

# Diabetes



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Halt the  
**diabetes** epidemic

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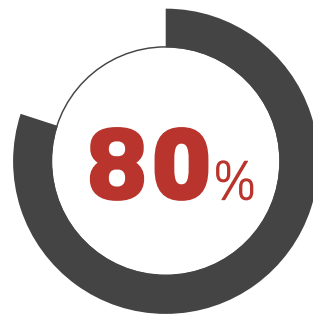
# What is **diabetes**?

Diabetes is a chronic disease that occurs when the body either does not produce enough insulin or cannot effectively use the insulin it does produce. Insulin is a hormone that regulates the blood sugar formed from the food consumed by a person. Diabetes therefore results in raised blood sugar levels which, if not controlled, over time lead to serious damage to many of the body's systems.

There are two major forms of diabetes. Type 1 diabetes is characterized by deficient insulin production and requires daily administration of insulin. Symptoms may occur suddenly and include thirst, constant hunger, weight loss, excessive excretion of urine, vision changes and tiredness. Type 2 diabetes results from the body's inability to effectively use its insulin. Ninety percent of people with diabetes have type 2 diabetes. Symptoms may be similar to those of type 1 diabetes, but are often less marked. As a result, the disease may be diagnosed several years after onset, after complications have already developed.

# Common consequences of **diabetes**

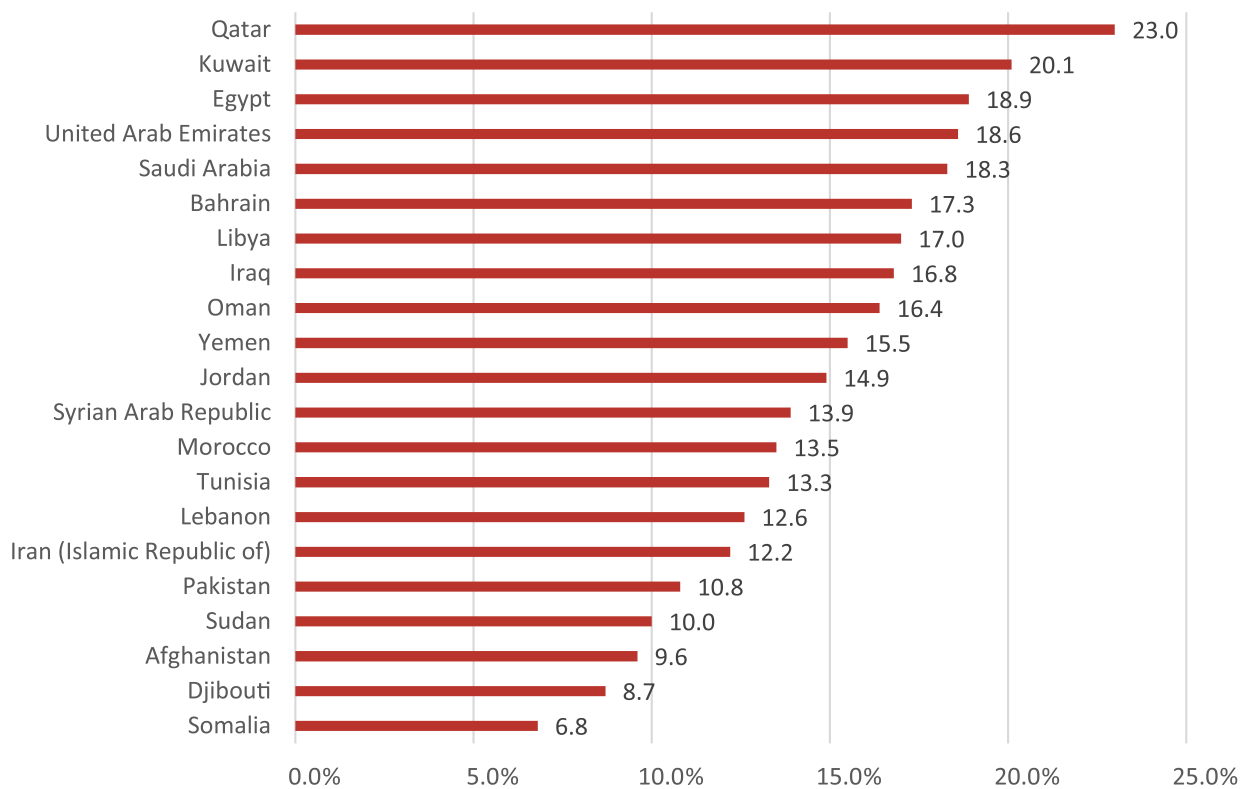
In 2012, diabetes was the direct cause of 1.5 million deaths, with more than 80% of these deaths occurring in low- and middle-income countries. WHO projects that diabetes will be the seventh leading cause of death by 2030. The overall risk of dying among people with diabetes is at least double that of their peers without diabetes. Diabetes increases the risk of heart disease and stroke, which are responsible for 50–80% of deaths in people with diabetes. Diabetes is also a leading cause of blindness, amputation and kidney failure.



of diabetes deaths occur in  
**low- and middle-income  
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**Figure 1.** Age-standardized prevalence of diabetes by country in the Eastern Mediterranean Region, 2014

## Extent of the global and regional diabetes problem

In 2014, the global prevalence of diabetes was estimated at 9% among adults aged 18 years or older, while the prevalence in the Eastern Mediterranean Region was 14%. The burden of diabetes is increasing globally, particularly in developing countries. Most of this increase is as a result of the rising prevalence of type 2 diabetes. Until recently, this type of diabetes was seen only in adults but it is now increasingly occurring in children.

# Underlying factors contributing to the increase in diabetes

The cause of type 1 diabetes is not known. Type 2 diabetes is largely the result of excess body weight and physical inactivity. Worldwide, obesity has more than doubled since 1980.

		Tobacco use	Unhealthy diet	Physical inactivity	Inappropriate use of alcohol
Cardiovascular disease		 ✓	 ✓	 ✓	 ✓
Diabetes		✓	✓	✓	✓
Cancer		✓	✓	✓	✓
Chronic respiratory diseases		✓			

## Reducing the burden of diabetes

Diabetes is one of the four major types of noncommunicable diseases – cardiovascular disease, diabetes, cancer and chronic respiratory diseases – that share four main lifestyle-related risk factors – unhealthy diet, physical inactivity, tobacco use and inappropriate use of alcohol. Efforts to address the diabetes burden should be considered within the context of the overall efforts to combat the four major noncommunicable diseases.

Reduction of the global and regional burden of diabetes requires a two-pronged approach: interventions to prevent diabetes and interventions to manage people who have already developed the disease in order to reduce progression. Actions are needed both by governments and by people themselves, and at population level and individual health care level.

# Preventing diabetes

Type 1 diabetes is not preventable with current knowledge. However, the onset of type 2 diabetes can to a large extent be prevented or delayed through the following simple lifestyle measures that can be taken by individuals:



- achieving and maintaining a healthy body weight;



- being physically active – at least 30 minutes of regular, moderate-intensity activity on most days;



- eating a healthy diet of between three and five servings of fruit and vegetables each day and reducing sugar, salt and saturated fats intake;



- avoiding tobacco use – smoking increases the risk of cardiovascular diseases.

While individuals need to take responsibility for their own health through maintaining a healthy lifestyle, governments are responsible for creating environments that promote healthy lifestyles and for establishing measures that reduce the exposure of the population to risk factors that can lead to diabetes. Population level measures that can be taken by governments include:



- conducting national public awareness campaigns on diabetes, diet and physical activity;
- creating and protecting physical environments that promote physical activity;
- promoting breastfeeding;
- regulating the marketing of unhealthy foods and non-alcoholic beverages to children;
- restricting the marketing of and increasing taxation on foods high in saturated fats and free sugars;
- subsidizing the production and marketing of healthy food options.

Governments also need to reduce the salt content of commercially produced foods and reduce tobacco use and exposure to tobacco smoke as risk factors for cardiovascular disease, which contribute significantly to complications and death among people with diabetes.

These population level interventions are included in a WHO-recommended set of cost-effective and affordable interventions (“best buys”) contained within the WHO Global Action Plan for Noncommunicable Diseases 2013—2020 and relate directly to the achievement of the time-bound commitments and the nine voluntary global targets in the area of prevention.

# Diagnosing and managing people with diabetes

People with diabetes can live long, healthy and productive lives if the disease is diagnosed early and effectively managed by health care providers and by people themselves. Early detection and appropriate management, including the use of medications, lifestyle measures and regular follow-up, can slow the progression of the disease and minimize the development of complications.

Diabetes can be diagnosed through relatively inexpensive blood tests. Early detection can be promoted by increasing awareness among the public about diabetes and its risk factors and by establishing health care protocols that ensure targeted testing among people with risk factors for diabetes. Testing for diabetes is included in the WHO-recommended total risk approach for the prevention and management of cardiovascular diseases<sup>1</sup>. WHO does not recommend wide-scale population screening for diabetes.

Management of diabetes involves controlling blood sugar levels, as well as regular follow-up, to prevent, detect and address complications. Type 1 diabetes requires tight control of blood sugar through daily administration of insulin, together with lifestyle measures, including healthy diet, physical exercise and smoking cessation. Type 2 diabetes can be managed through lifestyle measures alone or with the addition of relatively inexpensive and widely available oral medications. Some people with type 2 diabetes may also require insulin.

To minimize the risk of complications, people with diabetes also require:



- assessment and management of their risk level for heart attack and stroke, using the WHO- recommended total risk approach for cardiovascular disease, including:
  - blood pressure control
  - blood cholesterol control.
- foot care for prevention, early detection and management of damage to nerves and blood vessels (to reduce the risk of amputations);
- screening and early treatment for early signs of diabetes-related kidney disease (to reduce the risk of kidney failure).
- screening and early treatment for retinopathy (to reduce the risk of visual impairment and blindness);
- education and support (including of family) on self-care, lifestyle and medication use.

<sup>1</sup> WHO recommends a primary health care-based approach for provision of health services to detect and manage people with diabetes. The WHO Package of Essential Noncommunicable (PEN) disease interventions for primary health care presents the WHO total risk approach to prevention and management of cardiovascular disease and diabetes. The total risk approach estimates an individual's risk for a heart attack or stroke in the next 10 years and bases management on the total risk level rather than on single diseases or risk factors.



The Eastern Mediterranean Region has the  
**highest prevalence** of  
**diabetes** worldwide

**43 million**  
**people**  
have diabetes in this Region



# Diabetes in the Region

The Region includes countries across the range of low-, middle- and high-income groups. Countries vary in their stage of epidemiological transition, with some having completed the transition to where noncommunicable diseases dominate the disease spectrum; in other countries communicable diseases and challenges to maternal and child health predominate. Many countries face competing priorities in relation to a double burden of communicable and increasing noncommunicable diseases. While high-quality and often specialist-focused services exist to varying degrees in all countries, dispersed and/or resource-poor populations may lack geographic and/or financial access to even basic primary health care services to prevent, detect and manage diabetes. Availability and affordability of diabetes medicines is a particular challenge in the Region.

In 2015, as many as half of the countries of the Region were engaged in conflict and/or were experiencing population displacement, which created additional challenges to addressing diabetes. Contexts of conflict or political instability usually preclude the establishment and implementation of population level policies to combat the risk factors for diabetes. They also create additional challenges for access to diabetes care, including impeded access routes, destruction or closure of health facilities, loss of health staff and shortages of essential medicines and technologies. In addition, situations of poverty, conflict and population displacement create substantial challenges for people with diabetes to maintain the healthy lifestyle necessary for controlling their disease.

Countries of the Region are at varying levels of achievement towards implementing population level interventions relevant to noncommunicable diseases, including diabetes (Table 1).

**Table 1.** Selected indicators: WHO noncommunicable diseases progress monitor 2015

<b>Population level policy indicators relevant to prevention of diabetes</b>	<b>Number of countries in the Region with full or partial achievement by 2015</b>
Member State has adopted national policies that limit saturated fatty acids and virtually eliminate industrially produced trans fatty acids in the food supply	5
Member State has implemented WHO set of recommendations on marketing of foods and non-alcoholic beverages to children	5
Member State has implemented legislation/regulations fully implementing the International Code of Marketing of Breast-milk Substitutes	9
Member State has implemented at least one recent national public awareness programme on diet and/or physical activity	11

The provision of quality individual health care services for prevention and management of diabetes requires a strong health care system, based on the principles of universal health coverage. Countries in the Region again show varying levels of progress in health care provision for noncommunicable diseases, including diabetes (Table 2).

**Table 2.** Selected indicators: WHO noncommunicable diseases progress monitor 2015

<b>Health system indicators relevant to management of diabetes</b>	<b>Number of countries with full or partial achievement by 2015</b>
Member State has evidence-based national guidelines/protocols/standards for the management of major noncommunicable diseases through a primary care approach, recognized/approved by government or competent authorities	11
Member State has provision of drug therapy, including glycaemic control, and counselling for eligible persons at high risk to prevent heart attacks and strokes, with emphasis on the primary care level	7

# WHO's response to the diabetes burden



- In 2011, world leaders committed to action against noncommunicable diseases in the Political Declaration of the High-Level Meeting of the General Assembly on the Prevention and Control of Noncommunicable Diseases. Subsequently, WHO developed the Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013–2020 to guide Member States toward realizing their commitments.
- The Global action plan aims to reduce premature deaths from noncommunicable diseases by 25% by 2025, through achievement of nine voluntary global targets (Box 1).

## Box 1. Global voluntary targets



**25%** Relative reduction in overall mortality from cardiovascular diseases, cancer, diabetes, or chronic respiratory diseases



A **25%** relative reduction in the prevalence of raised blood pressure or contain the prevalence of raised blood pressure, according to national circumstances



At least **10%** relative reduction in the harmful use of alcohol, as appropriate within the national context



Halt the rise in diabetes and obesity



A **10%** relative reduction in prevalence of insufficient physical activity



At least **50%** of eligible people receive drug therapy and counselling (including glycaemic control) to prevent heart attacks and strokes



A **30%** relative reduction in mean population intake of salt/sodium intake



An **80%** availability of the affordable basic technologies and essential medicines, including generics, required to treat major noncommunicable diseases in both public and private facilities



A **30%** relative reduction in prevalence of current tobacco use in persons aged 15+ years

- Attainment of these targets is linked to the implementation of a set of WHO-recommended cost-effective and affordable interventions (“best buys”), contained within the Global action plan. Five of the nine targets relate directly to diabetes; the other four targets are indirectly related to diabetes and its complications.
- As a step along the way toward achieving the global noncommunicable diseases targets, WHO Member States also adopted four time-bound commitments with 10 associated progress indicators which countries will have to report on to the United Nations General Assembly in 2018. Several of these progress indicators relate to the prevention and management of diabetes.
- In 2015, as part of the Sustainable Development Goals, the world took a further major step to addressing the diabetes epidemic by setting a target to reduce by one third the deaths attributed to noncommunicable diseases, including diabetes, by 2030.
- The regional framework for action to implement the United Nations Political Declaration on Noncommunicable Diseases, including indicators to assess country progress by 2018, defines the strategic interventions that countries need to implement in order to effectively address noncommunicable diseases, including diabetes.

WHO supports countries to establish policies and interventions toward meeting the time-bound commitments, achieving the global noncommunicable diseases targets and reducing the burden of diabetes. WHO has developed a number of key reference documents to further guide countries in developing national policies and implementing the Global action plan and the regional framework for action.

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**Beat diabetes**  
**Eat healthy Be active**