

diabetes action **now**



World Health
Organization



International Diabetes Federation

An initiative of the
World Health Organization and the
International Diabetes Federation

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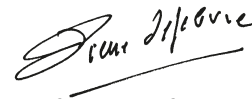
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*“The world is facing a growing diabetes epidemic of potentially devastating proportions. Its impact will be felt most severely in developing countries. The World Health Organization and the International Diabetes Federation are working together to support ongoing initiatives to prevent and manage diabetes and its complications, and to ensure the best quality of life possible for people with diabetes worldwide. Together we are helping to provide countries with the means to face the challenges that lie ahead.
It is time for **diabetes action now**”*



Dr Robert Beaglehole
World Health Organization



Prof Pierre Lefebvre
International Diabetes Federation

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diabetes action now



“I used to spend much of my time in taverns, smoking and drinking. This was the time to give up smoking. I still have the occasional drink. I spend much more time with my family and I have a richer life as a result. We also eat much more healthily.”

Oupa Gumede, 47 is a South African businessman, who was diagnosed with type 2 diabetes two years ago. He runs a transport business as well as a pre-school. He emphasizes the importance of education in helping people with diabetes to accept their condition.

In many countries diabetes consumes between 5% and 10% of the healthcare budget, and more than 50% of that cost is due to diabetic complications.

The *diabetes action now* programme

diabetes action now is a joint initiative of the World Health Organization and the International Diabetes Federation. It is one of several initiatives being undertaken by WHO and IDF, globally, regionally and within countries, that together have the overall goal of reducing the impact of diabetes and related chronic conditions upon the health of children and adults worldwide.

diabetes action now is being supported by a World Diabetes Foundation grant to IDF and WHO funds.

The programme focuses on low- and middle-income communities, particularly in developing countries. Its purpose is to stimulate and support the adoption of effective measures for the surveillance, prevention and control of diabetes. A key aim of the programme is to achieve a substantial increase in global awareness about diabetes and its complications.

Over the next three years, *diabetes action now* will:

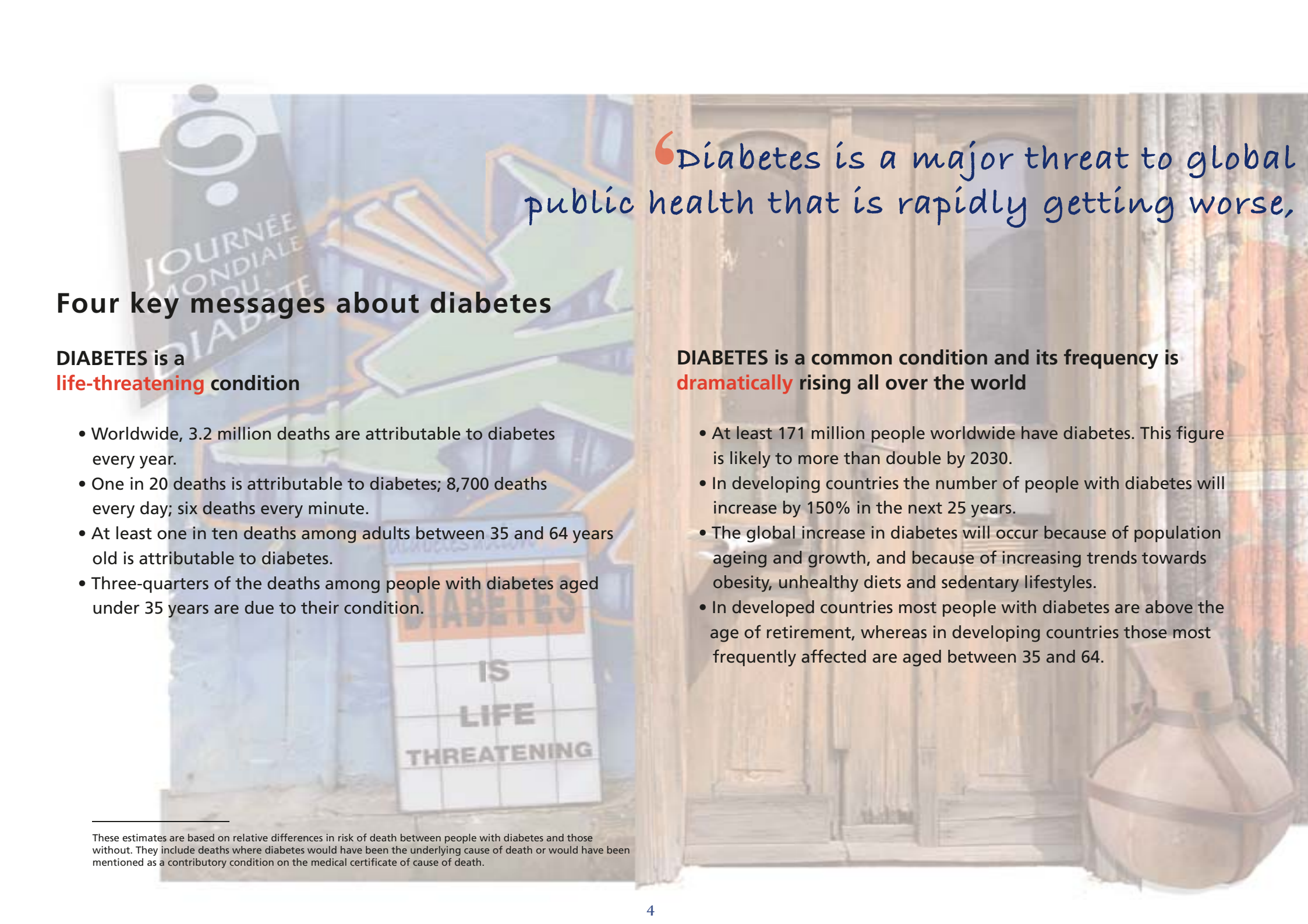
1. work to achieve a major increase in awareness about diabetes, its complications, and its prevention, particularly among health policy makers in low- and middle-income countries and communities;
2. initiate and support projects to generate and widely disseminate new knowledge on awareness about diabetes and its economic impact in low- and middle-income communities;
3. produce and widely disseminate a new scientifically-based review on the prevention of diabetes and the complications of diabetes;
4. produce up-to-date, practical guidance for policy makers in low- and middle-income countries, on the contents, structure and implementation of national diabetes programmes; and
5. provide and maintain a web-based resource to help policy makers implement national diabetes programmes.



The overall purpose of

diabetes action **now**

To stimulate and support the adoption of effective measures for the **surveillance**, **prevention** and **control** of **diabetes** in low- and middle-income countries and communities.



Diabetes is a major threat to global public health that is rapidly getting worse,

Four key messages about diabetes

DIABETES is a **life-threatening** condition

- Worldwide, 3.2 million deaths are attributable to diabetes every year.
- One in 20 deaths is attributable to diabetes; 8,700 deaths every day; six deaths every minute.
- At least one in ten deaths among adults between 35 and 64 years old is attributable to diabetes.
- Three-quarters of the deaths among people with diabetes aged under 35 years are due to their condition.

DIABETES is a common condition and its frequency is **dramatically** rising all over the world

- At least 171 million people worldwide have diabetes. This figure is likely to more than double by 2030.
- In developing countries the number of people with diabetes will increase by 150% in the next 25 years.
- The global increase in diabetes will occur because of population ageing and growth, and because of increasing trends towards obesity, unhealthy diets and sedentary lifestyles.
- In developed countries most people with diabetes are above the age of retirement, whereas in developing countries those most frequently affected are aged between 35 and 64.

These estimates are based on relative differences in risk of death between people with diabetes and those without. They include deaths where diabetes would have been the underlying cause of death or would have been mentioned as a contributory condition on the medical certificate of cause of death.

diabetes action **now**

and the biggest impact is on adults of working age in developing countries;

A **full and healthy life** is possible with **DIABETES**

- Studies have shown that, with good management, many of the complications of diabetes can be prevented or delayed.
- Effective management includes lifestyle measures such as a healthy diet, physical activity, maintaining appropriate weight and not smoking.
- Medication often has an important role to play, particularly for the control of blood glucose, blood pressure and blood lipids.
- Through the provision of optimal health care the risk of developing diabetic complications can be reduced substantially.
- Helping people with diabetes to acquire the knowledge and skills to manage their own condition is central to their leading a full and healthy life.

In many cases, **DIABETES can be prevented**

- The prevention of type 1 diabetes is not yet possible and remains an objective for the future. The prevention of type 2 diabetes has been shown to be possible and requires action now.
- Trials have shown that sustained lifestyle changes in diet and physical activity can reduce the risk of developing type 2 diabetes. For example, the Finnish Diabetes Prevention Study showed that a better diet, increased physical activity and modest weight loss could substantially reduce the development of type 2 diabetes in middle-aged adults at high risk.
- In all the studies conducted so far in people at high risk, lifestyle changes have been substantially more effective than the use of drugs.
- The scale of the problem requires population-wide measures to reduce levels of overweight and obesity, and physical inactivity.
- Informed policy decisions on transport, urban design, and on food pricing and advertising can play an important part in reducing the population-wide risks of developing type 2 diabetes.



Gurdeep Kaur, 58

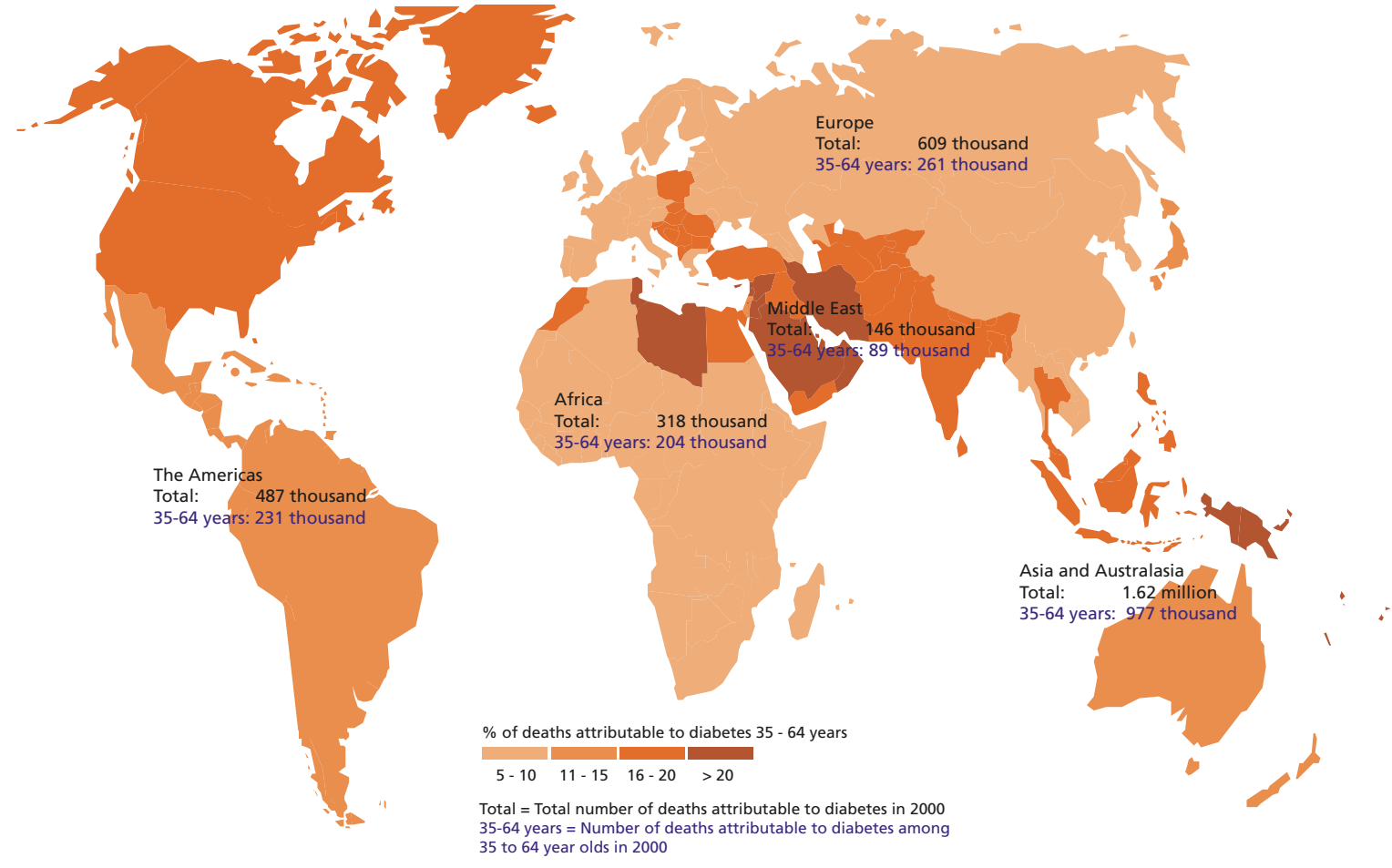
professor and principal of a leading women's college in India, was first diagnosed with gestational diabetes mellitus while pregnant with her second child more than 25 years ago. She developed type 2 diabetes about nine months after delivery.

Professor Kaur keeps good control of her diabetes with regular morning walks and a well-regulated dietary regimen, reinforced ealously by her husband and two children. Self-monitoring of glucose became a ritual, until she learned to adzust her dose of insulin.

“I felt I was falling into an abyss when I was diagnosed. In my part of the world, diabetes was not a very commonly detected problem back then. The only person with diabetes I had known before was my mother’s sister, whose failing health had kept her at death’s door for almost three decades. I was petrified.”

Almost half of people with type 2 diabetes are NOT aware that they have this life-threatening condition.

Deaths attributable to diabetes



These estimates are based on relative differences in risk of death between people with diabetes and those without. They include deaths where diabetes would have been the underlying cause of death or would have been mentioned as a contributory condition on the medical certificate of cause of death.

A life-threatening condition

In 2000, **3.2 million** people died from complications associated with diabetes.

In countries with high diabetes prevalence, such as those in the Pacific and the Middle East, as many as one in four deaths in adults aged between 35 and 64 years is due to diabetes.

Diabetes has become one of the major causes of premature illness and death in most countries, mainly through the increased risk of cardiovascular disease (CVD). Cardiovascular disease is responsible for between 50% and 80% of deaths in people with diabetes.

Diabetes is a leading cause of blindness, amputation and kidney failure. These complications account for much of the social and financial burden of diabetes.

Although diabetes is sometimes considered a condition of developed nations, the loss of life from premature death among persons with diabetes is greatest in developing countries.

The burden of premature death from diabetes is similar to that of HIV/AIDS, yet the problem is largely unrecognized.

What is diabetes?

Diabetes is a chronic condition that occurs when the pancreas does not produce enough insulin or when the body cannot effectively use the insulin it produces. Hyperglycaemia and other related disturbances in the body's metabolism can lead to serious damage to many of the body's systems, especially the nerves and blood vessels.

There are two basic forms of diabetes:

Type 1: people with this type of diabetes produce very little or no insulin.

Type 2: people with this type of diabetes cannot use insulin effectively.

Most people with diabetes have type 2.

A third type of diabetes, gestational diabetes mellitus (GDM), develops during some cases of pregnancy but usually disappears after pregnancy.

People with type 1 diabetes require daily injections of insulin to survive. People with type 2 diabetes can sometimes manage their condition with lifestyle measures alone, but oral drugs are often required, and less frequently insulin, in order to achieve good metabolic control.

Common symptoms of type 1 diabetes include: excessive thirst; constant hunger; excessive urination; weight loss for no reason; rapid, hard breathing; vision changes; drowsiness or exhaustion. These symptoms may occur suddenly.

People with type 2 diabetes may have similar, but less obvious, symptoms. Many have no symptoms and are only diagnosed after many years of onset. As a consequence, almost half of all people with type 2 diabetes are not aware that they have this life-threatening condition.

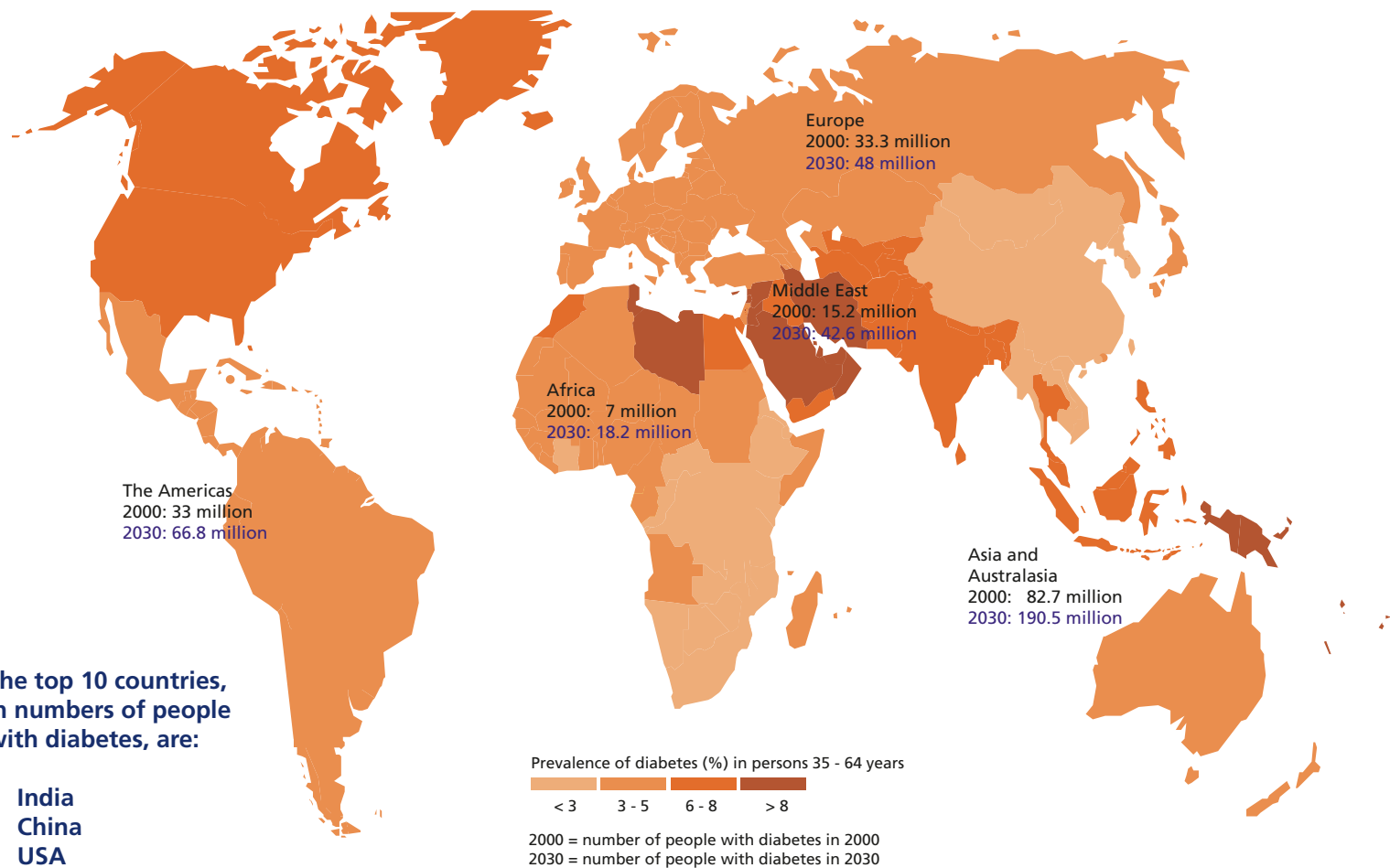


“I don’t do any special sports nor do I weigh myself at home but I do look after myself. I think about my diabetes almost every time I eat and try not to eat too much. My teachers don’t know that I have diabetes and I have only told my two best friends.”

Chul Hee Han, 16 is a high school student, who was diagnosed with type 2 diabetes in 2002. Born in South Korea, Chul moved to Australia at the age of seven. His father had type 2 diabetes and died of a heart attack at the age of 32. Diabetes has not made a difference to Chul (or James, as his friends call him) as far as school and sport is concerned and he does everything that his friends do.

The number of people with diabetes will more than double in the next 25 years, to reach a total of 366 million by 2030.

Prevalence of diabetes



Source: Wild et al, 2004

The top 10 countries, in numbers of people with diabetes, are:

- India
- China
- USA
- Indonesia
- Japan
- Pakistan
- Russia
- Brazil
- Italy
- Bangladesh

Year	2000	2030	
Ranking	Country	People with diabetes (millions)	
1	India	31.7	79.4
2	China	20.8	42.3
3	United States of America	17.7	30.3

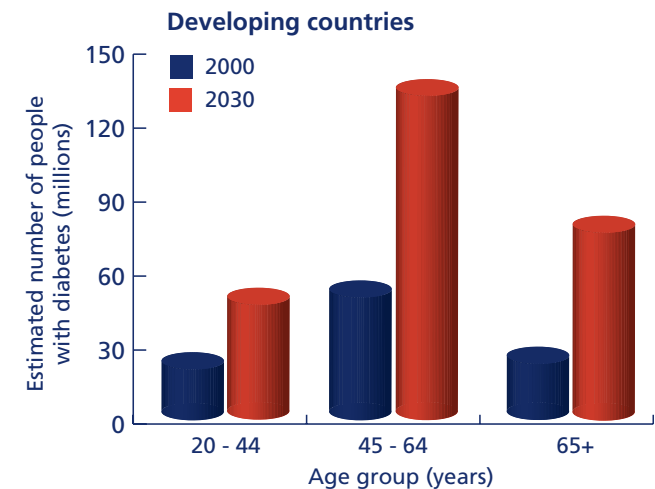
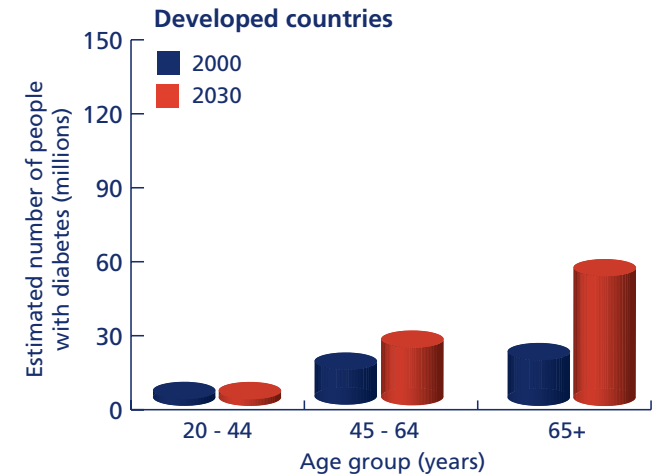
A rising global burden

The number of people with diabetes will more than double over the next 25 years, to reach a total of 366 million by 2030. Most of this increase will occur as a result of a 150% rise in developing countries.

These projections of the number of people with diabetes in 2030 take into account the fact that there will be more people in the world (population growth) and that there will be more elderly people (population ageing). They also take into account trends in urbanization - the fact that people are moving from rural areas to cities, particularly in developing countries. This affects the number of people who are likely to have diabetes, because people living in cities in developing countries tend to be less physically active and have higher levels of overweight and obesity than people in rural areas. In fact, current trends in obesity suggest that these projections are conservative and that the increase in the prevalence of diabetes may be even greater.

In developing countries it is people in the middle, productive years of their lives who are particularly affected by diabetes. In these countries three-quarters of all people with diabetes are under 65 years old and 25% of all adults with diabetes are younger than 44. In developed countries, more than half of all people with diabetes are older than 65, and only 8% of adults with diabetes are younger than 44.

“In 2000, there were approximately 171 million people, worldwide, with diabetes”



Estimated number of adults with diabetes.



“ All that’s needed to dispel anxieties about diabetes is a little education. I’ve spoken to audiences, some who don’t even know me, and the message is basically that ‘well if that guy can play cricket with diabetes, I can cope too’. That’s so important.”

Wasim Akram, 36 former Pakistan cricket captain, was diagnosed with type 1 diabetes at the age of 30. He is currently involved in sports commentary and cricket coaching, and is active in raising awareness about diabetes and its prevention.

He rejects the notion that diabetes has a negative effect not only on the body of a person but also on the mind.

The costs of diabetes to the individual and the family are not only financial, the intangible costs of pain, anxiety and reduced quality of life have a tremendous impact but are difficult to measure.

Diabetes - who is at risk?

Type 1 diabetes

Although the onset of type 1 diabetes is typically in childhood it also occurs in adults. People with a strong family history of type 1 diabetes are at increased risk. Certain types of blood tests may also identify those at high risk.

Type 2 diabetes

Adults and children who are overweight or obese and are physically inactive

Weight gain may result in insulin resistance in which the body is unable to use the insulin it produces effectively. At the same time, physical inactivity, both a cause and consequence of weight gain, also contributes to insulin resistance. The problem of obesity and overweight is extending to developing countries, especially in urban areas.

Certain ethnic groups

Ethnicity is an important risk factor with, for example, higher rates of type 2 diabetes reported in people of Asian and African origin, and in indigenous peoples of the Americas and Australasia.

Individuals with a family history of diabetes

Studies have shown that people who have a strong family history of diabetes, such as in a parent or sibling, are at high risk of developing diabetes.

Women who have had gestational diabetes mellitus

Women who developed diabetes during pregnancy are at greater risk of type 2 diabetes later in life. In general, the number of men and women with diabetes is similar until old age (over 65 years) when more women have diabetes.

Living a full and healthy life

Studies have shown that many complications of diabetes can be prevented or delayed through effective management. This includes lifestyle measures such as a healthy diet, physical activity, the avoidance of overweight and obesity, and not smoking. Preventative care need not involve costly treatment or medication. Education in good foot care as well as regular inspection is a good example of a low cost method of prevention.

Diabetes therapy is not only about lowering glucose, but also about the overall reduction in the risk factors for diabetic complications, which includes the control of blood pressure and blood lipids. This requires lifelong care and management.

Health systems that are able to deliver optimal care need to be designed around the needs of the person with the condition, as on a day to day basis most diabetes care is undertaken by the person with diabetes and not the health professional. Diabetes education plays a key role in empowering people with the knowledge and skills to manage their own condition effectively.

In order to prevent or delay complications, people with diabetes may have to modify their lifestyle. People with type 2 diabetes often require oral drugs, and sometimes insulin to control their blood glucose levels. People with type 1 diabetes require insulin to survive.

Although insulin has been designated an essential drug by WHO, it is not yet universally accessible to all those who need it in the majority of countries of the world. Continuous access to insulin remains a major problem in many developing countries especially those in sub-Saharan Africa. In some of these countries people with diabetes die because they cannot get the insulin they need to survive.





“I was among those who attended the first diabetes education course in Georgia in 1987. Besides basic knowledge on the main topic, we were shown what role regular blood glucose monitoring may play... It was very exciting to see with your own eyes how drugs and diet influence your blood glucose levels. So proper treatment, excellent oral hypoglycaemic agents and education have helped me to live an active life and enjoy it.”

Melenti Kurashvili, 90, is a former Director of the Institute of Professional Diseases in Georgia, and currently honorary professor of the Professional Disease Chair of the Medical University.

He was diagnosed with type 2 diabetes 22 years ago.

He has not had any complications except for non-proliferative retinopathy, which was treated with laser coagulation.

Prof Kurashvili's father had diabetes as do four of his five brothers.

Obesity is increasing rapidly in both developed and developing countries. This reflects declining levels of physical activity and the rising consumption of diets high in sugars and fats. This trend is also obvious among young people. A generation is entering adulthood with unprecedented levels of obesity. According to the International Obesity Task Force (IOTF) and the WHO World Health Report 2002, about 58% of diabetes globally can be attributed to body mass index (BMI) above 21 kg/m².

Obesity and type 2 diabetes are linked. Weight gain leads to insulin resistance through several mechanisms. Insulin resistance places a greater demand on the pancreas to produce insulin. At the same time, physical inactivity, both a cause and consequence of weight gain, also contributes to insulin resistance. Diabetes occurs when the body's need for insulin outstrips the ability of the pancreas to produce it.

The sheer scale of the obesity and diabetes epidemics require responses at a population level, as well as by individuals. Approaches based only on personal education to promote behaviour change are unlikely to succeed in an environment where there are plentiful inducements to engage in opposing behaviours. Personal education must be supported by appropriate changes to the broader environment, such as transportation, urban design, advertising and food pricing.

WHO and IDF support numerous strategies, worldwide, aimed at addressing issues associated with diet and physical activity. It is recognized that only through constructive partnerships, involving governments, civil society and private sector, can the necessary changes be made that will reverse current trends towards overweight and obesity and the range of chronic diseases associated with them.

60% of the world's population do not do enough physical activity.

The urgent need for prevention

Several approaches have been tried to prevent type 1 diabetes but none of them have been shown to work, and the prevention of type 1 diabetes remains an objective for the future.

However, simple lifestyle measures have been shown to be effective in preventing or delaying the onset of type 2 diabetes. They include:

- **Increased physical activity** – it is estimated that currently 60% of the world's population do not do enough physical activity, with adults in developed countries most likely to be inactive. Studies have shown that just 30 minutes of moderate exercise a day, five days a week, is enough to promote good health and reduce the chances of developing type 2 diabetes.
- **A healthy diet** – eating between three and five servings of fruit and vegetables a day and eating less sugar and saturated fats has been shown to be important in maintaining appropriate weight, and therefore a lower risk of type 2 diabetes.
- **Weight loss** – more than one billion adults worldwide are overweight; at least 300 million of whom are obese. It is estimated that well over half of all cases of type 2 diabetes could be avoided if excessive weight gain in adults could be prevented.
- **Non-smoking** – people with diabetes are at greater risk of dying from coronary heart disease, stroke and peripheral vascular disease than people without the condition. Smoking increases the risk even further.



MOVE FOR HEALTH! AT LEAST 30 MINUTES PER DAY
POUR VOTRE SANTÉ, BOUGEZ ! AU MOINS 30 MINUTES PAR JOUR
POR TU SALUD, MUÉVETE ! AL MENOS 30 MINUTOS AL DÍA





The Hon Judi Moylan MP, 60 is an Australian Member of Parliament and currently Chair of the Parliamentary Public Works Committee, Chair of the Australia/China Friendship Group and Chair of the Parliamentary Diabetes Support Group that she established in 2002. Judi was diagnosed with type 2 diabetes in 1994.

Diabetes has not had a negative effect on her political career despite having constantly to fly from Perth to Canberra and back to attend often demanding parliamentary sessions. Since 1996, she has worked hard to overcome complacency, ignorance, fear and the gaps in general public knowledge about the prevalence of diabetes.

One billion adults world wide are overweight – at least 300 million are obese.

Responding to the challenges

Over the next three years *diabetes action now* will respond to the challenges outlined in this booklet in the following ways.

It will work to achieve a major increase in awareness about diabetes, its complications, and its prevention, particularly among health policy makers in low- and middle-income countries and communities. It will do this at a global level, using a variety of means, including use of the mass media and direct contact with policy makers. In addition, similar work will take place in several WHO and IDF regions, using materials that have been adapted to regional needs.

The programme will initiate and support projects to generate and widely disseminate new knowledge on levels of awareness about diabetes and its economic impact in low- and middle-income communities.

Currently there are very few systematic studies on awareness about diabetes, whether amongst policy makers, the general public, or people with diabetes. Similarly, although there are some studies on the economic impact of diabetes in rich countries, there are very few from low- and middle-income countries, where the impact is likely to be different. Such information is essential to guide efforts to raise awareness about the significance of diabetes to public health. Most of this work will take place in collaboration with groups within countries.

diabetes action now will produce and widely disseminate a new scientifically-based review on the prevention of diabetes and diabetic complications. The last review was produced by WHO in 1994. Since then much new evidence has emerged.



The programme will produce up-to-date, practical guidance for policy makers in low- and middle-income countries, on the contents, structure and implementation of national diabetes programmes. The guidance will have two main sections; a generic section that will apply to health system requirements for all chronic diseases, including for example cardiovascular disease and chronic respiratory disease, and a section highlighting the specific needs for diabetes prevention and care. This work will be undertaken in collaboration with other relevant groups within WHO.

diabetes action now will establish and maintain a web-based resource to assist policy makers in the implementation of chronic disease and national diabetes programmes. The resource is likely to include educational materials, treatment guidelines and training manuals developed in different settings, an up-to-date source of practical, evidence-based information, and online access to expert advice. It is appreciated that in many areas access is poor, and in the longer run hard-copy materials will be produced.



Ongoing global and regional activities

Many other important activities and initiatives are already in existence, most of which can be found through the IDF web site (www.idf.org).

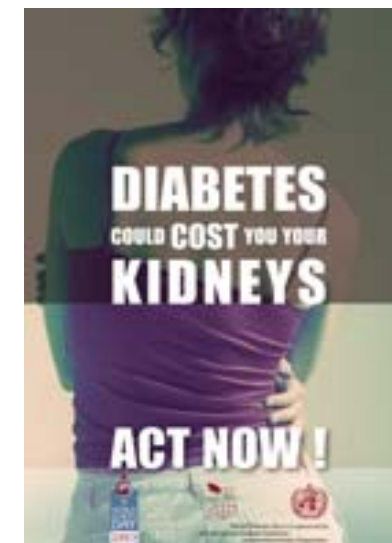
They include:

World Diabetes Day, a joint IDF–WHO day of global activities which takes place on November 14th each year to raise awareness of different aspects of diabetes and its complications.

Regional declarations on diabetes, which bring together regional partners, including WHO and IDF, to form a strong alliance for addressing diabetes within each region.

Diabetes congresses, conferences and workshops, which provide forums for reviewing scientific evidence and producing guidance on its implementation to improve prevention and health care.

IDF consultative sections and IDF task forces, such as the Task Force on Diabetes Health Economics and the Task Force on Prevention and Screening, are engaged in numerous activities that complement the *diabetes action now* programme.





“Diabetes is a part of life for me. I am not nor do I feel sick and I live a normal life. I am dependant on insulin but independent as a person.”

María Florencia Fontana, 15 is from Rio Cuarto, Argentina. She was diagnosed with type 1 diabetes at the age of five.

She has decided that she would like to study law at university, so that she can pursue a career in politics after graduation.

Her ultimate goal is to become a member of parliament.

Health economics is not about money. It is about the way people and society choose between alternatives in the light of limited resources.

World Health Organization

The World Health Organization, the United Nations specialized agency for health, was established on 7 April 1948. WHO's objective is the attainment by all peoples of the highest possible level of health. Health is defined as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. The main functions of the WHO diabetes group are:

1. To oversee the development and adoption of internationally agreed standards and norms for the diagnosis and treatment of diabetes, its complications and risk factors;
2. To promote and contribute to the surveillance of diabetes, its complications and mortality, and its risks factors;
3. To contribute to building capacity for prevention and control of diabetes;
4. To raise awareness about the importance of diabetes as a global public health problem;
5. To act as an advocate for the prevention and control of diabetes in vulnerable populations.

International Diabetes Federation

The International Diabetes Federation (IDF) is the only global advocate for people with diabetes and their healthcare providers. IDF is a non-governmental organization in official relations with the World Health Organization (WHO).

IDF works with its member associations to enhance the lives of people with diabetes. Since IDF first took up the diabetes cause in 1950, it has evolved into an umbrella organization of over 180 member associations in more than 140 countries.

IDF helps to ensure that the major advances in diabetes treatment and education are made available to an increasing number of people with diabetes. IDF also encourages the implementation of primary prevention as a way to combat the growing burden of diabetes.

diabetes action now

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International Diabetes Federation

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www.idf.org

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