



# WORLD **DIABETES** FOUNDATION

ANNUAL REVIEW 2004

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Diabetic retinopathy is the leading cause of vision loss in adults of working age (20 to 65 years) in industrialised countries. It is estimated that it affects more than 2.5 million people worldwide. 74% of people who have diabetes for 10 years or more will develop some form of diabetic retinopathy. Left untreated, 25% of people with diabetic macular oedema will develop moderate vision loss within three years. Worldwide guidelines recommend annual screenings including a dilated eye examination by an eye care specialist for people with diabetes





## FOCUS ON ASIA

**By 2025 the region of Asia is expected to have the largest diabetic population in the world, with almost 82 million people suffering from the condition. The number is escalating to epidemic proportions, the reason for this being closely linked to widespread economic progress and increased generic prevalence of diabetes among adults of Asian background.**

In China alone, the total number of people with diabetes is estimated to be in excess of 20 million, followed by another 30 million people with IGT (pre-diabetes). Although the overall prevalence of diabetes in China is still at a reasonable level (2.7%), the prevalence data for Chinese living in highly developed, urban areas indicates what the Chinese and the region as a whole can expect to see in the future – an explosion in diabetes prevalence.

The growing prevalence of diabetes in most Asian countries shows a clear trend, suggesting that more affluent economic circumstances increase the prevalence of diabetes as a result of urbanisation and an improved standard of living. Urbanisation brings in its wake the features of urban life, with excessive consumption of calories accompanied by a physically inactive lifestyle being the most dramatic changes. One direct outcome is the emerging problem of type 2 diabetes in

children and adolescents. In Japan, for example, 80% of children with diabetes now have type 2 diabetes, a problem strongly associated with rising rates of obesity in children.

### The ethnic factor

Economic progress and the changes it inevitably brings are not, however, the only reasons for the spread of diabetes. Early onset of the condition is further exacerbating the situation in Asia. Adults of Asian background are likely to develop type 2 diabetes some ten years earlier than Caucasians, which leaves the region facing a heavy burden of patients with secondary health complications.

Diabetes is considered by most people to be a western disease, and the profound threat that diabetes represents in the developing countries is not therefore widely acknowledged. In fact, this

means that diabetes is not yet considered a national problem and given the appropriate priority all along the line of developing countries. Nevertheless, a growing awareness of the extent of the disease has begun to spread, not least throughout the Asian region driven by the various projects in China, Vietnam, Mongolia, Bhutan, the Philippines and India respectively.

- In China, a large-scale national diabetes programme has been initiated with the purpose of establishing fundamental disease control in an attempt to face the diabetic threat overshadowing Chinese society
- In Vietnam, two pilot projects have been launched with the purpose of a subsequent national roll-out
- In Mongolia, an internationally led initiative is aiming to bring disease management to the country by means of private fundraising
- In Bhutan, the Memorandum of Understanding between Danida and WDF has given rise to a project proactively addressing the impending diabetic burden
- In the Philippines, a Maersk Sealand container trans-

formed into a clinic kick-started a multi-sectored partnering programme aiming to improve diabetic care in the country aligned with the national diabetes plan

- In India, several diabetes projects have been initiated, including eye care, foot care, urban, rural and semi-urban prevention and control, telescreening for retinopathy, and much more

Close collaboration with local governments, the pharmaceutical industry, national diabetes associations, healthcare providers and international organisations characterises these projects and is essential if the strategies that have been implemented for preventing and treating diabetes are to have a permanent effect. In general, it is the national diabetes associations that have played a significant role in advocating diabetes healthcare and increasing awareness of diabetes in the region. But we are also gradually experiencing a growing involvement in and dedication to the diabetic area from local governments and health authorities. This is an important development that bears witness to a change in attitude, not only to the disease but also to the impending threat that it poses to the region as a whole.

The growing proportion of children and young adults with diabetes represents a severe problem. Although diabetes can be well controlled, having to live with the disease for 50-60 years instead of 20 significantly increases the risk of diabetes-related complications occurring at a relatively young age. Complications such as nephropathy and retinopathy have been reported as early as five years after diagnosis among young people with type 2 diabetes





## ACHIEVING GOOD HEALTH

In line with the global epidemics of lifestyle-related diseases, the time has come for a change of emphasis from treating 'ill health' to promoting 'good health'. The best way to help the poorest people is to help them not get ill in the first place. This can be achieved through a targeted effort to create general awareness of disease-generating factors, and by providing access to affordable quality care by means of education and training of the relevant healthcare professionals.



Pierre Lefèbvre

Achieving good health means not just reacting to ill health, but proactively promoting good health, preventing disease and helping people to make healthy choices. It also means successfully tackling important challenges that are no longer reserved for the developed countries. These challenges include lifestyle-related diseases linked with obesity, tobacco consumption and physical inactivity. These are risk factors that are gaining significant ground as a result of the socio-economic changes rapidly occurring in the developing countries.

Achieving good health in the developing countries is a shared responsibility that requires a global partnering strategy between the different health players and cooperation between regional, national and global institutions. This includes local authorities and patients' associations, international health organisations and individual health specialists, whether from the academic, public or private field. All are essential in promoting good health and tackling the factors causing ill health today.

### Sharing knowledge and achieving synergies

There are many areas where synergies can be achieved in order to improve global health. One is to exploit the international centres of expertise and share knowledge on issues such as quality improvement and disease management. This will help to facilitate informed decision-making

and perhaps even generate the future cadre of leaders ready to advocate policies that will make a difference in the long term. Today, the voices for prevention and health promotion are quieter and less well-organised than the voices for treatment. This needs to be balanced more equally.

One way to ensure a greater focus on prevention and to promote good health would be to foster partnerships with different industries, differentiating from today's traditional partnerships by placing prevention at the centre of all strategies. This implies encouraging companies to think of business models that will make prevention profitable. We are gradually experiencing a transformation from companies wanting to do philanthropic work to companies actually aligning their product ranges and marketing strategies with public health goals. This is a transformation that would go hand in hand with a global health campaign and line up with the mission of the World Diabetes Foundation: to support prevention and treatment of diabetes in developing countries by increasing awareness of diabetes and the disease-generating factors and by providing access to quality diabetes care by means of education and training of diabetes healthcare personnel.

50% of the growth differential between rich and poor countries is due to ill health and life expectancy. From an international perspective, a future health strategy should include knowledge-sharing across branches and alternative partnerships with various industries

Professor Pierre Lefèbvre  
Chairman  
World Diabetes Foundation





## RESULTS IN EVIDENCE

As it entered 2004 the World Diabetes Foundation had been in existence for almost three years. The results of the Foundation's work had already started to take shape, but as the year progressed the impact of the various projects became clear.

The World Diabetes Foundation has entered a new phase, leaving the childhood years behind. A steady flow of donations from both private persons and companies, as well as contributions from the Danish government, are the outward indicators of the Foundation's consolidation as an internationally recognised organisation.

Another direct outcome of the Foundation being recognised as a credible organisation is the subsequent ease of generating good partners. This includes the unique collaboration with Danida, formalised in the Memorandum of Understanding, as well as joining forces with WHO and IDF in several regions and on several projects.

### Sustainability

The Foundation receives a large number of relevant project applications, and choosing one project in preference to another can be a difficult task – what makes one project more pressing than another? Each project proposal is therefore evaluated with a view to determining the project's sustainability and impact. What we have come to realise is that there is a direct link between the political will to prioritise diabetes and a successful project. The commitment of the local authorities and their dedication to the project is a critical success factor and therefore often the decisive element in prioritising one project over another. It is a key indicator of a project's long-term sustainability, and our main reason for being there.



Leif Fenger Jensen

### Achieving synergies

By applying a 'best practice' mentality, the Foundation uses the experiences gained from one project to ensure the quality of another. This not only enables the Foundation to apply a proven model to a new project, it also creates synergies with the potential for global outreach. One example is the diabetes clinics in Tanzania – a model which has now been applied to the Philippines and Kenya.

Delivering visible results is our mantra and, with a project portfolio of 38 projects supported to date, the work of the Foundation is estimated to have a direct impact on 20 million people in developing countries, with results achieved through innovative strategies and enabled by the empowerment of the local communities in question.

**Leif Fenger Jensen**  
Managing Director  
World Diabetes Foundation

The diabetes pandemic, which consists primarily of type 2 diabetes, has evolved in association with rapid cultural changes, aging populations, increasing urbanisation, dietary changes, decreased physical activity, and other unhealthy lifestyle and behavioural patterns. Without effective prevention and control programmes, the incidence of diabetes is likely to continue to rise globally





## CHINA'S TIME BOMB

The total number of people with diabetes in China is estimated to be in excess of 20 million, plus another 30 million with IGT (pre-diabetes). Although the overall prevalence of diabetes in China is not yet very high (2.7%), prevalence data on Chinese living in highly developed, urban areas has started to escalate at an alarming rate, reaching 12% of the adult population in some areas. Recognising that a similar explosion may be expected in rural China over the coming years, the Chinese authorities have initiated a large-scale national diabetes programme in an attempt to stay one step ahead.

In view of the impending burden on Chinese society, China is faced with an inadequate diabetes detection and treatment capacity, characterised by a severe shortage of medical staff qualified in diabetes. With the national diabetes programme, the Chinese Ministry of Health is therefore aiming to improve the capacity to prevent, detect and treat diabetes prior to the anticipated explosion in diabetes prevalence.

### Fundamental Disease Control

The project, which is co-funded by the World Diabetes Foundation, focuses on two main components:

- Development of a National Diabetes Prevention and Treatment Guideline, run by the Chinese Diabetes Society (CDS)
- Creation and establishment of a Diabetes Management Model for hospitals and community health centres, managed by the National Centre for Chronic and Non-communicable Disease Control and Prevention

"Rather than targeting the exclusive 'top five' hospitals, the project will facilitate the establishment of a fundamental diabetes care system for the broad range of hospitals serving the majority of the population. With these two components, we aim to introduce systematic diabetes education that will leverage the general level of diabetes care in China," says Xiao Donglou, Deputy General in the Ministry of Health.

### Wide support

Three factors strongly suggest that the national programme will be a success. First of all, the project has wide support from the Chinese government, with the Ministry of Health having responsibility for the project. Secondly, the programme has met with strong local support for implementing the project initiatives. And thirdly, a long-term focus on prevention has been widely applied by healthcare personnel, thereby expanding practitioners' traditional focus on treatment to include an educational aspect. This is important not only in detecting diabetes but also in introducing patient self-management skills for the reduction of future diabetes-related complications.

### Strong project management

A project of this size – aiming to cover an area with a population of around 500 million, 20 million of whom are expected to suffer from diabetes within a five-year period – requires rigorous project management from start to finish. And here WDF has assumed a particular role.

"We welcome WDF's rather stringent reporting requirements, as they help to maintain focus on the project and improve project management and implementation on a continuous basis," says Ms Zhang Hong, Deputy Director General of the International Health Exchange and Cooperation Centre (IHECC), which is handling project funding and reporting.



By offering training to 50,000 doctors and nurses, the Chinese authorities are seeking to provide 500 million people with access to effective and affordable diabetes care over a period of four years. Moreover, it is hoped that a comprehensive diabetes care environment will attract the participation of a wide range of the diabetes-related stakeholders needed to handle the threat which diabetes poses to the Chinese people





**PILOTS FOR A NATIONWIDE PROGRAMME**

2004 saw the launch of a unique partnership between WHO in Manila, the Vietnamese Ministry of Health and the World Diabetes Foundation. One major achievement has been the introduction of a community-based approach to improving the quality of diabetes management in Vietnam.

Diabetes has been viewed as a public health problem by the Vietnamese government since 2001. In 2002 a national strategy was drawn up on the prevention and control of non-communicable diseases, with prevention of diabetes an important component.

“Although it is recognised as a severe public health problem, awareness of the disease among the public and health professionals is still low. Moreover, a poor infrastructure for managing diabetes is resulting in inadequate or even incorrect treatment,” says Dr Ta Van Binh of the Vietnamese Ministry of Health.

Improving clinical knowledge and skills among medical staff involved in diabetes treatment is therefore one of the main objectives of the WDF-supported project.

The project is distinctive in the sense that it introduces a community-based approach, with the formation of local diabetes associations as one of the project cornerstones. Two pilot provinces, together involving 20 districts, 40 local centres and a population of around 1 million people, have been selected to test the programme ahead of the nationwide roll-out. The country-wide applicability is thus not only a critical success factor for the project as a whole but essential for the ongoing process of changing the local diabetes associations into a national diabetes association.

**Extension of pre-existing partnerships**

The partnership with the Vietnamese Ministry

of Health and the regional office of WHO for the Western Pacific on this specific project is a continuation and extension of a pre-existing collaboration with both partners. WDF has acted and will continue to act as catalyst for the pilot projects, while the Ministry of Health will be responsible for the nationwide roll-out and instituting a national diabetes management plan.

“Working with the World Diabetes Foundation on this project has clearly demonstrated the independence of the Foundation. It has been a collaboration characterised by integrity, and with a highly holistic approach to the management of diabetes,” says Dr Gauden Galea from WHO in Manila.

Another key partner attached to the project is the Hospital of Endocrinology in Hanoi, which, among other things, is involved in the establishment of a national medicine infrastructure and in the development of guidelines for clinical management of diabetes. Moreover, the hospital has provided a team of highly capable supervisory staff to undertake part of the implementation of the planned activities.

“The two pilots have already generated much interest within Vietnam. We have been approached by doctors from three other provinces requesting help with diabetes prevention. Not only does this indicate the importance of these activities, it also suggests the nationwide applicability of the project, which in itself is very encouraging,” concludes Dr Hans Trodsson, WHO representative for Vietnam.

Improving the quality of diabetes care through a community approach to education is essential. The project will educate healthcare personnel in order to improve clinical knowledge and skills among medical staff involved in diabetes treatment, but it will also reach out to educate people with diabetes in self-management, thereby enhancing community awareness of diabetes, its prevention and complications. In Vietnam the prevalence of diabetes in the adult population is 3.9% and of impaired glucose tolerance 7.55%





**CONTAINERISED TREATMENT**

**In the autumn of 2004, WDF entered into an exclusive agreement with Maersk Sealand on the donation of a Maersk Sealand container. The container was to be transformed into a modern diabetes clinic and donated to the district of Iloilo in the Philippines.**

The agreement with Maersk Sealand was part of a multi-sectored partnering programme initiated by WDF with the purpose of ensuring access to and improvement of quality diabetes care in the Philippines. The partners also included the local affiliates of Novo Nordisk, who would provide the clinical equipment, and of Johnson & Johnson, who would facilitate the training of the clinical personnel. A financial contribution was also made by Nestlé.

“Diabetes constitutes a continuous threat to global health, and having people join forces across industries to the benefit of people with diabetes is something we will hopefully be able to replicate in other countries,” says Leif Fenger Jensen, Managing Director of WDF.

**Tackling the root of the problem**

The problem with diabetes in the Philippines is proper diagnosis. In many cases, the disease is not detected in time and the patient goes without proper treatment. With very few specialists around, referral to the right health practitioners and subsequent treatment is extremely difficult and, as such, the main reason for the widespread prevalence of secondary complications.

“Our hope is that the container-turned-clinic will significantly increase the capacity and enhance the quality of diabetes treatment in this area by tackling the root of the problem. We believe that by providing diagnosis and treatment in the short term and education and prevention in the long

term, we will achieve our goals,” says Atty. Romulo, board member of Maersk-Filipinas and consul general in the Philippines.

**Part of a greater plan**

The clinic forms part of the WDF-supported A LEAD project aligned with the National Diabetes Prevention and Control Plan initiated by the Philippine government. A LEAD is an acronym for Advocacy, Leadership in education and Empowerment, and Access to Diabetes care. The project covers a multi-sectored team comprising the Center for Health Development (a subsection of the Philippine Department of Health), Iloilo Provincial Government, the Philippine Diabetes Association, WHO Western Pacific Region, Novo Nordisk Pharmaceuticals Philippines, Maersk-Filipinas and Johnson & Johnson Medical Philippines.

The clinic in Iloilo is intended to serve as a learning model for establishing additional clinics throughout the Philippines. And this is an ambition that is fully supported by Maersk Sealand, which has already expressed an interest in donating further containers. The donation is seen as a reinforcement of the company’s social responsibility in local markets.

“Maersk-Filipinas has been wanting to get involved in a long-term local community project for quite some time. And with partners such as Novo Nordisk, the World Diabetes Foundation and Johnson & Johnson, this project represented a great opportunity,” concludes Atty. Romulo.



The number of Filipino people with diabetes is expected to rise to 7.8 million by 2030





**JOINING FORCES IN BHUTAN**

The Memorandum of Understanding between the World Diabetes Foundation and Danida has given rise to a new project in Bhutan. While the present prevalence of diabetes in Bhutan is relatively low, in recognition of the global pandemic the Royal Government of Bhutan has decided to take a proactive stance and address diabetes before it becomes a major problem.

Diabetes care has been identified as a key area to be developed by the Royal Government of Bhutan. However, the existing capacity for diabetes prevention and care is very limited, and economic as well as technical support from the international community is a critical success factor.

“Danida has supported the health sector in Bhutan for the last 15 years, and working with WDF and the Royal Government of Bhutan on this project has been a natural expansion of the existing partnership,” says Hedvig Pelle, Chief Technical Advisor for Danida’s support to the health sector in Bhutan.

The collaboration between Danida and WDF builds on the infrastructure established by Danida. Besides adding credibility to the support provided by WDF, the presence of Danida also ensures that the project is deeply rooted in the public health system in Bhutan.

**Access to care**

The project will provide Bhutan with two diabetes clinics, bringing immediate diabetes care to an estimated 10,000-20,000 people with diabetes. One clinic will be situated at the national referral hospital in the capital of Bhutan, Thimphu, and the other at the Mongar hospital in Bhutan’s eastern province. In addition, 100 doctors, 250 health assistants and 150 nurses will be trained in diabetes prevention through the Bangladesh Institute of Research and Rehabilitation in Diabetes. It is further anticipated that by the end of the project all healthcare workers in Bhutan will have gained significant knowledge of diabetes prevention and treatment.

“Traditionally, Danida has been focusing on

primary health care. During the first 10 years of assistance this included support to education and training of health staff and to physical infrastructure. The present phase is a direct support to the health sector budget based on the 9th Five Year Plan for Bhutan. But with the epidemic growth of diabetes, particularly in the developing countries, the partnership between the World Diabetes Foundation and Danida has proved even more important since the signing of the Memorandum of Understanding in March 2002,” says Michael Sternberg, Danish ambassador to India and Bhutan.

The Danish Embassy in India had previously worked with WDF on a separate project, but the Memorandum of Understanding paved the way for a renewed effort and the ambassador was not slow in planning new projects in the region.

“What we have seen is that the partnership between WDF and Danida enables even greater outreach as a result of the extensive network and well-developed infrastructures built up by Danida,” says Michael Sternberg.

**Increasing public awareness**

The project also has a public awareness aspect that will address the various factors causing the increase in prevalence and promote prevention strategies such as care, self-care and diet. The awareness campaign will be conducted as one-to-one contact at the clinics, at health education sessions, in peer group discussions and through the mass media. The public awareness campaign will play an important role in the government’s decision to take a proactive stance and address diabetes before it becomes a major problem.

The Kingdom of Bhutan lies in the eastern Himalayas, between Tibet to the north, the Indian territories of Assam and West Bengal to the south and east, and Sikkim to the west. The Kingdom has a total area of about 47,000 square kilometres, about the size of Switzerland. Located in the heart of the high Himalayan mountain range, Bhutan is a landlocked country surrounded by high peaks. The sparsely populated Greater Himalayas, bounded to the north by the Tibetan plateau, reach heights of over 7,300 metres, and extending southwards, losing height, to form the fertile valleys of the Lesser Himalayas, separated by the Wang, Sunkosh, Trongsa and Manas Rivers

The name Bhutan is believed to derive from the Sanskrit ‘Bhotant’, meaning ‘the end of Tibet’, or from ‘Bhu-uttan’, meaning ‘high land’. Historically the Bhutanese have referred to their country as Druk Yul, ‘land of the thunder dragon’, and to themselves as Drukpa people





**CROSS-NATIONAL PARTNERSHIP HELPS TO FIGHT  
DIABETES IN MONGOLIA**

Mongolia is currently undergoing dramatic transformation. Having been primarily a population of nomads, more and more people are now choosing to move to the cities and become townspeople. A direct consequence of this is a significant change in lifestyle for thousands of people, and the rapidly growing number of people with diabetes is one critical downside. An internationally led initiative is now focusing on bringing disease management to the country.

In response to Asia's heavy diabetes burden, two employees from NNPL, the Japanese affiliate of Novo Nordisk, decided to raise money for a diabetes project in Asia. Mongolia was chosen because of the country's urgent need for urban diabetes prevention and control. Changing lifestyle as a result of extensive urbanisation is a key factor for almost 10% of the Mongolian population now facing diabetes. And with disease management being almost non-existent, disaster is looming. It was therefore decided that a new diabetes clinic should be the first visible result of the fundraising.

However, raising funds is one thing; transforming them into a tangible project is another thing altogether. In order to ensure sustainability and expertise in the execution phase, a number of international and national organisations were therefore involved. The World Diabetes Foundation was offered the role of intermediary and facilitated the necessary partnerships with WHO, the Mongolian Diabetes Association and the Mongolian Ministry of Health.

"The new diabetes clinic is scheduled to open on 23 May 2005. It will be located in Erdenet in the north of Mongolia and will offer diabetes care to a considerable proportion of the Mongolian population," says Dr Khasag Altaisaikhan, who is dean of the school of medicine at the Health Science University of Mongolia and represents the Mongolian Diabetes Association.

**On the agenda of WHO**

WHO has recently designated Mongolia as one of its main areas of concern for preventing and treating diabetes in Asia. Engaging WHO in the project was therefore a natural step, and the involvement has added a diabetes education component to the project as well as establishing a link with other United Nations activities in the area of non-communicable diseases in Mongolia.

"Non-communicable diseases are very new to healthcare professionals in most developing countries. WHO's education programme in Mongolia is therefore first and foremost a training in diagnosing diabetes. The training is being conducted in collaboration with the Mongolian Ministry of Health and includes the training of 200 doctors throughout the country," says Dr Salik Ram Govind from WHO in Mongolia.

**Impressive fundraising**

In 2004, the employees of NNPL raised 5 million Japanese yen (about 47,000 US dollars), and with fundraising activities planned throughout 2005 they hope to be able to raise 80,000-90,000 US dollars in total for the project. Future fundraising activities will be carried out in collaboration with the Japanese Association for Diabetes Education and Care, and the funds will be donated to the clinic in Erdenet and to the country-wide education programme facilitated through WHO.

"The project started with the desire of two NNPL employees to help the Mongolian people. But if it had not been for the World Diabetes Foundation acting as project catalyst, the project would never have developed into what it is today. The Foundation has brought in broad experience in development aid projects and worked closely with the different partners to ensure optimum utilisation of the various resources available," says Dr Khasag Altaisaikhan



## ACTIVITIES 2004

### GLOBAL

- 1 DIABETES ATLAS 2ND EDITION** WDF02-027  
IDF publication aiming to establish and communicate the global impact of diabetes.
- 2 DIABETES ACTION NOW** WDF02-028  
A joint WHO/IDF programme for raising awareness of diabetes globally through increased advocacy and action.
- 3 WDF/IDF FELLOWSHIPS** WDF02-042  
Training of young healthcare professionals to disseminate knowledge and expertise in the area of diabetes.
- 4 DIABETES ATLAS 3RD EDITION** WDF04-084  
An IDF initiative for raising awareness of the diabetes burden at national, regional and global levels.

### AFRICA

- 5 SUB-SAHARAN AFRICA** WDF02-006  
**Diabetes education**  
An IDF Africa initiative for development of a standard diabetes education manual to improve the quality of diabetes care in Sub-Saharan Africa.
- 6 SUB-SAHARAN AFRICA** WDF02-007  
**Clinical practice guidelines**  
An IDF Africa programme for development of standardised clinical guidelines for diabetes care in the Sub-Saharan region.
- 7 CAMEROON** WDF02-016  
**Cameroon burden of diabetes**  
Establishment of a national diabetes programme in Cameroon by creating a surveillance system, educating healthcare professionals and carrying out awareness activities.
- 8 MOZAMBIQUE** WDF02-019  
**Insulin availability**  
A rapid assessment to identify key obstacles and possible solutions to insulin availability.
- 9 DEMOCRATIC REPUBLIC OF CONGO** WDF02-041  
**Insulin availability**  
Emergency assistance programme for providing essential medication to a network of diabetes clinics in Kinshasa.
- 10 TANZANIA** WDF02-031  
**Diabetes clinics**  
Increased access to diabetes care by establishment of diabetes clinics within the public health system nationwide.

- 11 TANZANIA/INDIA** WDF03-056  
**Diabetes foot care**  
Raising awareness of diabetic foot problems by training healthcare professionals and diabetes patients in prevention and management of foot complications.
- 12 SUDAN** WDF03-061  
**Diabetes care**  
Establishment of a network of diabetes care facilities and training of healthcare professionals.
- 13 TANZANIA** WDF03-058  
**Diabetes and hypertension**  
Studying diabetes and hypertension in urban Dar es Salaam, improving care and raising community awareness of risk factors and symptoms.
- 14 AFRICA** WDF04-065  
**Postgraduate diabetes training**  
EASD, ADA and IDF offer advanced training courses on clinical management of diabetes directed at healthcare professionals in Africa.

- 15 MOZAMBIQUE** WDF04-066  
**Improving diabetes care**  
Seeks to strengthen the Mozambican diabetes association and to assist the Ministry of Health in the development of a national diabetes programme.
- 16 MALI** WDF04-074  
**Nutrition and diabetes**  
Enabling people with diabetes in Bamako to manage diabetes through nutrition in a context of limited access to medication.
- 17 KENYA** WDF04-085  
**Diabetes education programme**  
Improving prevention, management and control of diabetes by training healthcare providers, educating diabetes patients, and raising public awareness of diabetes.

- 18 SEYCHELLES** WDF04-090  
**Access to care**  
Improving the quality of and access to diabetes care by training of healthcare professionals and establishing four regional diabetes clinics.

### MIDDLE EAST

- 19 WEST BANK** WDF02-010  
**Diabetes prevention and nutrition**  
DanChurchAid and Augusta Victoria Hospital have joined forces to improve diabetes prevention and care in Jerusalem and the West Bank.

### ASIA

- 20 INDIA** WDF02-039  
**Diabetes eye care**  
Mass screening camps for diabetes and retinopathy, and provision of relevant eye care aiming at reducing blindness due to diabetes in Tamil Nadu.
- 21 INDIA** WDF04-079  
**Diabetes eye care II**  
Screening camps for diabetes and retinopathy, and provision of relevant eye care aiming at reducing blindness due to diabetes in Tamil Nadu and Pondicherry.
- 22 CHINA** WDF02-036  
**National diabetes programme**  
Developing capacity for implementing the national diabetes programme by training 50,000 doctors and producing a treatment guideline.
- 23 VIETNAM** WDF02-013  
**National diabetes project**  
A cooperation between the Ministry of Health and WHO to improve the quality of diabetes care and prevention through a community approach.
- 24 INDIA** WDF03-052  
**National diabetes programme**  
Building capacity for implementation of the national diabetes programme and improving diabetes care through training programmes for healthcare professionals.

- 25 NEPAL** WDF03-059  
**Diabetes education & prevention**  
Creating public awareness, educating people with diabetes and training of healthcare providers in diabetes prevention, detection and management.

- 26 INDIA** WDF03-055  
**Urban diabetes prevention and control**  
Lifestyle modification campaign, training of healthcare providers and establishment of clinics and self-help groups in Raipur city.
- 27 INDIA** WDF03-057  
**Rural and semi-urban diabetes prevention and control**  
Diabetes prevention and control programme in rural and semi-urban parts of India where access to good quality healthcare is limited.
- 28 BHUTAN** WDF03-060  
**Diabetes healthcare services**  
Ministry of Health in collaboration with DANIDA working to establish diabetes clinics, train healthcare personnel and create public awareness of diabetes.
- 29 PACIFIC ISLANDS** WDF04-068  
**Reducing diabetes complications**  
Development and implementation of a suitable model for increasing the capacity of diabetes care in Samoa and Vanuatu.
- 30 INDIA** WDF04-067  
**Gestational diabetes**  
Awareness among the public – in particular women's groups – on gestational diabetes, and capacity building in the healthcare system to manage the problem.

- 31 AFGHANISTAN** WDF04-080  
**National diabetes programme**  
Upgrading of diabetes departments in four main hospitals in Kabul through the development of clinical guidelines and training of personnel.
- 32 INDIA** WDF04-078  
**Diabetes awareness camps**  
Raising public awareness of diabetes through a combination of activities, including 1,250 diabetes screening camps.
- 33 UZBEKISTAN** WDF04-095  
**Regional diabetes information centres**  
Establishment of 14 diabetes information centres in order to provide information and resources for people with diabetes and healthcare providers nationwide.
- 34 SRI LANKA** WDF04-089  
**Preventing diabetes and NCDs**  
Implementation of a nationwide lifestyle modification campaign and improvement of diabetes care for the poor.
- 35 INDIA** WDF04-091  
**Tele-screening for diabetic retinopathy**  
Mobile units attending rural areas with the aim of conducting screening camps for diabetes and diabetic retinopathy.

### LATIN AMERICA

- 36 BOLIVIA** WDF02-015  
**Diabetes Centre**  
Diabetes centre in Cochabamba focusing on an integrated and holistic approach to diabetes care.
- 37 CUBA** WDF02-020  
**Regional diabetes centres**  
Completion of the national network of medical care centres for people with diabetes by establishing nine provincial diabetes centres.
- 38 THE CARIBBEAN** WDF03-045  
**Nutrition protocol**  
Completion of a 'Caribbean Protocol for Nutritional Management of Diabetes, Obesity and Hypertension' and training of healthcare providers in its use.

### FUNDRAISING ACTIVITIES

- A EL SALVADOR – diabetes hospital**  
**B TANZANIA – diabetes clinics**  
**C INDIA – foot care clinics**  
**D BANGLADESH – insulin for children with type 1 diabetes**  
**E VIETNAM – diabetes clinics**  
**F MONGOLIA – diabetes clinic**  
**G PHILIPPINES – diabetes clinic**





Appropriate regular physical activity is a major component in preventing the growing burden of chronic disease



The prevalence of obesity is rising to epidemic proportions at an alarming rate worldwide. It is estimated that 50% of all diabetes cases would be eliminated if weight gain in adults could be prevented



Children born to significantly undernourished mothers are 'programmed' in the intrauterine environment to survive on less nourishment; although small and thin, these babies have relatively adequate fat deposits because of the need to conserve fat



At least 60% of the global population fails to achieve the minimum recommendation of 30 minutes of physical activity daily. The risk of developing cardiovascular disease is 1.5 times higher in people who do not follow minimum physical activity recommendations



Over half the world's population is overweight or obese, and diabetes rates are climbing to 20% in many Middle Eastern, Asian and Latin American countries. Lifestyle interventions, including diet and moderate physical activity, can reduce the risk of developing type 2 diabetes by as much as 40-60%



These children are 'programmed' in utero to survive in a nutritionally deficient state (maternal malnutrition associated with a previous lower standard of living), when exposed to relative nutritional excess in adult life



Increasing physical activity is a societal, not just an individual problem, and demands a population-based, multi-sectoral, multi-disciplinary, and culturally relevant approach



The twin epidemics of obesity and diabetes already represent the biggest public health challenge of the 21st century. Non-communicable diseases such as diabetes now account for more deaths each year worldwide than AIDS



They are developing insulin resistance; their smaller beta-cells (programmed for a smaller BMI) are also failing to produce enough insulin, resulting in type 2 diabetes





All around the world, traditional lifestyles and dietary patterns that have sustained people over generations are disappearing. Socio-economic realities mean that families are often forced to move away from rural areas and into urban areas to seek employment



Diabetes is primarily concentrated in urban areas, a characteristic destined to increase in the future as a result of rapid industrialisation in many countries



The answer to the global health challenge is to provoke a societal change and encourage the various sectors – agriculture, transport, energy and information – to engage in a national system for health



Today, growing urbanisation means that cycle lanes in China are being destroyed to make room for more cars, but this is happening at the expense of the population's health



Economic development in developing countries has increasingly been associated with adoption of western lifestyles, resulting in a substantial increase in diabetes prevalence



Further modernisation in these countries is likely to exacerbate this worrying trend, to such an extent that a global epidemic has been predicted





**SYSTEMS FOR HEALTH**

The challenges of global health go way beyond health care, says Professor Derek Yach of the Yale School of Public Health. The complexity of lifestyle-related diseases requires a societal change amongst the world’s governments, calling for engagement at all levels. Prioritising and a willingness to assume a long-term focus are just two of the requirements with which governments are faced.

“Three major risk factors – tobacco, diet and physical inactivity – together cause four major disease areas, i.e. heart disease, cancer, diabetes and chronic respiratory diseases, which today account for half of the world’s deaths. By the 2020s they will account for two thirds, unless something radical and wide-ranging is done,” says Derek Yach.

“Most infectious diseases, whether it is a major flu outbreak or SARS, can be controlled with a good-quality, functioning healthcare system. But the nature of non-communicable diseases requires the involvement of many sectors other than the national Ministry of Health,” explains Derek Yach, and provides the following example.

“Obesity will remain a major disease-developing factor if we do not address some of the global agricultural issues and e.g. allow for the free flow of fruit and vegetables, or if we fail to get the people involved in urban design and architecture to think about obesity as a problem that they need to address when designing cities. Today we see cycle lanes in China being destroyed to make room for more cars as a result of growing urbanisation, but this is at the expense of the population’s health. The answer to the global health challenge is therefore to provoke a societal change and have the different sectors of agriculture, transport, energy and information engage in a national system for health.”

**Prioritising health**

An important first step in the quest to improve

global health is to look at government priorities and nurture a long-term focus among the various parties involved.

“Very few countries have seriously dysfunctional governments incapable of addressing the health challenges. The question is how they set priorities and whether they are prepared to set priorities that are geared towards the future health of their population and diverge from the traditional short-term objectives. If better weight control for people currently in their 20s and 30s were to be introduced, we would see a dramatic impact on mortality 30 years from now.”

In other words, a change from the urgent promotion of treatment to the long-term promotion of prevention is essential. But to ensure that kind of change, most governments in the developing world will need support from outside agencies and the academic community.

“The majority of countries have the basic infrastructure required for implementation of changes to the health system. But international organisations such as WHO and the academic community play an important role in advocating change and bringing often uncomfortable choices to the table. It may not be common wisdom at the moment to believe that an obesity epidemic, a tobacco epidemic or future diabetes-related deaths are things we need to be dealing with now. But if the issues are raised on an international level, this will be picked up by local NGOs and become the lobbying basis for actual policy change,” concludes Derek Yach.

The Oxford Health Alliance – Vision 2020 is a Novo Nordisk initiated alliance bringing together the world’s foremost health policy makers and activists in an effort to create a sense of urgency among governments, NGOs, industries, regulators, policy makers, the media, healthcare professionals and consumers concerning the need to prevent the epidemic rise of chronic diseases

For more information visit [www.oxfordvision2020.org](http://www.oxfordvision2020.org)





**PRINCIPAL VOICES**

At the end of 2004, Lars Rebien Sørensen, President and CEO of Novo Nordisk and board member of the World Diabetes Foundation, was contacted by CNN and invited to participate in a new global media initiative by the name of Principal Voices. The invitation was prompted by Novo Nordisk’s leadership in the field of social and environmental responsibility demonstrated through its commitment to the World Diabetes Foundation. The initiative represents an exclusive opportunity to advocate a global effort against diabetes.

Principal Voices is an international project aimed at stimulating discussion on some of the global challenges confronting the world today. Throughout 2005, CNN, Time and Fortune will be presenting a series of videos, articles and round-table discussions featuring nine world-renowned experts – Principal Voices – who will explore the key issues, offering their ideas and opinions on how to meet the challenges. Themes covered will include the environment, business innovation, economic development and transport.

Novo Nordisk’s role in setting up the World Diabetes Foundation and the difference that the Foundation has made for people with diabetes in some of the world’s poorest countries played an important role in identifying Lars Rebien Sørensen as one of the Principal Voices. This was made clear when CNN requested that the video vignette to run on CNN would have as its setting Tanzania, one of the recipient countries of the World Diabetes Foundation’s diabetes action programme.

The Principal Voices initiative, which is being made possible through the sponsorship of Shell, consists of the following four components:

- Editorial vignettes on CNN
- ‘White Papers’ in Time and Fortune magazines
- Principal Voices website – [www.principalvoices.com](http://www.principalvoices.com)
- Principal Voices events – round-table discussions on each theme

**A global audience**

As a Principal Voice, Lars Rebien Sørensen will have the opportunity to communicate the messages of diabetes to a global media audience. “When I accepted the invitation to become a Principal Voice on CNN and in Time and Fortune, it was an easy decision to make. Here we have a chance to reach 203 countries and 147 million households with our messages about the pandemic of diabetes and the necessity of addressing this threat,” says Lars Rebien Sørensen.

In this respect, the Principal Voices initiative represents a unique channel for raising awareness of diabetes and mobilising the global scene in a joint effort – a rare opportunity that fully supports the mission of the World Diabetes Foundation.

**An industry responsibility**

The number of people with diabetes globally is expected to rise from 177 million today to 370 million in 2030. This places a responsibility not only on individual health authorities but on the industry as a whole to exhibit social and environmental responsibility.

“The Principal Voices initiative provides an opportunity to show that corporate social responsibility is part of doing business. It is the right thing to do, it is expected of us, and we have the knowledge to carry it through,” concludes Lars Rebien Sørensen.

The Principal Voices video vignette will be shown in more than 200 markets on five continents, reaching more than 147 million households: 4.7 million in Japan, 8.5 million in India, 32 million in Germany, 10 million in the UK, 2.3 million in Turkey, 2.3 million in Brazil, 67,000 in China, 6.7 million in the Netherlands, 7,500 in Cameroon, just 25 households but 1,470 hotel rooms on the Seychelles – and finally, 2,500 households in Tanzania, where the video was filmed

For more information visit [www.principalvoices.com](http://www.principalvoices.com)





## DIABETIC FOOT CARE ON THE AGENDA

Diabetic foot care has been designated the theme for 2005 by the International Diabetes Federation, completing the series of themes on diabetes complications that began in 2001. This year's theme has strong support from the World Diabetes Foundation with its 'Step-by-Step' preventive programme currently being implemented in India and Tanzania and the establishment of diabetic foot care clinics in India.

"January 2005 marked the beginning of a year-long focus on diabetic foot care. Rather than directing all our efforts on the annual World Diabetes Day in November, we will spread activities over the year in order to derive maximum benefit from the awareness-raising opportunities that present themselves," says Anil Kapur, Vice Chairman of WDF.

The diabetic foot is one of the most serious disabling complications caused by diabetes. Half of all people with diabetes experience various

types of nerve disease causing loss of sensitivity in the feet. In consequence, patients may be walking around unaware of infected ulcers, which – if left untreated – will result in amputation. This is the situation for thousands of people in the developing countries, where many people go barefoot or wear unsuitable shoes. The opening of the WDF-funded foot care clinic in Chennai, India, at the beginning of 2004 therefore marked an important milestone in the effort to improve diabetic foot care.

"As Patron of the World Diabetes Foundation,

I am glad to be able to play a part in the important fight against diabetes in developing countries. My first official task was to join the Board on a field trip to India. One of the highlights of our trip was the inauguration of the foot care clinic at the Kilpauk Medical College in Chennai, in which I participated together with Mr Lars Rebien Sørensen and other members of the World Diabetes Foundation Board. This clinic was established through the Foundation. Had you been there, you would have witnessed the people's gratitude in their sparkling eyes and clapping hands. Your generous donations have not only funded the establishment of the clinic I opened in Chennai but also of five additional clinics. Two of these are already up and running in Ahmedabad and Hyderabad, and three more will be established in other parts of India.

"In India, 40,000 people have a leg amputated because of diabetes every year, and I understand that 30,000 of these amputations could be prevented by the right education and treatment. I hope that these foot care clinics will help to bring down these shocking figures and save the legs of many of the diabetic people in India.

"In many developing countries, poverty and ignorance lead to poor health awareness, compounding the problems of diabetes. Those without access to even the most basic healthcare are often never diagnosed or diagnosed too late, and so suffer from diabetic complications which could have been avoided."

### Getting the message across

The clinic goes hand in hand with the diabetes foot care project 'Step-by-Step', which differs from typical WDF projects in that it covers more than one country. The project seeks to establish a broadly applicable education programme for healthcare personnel and patients to build capacity to address the diabetic foot in developing countries. In its initial phase, the project covers India and Tanzania, with participants from Sri

Lanka, Nepal and Bangladesh also involved in the training of healthcare personnel.

"The diabetic foot care project is a cost-effective project which is delivering immediate results. Evidence shows that amputation rates can be reduced by 49-85% if strategies for preventing and treating diabetic foot lesions are implemented," says Dr Sharad Pendsey, responsible for the project in India and for the development of the programme material.

### The 'dirty' complication

"The diabetic foot is considered the Cinderella among the diabetic complications, sometimes described as the 'dirty' complication. This results in reluctance among healthcare personnel to address the complication and a blind referral to surgeons for amputation. In combination, these two factors contribute to a needless level of amputations," explains Dr Sharad Pendsey, and expresses the need for a dramatic change in attitude among healthcare personnel.

"In that part of the world, losing a limb will often result in people losing their ability to work and becoming dependent on their family. It is therefore an important area of diabetes care where we can really make a difference," he concludes. As a result of the international focus on the diabetic foot, additional funding has been raised by WDF and donated for the establishment of an additional 3-5 foot care clinics in India. The current figure of more than one million amputations every year is unnecessarily high, and up to 85% of these amputations are preventable. It is estimated that up to 70% of all lower limb amputations are related to diabetes.

"Unless appropriate action is taken, this increase will bring a proportional increase in the number of amputations in South-East Asia and throughout the world. We are working with ministries of health to raise awareness about this devastating yet largely preventable complication," says Dr Nigel Unwin, Diabetes Unit, WHO.



40-70% of all lower limb amputations are related to diabetes. Most studies estimate the incidence of lower leg amputation at 5-25/100,000 inhabitants/year; among people with diabetes the figure is 6-8/1,000





## GLOBAL DIABETES WALK

World Diabetes Day 2004 saw a new initiative from the World Diabetes Foundation when a Global Diabetes Walk extending over seven continents brought together nearly 70,000 people in a worldwide campaign to raise awareness of diabetes. The message was simple: physical inactivity is one of the main reasons for the epidemic growth of diabetes.

The increase in diabetes is largely due to a trend towards less healthy lifestyles in both developed and developing countries. According to WHO, approximately 2 million deaths around the world are attributable to physical inactivity each year. Urbanisation and economic growth are resulting in more people undertaking less physically demanding work and more passive leisure pursuits.

The dramatic reduction in our levels of activity is part of the explanation for higher obesity rates across the world. Poor diet is another. With more than 1 billion overweight adults worldwide, at least 300 million of whom are obese, obesity is in fact a threat to global health. Being overweight or obese increases the risk of chronic diseases, including type 2 diabetes, and leading health experts and organisations have recognised that physical activity as disease prevention is as important as quitting smoking, eating healthily and lowering cholesterol.

The Global Diabetes Walk was initiated to encourage people all over the world to take more exercise, thereby supporting this year's theme for World Diabetes Day: 'Fight Obesity, Prevent Diabetes'. According to health experts, 30 minutes of 'brisk walking' five days a week is enough to change the unhealthy trend and fight world obesity.

### From Afghanistan to Antarctica

The Global Diabetes Walk is the largest event of its type ever staged, and the initiative met with impressive support from people all over the world.

In total, the Global Diabetes Walk consisted of 561 individually organised walks taking place simultaneously in 53 countries across seven continents. The number of participating walkers reached 68,532 thanks to impressive campaigning by Novo Nordisk and its affiliates and by local diabetes organisations.

Walkers included staff from the British Antarctic Survey in Antarctica, health ministry officials from many countries, the United Nations, the US Department of Health and Human Services in Afghanistan, and thousands of ordinary people from all over the world. As one participant concluded:

"What makes the Global Diabetes Walk special is the sense of partnership, which stretches across borders, time zones, cultures and organisations. Ordinary people helping themselves and others – on a global scale."

In the light of the success of the Global Diabetes Walk 2004, the World Diabetes Foundation has started planning the Global Diabetes Walk 2005.



### Global Diabetes Walk

- 561 large-scale and small-scale walks
- 53 countries
- 7 continents
- 68,582 participants

- Physical inactivity causes 2 million deaths annually
- The number of overweight adults worldwide has reached 1 billion
- At least 300 million of these are obese



ANNUAL ACCOUNTS 2004

Profit and loss account, 1 January - 31 December 2004		Balance sheet as at 31 december 2004	
	DKK 1,000		DKK 1,000
Donations from Novo Nordisk and others	50,158	Assets	
Administration expenses	-4,547	Locked-up capital	260
Project expenses	-3,068	Fixed assets	260
Other expenses	-154	Receivable donations from Novo Nordisk A/S	13,046
Profit before financials and tax	42,389	Interest receivable	2,453
Financial income	3,260	Other receivables	2
Financial costs	-2,129	Total receivables	15,511
Profit before tax	43,520	Securities	61,697
Net profit for the year	43,520	Cash	37,192
		Current assets	114,400
		Total assets	114,660
Proposed appropriation of net profit for the year		Equity and liabilities	
Donations from the World Diabetes Foundation	25,560	Locked-up capital	260
At disposal for future donations	17,960	Retained earnings for the year	60,246
	43,520	Total equity	60,506
		Payable donations	54,088
		Other provisions	66
		Other short-term payables	0
		Total short-term liabilities	54,154
		Total equity and liabilities	114,660

The above is a non-audited abstract of the Annual Accounts 2004

For full details of the annual accounts, please refer to our website:  
www.worlddiabetesfoundation.org

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The World Diabetes Foundation  
is dedicated to supporting  
prevention and treatment of diabetes  
in the developing world

The World Diabetes Foundation  
creates partnerships and acts as a  
catalyst to help others do more

The World Diabetes Foundation  
strives to educate and advocate  
globally in an effort to create  
awareness, care and relief to those  
impacted by the disease



WORLD **DIABETES** FOUNDATION