework.

## Health systems, information and evidence

Established in 2009, the National Institute of Health Research is the body responsible for the national health observatory. A map for the national health surveys has recently been approved by the Ministry of Health and Medical Education, through which all key surveys are scheduled, funded and implemented. As a result, studies on health service utilization, health literacy, and consecutive and stakeholders' satisfaction were conducted in 2015, and the Multiple Indicator Demographic and Health Survey and WHO STEPwise approach to surveillance (STEPS) are under way, due to be completed by the end of 2015. The strengths of the health information system include: the country has sufficient graduates qualified in health information and related fields; there is a list of national minimum core indicators for health, defined in collaboration with all key stakeholders; the computer and network equipment in national, provincial and district health offices; an active and established civil registration system as a relatively reliable source of vital statistics, especially for birth events; an established surveillance system for a number of important diseases; and the health network and facilities across the country.

Challenges include a lack of the following: mid-term or long-term plans for the health information system, a national comprehensive and integrated data warehouse for the public and private sectors, a national health metadata dictionary, timetables for the mid-term and long-term plans, data on key variables and financial resources for population-based surveys, an integrated monitoring and evaluation system, a specific budgeting system for all health information system activities, a transparent plan for statistics in the med-care section, and maps of populations at risk (e.g. at risk of severe malnutrition, environmental and industrial pollution, etc.). Inadequate data management of the health information system, communication with related scientific societies (such as statistics, epidemiology and demography societies), and defined indicators in the med-care section are also problematic. In addition, there is no appropriate collaboration between hospitals and health facilities affiliated to other organizations (such as municipalities, banks, etc.) and the Ministry of Health and Medical Education. Further challenges include incompleteness and irregularity in the reporting system of the minimum core indicators; inconsistent reporting of the minimum core indicators produced by different sectors; the inappropriate situation of health information employees in the health system (both in number and qualifications); the inadequate structure for coordinating health information system activities and accountability at national and subnational levels; the deterioration of the central statistics unit of the

Ministry of Health and Medical Education in recent years and the poor cooperation among different sections; incomplete use of the International classification of diseases (ICD-10) in disease and death records and the prolonged process for extracting the results of surveys or routine statistics.

However, opportunities do exist, for example the sufficiency of core health information science graduates, biostatisticians, epidemiologists and specialists in information and related fields in almost all medical science universities; an approved Master of Public Health course in health metrics and evaluation; a high quality statistical centre with highly qualified and experienced staff; and the National Forensic Legal Medicine Organization, which records deaths, injuries and traumas referred for legal consideration. In addition there is a national organization for civil registration, which is active in the area of electronic records of births and death. At national, provincial and district levels there is adequate capacity for data collection, processing and analysis on aspects of human resources, technical equipment and information and communications infrastructure as well as technical support. It is also possible to obtain technical support from international organizations such as WHO, the United Nations Population Fund and the United Nations Children's Fund.

There is need to improve the management of electronic health records in order to provide routine data to inform health policies and programmes; establish an integrated and comprehensive system for surveillance, monitoring and evaluation of health outcomes and institutionalize and regularly update the burden of disease analysis, national health accounts analysis and health system performance assessment to inform evidence-based policy and the strategic planning process.



# Preparedness, surveillance and response

Alert and response  
capacities

Epidemic and  
pandemic-prone  
diseases

Emergency risk and  
crisis management

Food safety

Poliomyelitis  
eradication

Outbreak and crisis  
response

# Preparedness, surveillance and response

- The country is the only one in the Region to have declared its readiness to meet the International Health Regulations obligations by the first deadline.
- Substantial progress has been made in control of the endemic and epidemic disease threat through establishing a public health system that is able to early detect and effectively contain these threats.
- The emergency preparedness and response programme is one of the most integrated of its kind in the Region and a National Health Emergency Operations Plan has been developed and endorsed.
- Disaster risk management is integrated into the primary health care system, and a metrics system for disaster risk management is institutionalized and integrated into the health information system.

## Alert and response capacities

The country had met all its International Health Regulations (IHR) obligations by 15 June 2012 and continues to work on the quality and functionality aspects of the core capacities developed.

The government is progressing in implementing the IHR core capacities. Most of the requirements have been met although some core capacity areas, particularly risk communication, points of entry and IHR-related chemical and radiation hazards, merit special focus to bring all capacities up to par. The country declared its readiness to meet the IHR obligations by the first deadline of 2012, and since then has been working extensively to build and assess capacities, plug the identified gaps and sustain the functionality and quality of IHR obligations.

The mechanisms of coordination with neighbouring countries are being discussed to strengthen cross-border collaboration, conduct joint risk assessments on potential hazards, and update national preparedness and response plans accordingly.

## Epidemic and pandemic-prone diseases

Among the epidemic and pandemic-prone diseases, cholera and Crimean–Congo haemorrhagic fever remain two of the major public health problems in the country. Recently,



the transmission of an imported human infection of Middle East respiratory syndrome coronavirus that was acquired in hospital and associated with health care identified a major gap in the infection prevention and control programme. The country has, though, made substantial progress in the control of the endemic and epidemic disease threat through establishing a public health system that is able to early detect and effectively contain these threats. More concerted efforts should continue to generate evidence on the burden of zoonotic infections as well as other epidemic-prone diseases so that the country can remain free of these perpetual public health problems through reinforcing its public health system in a more sustainable and resilient way.

The ongoing reforms of the public health surveillance system should be continued and scaling up of the syndromic surveillance system throughout the country, which was piloted few years ago, should be considered as an important means of enhancing the reporting, detection and notification system for epidemic and pandemic-prone diseases

## Emergency risk and crisis management

The country is susceptible to both natural and manmade disasters that cause significant loss of life, livelihoods and infrastructure, reversing development gains. The annual loss attributable to natural disasters (based on data from 1994–2013) averages 56.1 deaths, or 0.08 per 100 000 inhabitants; losses in purchasing power parity were US\$ 1496.67 million and losses to gross domestic product amounted to 0.22% (34).

Owing to the frequency of floods, drought and earthquakes in the country, the strengthening of disaster management capacities has always featured high on the government's agenda. The emergency preparedness and response programme, one of the most integrated of its kind in the Region, was established in 2005 following the earthquake that had its epicentre in Bam. The programme has expanded into a model programme by bridging national, provincial and local efforts to prepare the health sector for emergencies, and by developing a national health emergency operations plan. This has been demonstrated in consecutive emergencies in the country over the recent past, including the earthquake which had its epicentre in Lorestan and cyclone Gonu.

Parliament coordinates health emergencies with other key partners such as the Iranian Red Crescent Society, Social Welfare Organization and the military. The Ministry of Health and Medical Education has established the Disaster and Emergency Health Centre (DEMC), the Disaster Risk Management Office (DRMO) and the Emergency Operations Centre (EOC). DEMC is in charge of the organization, management and coordination of the disaster response. To take a proactive approach to disaster risk management, DRMO has been placed within the Department of Public Health at the Ministry of Health and Medical Education to integrate disaster risk management into the primary health care system and promote the concept and practice of the community-based approach. The EOC operates on

a 24/7 basis with full-time staff and is well-equipped. All universities of medical sciences have their own functional DEMC, DRMO and EOC.

The country's health system is also unique in institutionalizing a metric system for disaster risk management that provides policy-makers with quantitative estimations of indicators for the safety of hospitals, safety of primary care facilities and household preparedness. The hospital safety index is included in the accreditation of hospitals. The country has also started the process of vulnerability and risk analysis and mapping, which will be critical when reviewing the national health emergency operations plan.

To further strengthen the management of emergencies and crises, the country is planning to improve the surveillance and response strategies and mechanisms for events such as earthquakes and floods, internally-displaced populations and refugees, mass gatherings and complex emergencies. To address these situations, it is necessary to improve the surveillance system with early warning and response capacities such as syndromic surveillance and the Ministry of Health and Medical Education, especially the IHR national centre at the Centre for Communicable Diseases Control, is implementing actions accordingly.

## Food safety

The government has established a food and drug organization that is jointly responsible with the Environmental Health Administration (both within the Ministry of Health and Medical Education) for food safety. A range of other ministries take part in several coordinating committees involved in various aspects of food safety.

Food legislation has been in place for many years, but a review and update of this legislation are called for. A review of the food safety system is planned in the near future, and the outcome of that review will determine the areas that are in need of attention or reform.

## Poliomyelitis eradication

The surveillance monitoring indicators meet the certification standards; the national average rate for non-polio acute flaccid paralysis is 4.2 per 100 000, and the rate for acute flaccid paralysis cases with adequate stool specimens is 96% (2014) (35).

Upon receiving notification on the outbreak in Iraq in late March 2014, the Ministry of Health and Medical Education immediately established a rapid response system to the situation. The acute flaccid paralysis surveillance system was accelerated to ensure that its sensitivity was high enough to identify any potential suspected cases. Two rounds of door-to-door subnational immunization days were conducted: the first round was done on 24–26 May 2014, in which 248 271 children under 5 years old were vaccinated. The second round was conducted on 23–25 June 2014, with 253 054 children under 5 years

old vaccinated. Subnational immunization days were conducted in 37 districts in five provinces adjacent to Iraq in all, or just high-risk, areas; bivalent oral polio vaccine was used in both rounds. Coverage in both rounds was more than 99%. Coordination with the Ministry of Foreign Affairs was set up in order to require proof of polio vaccination for visa applications for travellers coming from polio-endemic countries and countries with outbreaks. Coordination was established with governorates to facilitate immunization activities and secure the help of other organizations. There is a national 5-year strategic plan, which includes a strategic objective on communication and social mobilization. National and local capacities were utilized for dissemination of relevant messages, as well as other local activities like newsletters, posters, flyers, banners, pamphlets, leaflets and SMS messages, which were used to increase social awareness.

There is a need to carry out a simulation exercise to test the appropriateness of the response plan in real field conditions.

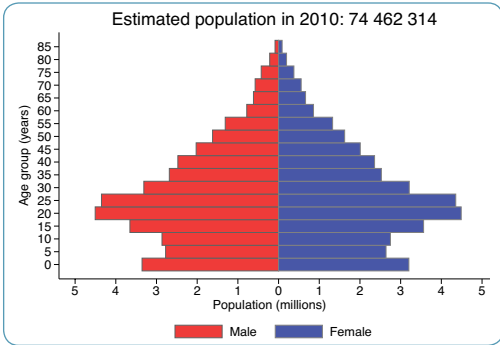
## Outbreak and crisis response

The country's refugee burden includes more than 850 000 refugees from Iraq and Afghanistan. In late 2014, the government began scaling up its preparedness for Ebola virus disease by assessing the level of preparedness and readiness for using the WHO assessment checklist and accordingly identifying critical gaps for improvement.

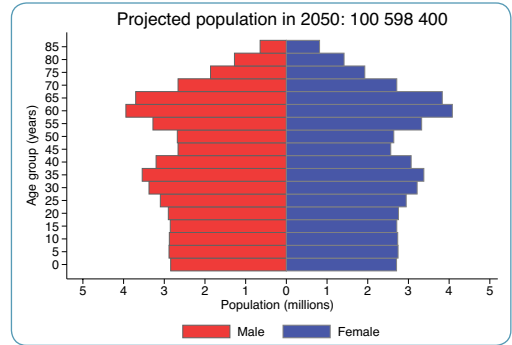


# Demographic profile

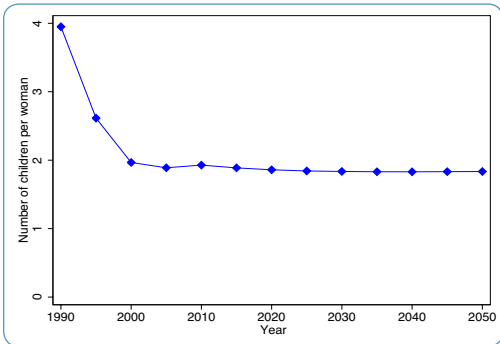
Population pyramid 2010



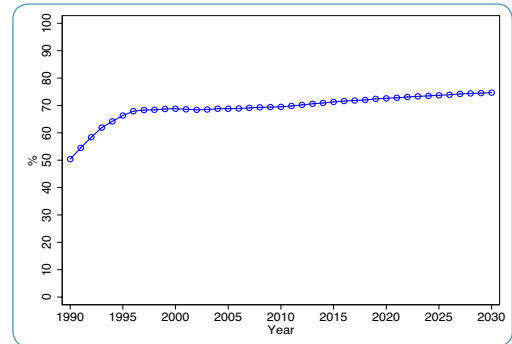
Population pyramid 2050



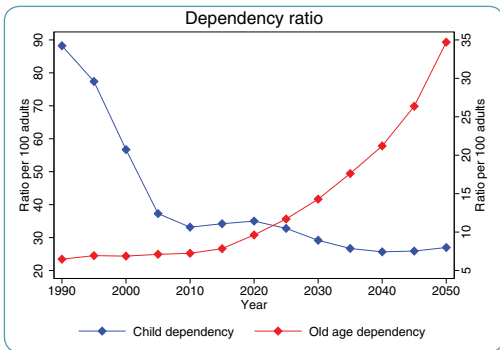
Total fertility rate



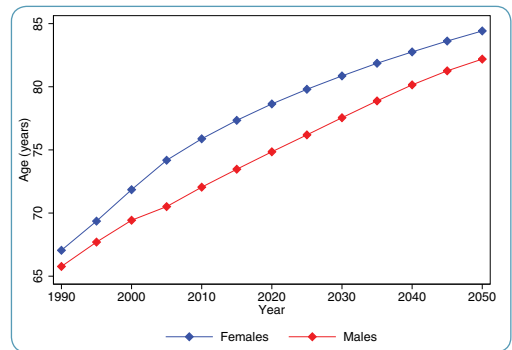
Need for family planning satisfied



Dependency ratio



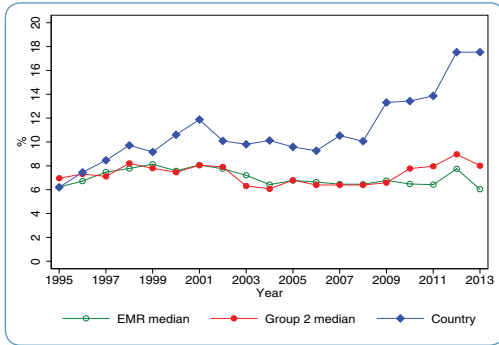
Life expectancy at birth



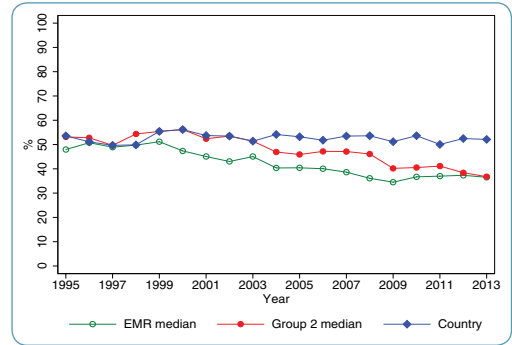
Source for all graphs: (21)

# Analysis of selected indicators

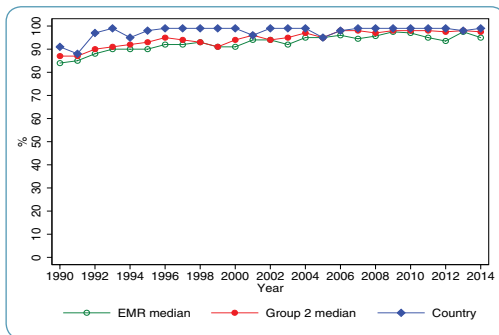
General government expenditure on health as % of general government expenditure (30)



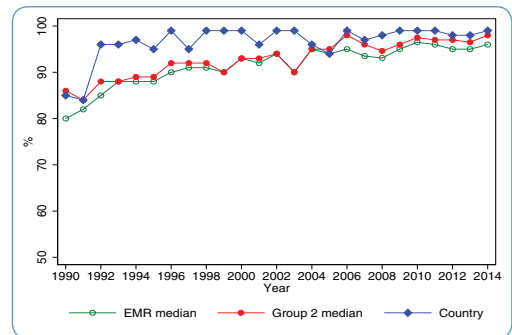
Out-of-pocket expenditure as % of total health expenditure (30)



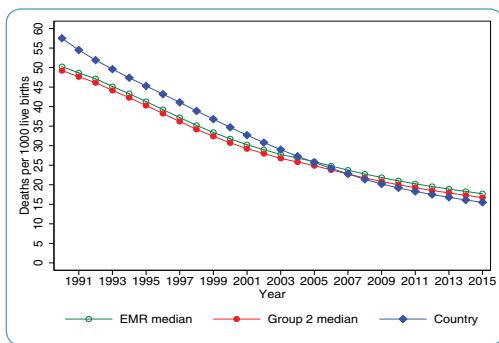
DPT3/pentavalent coverage among children under 1 year of age (%) (7)



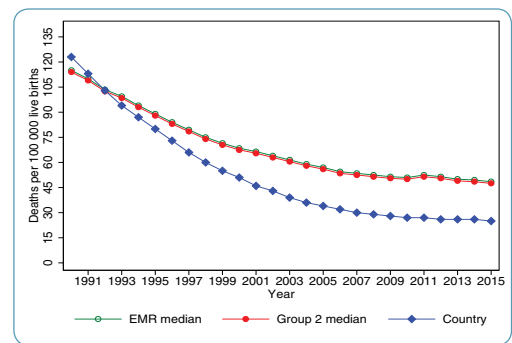
Measles immunization coverage (%) (7)



Under-5 mortality (per 1000 live births) (19)



Maternal mortality ratio (per 100 000 live births) (18)



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