

Health profile 2015

Tunisia



World Health
Organization

Regional Office for the Eastern Mediterranean

WHO Library Cataloguing in Publication Data

World Health Organization. Regional Office for the Eastern Mediterranean
Tunisia health profile 2015 / World Health Organization. Regional Office for the Eastern Mediterranean
p.
WHO-EM/HST/237/E

1. Health Status - Tunisia 2. Delivery of Health Care - organization & administration 3. Communicable Disease Control 4. Chronic Disease 5. Health Promotion 6. Civil Defense - organization & administration
7. Public Health Surveillance I. Title II. Regional Office for the Eastern Mediterranean
(NLM Classification: WA 300)

© World Health Organization 2017

Some rights reserved. This work is available under the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 IGO licence (CC BY-NC-SA 3.0 IGO; <https://creativecommons.org/licenses/by-nc-sa/3.0/igo>).

Under the terms of this licence, you may copy, redistribute and adapt the work for non-commercial purposes, provided the work is appropriately cited. In any use of this work, there should be no suggestion that WHO endorses any specific organization, products or services. The use of the WHO logo is not permitted. If you adapt the work, then you must license your work under the same or equivalent Creative Commons licence. If you create a translation of this work, you should add the following disclaimer along with the suggested citation: "This translation was not created by the World Health Organization (WHO). WHO is not responsible for the content or accuracy of this translation. The original English edition shall be the binding and authentic edition".

Any mediation relating to disputes arising under the licence shall be conducted in accordance with the mediation rules of the World Intellectual Property Organization.

Suggested citation. [Title]. Cairo: WHO Regional Office for the Eastern Mediterranean; 2017. Licence: CC BY-NC-SA 3.0 IGO.

Sales, rights and licensing. To purchase WHO publications, see <http://apps.who.int/bookorders>. To submit requests for commercial use and queries on rights and licensing, see <http://www.who.int/about/licensing>.

Third-party materials. If you wish to reuse material from this work that is attributed to a third party, such as tables, figures or images, it is your responsibility to determine whether permission is needed for that reuse and to obtain permission from the copyright holder. The risk of claims resulting from infringement of any third-party-owned component in the work rests solely with the user.

General disclaimers. The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by the World Health Organization to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the World Health Organization be liable for damages arising from its use.

Contents

Foreword	3
Introduction	5
Communicable diseases.....	8
Noncommunicable diseases.....	12
Promoting health across the life course	16
Health systems.....	20
Preparedness, surveillance and response	24
Demographic profile	27
Analysis of selected indicators	28
References	29

Foreword

The Government of Tunisia 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 68th 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.

Dr Mahmoud Fikri

WHO Regional Director for the
Eastern Mediterranean

H.E. Ms Samira Maraai

Minister of Public Health
Tunisia

Introduction

The population of the country has increased by 27.6% in the past 25 years, reaching 11.2 million in 2015. It is estimated that, 33.7% of the population live in rural settings (2012), 17.5% of the population is between the ages of 15 and 24 years (2015) and life expectancy at birth is 76 years (2012). The literacy rate for youth (15 to 24 years) is 97.3%, total adults 77.7% and adult females 71.7% (2011).

The burden of disease (2012) attributable to communicable diseases is 10.8%, noncommunicable diseases 82.3% and injuries 7.0%. The share of out-of-pocket expenditure is 35.3% (2013) and health workforce density is 12.2 physicians per 10 000 population (2010).

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, 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

- A national HIV/AIDS strategic plan has been developed and a nationwide HIV/AIDS communication campaign launched.
- Malaria has been officially eliminated.
- The cost of the Expanded Programme on Immunization is borne by the government.

HIV

The HIV/AIDS prevalence is low (0.1%) among adults aged 15 to 49 years of age (1). HIV prevalence in people who inject drugs is 3.0%, and 78.0% of people who inject drugs use sterile injecting equipment, while HIV prevalence in female sex workers is 0.4% and in men who have sex with men is 5.0% (2). Antiretroviral therapy coverage to prevent mother-to-child transmission is 4.0% (2). Routine testing is administered on 100% of blood collected and estimated antiretroviral therapy coverage is 10.0% (2).

A national HIV/AIDS strategic plan has been developed and a nationwide HIV/AIDS communication campaign launched. The Global Fund to Fight AIDS, Tuberculosis and Malaria supports the AIDS response for most-at-risk groups. There is no organized screening programme for several at-risk populations, and while there are centres for anonymous testing, there are accessibility issues and very low coverage of key populations at risk. There is no official needle/syringe exchange programme, but there are nongovernmental organization initiatives funded by the Global Fund. Opioid substitution therapy (methadone) is not yet available. Testing for HIV is not routinely done in antenatal care; finding a cost-efficient way to test all pregnant women has proved challenging. The monitoring system suffers from a fragmentation of programme functions.

Population size estimates of key populations at risk are needed but should be conducted by the national programme to avoid skewing the estimates.

Tuberculosis

The tuberculosis-related mortality rate is estimated at 2.1 per 100 000 population (2013) (3). A total of 3070 detected tuberculosis cases were reported in 2013, of which 1003 were new sputum smear-positive cases (3). The treatment success rate for new and relapsed cases registered in 2012 was 89.0% (3). Drug-resistant tuberculosis is estimated at 0.8% among new cases and 12.0% among previously treated cases (3). Although there have been great improvements in strengthening the surveillance system, the national tuberculosis programme has been unable to maintain an incidence below 20 per 100 000 population.

Malaria

Tunisia is considered a low burden and low risk country for malaria. Total confirmed malaria cases decreased by 6.7% from 75 in 2003 to 70 in 2012, of which 100% were imported, 95.6% from sub-Saharan Africa (4). In 2013, among the confirmed cases, 7.1% were *Plasmodium falciparum* and 92.9% were *P. vivax* (4).

Malaria has been officially eliminated. All imported cases originate from sub-Saharan African countries. However, there is no information on the screening modalities for imported malaria cases or the completeness of the system and there are concerns about underreporting.

The main priorities for the country are to maintain strong vigilance and disease surveillance and the availability of quality malaria diagnosis and effective treatment in all health facilities. Priority should be given to improving programme performance as the country remains at risk for malaria transmission.

Neglected tropical diseases

The country was certified free of dracunculiasis in 1998, but is still endemic for cutaneous and visceral leishmaniasis (5). In 2012, 5376 cases of cutaneous leishmaniasis were reported, while 40 cases of visceral leishmaniasis were reported in 2013 (5).

Vaccine-preventable diseases

Immunization coverage among 1-year-olds improved between 1990 and 2013 for BCG from 96.0% to 97.0%, DTP3 from 93.0% to 94.0%, measles from 93.0% to 94.0% and polio from 93.0% to 98.0% (6). Neonatal tetanus coverage increased during the same period from 40.0% to 96.0% (6). In 2013, hepatitis B (HepB3) vaccine coverage among one year olds was 98.0% (6).

The country has maintained its polio-free status and neonatal tetanus elimination for several years. A low incidence of measles was reported in 2013. The country re-introduced *Haemophilus influenzae* type B vaccine in 2011 and inactivated poliovirus vaccine in 2014. The entire cost of the programme is borne by the government.

Noncommunicable diseases

Noncommunicable diseases

Mental health and substance abuse

Violence and injury

Disabilities and rehabilitation

Nutrition

Noncommunicable diseases

- A public awareness campaign has been developed to enhance public awareness about noncommunicable diseases and their risk factors, including hypertension and diabetes.
- Disability strategies in place include a national plan for the prevention of disability, a national strategy for the inclusion of disabled persons in schools, a national plan for the employment of the disabled and a national plan for space modification.

Noncommunicable diseases

The burden of noncommunicable diseases cause 82.3% of all deaths: cardiovascular diseases account for 49.2%, cancers 12.3%, respiratory diseases 5.0% and diabetes mellitus 4.9% of all deaths (7). As a result, 17.0% of adults aged 30–70 are expected to die from the four main noncommunicable diseases (8). Around 18.6% of adolescents (13–15 years of age, 30.6% boys, 8.1% girls) have ever used cigarettes, while 50.3% have been affected by passive smoking (9) and per capita consumption of alcohol is 1.5 litres of pure alcohol (10). The prevalence of insufficient physical activity in adolescents is 81.4% (11–17 years of age, 74.1% boys, 88.2% girls) and the age-standardized prevalence is 22.6% (18.6% males, 26.6% females) (11). Raised blood pressure, in adults above 18 years of age, affects 29.0% of the population (29.3% male, 28.8% females), while obesity affects 22.3% (12.8% males, 31.7% females) (8). Only four of 11 essential medicines 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, with an increase in noncommunicable diseases. A public awareness campaign has been developed to enhance public awareness about noncommunicable diseases and their risk factors, with a focus on hypertension and diabetes. The government is developing a comprehensive, unified, multisectoral, national noncommunicable diseases strategy and a national multisectoral committee for the fight against noncommunicable diseases is being created. A situation analysis is being undertaken to review noncommunicable diseases-related plans and strategies, and to map the various actors involved. This will inform the development of the new national noncommunicable diseases strategy for 2016–2020. Tobacco control regulations including smoking bans in the workplace and public places, but these are scattered among many subnational laws. Physical inactivity is a growing concern since large numbers of people are living more sedentary lifestyles.

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

The priority is to develop a national strategy for chronic noncommunicable diseases and to strengthen the morbidity registry (for cardiovascular diseases and cancers) by making it more comprehensive and up-to-date.

Mental health and substance abuse

Neuropsychiatric disorders are estimated to contribute 16.7% of the burden of disease (12). The suicide rate is 2.4 per 100 000 population per year (13). Substance use is estimated at 0.1%, while the estimated prevalence of substance use disorders among adult (15 years and over) males is 0.2% and females is 0.0% (14).

There is an increasing trend of substance use among young people. However, there is insufficient trained staff in mental disorders and disabilities, particularly in the areas of disorders caused by use of illicit drugs and mental disorders in children.

Violence and injury

The percentage of deaths caused by injuries in 2012 was 7.0%; of this, unintentional injuries accounted for 88.2% (of which 54.3% were due to road traffic injuries and 7.3% as a result of falls), while intentional injuries accounted for 11.8% (52.8% as a result of self-harm and 47.2% as a result of interpersonal violence) (7). In 2010, the estimated road traffic fatality rate was 18.8 per 100 000 population (15). For post-injury trauma care, there is no universal emergency access telephone number (15).

Violence against children in schools and families is rising, along with violence against women. There is a need to strengthen the injury information system and to address the gaps in injury data between what is reported and what is estimated.

Disabilities and rehabilitation

Disability prevalence is 1.3%, (1.7% males, 1.0% females) (16). Age-specific disability prevalence is highest in the over 65 years age group (0.6%) and lowest among those aged 0–14 years (2.7%) (16). Of the different types of disability/difficulty, 36.7% are physical-related, 10.0% visual, 28.9% mental, 5.1% hearing, 4.7% speech, and 3.7% speech and hearing (16). Multiple disabilities constitute 5.8% of all disabilities (16).

The United Nations Convention on the Rights of Persons with Disabilities was signed in 2007 and ratified in 2008 and its Optional Protocol. Since 2010, the Higher Council for Social Development and for the Welfare of Disabled Persons has been the national coordination mechanism and is chaired by the Prime Minister, with representation of persons with disabilities. The overarching disability legislation is Directive Number 83 on the Advancement and Protection of Disabled Persons (2005). Disability strategies have been

put in place, such as a national plan for the prevention of disability, a national strategy for inclusion of disabled persons in schools, a national plan for the employment of the disabled and a national plan for space modification.

There is believed to be an underestimation of disability prevalence based on indicators from different health areas. A deeper and better understanding of the prevalence and scope of disabilities is therefore an important first step for designing and implementing an effective response based on the WHO global disability action plan 2014–2021.

Nutrition

The estimated prevalence of various conditions due to malnutrition in children under-5 years of age is summarized in the following indicators: 2.3% underweight, 2.8% wasting, 1.7% severe wasting, 10.1% stunting and 14.3% overweight (17). Initiation of breastfeeding within one hour after birth is 39.9%, while 8.5% of children under 6 months of age are exclusively breastfed; low birth weight is 6.9% (18).

Anaemia and obesity are a high priority and need to be tackled in a systematic and targeted way. Nutrition interventions to address anaemia through flour fortification are needed, as is promotion of a healthy diet through reform of the food subsidy system to reduce fat, sugar and salt intake.

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

- Training has been provided to health personnel and health infrastructure has been enhanced to meet the needs of the elderly.
- A review of social determinants of health policies, strategies and national health plans has been taking place since February 2013 in 24 governorates.
- The government has endorsed the WHO regional strategy on health and the environment and framework for action 2014–2019.

Reproductive, maternal, newborn, child and adolescent health

The maternal mortality ratio declined between 1990 and 2013 from 131.0 to 62.0 per 100 000 live births (19) and the under-5 mortality rate decreased from 57.0 to 14.0 deaths per 1000 live births (20). The leading causes of under-5 mortality are acute respiratory infection (9.0%), prematurity (25.0%) intrapartum-related complications (12.0%) and congenital anomalies (24.0%) (21). The proportion of women receiving antenatal care coverage (at least one visit) is 98.1% and (at least four visits) 85.1% (18). Unmet need for family planning is 7.0% and the contraceptive prevalence rate is 63.0% (21).

The country has achieved Millennium Development Goal 4. However, a key challenge is the disparity in health services coverage between rural and urban areas.

Specific focus should be made on health care for mothers, the newborn, children and adolescents in crises situations. Strengthening the health information system for reproductive, maternal, newborn, child and adolescent health programmes is another key priority area.

Ageing and health

Life expectancy at birth rose by 6 years between 1990 and 2012 from 70 to 76 (21). In 2010, the ageing population, above 60 years, represented 9.9% of the total population, an increase of 91.5% since 1990 (22).

The population is ageing rapidly, with an increase in the proportion of elderly people. Chronic, mental and respiratory diseases are major health-related challenges for the elderly, especially those not covered by the national security system. A 1994 law stresses the duty of

the family, society and the state in providing the elderly with care and protection. To keep the elderly within their families and their familiar environment, mobile multidisciplinary units have been set up to provide health and social interventions and bring services closer to patients in their homes. The state provides elderly persons in need with permanent assistance as part of a national programme to assist the elderly within their families. A special committee for the elderly has been set up within the High Population Council to review the impact of the demographic transition. Training has been provided to health personnel and health infrastructure enhanced to meet the needs of the elderly. A key challenge is the lack of doctors specialized in geriatrics.

The momentum accompanying the launch of the *World report on ageing and health* in October 2015, and the related global strategy and action plan, is an opportunity to align the national strategy and national efforts. Capacity-building is also needed to strengthen the provision of age-friendly services for the elderly provided through the primary health care system and other channels.

Gender, equity and human rights mainstreaming

The country falls among the high human development countries, ranking 48 among 152 countries in terms of gender inequality (23). Female adult (above 15 years of age) literacy in 2011 was relatively low at 71.7% (24) and participation in the labour force is relatively low at 25.1% (23).

The Constitution of 2014 guarantees gender equality, non-discrimination and the right to health care, and financial and social protection, to all citizens. It emphasizes health as a right of every individual, and the state's obligation to guarantee free health care for the vulnerable and equality between men and women. There is a free medical care programme for the poor and vulnerable. A participatory bottom-up human rights-based approach was adopted to develop the new national health policy and strategy. The full implementation of recently-adopted laws remains a challenge, particularly for ensuring equitable access. Existing health inequities, in terms of trained health workforce, equipment quality and service coverage, need to be addressed. High out-of-pocket expenditure on health impedes health care access for the financially vulnerable.

Efforts are needed to implement and monitor the new laws, and to ensure equitable health care service access with equitable distribution of health resources to remote areas and across all population groups, particularly the vulnerable.

Social determinants of health

The *Human development report 2014* ranked the country at 90 out of 187 countries across the world on the human development index (23). The population at poverty level was 15.5%

in 2010 (25). The urban population increased between 1990 and 2012 from 57.9% to 66.3%, while the access of the rural population to improved water sources remained constant at 100% (25). In 2010, the age group 0–24 years accounted for 42.3% of the total population (22). Adult literacy rates in 2012 were 77.7% (26), while overall unemployment was 12.8% and for youth (15–24) 29.3% (25).

A review of social determinants of health policies, strategies and national health plans has been taking place since February 2013 in 24 governorates. This participatory process has involved a national conference that resulted in a statement to guide health system reform, adopted by all participants: citizens, health professionals, political parties and government. Challenges include insufficient resources and the added load caused by the influx of refugees due to the conflict in neighbouring countries. This needs to be taken in consideration when addressing the capacity of the country to effectively address social determinants of health among host and incoming populations.

A key priority is advocacy for the prioritization and integration of social determinants in health (and other sector) planning within the overall process of health system reform.

Health and the environment

It is estimated that 12 100 people a year die as a result of environmental factors and the percentage of disability-adjusted life years attributable to the environment is estimated 18.0% (27). Access to improved sanitation facilities is 90.0%, while access to improved drinking-water is 97.0% (21), resulting in an estimated 82.0 deaths in 2012 due to inadequate provision (28). It is estimated that 0.01% of the population uses solid fuels (biomass for cooking, heating and other usages) (29).

Although water resources have been the focus of detailed planning over the last three decades, dryness continues to affect agricultural land and consequently food security and quality of life. Air pollution is monitored and reported. The government has been working on strengthening occupational health services, strengthening national capacity on environmental health risk assessment and water sanitation, and developing water safety plans to improve water quality. The government has also endorsed the WHO regional strategy on health and the environment and framework for action 2014–2019. The next step is to initiate a national multi-stakeholder process to develop a national strategic environmental health framework for action 2015–2016. WHO will provide technical support in this.

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 Constitution of 2014 (article 38) reaffirms health as a right.
- The vision and priorities of the White Book for A Better Health in Tunisia (validated during the National Conference on Health in September 2014) and the recently designed 5-year plan of the Ministry of Health 2016–2020 underpin national efforts to tackle emerging and re-emerging diseases through strengthening the health system as a whole.
- Family medicine is now included as a specialty in the university training curricula for medical schools, and first pilots for its implementation are being launched in the field.
- There is a strong political commitment towards achieving universal health coverage and health in all policies.

National health policies, strategies and plans

Total expenditure on health per capita at the international exchange rate increased between 2005 and 2013 from US\$ 178.7 to US\$ 308.6, of which general government expenditure on health increased from US\$ 92.0 to US\$ 182.8 (30). General government expenditure on health as a percentage of total expenditure on health also increased during the same period from 51.5% to 59.3% (30). However, total expenditure on health as a percentage of the gross domestic product decreased from 5.6% to 7.1% (30). The share of out-of-pocket spending decreased from 40.8% to 35.3% (30), Total expenditure on health from external sources increased from 0.2% to 1.0% (30).

The Constitution of 2014 (article 38) reaffirms health as a right. The vision and priorities of the White Book for A Better Health in Tunisia (validated during the National Conference on Health in September 2014) and the recently designed 5-year plan of the Ministry of Health 2016–2020 underpin national efforts to tackle emerging and re-emerging diseases through the strengthening of the health system as a whole. The current strategies and plans provide the following strategic directions for health care policies and objectives: sustaining and strengthening achievements in maternal and child health and reproductive health; preventing and controlling of communicable diseases; reducing regional health disparities; strengthening pharmaceutical sector health technology; establishing a human resources development programme; ensuring that training is better suited to the country's needs and more in line with international standards; and establishing a national quality of care system. Over the past four years, there has been a focus on policy dialogue through intense social participation (dialogue societal en Santé) and health financing reforms.

The share of out-of-pocket spending decreased but is still relatively high, considering that around 90% of the population is covered by a prepaid public system: either the

contributory system of national health insurance, or the non-contributory system of free medical assistance targeted at the most vulnerable. This highlights that in the context of a difficult economic situation and resulting tight fiscal space for health, efficiency gains need to be realized, especially by introducing new payment mechanisms for public and private providers alike.

A key priority is the reform of the health financing system, aiming at reducing household direct payments and increase effectiveness and efficiency through strategic purchasing, while creating innovative approaches to mobilizing additional resources. Other priorities include improving transparency and accountability, improving regulation of the private sector and developing public private–partnerships.

Integrated people-centred health services

Health service delivery data shows that health posts decreased between 2010 and 2013 from 19.64 to 18.72 per 100 000 population (31). There was a density of 2.33 hospitals per 100 000 population in 2013, 0.86 provincial hospitals and 0.27 specialized hospitals (showing a decrease since 2010) (31), and 0.01 mental hospitals in 2011 (32). The health workforce density increased between 2005 and 2010 for physicians from 9.3 to 12.2 per 10 000 population, for dentists from 1.8 to 2.9 and for pharmacists from 2.1 to 3.0 (33), while there were 1.98 psychiatrists working in the mental health sector per 100 000 population in 2011 (32).

The Ministry of Health has established an integrated vector management strategy and an infection control programme to help ensure patient safety. The programme also addresses the emerging threat of multiple antibiotic-resistance in common pathogens in the hospital environment. Health care services provided through primary health care centres, university hospitals, regional hospitals and district hospitals are distributed over the 24 governorates of the country. There is a wide regional variation in staff density. The private sector has been growing for the past two decades, particularly in the coastal and northern areas of the country. Family medicine is now included as a specialty in the university training curricula for medical schools, facilitating the implementation of the family practice model and first pilots for its implementation are being launched on the field. Gaps in the delivery of health care include a geographical disparity in the distribution of health care professionals and access to medical specialty services in remote areas. The centralized management of the health system impedes responsiveness to local needs. The primary care level lacks the capacity to adequately respond to community health problems and ensure appropriate coordination with the other levels of care. At the hospital level, the focus on tertiary care in university hospitals means these are overburdened, while district and regional hospitals bed occupancy rates remain very low due to the absence of a well-defined care pathway. There are no incentives for quality improvement, although a national accreditation agency has recently been established, but is not yet operational. Weak regulation of private care providers and insufficient public–private partnerships are other challenges.

Major priorities include ensuring continuity of care and coordination across the different levels of care and addressing regional disparities in access to quality health care. Equitable access to health care services is needed with a focus on populations living in the remote areas and that are socioeconomically vulnerable. New policies are needed to attract health care providers to the western and southern regions of the country. Another priority is reinforcing the role of primary health care through the implementation of family medicine. There is also a need to increase the participation of citizens in governance and to improve transparency and responsibility. The implementation of a health care quality programme based on the use of national norms and protocols, supported by the use of quality indicators for both primary care and hospital level, is needed to allow the monitoring of health care service performance.

Access to medicines and health technologies

The pharmaceutical procurement system is based on a central pharmacy, which holds an import monopoly on drugs and vaccines, and local manufacturing of drugs for the private sector and for the central pharmacy for hospitals. The procurement of pharmaceuticals is overseen by legal procedures and is based on the list of essential medicines.

There is strong political commitment to achieving universal health coverage and health in all policies. A national dialogue on health is being held to inform health system reform and national health policy, and collaboration sought with international partners for the health sector reform programme.

There is a need for more civil society organizations with a strong interest for health. A priority is to revise the national pharmaceutical policy, particularly for the rational use of drugs. Support is needed for the national pharmaceutical industry for the production of generic and bioequivalent drugs and to promote their export.

Health systems, information and evidence

The country has a fragmented and poorly developed health information system due to underinvestment in the collection, analysis, dissemination and use of data such as national health accounts and economic analyses of medical expenses. However, action is being taken to overcome these shortcomings, such as the development of electronic medical records and the institutionalization of national health accounts.

A priority is the integration of the information system so that it includes not only tertiary data, but epidemiological surveillance data as well, and produces a shared database that covers other sectors beyond health for generating health alerts, tracking trends and forecasting.

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 national observatory of new and emerging diseases has established specific surveillance systems for dengue, chikungunya, pandemic influenza and other emerging diseases (Ebola virus disease and Middle East respiratory syndrome).
- An incident command system has been adopted and a strategic health operation centre established to coordinate the health sector response to emergencies.

Alert and response capacities

The government has requested a second extension to meet its obligations for implementation of the International Health Regulations (IHR) by 2016 due to the recent political and social disturbances in the country and the accompanying changes in decision-makers and high turnover in human resources. The government has submitted a new two-year IHR plan for implementation. The IHR focal point is the directorate of basic health care.

The average level for IHR implementation is estimated at 56%, according to the IHR monitoring tool (2013). The country has progressed in implementing IHR capacities in legislation, surveillance and IHR-related food safety, zoonosis and chemical hazards. However, the country has not been able to maintain IHR capacities for coordination, human resources, points of entry and IHR-related radiation hazards. IHR implementation for these capacities was reported to be a significantly lower in 2013 than in 2012. Much effort is needed to enhance IHR capacities, particularly in fulfilling requirements for preparedness, response, management of radionuclear hazards, points of entry and enhancing cross-border collaboration. Although not reflected in the data received through the IHR monitoring tool, information collected through the in-country mission has revealed that the country has strong risk communication and IHR-related chemical capacities.

Challenges remain in relation to the isolation of the rapid response unit and the coordination of activities between the directorate and other partners. The national observatory of new and emerging diseases, in collaboration with the directorate, has launched a series of seminars on communication for crisis situations, the development of a national communication strategy and developing a national response plan, including the revision of laws defining the roles and missions of key institutions.

Epidemic and pandemic-prone diseases

The country has remained free from major outbreaks, although West Nile virus has remained a major public health problem. The appearance of Middle East respiratory syndrome (MERS) associated with travel highlighted that the country is not immune to the threat of emerging infections originating elsewhere.

The national observatory of new and emerging diseases has established specific surveillance systems for dengue, chikungunya, pandemic influenza and other emerging diseases (Ebola virus disease and MERS). Monitoring protocols are being implemented and periodic reporting is published online. Several health monitoring days have been organized to raise awareness on emerging diseases.

Given repeated surges of seasonal influenza, the country's priority should be to create an integrated surveillance system for severe acute respiratory infection for the timely detection and response to epidemic influenza and other respiratory diseases caused by a novel virus. A control programme for influenza and other priority health problems, especially antimicrobial resistance, should also be considered as part of a comprehensive national strategy for eliminating the threat of epidemic and pandemic-prone diseases. The following should also be considered: establishment of an electronic early warning and response system that integrates epidemiological indicator- and event-based surveillance data; establishment of an environmental warning system with vector-related risk mapping; and development of plans for national preparedness and response and health surveillance.

Emergency risk and crisis management

The country is exposed to both natural and man-made disasters that cause a significant loss of life, livelihoods and infrastructure, reversing development gains. The annual loss attributable to natural disasters (based on data from 1994–2013) is on average 3.7 deaths, or 0.04 per 100 000 inhabitants, with losses in purchasing power parity of US\$ 0.9 million (34).

The country also faces occasional other hazards such as chemicals, floods, forest fires and earthquakes. In 1997, the Ministry of Health developed an emergency department unit to coordinate health emergency preparedness and response. There is a national strategy for health sector development encompassing most health partners. In 2010, an incident command system was adopted and a strategic health operation centre established to coordinate the health sector response to emergencies. This places the country in a better position to combat emergencies. However, more collaboration is needed with partners on the ground.

An all-hazards approach needs to be integrated within the country's policy and planning process based on a real-time risk assessment.

Food safety

The existing food safety legislation is nonspecific and in need of updating. A proposal for new legislation in line with current international standards has been developed by the national agency for the sanitary and environmental control of products but has not yet been passed by Parliament. Four different ministries are directly involved in food inspection, food law enforcement and laboratory analysis, with two more ministries also involved in food safety activities. Coordination of activities among these six ministries poses challenges and is currently inadequate. Information and data sharing across ministries and agencies is minimal, hampering overall food safety capacity. Roles and responsibilities for the concerned agencies are unclear leading to overlaps, gaps and suboptimal use of available resources. The current foodborne disease surveillance programme only detects point source outbreaks rather than continuous common source outbreaks. Traceability and recall requirements should be added to food safety legislation to be able to effectively contain and limit the extent and magnitude of food safety events.

Poliomyelitis eradication

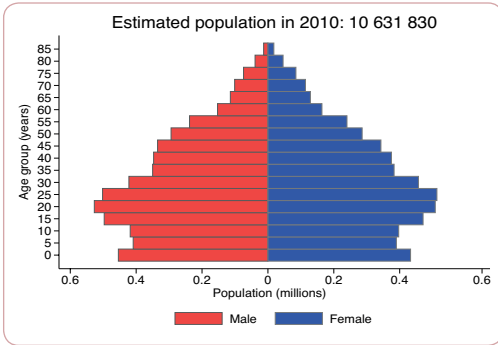
The last confirmed polio case was reported in 1992. The polio-free status has been sustained since then due to high population immunity. However, surveillance indicators have recently been below the cut-off point. The non-polio acute flaccid paralysis rate was 2.4, 1.6 and 1.7 per 100 000 children under the age of 15 years in 2012, 2013 and 2014, respectively (the cut-off point is 2.0 per 100 000 children under the age of 15 years) (35). The stool adequacy rate was 78.7%, 74.4% and 81.8% in 2012, 2013 and 2014, respectively (cut-off point 80%) (35). The non-polio enterovirus rate was 3.3%, 0% and 0% in 2012, 2013 and 2014, respectively (cut-off point 10%) (35). There is a need to urgently enhance surveillance activities to improve performance indicators to certification standards.

Outbreak and crisis response

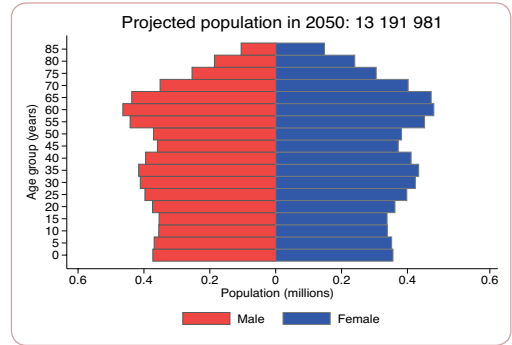
Ongoing fighting in different regions of Libya has placed pressure on neighbouring countries, including Tunisia, as large numbers of people, including foreign workers, flee in search of a safe haven. In mid-2014, more than 6000 people were crossing the border into Tunisia each day, most of whom were migrant workers. This has placed a strain on the country's health system. 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. An inter-ministerial committee has been created to monitor the epidemiological situation and the implementation of various measures related to rapid intervention units, isolation wards, monitoring cases, communication and coordination.

Demographic profile

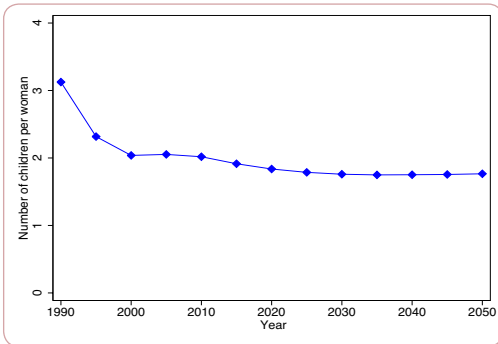
Population pyramid 2010



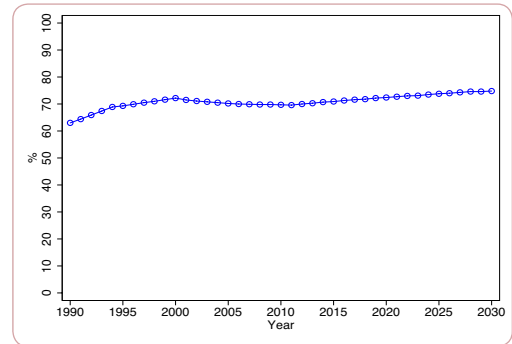
Population pyramid 2050



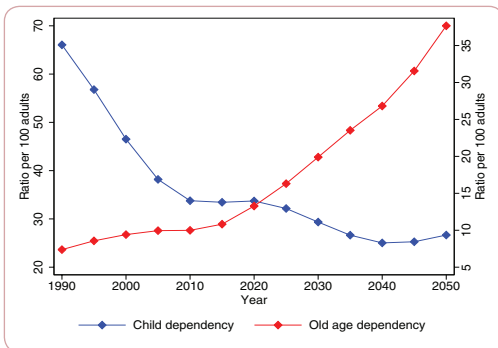
Total fertility rate



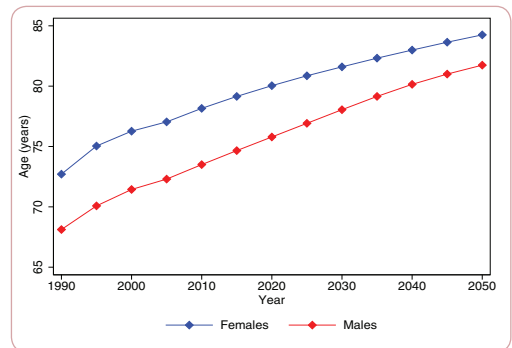
Need for family planning satisfied



Dependency ratio



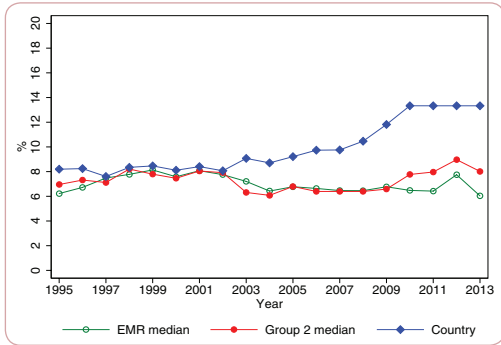
Life expectancy at birth



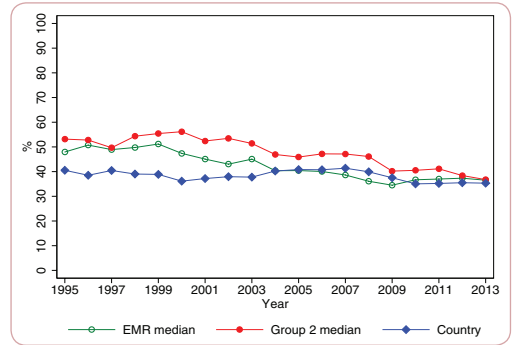
Sources for all graphs: (22)

Analysis of selected indicators

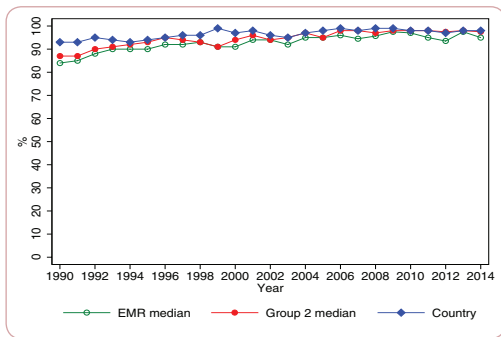
General government expenditure on health as % of general government expenditure (30)



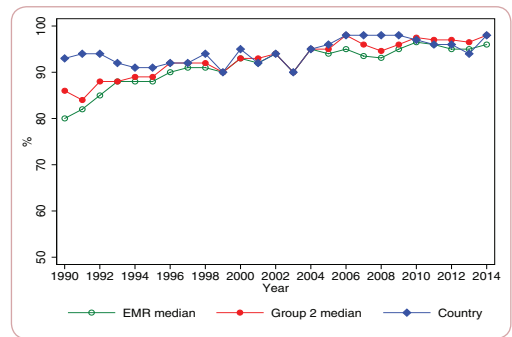
Out-of-pocket expenditure as % of total health expenditure (30)



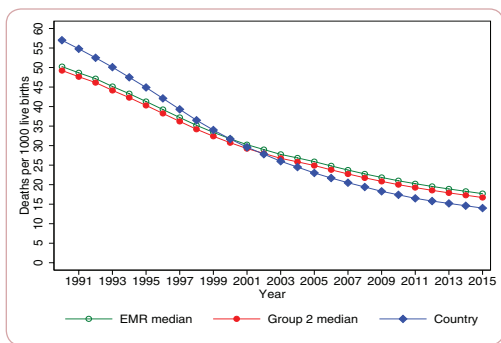
DPT3/pentavalent coverage among children under 1 year of age (%) (6)



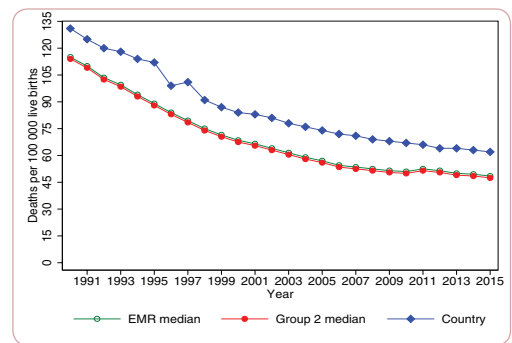
Measles immunization coverage (%) (6)



Under-5 mortality (per 1000 live births) (20)



Maternal mortality ratio (per 100 000 live births) (19)



References

1. Global health observatory data repository: Prevalence of HIV. Geneva: World Health Organization; 2014 (<http://apps.who.int/gho/data/node.main.562?lang=en>, accessed 7 April 2015).
2. UNAIDS Middle East and North Africa regional report on AIDS 2011. Geneva: Joint United Nations Programme on HIV/AIDS (UNAIDS); 2011 (http://www.unaids.org/sites/default/files/media_asset/JC2257_UNAIDS-MENA-report-2011_en_1.pdf, accessed 3 February 2015).
3. WHO global tuberculosis database 2014. Geneva: World Health Organization; 2014 (<http://www.who.int/tb/country/data/profiles/en/>, accessed 25 March 2015).
4. Malaria in the Eastern Mediterranean Region 2013. Cairo: World Health Organization Regional Office for the Eastern Mediterranean; 2014 (<http://www.emro.who.int/malaria/publications/>, accessed 2 April 2015).
5. Global health observatory data repository: Neglected tropical diseases. Geneva: World Health Organization; 2014 (<http://apps.who.int/gho/data/node.main.A1629NTD?lang=en>, accessed 7 April 2015).
6. Global health observatory data repository: Immunization. Geneva: World Health Organization; 2014 (<http://apps.who.int/gho/data/node.main.A824?lang=en>, accessed 8 April 2015).
7. Global health estimates 2014 summary tables: Estimated deaths by cause, sex and WHO Member State 2012. Geneva: World Health Organization; 2014 (http://www.who.int/healthinfo/global_burden_disease/estimates/en/index1.html, accessed 12 October 2014).
8. Noncommunicable diseases country profiles. Geneva: World Health Organization; 2014 (<http://www.who.int/nmh/countries/en/>, accessed 12 October 2014).
9. Global youth tobacco survey 2009. Cairo: World Health Organization; 2012 (http://www.emro.who.int/images/stories/tfi/documents/GYTS_FS_TUN_2010.pdf?ua=1, accessed 12 October 2014).
10. Global status report on alcohol and health 2014. Geneva: World Health Organization; 2014 (http://www.who.int/substance_abuse/publications/global_alcohol_report/en/, accessed 12 October 2014).
11. Global status report on noncommunicable diseases 2014. Geneva: World Health Organization; 2014 (http://apps.who.int/iris/bitstream/10665/148114/1/9789241564854_eng.pdf, accessed 11 March 2015).

12. Mental health atlas–2011 country profiles. Geneva: World Health Organization; 2011 (http://www.who.int/mental_health/evidence/atlas/profiles/en/, accessed 1 April 2015).
13. Preventing suicide: A global imperative. Geneva: World Health Organization; 2014 (http://www.who.int/mental_health/suicide-prevention/world_report_2014/en/, accessed 12 October 2014).
14. Atlas: Substance use in the Eastern Mediterranean Region 2012. Cairo: World Health Organization Regional Office for the Eastern Mediterranean; 2013 (EMRO Technical Publications Series 42) (http://applications.emro.who.int/dsaf/emropub_2013_1607.pdf?ua=1, accessed 12 October 2014).
15. Global status report on road safety 2013: Supporting a decade of action. Geneva: World Health Organization; 2013 (http://www.who.int/violence_injury_prevention/road_safety_status/2013/en/, accessed 12 October 2014).
16. Disability in the Arab region: An overview. Beirut: United Nations Economic and Social Commission for Western Asia; 2014 (http://www.escwa.un.org/divisions/div_editor/Download.asp?table_name=divisions_other&field_name=ID&FileID=1658, accessed 29 March 2015).
17. UNICEF-WHO-The World Bank. 2013 Joint child malnutrition estimates: Levels and trends, 2014 revision. Geneva: World Health Organization; 2014 (<http://www.who.int/nutgrowthdb/estimates2013/en/>, accessed 31 March 2014).
18. Enquete par grappes a indicateurs multiples 2011-2012: Suivi de la situation des enfants et des femmes. Tunis: le Ministère du Développement et de la Coopération Internationale avec l'Institut National de la Statistique; 2013 (<http://mics.unicef.org/surveys>, accessed 31 March 2015).
19. Trends in maternal mortality: 1990 to 2015. Estimates by WHO, UNICEF, UNFPA, the World Bank and the United Nations Population Division. Geneva: World Health Organization; 2015 (<http://www.who.int/reproductivehealth/publications/monitoring/maternal-mortality-2015/en/>, 11 January 2016).
20. Levels and trends in child mortality. Report 2015. Estimates developed by the UN Inter-agency Group for Child Mortality Estimation. New York: United Nations Children's Fund; 2015 (http://www.who.int/maternal_child_adolescent/documents/levels_trends_child_mortality_2015/en/, 11 January 2016).
21. World health statistics 2014. Geneva: World Health Organization; 2014 (http://apps.who.int/iris/bitstream/10665/112738/1/9789240692671_eng.pdf?ua=1, accessed 12 October 2014).

22. World population prospects: The 2012 revision (DVD edition). New York: United Nations, Department of Economic and Social Affairs, Population Division; 2013.
23. Human development report 2014. New York: United Nations Development Programme; 2014 (<http://hdr.undp.org/sites/default/files/hdr14-report-en-1.pdf>, accessed September 2014).
24. UNESCO Institute for Statistics: data centre 2012 (<http://data.uis.unesco.org/>, accessed 30 April 2015).
25. World development indicators. Washington DC: World Bank Group; 2014 (<http://databank.worldbank.org/data/views/variableSelection/selectvariables.aspx?source=world-development-indicators>, accessed 12 October 2014).
26. Global health observatory data repository: Indicator and measurement registry: literacy rate among adults aged ≥ 15 years (%). Geneva: World Health Organization; 2014 (<http://apps.who.int/gho/data/node.main.116?lang=en>, accessed 7 April 2015).
27. Global health observatory data repository: Burden of disease: data by country. Geneva: World Health Organization; 2014 (<http://apps.who.int/gho/data/view.main.35600>, accessed 7 April 2015).
28. Global health observatory data repository: Inadequate water, sanitation and hygiene in low- and middle-income countries. Geneva: World Health Organization; 2014 (<http://apps.who.int/gho/data/view.main.INADEQUATEWSHv?lang=en>, accessed 7 April 2015).
29. Global health observatory data repository: Population using solid fuels (estimates): data by country. Geneva: World Health Organization; 2014 (<http://apps.who.int/gho/data/node.main.135>, accessed 7 April 2015).
30. Global health expenditure database: Table of key indicators, sources and methods by country and indicators. Geneva: World Health Organization; 2014 and National Health Accounts calculation 2012-13.
31. Global health observatory data repository: Total density per 100 000 population: hospitals (health systems). Geneva: World Health Organization; 2014 (<http://apps.who.int/gho/data/node.imr.DEVICES00>, accessed 23 April 2015).
32. Global health observatory data repository: Essential health technologies: data by country. Geneva: World Health Organization; 2014 (<http://apps.who.int/gho/data/view.main.1860>, accessed 23 April 2015).
33. Global health observatory data repository: Health workforce: aggregated data: density per 1000: data by country. Geneva: World Health Organization; 2014 (<http://apps.who.int/gho/data/view.main.92100>, accessed 23 April 2015).

34. Kreft S, Eckstein D, Junghans L. Global climate risk index 2015. Bonn: Germanwatch; 2015 (<http://germanwatch.org/de/9470>, accessed 27/4/2015).
35. Acute flaccid paralysis (AFP) cases by week of onset. Cairo: World Health Organization Regional Office for the Eastern Mediterranean; 2015 (AFP surveillance Number 853, Week 06, ending 8 February 2015) (http://www.emro.who.int/images/stories/polio/documents/Polio_Fax_issues_2015/Week_06-15.pdf?ua=1, accessed 23 March 2015).

