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Contents

Foreword	3
Introduction	5
Communicable diseases.....	7
Noncommunicable diseases.....	11
Promoting health across the life course	15
Health systems.....	21
Preparedness, surveillance and response	27
Demographic profile	31
Analysis of selected indicators	32
References	33

Foreword

The Government of the United Arab Emirates 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 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 United Arab Emirates has adopted clear strategic health plans to develop human health as a cornerstone of the nation's development and progress. Vision 2021 puts health services at the forefront of national development plans. Guided by these principles, the Ministry of Health has adopted the National Health Strategy 2014–2016 that emphasizes the establishment of a comprehensive and competent health system with standards to ensure the delivery of high quality and safe health care to the population.

Over the past years, the United Arab Emirates has achieved significant progress in the control of major communicable diseases including the eradication of poliomyelitis, elimination of measles and the declaration of the country as free of malaria, in addition to increasing universal access to health care. Although improving the health information system remains a challenge, this health profile provides an analytic description of the country's population health and health system, based on available evidence. It also highlights the main opportunities and way forward for the health sector to develop and strengthen.

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Introduction

The population of the country has increased by 81.1% in the past 25 years, reaching 9.6 million in 2015. In 2012, 15.3% of the population lived in rural settings, 24.0% of the population was between the ages of 15 and 24 years in 2015 and life expectancy at birth was 76 years in 2012. The literacy rate (2011) for youth (15 to 24 years) is 94.0%, for adults 90.0% and adult females 91.5%.

The burden of disease (2012) attributable to communicable diseases is 11.5%, noncommunicable diseases 65.2% and injuries 23.2%. The share of out-of-pocket expenditure was 29.7% in 2013 and health workforce density is 19.3 physicians and 40.9 nurses and midwives per 10 000 population (2007).

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 and preparedness, surveillance and response. Each section focuses on the current situation, opportunities and challenges faced and the way forward. In addition, several 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 communicable diseases law 2014 provides the needed legislative framework to strengthen public health role and enhance diseases prevention and control.
- The immunization programme has reduced the burden of vaccine preventable diseases significantly and succeeded in interrupting polio transmission and eliminating neonatal tetanus, and has significantly controlled several other target diseases.

HIV and viral hepatitis

The HIV prevalence is low. The country has a national plan to reduce HIV/AIDS through early detection and management and is working on updating its national strategic framework and plan. Routine testing is administered on 100% of blood collected (1). The transmission of HIV is very low in compared to many areas in the world. The national HIV/AIDS prevention and control programme was established in 1985. The ultimate objective of the programme is to prevent transmission of the disease and control its importation to the country. A number of laws and decrees have been promulgated to regulate different programme activities. A Cabinet of Ministers decree was issued in 2010 to protect the rights of people living with HIV infection. Health education has been the cornerstone of primary prevention and has been given special attention in the control programme. Donors of blood, organs and tissues are screened for HIV to ensure safety of blood transfusion and transplants. The control programme is continuously evaluated in order to maintain its effectiveness and in order to be prepared for any change in the global pattern of infection and within the changing sociodynamic context of the country.

A comprehensive national plan for the prevention and control of viral hepatitis, especially hepatitis B and C has been implemented. It is expected that the ultimate objective of the viral hepatitis control plan is to reduce persistent carriage and long-term sequelae of hepatitis B and C by strengthening surveillance, ensuring the safety of blood transfusion and screening of high risk groups. The introduction of hepatitis B immunization in 1991 is reflected in the low incidence among younger age groups.

The country will work towards reducing stigma, enhancing education and social mobilization and strengthening social support services for people living with HIV and establishing voluntary counselling and testing clinics and improve access to antiretroviral treatment. Focus will be placed on maintaining high immunization coverage for hepatitis B, enhancing the case-based surveillance for hepatitis C in order to interrupt the occurrence of these diseases in the country.

Tuberculosis

In 2013, the tuberculosis-related mortality rate was estimated at 0.7 per 100 000 population (2). A total of 86 detected tuberculosis cases among nationals were reported in 2013, of which 53 were new sputum smear-positive cases (2). The treatment success rate for new and relapsed cases registered in 2012 was 76.0% (2). Drug-resistant tuberculosis is estimated at 1.7% among new cases and none among previously treated cases (2).

The national tuberculosis control programme was started in 1998 in response to the WHO tuberculosis initiative and in consultation with all parties of concern in the country. The programme's goal is to reduce tuberculosis prevalence and death by 50% in 2015. The country is working on achieving tuberculosis elimination goal (less than 1 case per 100 000 by 2035). The strategies include early detection, proper case management and participation of all stakeholders, and ensuring efficient provision of anti-tuberculosis drugs. Monitoring indicators are used to measure the progress of the plan in order to deal with any gaps identified as a result.

The programme is currently undergoing reform to enhance continuity of care and assure adherence to treatment through the active involvement of primary health care centres and strengthening district tuberculosis control programmes.

More emphasis will be placed on strengthening the capacity of the national programme to enhance case detection and management and to establish mechanisms for monitoring compliance to guard against development and spread of multidrug-resistant tuberculosis. Efforts to achieve the elimination goals will focus on measures to limit importation of cases and instituting measures to deal effectively with latent tuberculosis infection.

Malaria

Considered a low burden and risk country for malaria, total confirmed malaria cases increased from 1796 in 2003 to 5165 in 2012, of which 100% were imported (3). In 2013, among the confirmed cases, 7.1% were *Plasmodium falciparum* and 92.9% were *P. vivax* (3).

WHO certified the country free of malaria in 2007. Post-elimination strategies focus on surveillance of malaria cases (imported) and of the vector and are aimed at sustaining the malaria-free status in the country. The two technical elements used to ascertain the malaria-free status are early detection of cases and prompt free treatment of imported cases. Strategies for surveillance of the vector include continuous monitoring of the breeding sites for larvae and surveying for adult mosquitoes. The technical elements used to control mosquitoes are chemical and biological control. Vector control with larvivorous fish is undertaken in collaboration with concerned authorities.

The main priorities for the country are strong vigilance and disease surveillance and availability of quality malaria diagnosis and effective treatment in all health facilities.

Neglected tropical diseases

The country was certified free of dracunculiasis in 1998 and no autochthonous cases were reported for cutaneous and visceral leishmaniasis (4). In 2013, the number of reported leprosy cases was 31 (4).

Neglected tropical diseases are considered under the category of imported diseases. Most of these diseases are not transmitted within the country as the vector or animal reservoir host are not established. However, the surveillance system caters for the possibility of importation of these diseases from endemic areas. This is particularly relevant as many expatriates residing in the country come from endemic areas. Essential drugs for the treatment of neglected tropical diseases are available on a continuous basis.

The country will work towards enhanced surveillance for early detection and appropriate treatment of cases and will enhance measures to guard against importation of vectors.

Vaccine-preventable diseases

Immunization coverage among 1-year olds decreased between 1990 and 2013 for BCG from 96.0% to 94.0%. Coverage increased for DTP3 from 85.0% to 94.0%, measles from 80.0% to 94.0% and polio from 85.0% to 94.0% (5). In 2013, hepatitis B (HepB3) vaccine coverage among 1-year olds was 94.0% (5).

The long-term objective of the immunization programme is the control and eventual elimination of vaccine-preventable diseases. Diseases targeted include diphtheria, tetanus, pertussis, tuberculosis, poliomyelitis, measles, mumps, rubella, chickenpox, hepatitis B, *Haemophilus influenzae* type B, *Streptococcus pneumoniae* and rotavirus. The immunization programme has so far succeeded in interrupting polio transmission, eliminating neonatal tetanus, and has significantly controlled several other target diseases. However, the country has experienced a high incidence of measles since 2010 that has been successfully controlled with effective interventions.

Prospective plans for the control of vaccine-preventable diseases include achieving high coverage rates, ensuring vaccine safety, maintaining a reliable comprehensive database, improving professional capacity through continuous training, regular evaluation and revision of the programme to identify gaps, and documentation of the progress achieved. It is expected that by adhering to this policy vaccine-preventable diseases will soon be eliminated or largely controlled.

Noncommunicable diseases

Noncommunicable diseases

Mental health and substance abuse

Violence and injury

Disabilities and rehabilitation

Nutrition

Noncommunicable diseases

- The national plan for the prevention and control of noncommunicable diseases adopts an integrated comprehensive multisectoral approach with primary health care as the main entry point for implementation of the plan.
- Special attention is directed to the prevention of disabilities through the national health awareness plan in collaboration with strategic national partners and respective international organizations.
- A national nutrition action plan 2010–2015 has been developed, including effective strategies, interventions and recommendations.

Noncommunicable diseases

Noncommunicable diseases cause 65.2% of all deaths, with cardiovascular diseases accounting for 30.2%, cancers 12.9%, respiratory diseases 2.9% and diabetes mellitus 3.0% (6). As a result, 19.0%, of adults aged 30–70 years are expected to die from the four main noncommunicable diseases (7). In 2005, 22.6% of adolescents (13–15 years of age, 29.6% boys, 17.3% girls) had ever smoked cigarettes, while a quarter, 25.3%, lived in homes where others smoke in their presence (8). Per capita consumption of alcohol is 4.3 liters of pure alcohol (9). Prevalence of insufficient physical activity in adolescents is 82.6% (11–17 years of age, 77.5% boys, 86.0% girls) and the age-standardized rate is 30.2% (27.0% males and 39.4% females) (10). Raised blood pressure, in adults above 18, is 24.3% of the population (25.5% male and 21.5% females), while obesity affects 34.5% of the population (31.6% males and 41.2% females) (10). All 11 essential medicines required for treatment of noncommunicable diseases are available in the public health sector.¹

The changing age structure and lifestyle of the population has led to new morbidity and mortality patterns. The national plan for the prevention and control of noncommunicable diseases includes cardiovascular disease, cancer, diabetes and chronic respiratory diseases and is consistent with the WHO global plan. As such, the health system response considers primary health care as the main entry point to the implementation of the plan. The performance capacity of health workers is also being addressed through relevant continuing training programmes. Furthermore, the provision of appropriate technologies and drug therapy are also met. So far, more than 80.0% of the screened population at risk has been covered by essential treatment. A comprehensive public health awareness programme has been developed to enhance the knowledge and attitude of the public towards noncommunicable diseases and their risk factors. A national plan for cancer control has been developed, as part of the overall national noncommunicable diseases strategy. There is an established national committee and guidelines for the screening of the most common

¹ WHO Regional Office for the Eastern Mediterranean, unpublished data, 2013.

cancers, including breast cancer, cancer of the cervix and colorectal cancer. The WHO Framework Convention on Tobacco Control was ratified in 2005. A tobacco control law was issued in 2010 and bylaws were issued in 2013. Tobacco regulations, including smoking bans in the workplace and public places, are in effect. Physical inactivity is also a growing concern, since large numbers of people are living sedentary lifestyles.

The country will focus on strengthening services at the primary health care level and developing a national registry for the four main diseases and risk factors and screening guidelines.

Mental health and substance abuse

Neuropsychiatric disorders are estimated to contribute 19.9% of the burden of disease (11) and the suicide rate is 3.2 per 100 000 population per year (12).

Expenditure on medicines reveals that the highest is on psychotic disorders, followed by mood disorders, bipolar disorders and general anxiety, respectively. There is an increasing trend of substance use among young people. There are insufficient trained health workers in mental disorders and disabilities, particularly in the areas of disorders caused by use of illicit drugs and mental disorders in children.

The country is focusing on strengthening mental health services at the primary health care level by training medical doctors in management of simple disorders and ensuring essential drugs are available for that purpose.

Violence and injury

The percentage of deaths caused by injuries in 2012 was 23.2%, of which unintentional injuries accounted for 77.4% (the leading causes were road traffic injuries 52.0% and falls 9.7%) and intentional injuries accounted for 22.6% (53.8% as a result of self-harm and legal intervention and 46.0% as a result of interpersonal violence) (6). In 2010, the estimated road traffic fatality rate was 12.7 per 100 000 population (13). For post-injury trauma care, there is a universal emergency access telephone number and more than 75% of the seriously injured are transferred by ambulance (13).

Child injury prevention is integrated into national child health plans. Hospitals are prepared for post-injury trauma care and have adequate medicines and training for medical doctors and nurses.

There is a need for more coordinated injury prevention and control action at the national level, building on the good work already done in the different emirates. An official health sector protocol for systematic identification of, and response to, victims of violence needs to

be in place. There is also a need to train health professionals more on prevention, detection and how to respond to cases of violence.

Disabilities and rehabilitation

The prevalence of disability is 0.8% (14). Of the different types of disabilities and difficulties, it is estimated that 8.4% are physical and locomotor, 32.3% visual, 4.1% learning, 14.0% hearing and 21.2% speech (14).

The UN Convention on the Rights of Persons with Disabilities was signed in 2008 and ratified in 2010. The High Commission for the Welfare of Persons with Disabilities is the national coordination mechanism as of 2007 and is chaired by the Minister of Social Development, with representation of persons with disabilities. The overarching disability legislation is Federal Law No. 29 on the Rights of the Disabled (2006) amended by Federal Law number 14 (2009). Physical and social rehabilitation is undertaken by the government as well as nongovernmental organizations. Special attention is directed to the prevention of disabilities through the national health awareness plan, in collaboration with other relevant sectors such as the Ministry of Interior, Ministry of Social Services, and respective international organizations. An example is the perinatal screening programme that identifies congenital and hereditary health problems.

More attention and focus will be given to perinatal screening, by adding auditory screening, increasing service coverage and building the capacity of staff working in the programme.

Nutrition

The estimated prevalence of various conditions due to malnutrition in children under 5 years of age is summarized in the following indicators: 15.5% stunting and 7.7% overweight (15). Low birth weight is 3.2%.²

In order to improve the health and nutritional status, a national nutrition action plan 2010–2015 has been developed, including effective strategies, interventions and recommendations. Remarkable progress is occurring in the control of under-nutrition among infants and young children as well as iodine deficiency disorders and vitamin A, but anaemia has been less responsive to prevention and control efforts. Obesity among all age groups remains a challenge. An effective and efficient national programme for the promotion and support of breastfeeding has been developed with funding from the Ministry of Health and WHO. Emphasis will be put on capacity-building of nutrition staff as well as national surveys to update nutrition indicators.

² Ministry of Health, unpublished data, 2014.

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

- A national perinatal screening programme has been established and contributes to the timely identification of conditions such as phenylketonuria to reduce complications.
- Health promotion and free screening programmes are available in schools for children and adolescents for selected physical and mental problems.
- A strategy for health care of the elderly, where health care is provided through home and primary health care, has been adopted.
- The government has endorsed the WHO regional health and the environment strategy and framework of action 2014–2019.

Reproductive, maternal, newborn, child and adolescent health

Maternal mortality ratio declined between 1990 and 2013 from 16 to 8 per 100 000 live births (16) and the under-5 mortality rate decreased from 17 to 8 deaths per 1000 live births (17). The leading causes of under-5 mortality are acute respiratory infection (4.0%), prematurity (30.0%), intrapartum-related complications (10.0%) and congenital anomalies (30.0%) (18). The proportion of women receiving antenatal care coverage (at least one visit) is 100% and at least four visits is 100%.³

The country has made a remarkable progress in all maternal and child health indicators. Health care services are provided for pregnant women during the antenatal, delivery and postnatal periods (within 42 days after delivery) significantly reducing the risk of illness and complications for both the mother and the child. Considerable progress has been achieved in maternal and child health programmes. A national neonatal screening programme was established in 1995 and contributes to the timely identification of conditions such as phenylketonuria to reduce complications. The country has introduced baby-friendly hospitals as part of UNICEF and WHO initiatives to ensure that all maternity services, whether free-standing or in a hospital, become centres of breastfeeding support.

³ Ministry of Health, unpublished data, 2014.

Ageing and health

Life expectancy at birth rose by 4 years between 1990 and 2012 (from 72 years to 76 years) (18). In 2010, the ageing population above 60 years represented 0.7% of total population (19).

A significant development over the past few decades has been the rapid decline in mortality across all age groups. This has been accompanied by a sharp rise in life expectancy with a rapid increase in the proportion of the elderly. In response, the Ministry of Health has adopted a clearly defined strategy for health care of the elderly. As the family provides the ideal environment for psychosocial as well as health care for this important population group, the Ministry initiated a home and primary health care-based programme for the care of the elderly. The programme started in Sharjah in 2003 and was extended to other parts of the country by 2008. The programme objectives are focused on the provision of comprehensive basic health care services, follow-up of chronic health problems at home, as well as rehabilitation and health education of patients and their families about the common ailments of old age. These services are offered to the elderly through a qualified mobile team and primary health centres. The programme is supported and supervised by the National Committee for the Elderly, which has representatives from the Ministry of Health, other health partners and relevant ministries such as the Ministries of Social Affairs and Education, in addition to the mass media. It has also been agreed to enact a law to regulate the input of all these partners in order to protect the health and welfare of the elderly.

The momentum created by the launch of the *World report on ageing and health* in October 2015 and the related global strategy and action plan could support the national strategy and national efforts. Capacity-building is needed to strengthen age-friendly services provided through the primary health care system.

Gender, equity and human rights mainstreaming

The country falls among the very high human development countries and ranks 43rd among 152 countries in terms of gender inequality (20). Female adult (above 15 years of age) literacy is relatively high at 91.5% in 2012 (21) and participation in the labour force is relatively high at 46.6% (20).

National policies and legislation are being adapted to comply with related commitments including gender equality, non-discrimination and the right to health care.

Enhancing efforts to sustain achievements already made from a gender, equity and rights perspective is needed in all components of the health system including data, capacity development, programmes, policies, strategies and action plans.

Social determinants of health

The *Human development report 2014* ranked the country at 40 out of 187 countries across the world on the human development index (20). The urban population increased between 1990 and 2012 from 79.1% to 84.7%, while access of the rural population to improved water sources was 82.3% in 2012 (22). In 2010, the age group 0–24 years was 36.8% of the total population (19). The adult literacy rate was 92.4% in 2012 (23), while the unemployment rate was 3.8%, and for youth (15–24 years) 11.0% (22).

Heavy investments have been made in education, with good progress in mainstreaming girls' and women's education at all levels. Access to quality basic health care is ensured for all citizens. There is universal coverage of all remote areas with running water supply and electricity.

The health sector collaborates with the relevant ministries and authorities to address social determinants of health and prioritize its actions. One opportunity is the existence of WHO tools, strategies and indicators for operationalization of social determinants of health in health planning and ongoing programmes. It is important to look into the interconnections between the underlying social determinants of health in the context of economic affluence and the root causes of key public health issues, such as noncommunicable diseases and road traffic injuries and their related risk factors; this should enable the design and implementation of effective prevention and control interventions.

Health and the environment

It is estimated that 1300 people a year die as a result of environmental factors and the percentage of disability-adjusted life years attributable to the environment is estimated 14.0% (24). Access to improved sanitation facilities is 98.0% while access to improved drinking-water is 100% (18). The proportion of the population uses solid fuels (biomass for cooking, heating and other usages) is estimated to be negligible (25).

Ambient air pollution is the leading contributor to premature mortality. Risk factors leading to greater than 10 000 annual health care facility visits include occupational exposures, indoor air pollution, drinking-water contamination, seafood contamination, and ambient air pollution. Among the 14 risks considered, on average, outdoor air pollution was ranked by the stakeholders as the highest priority, and indoor air pollution as the second-highest priority.

Environmental health is an important part of the national health strategy. The use of environment-friendly products increased rapidly in the past three years. The current investment in new means of public transportation will help in reducing CO2 emissions and ensuring a cleaner environment. The efforts of the government to reduce CO2 emissions have also resulted in the construction of many solar energy plants. The national regulation on protecting the environment is aimed at reducing the risks from industrial projects and ensuring healthy environments for residential areas. An appropriate waste management system is in place for general waste as well as for hazardous and radioactive waste. A ban on leaded gasoline is in place to reduce exposure to heavy metals and protect child health.

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 primary goal of the national health strategy (2014–2016) is to provide quality health services for all.
- Primary health care focuses on family medicine as a medical specialty that provides continuous, integrated and comprehensive health care for individuals and families.
- The national research and development efforts in pharmaceuticals have generated lower cost solutions.
- The health information system (*Wareed*) to date links 12 hospitals and 26 primary health care centres belonging to the Ministry of Health, and is considered to be the largest initiative of its kind in the region.

National health policies, strategies and plans

The country's national health planning cycle is addressed in the national health policy strategy and plan 2014–2016. The main objectives are to: provide quality health services to the population according to international standards, improve quality of health systems, develop health facilities and ensure ease of access to facilities according to international standards, promote healthy lifestyles to reduce the associated diseases, develop the health system for protection against communicable diseases, develop and enforce health policies and legislation with the participation of the public and private sectors, and provide administrative services based on standards of quality, efficiency and transparency. The Ministry of Health has developed a national health agenda in order to manage the health system at the national level.

Total expenditure on health per capita at international exchange rate increased between 2005 and 2013 from US\$ 1010.1 to US\$ 1569.0, of which general government expenditure on health increased in the same period from US\$ 595.9 to US\$ 1103.0 (26). General government expenditure on health as a percentage of total expenditure on health also increased in the same period from 59.0% to 70.3%; and total expenditure on health as a percentage of gross domestic product decreased from 2.3% to 3.2% (26). In addition, the share of out-of-pocket spending decreased from 30.1% to 18.8% (26). There are no external sources for expenditure on health (26).

The primary goal of the national health strategy (2010–2014) is to promote, restore and maintain the health of all. Public health policies have been developed according to the national health strategy with a broad range of stakeholders to maximize health benefits in the most efficient, equitable and sustainable manner. Principal national policies currently

being developed address control of noncommunicable diseases, control of communicable diseases, mental health and intellectual property rights in the health field. National health legislation includes the law for control of communicable diseases, the tobacco law and its executive decree, the mental health law, the decree for strategic medicine stockpiles, the law for control of narcotics and psychotropic substances, the decree for protection of society from AIDS and the protection of the rights of people living with HIV, the medical liability law and its executive decree, the organ and tissue transplantation law and its executive decree, the medical advertisement decree, the pharmaceutical and pharmaceutical facilities law, and the private medical facilities law. In addition, there is other legislation underway, including the public health law, the law of information and information technology in the health field, the newborn screening decree, the decree of protection of breastfeeding and the regulation of marketing of infant's formula and food products, and the decree for a national cancer registry.

Unifying, expanding and upgrading health care policies in coordination with local health authorities is a priority. A central information system has been developed to ensure proper planning, follow-up and evaluation of policies, legislation and programmes. A federal health insurance law is in process and local health insurance coverage systems are functioning in several emirates.

Integrated people-centred health services

The health workforce density for physicians (2007) is estimated at 19.3 per 10 000 population (27) and for psychiatrists working in the mental health sector (2011) at 0.30 per 100 000 population (28). Between 2004 and 2007, the health workforce density for nurses and midwives decreased from 45.7 to 40.9 per 10 000 population), for dentists from 4.5 to 4.3, and for pharmacists from 6.6 to 5.9 (27). Health service delivery data show mental hospitals in 2011 averaged 0.02 per 100 000 population (29), while hospital beds per 10 000 population were 19.0 in 2008 (30).

Primary health care focuses on family medicine as a medical specialty that provides continuous, integrated and comprehensive health care for individuals and families. Primary care practices provide patients with ready access to their own personal physician or to an established back-up physician when the primary physician is not available. A continuous monitoring process is established to ensure that the provision of primary health care services meets the customer's expectation and professional standards. Primary health care provides patient advocacy in the health care system to accomplish cost-effective care through the coordination of health care services. It also promotes effective doctor-patient communication and encourages the role of the patient as a partner in health care. Primary health care includes health promotion, disease prevention, health maintenance, counselling,

patient education, diagnosis and treatment of acute and chronic illnesses in a variety of health care settings.

The health workforce and health care facilities are regulated by federal law through licensing, re-licensing, registration and standards. National standards for professional qualification requirements have been developed to regulate the health workforce. All the population is covered by a health insurance scheme: national citizens by the government and expatriates by their employers. There is a comprehensive national health sector strategy with goals and targets updated within the past five years.

Access to medicines and health technologies

The pharmaceutical procurement system in the country has been using generic drugs for many years and the national research and development effort has generated lower cost solutions. At present, efforts are under way to strengthen the pharmaceutical regulatory system to ensure higher standards for quality and safety. Access to medicines and state of the art health technologies is available in all health facilities at primary, secondary and tertiary levels, and the government aims to sustain such high standards in the future.

Stronger commitment to universal health coverage, extensive collaboration with academic institutions, United Nations agencies and WHO, completion of reforms for nationalization of the health workforce, and transfer of knowledge and expertise from prominent academic institutions on hospital management and environmental health are all needed.

Health systems, information and evidence

The government has begun work towards strengthening its national health information system with support from all stakeholders. In particular, a central national database has been proposed and is to be established at the statistic and research centre at the Ministry of Health.

The United Arab Emirates has multiple health information systems covering both public and private health facilities. The Dubai and Abu Dhabi governments have their own public sector health information system network.

The health information system of the Ministry of Health, initiated in 2008, links most government health facilities in the northern emirates and some of Dubai's facilities. The implementation plan is now focused on the few remaining hospitals and primary health care centres. The completed system will improve the provision of health care services and link all Ministry health care facilities in the country. It is considered the largest initiative of its kind in the region, providing a "one patient, one record" system. The system will enhance

confidence in the quality of care in government hospitals, provide easier access to specialists and data, improve the overall level of health care and reduce medical errors.

A national e-health strategy is in the process of being developed. A national health research strategy and agenda has been launched with clearly identified research priorities and allocation of funds to support research projects. The research strategy and agenda will include all institutions and persons that can contribute effectively to the project and will provide evidence-based, precise and reliable information.

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 government has strong capacity in preparedness for, and response to, different hazards through the National Emergency Crisis and Disasters Management Authority that functions as a command and control centre, with the involvement of the different stakeholders. The Authority coordinates all governmental agencies involved in the response to emergencies, including the Ministry of Health.
- The National Emergency Crisis and Disasters Management Authority provides a network of operation centres sharing timely information and conducting joint risk assessment and coordinating the response to emerging events.
- International Health Regulations (IHR) 2005 have been implemented successfully.

Alert and response capacities

The country has declared itself as having met its obligations for implementation of the International Health Regulations (IHR) 2005 by 15 June 2014, and now continues to work on the quality and functionality of existing IHR capacities. The government has strong capacity in preparedness for, and response to, different hazards, with the National Emergency Crisis and Disasters Management Authority as the command and control centre, and the involvement of the different stakeholders. The model could be shared with other countries and through study visits.

The government is committed to complying with the requirements of IHR 2005 and is incorporating these requirements into national legislation. The following components are already in place: national legislation policy and financing; a national focal point to tackle reporting and coordination of work; a strong surveillance system; and a response preparedness and risk communication plan. Surveillance and response capacity at designated points of entry and surveillance and response to IHR-related hazards (zoonoses, food safety and chemical and radionuclear events) are also available. As of 2014, the National Emergency Crisis and Disasters Management Authority has been heading several projects at the national level, including preparation of national recovery framework, and updating the national risk registry and response plans for chemical, biological, radiological and nuclear events in neighbouring countries.

The country will strive to enhance surveillance capacity by incorporating event-based surveillance in the ongoing indicator-based surveillance. Risk assessment will be strengthened by involvement of other relevant sectors to cater for all possible hazards. The

opportunities provided by the network of operation centres will be utilized to coordinate actions and facilitate information sharing.

Epidemic and pandemic-prone diseases

The public health system for detection and response to epidemic and pandemic-prone diseases is in line with others and is bifurcated due to competing and sometimes overlapping authority between two major cities. While the country has not faced any major outbreak in the past decade, the health system's capacity for routine surveillance, monitoring and timely detection of emerging health threats has been tested by recent episodes of Middle East respiratory syndrome coronavirus (MERS-CoV).

The country is working on identifying gaps and enhancing the capacity of the health system to implement effective infection prevention and control programmes in health care settings. Addressing these emerging issues through strengthening the country's capacity for surveillance of common and emerging health problem, including establishing a comprehensive programme for monitoring and mitigating threats, are be important priorities.

Emergency risk and crisis management

The country is susceptible to both natural and man-made disasters that can cause significant loss of life, livelihood and infrastructure, reversing development gains. The estimated loss attributable to natural disasters based on data from 1994–2013, was, on average, 0.6 deaths or 0.01 per 100 000 inhabitants, while losses in purchasing power parity were US\$ 47.7 million and losses to gross domestic product amounted to 0.01% (31).

The country's geographical location, neighbouring seismically active countries and occupying a relatively narrow area, poses a threat from natural hazards, while being an important regional and international trade centre can facilitate the spread of outbreaks and other hazards. The country has developed a comprehensive national emergency response plan that includes the health sector. The National Emergency Crisis and Disasters Management Authority is responsible for coordinating all governmental agencies involved in response to emergencies, including the Ministry of Health.

The risk-reduction approach is currently receiving attention. The all-hazards country profile needs to be updated and response operations adjusted accordingly.

Food safety

A risk-based regulatory framework is upheld by the national food regulatory authorities. A national food safety committee has been established to manage the need for harmonization.

In addition, coordination with the Gulf Cooperation Council is undertaken on food control and safety issues. A federal food safety policy has been established. Foodborne diseases and outbreaks are detected through national notification. The United Arab Emirates is part of the International Network of Food Safety Authorities.

The national framework and guidelines that have been established to enhance the surveillance of foodborne diseases needs to be strengthened, as does the food traceability and recall system.

Poliomyelitis eradication

The objectives of the national polio eradication plan are to maintain zero incidence of polio cases, enhance acute flaccid paralysis surveillance, prevent the importation of wild poliovirus, sustain vaccination coverage at more than 95.0% and maintain a competent system for monitoring the progress of the plan. Acute flaccid paralysis surveillance is implemented in the country as a prerequisite for certification and an indication of the country's ability to detect polio cases. The national polio eradication plan has succeeded in achieving better detection. By 2013, the total acute flaccid paralysis rate was 3.06 per 100 000 children under 15 years of age and the total number of cases was 31 in 2013 in an estimated population of 1 011 709 children under 15 years of age (32).

The main challenge is the presence of a large community from polio endemic countries. Focus is placed on continuing high immunization coverage of high-risk populations, particularly immigrants from polio-endemic countries, and regular update of the polio importation preparedness and response plan.

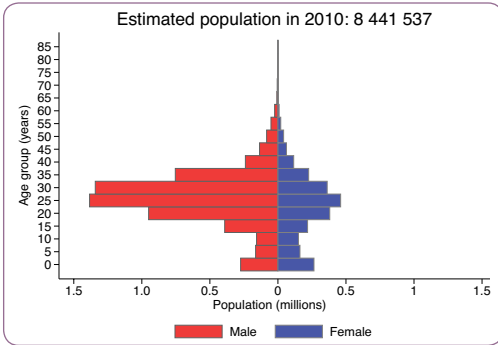
Outbreak and crisis response

A national policy for emergency preparedness and response, focusing on community vulnerabilities and safety of health facilities, is in place. In late 2014, the government began scaling up its preparedness for Ebola virus disease by assessing and measuring the level of preparedness and readiness using the WHO assessment checklist and identifying critical gaps for improvement.

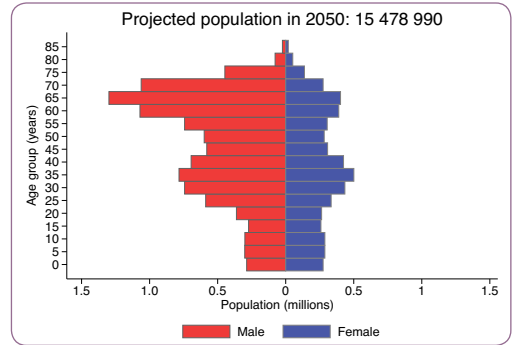
The country will work towards establishing capacity at central and district level for outbreak management, investigation and response. Outbreak management plans and protocols of possible scenarios will be developed, revised and updated. Ongoing training and drills will be conducted at all levels with the involvement of all concerned parties. The country is heading towards establishing its own reference laboratory.

Demographic profile

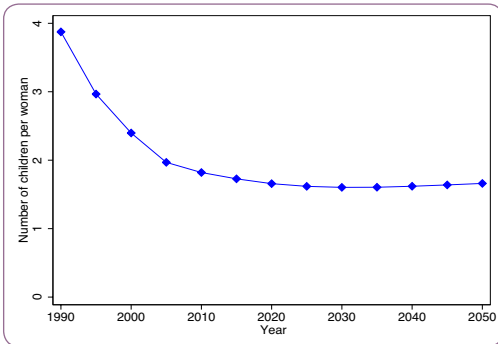
Population pyramid 2010



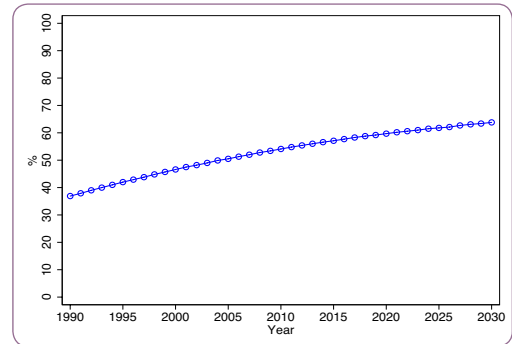
Population pyramid 2050



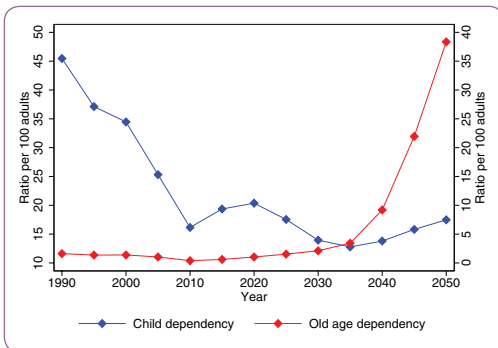
Total fertility rate



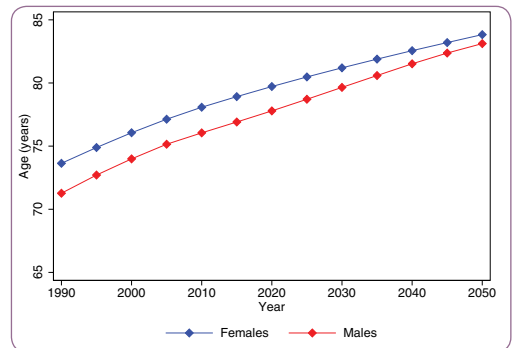
Need for family planning satisfied



Dependency ratio



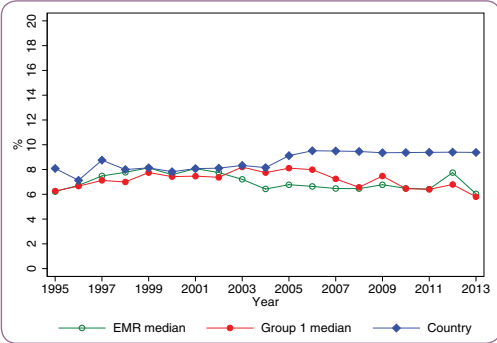
Life expectancy at birth



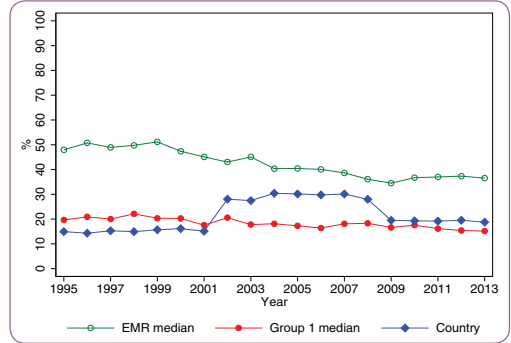
Source for all graphs: (19)

Analysis of selected indicators

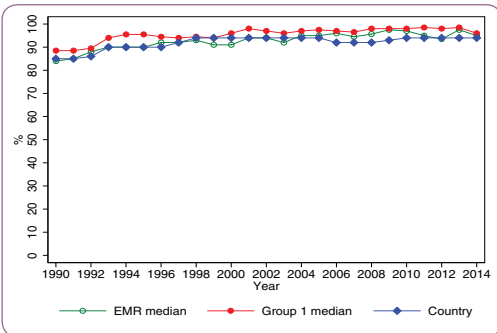
General government expenditure on health as % of general government expenditure (26)



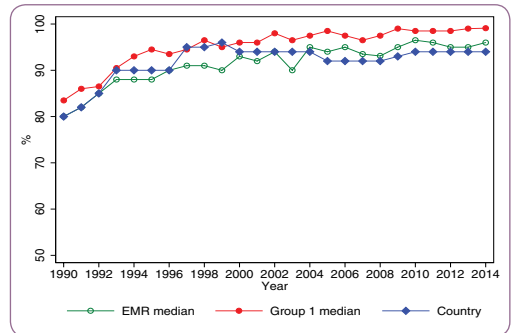
Out-of-pocket expenditure as % of total health expenditure (26)



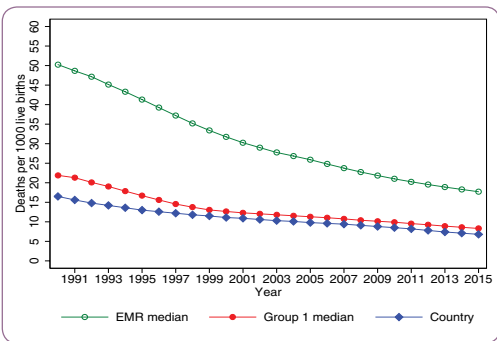
DPT3/pentavalent coverage among children under 1 year of age (%) (5)



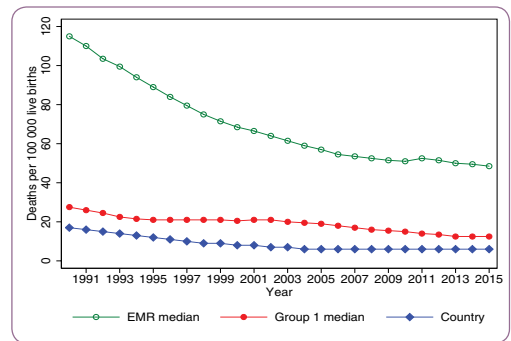
Measles immunization coverage (%) (5)



Under-5 mortality (per 1000 live births) (17)



Maternal mortality ratio (per 100 000 live births) (16)



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