WORLD DIABETES FOUNDATION

ANNUAL REVIEW 2009

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According to the World Health Organization Stop TB Programme in 2007, 14.4 million people were living with tuberculosis at global level. In addition, 9.2 million new cases were reported and 1.7 million deaths were attributed to tuberculosis. Recent systematic reviews of studies show that diabetes increases the risk of developing tuberculosis, especially among people living in developing countries with a high background incidence of tuberculosis. Addressing diabetes is therefore vital to strengthening tuberculosis control. Studies also suggest that people with HIV/AIDS who receive antiretroviral treatment are at an increased risk of developing diabetes, and people with both diabetes and HIV/AIDS face an increased risk of developing tuberculosis.

Prof. Pierre Lefèbvre
Chairman
World Diabetes Foundation

NON-COMMUNICABLE DISEASES ON THE AGENDA

Every five seconds a person develops diabetes. Every ten seconds a person loses the fight against diabetes and dies. By 2010, 285 million people will be suffering from diabetes and by 2030 the number is expected to reach an alarming 438 million. Non-communicable diseases such as diabetes, cardiovascular disease, cancer and chronic respiratory disease are now a leading threat to human health and development. It is time for non-communicable diseases to be included in the development agenda.

By 2030, 80% of people with diabetes will be living in developing countries where resources are scarce and access to care is extremely limited.

WHO predicts that, globally, non-communicable disease deaths will increase by 17% over the next ten years, with the greatest increase being seen in the African region (27%) and the highest absolute number of deaths occurring in the Western Pacific and South-East Asia regions.

285 million people live with diabetes

25 million people live with cancer

1 billion people are overweight and 1.2 billion people are tobacco users, both major causes of cardiovascular disease

The incidence of chronic non-communicable diseases is rising across both the developed and developing world. Having surpassed infectious diseases like malaria and HIV/AIDS, chronic diseases are today the main cause of death worldwide. According to the World Health Organization (WHO), chronic diseases are currently the cause of 35 million deaths each year – or 60% of all deaths worldwide – of which 80% occur in low and middle-income countries[1].

In its Global Risks Report issued earlier this year, the World Economic Forum ranked non-communicable diseases among top five global risks. Exploring joint strategies for detection, prevention and management of non-communicable diseases and building on the same health infrastructure can substantially reduce the burden on health care budgets.[2]

A concerted effort is required

Concerted efforts by the international donor community coupled with new thinking and inter-sectoral collaboration are essential for addressing the global threat of non-communicable diseases. As pointed out by Dr. Ala Alwan, WHO Assistant Director-General for Non-communicable Diseases and Mental Health: "We have the right vision and knowledge to address these problems. Proven cost-effective strategies exist to prevent and control this growing burden. However, high-level commitment and concrete action are often missing at the national level. Prevention of non-communicable diseases and control programmes remain dramatically underfunded at the national and global levels. Despite impacting the poorest people in low-income countries and imposing a heavy burden on socio-economic development, prevention of non-communicable diseases is currently absent from the Millennium Development Goals.[3]

The potential impact of diabetes as a development issue was also recognised by the United Nations in 2006 in Resolution 61/125, and in his message on World Diabetes Day 2009, Mr. Ban Ki-Moon, United Nations Secretary-General stated, "In some countries, the rapidly rising burden of diabetes is a factor faltering progress towards achieving the Millennium Development Goals. Prevention can help reduce poverty, promote economic productivity and keep countries on track in their efforts to achieve the Millennium Development Goals."

Notwithstanding all the evidence and supportive statements, bilateral and multilateral donors, local governments and health authorities are still undecided in terms of allocating resources to address the threat of diabetes and related non-communicable diseases. Despite the propensity to impact the poorest and most vulnerable people in low-income countries and imposing a heavy burden on socio-economic development, prevention and control of diabetes remain neglected and grossly underfunded.

Aligning objectives

The World Diabetes Foundation is prioritising its work to support the overall objectives of the Millennium Development Goals. Our project funding is heavily skewed in favour of the poorest of the poor – the ones least able to withstand the burden of the disease. It is an integral part of the World Diabetes Foundation's strategy to work with "neglected areas" of diabetes care which are important both from a health and socio-economic standpoint and are of particular relevance to the poor, namely prevention of needless foot amputations and blindness as a consequence of diabetes – areas which have thus far not received adequate attention from the international diabetes community at large.

1 WHO 2008-2013 Action Plan, p. 5

2 World Economic Forum, Global Risks 2009, p. 5

3 WHO 2008-2013 Action Plan, p. 5

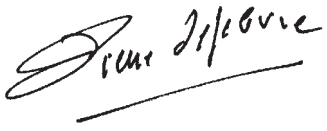
Another focus area is the issue of women and diabetes, bringing attention to the fact that, apart from the biological differences in how diabetes affects women, gender inequality places a higher burden of social and economic consequences of diabetes on women, while at the same time imposing greater barriers to access to care. The fact that undetected and untreated diabetes during pregnancy involves a higher risk of maternal and perinatal morbidity and mortality and poor pregnancy outcomes, coupled with the fact that diagnosis of gestational diabetes identifies women as well as their offspring at very high risk of future diabetes, means that identifying and providing care for diabetes during pregnancy are crucial. Through its advocacy work, the Foundation is bringing these issues to the forefront of discussions and is lobbying to integrate diabetes screening and care in maternal health programmes, while at the same time funding individual projects at local level to pilot such approaches.

Double disease burden

Almost 95% of tuberculosis patients and 80% of people with diabetes live in developing countries. Populous developing countries such as India, China, Brazil, Russia, Indonesia, Pakistan and Bangladesh share the highest prevalence for both diabetes and tuberculosis. While the association between diabetes and tuberculosis has been known for centuries, new scientific evidence shows that people with diabetes are at an increased risk of tuberculosis. For the purpose of achieving the Millennium Development Goals targets related to tuberculosis control, it is important to focus in low-resource countries not only on improved access to diagnosis and treatment of tuberculosis and on HIV/AIDS, but also on the burgeoning epidemic of diabetes as a significant risk factor. The Foundation has therefore targeted its efforts on establishing collaboration to understand this dual burden and has funded pilot programmes to develop sustainable models for an integrated approach.

Diabetes as entry point

Diabetes shares the common risk factors with several non-communicable diseases, but is in itself a risk factor to several non-communicable diseases. No other common non-communicable disease has as many ramifications and issues to deal with as diabetes. A health promotion programme targeting diabetes prevention will therefore have salutary effects on the risk of arterial hypertension, cancer, stroke and heart disease, making diabetes a natural entry point for a range of other diseases, their risk factors and co-morbid conditions. The link to maternal health and communicable diseases such as tuberculosis and HIV/AIDS also make diabetes the most suitable bridge for integration of non-communicable diseases in the primary care setting. This being the case, we believe that, while apparently appearing to be focused essentially on diabetes, the projects supported by the Foundation are unlocking the doors to prevention and care of several related non-communicable diseases. Our focus on diabetes is therefore actually impacting on a much greater agenda by building capacity, addressing health promotion and strengthening health systems for basic care, which is of paramount importance for the low-resource developing world and to winning the fight against non-communicable diseases. ■



Prof. Pierre Lefèbvre
Chairman
World Diabetes Foundation

^ Jussara is a community health agent working in the slum favelas of Brazil where ignorance and poverty keep people from leading a healthy life style and seeking medical attention. By bringing valuable information on non-communicable diseases and diabetes to the people living in the favelas, and by keeping a record of each person with diabetes, she has become an important link between the individual and the local community health centre.

"In some countries, the rapidly rising burden of diabetes is a factor faltering progress towards achieving the Millennium Development Goals. Prevention can help reduce poverty, promote economic productivity and keep countries on track in their efforts to achieve the Millennium Development Goals," Mr. Ban Ki-Moon, Secretary-General, United Nations.

Dr. Anil Kapur
Managing Director
World Diabetes Foundation

FIGHTING DIABETES THROUGH PARTNERSHIPS

The fight against diabetes requires several battles to be fought simultaneously at several levels. Our efforts to alleviate human suffering related to diabetes and its complications are based on the most vulnerable person in developing countries – a person with diabetes or at risk of developing diabetes and who, because of poverty and ignorance, has no access to prevention and care and is least able to withstand the burden of the disease.

Mr. Eliodoro Gonzales is 77 years old and lives on the outskirts of Cochabamba city, Bolivia. He is sitting in a wheelbarrow ready to be transported for various errands in the village. He has lost both his legs to diabetes. Knowledge about diabetes and a healthy diet could have prevented Mr. Eliodoro from being in the situation he is in today.

The devastating effects of diabetes on individuals and families translate into significant losses for society. The mechanisms are many: loss of trained labour, increased taxation of medical care and support of the disabled, the economic failure of family units and small businesses, withdrawal of children from education to care for ailing relatives and the general loss of hope and self-reliance that ultimately drives all economic growth. These consequences will negatively impact the achievement of the Millennium Development Goals. The very countries that face the huge burden of diabetes and other chronic diseases are also struggling to cope with issues related to maternal and child health, safe drinking water and infectious diseases, and therefore need assistance to shore their efforts to tackle this challenge.

We therefore believe that efforts directed at increasing awareness and knowledge and improving access to basic services through capacity building funded by the World Diabetes Foundation should benefit these individuals and vulnerable populations. While the interventions supported by the Foundation have already left significant footprints across the developing world, non-communicable diseases continue to be neglected and underfunded on the global health agenda. Greater efforts are called for to build

alliances and partnerships to increase attention and resources for non-communicable diseases.

Advocacy and awareness efforts in 2009

Of the many initiatives supported by the Foundation in 2009, I would like to highlight a selection of our advocacy, awareness and partnership building activities this year. A more detailed and comprehensive overview of the Foundation's networking activities in 2009 is given in a separate article in this Annual Review.

Women, diabetes, and development were in the spotlight when the World Diabetes Foundation co-hosted a session at the fifth International Symposium on Diabetes and Pregnancy in Sorrento, Italy, in March 2009. Participants at this meeting of experts in obstetrics and gynaecology and diabetes were pleasantly surprised and enthused when developmental issues related to gender equality and access to care in developing countries were interconnected with malnutrition in the mother, pregnancy and diabetes and their immediate and long-term impact on mother and child health.

In June 2009, the World Diabetes Foundation was invited to a meeting on Strengthening Partnerships for Integrated Prevention and Control of Non-Communicable Diseases by the WHO Regional Office for South-East Asia in Chandigarh, India. The meeting concluded with suggestions to formulate, update and strengthen national policies, strategies and programmes for integrated prevention and control of non-communicable diseases in South-East Asia based on the regional framework.

In October, the World Diabetes Foundation co-hosted the Diabetes Leadership Forum China 2009 in Beijing with the International Health Exchange and the Cooperation Centre of the Chinese Ministry of Health. The forum was organised by the Chinese Diabetes Society and the Chinese Centre for Disease Control and Prevention, with the support of the Bureau of Disease Prevention and Control of the Chinese Ministry of Health and the International Diabetes Federation. The forum was sponsored by Novo Nordisk A/S. Almost 650 participants attended the forum, including distinguished guests such as the former UN Secretary-General Mr. Kofi Annan and the Chinese minister for health Mr. Chen Zhu. The forum was a huge success overall and will perhaps be a transforming event for diabetes prevention and care in China.

Last, but no least, the United Nations Office for Partnerships and the World Diabetes Foundation entered into an agreement to establish a Memorandum of Understanding for cooperation on issues of common interest in the context of achieving the Millennium Development Goals. All these awareness and advocacy efforts will ensure that many stakeholders and policy-makers will feel encouraged to develop and strengthen national health policies through public health intervention and improved health care services.

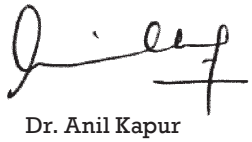
Our approach

To date, the World Diabetes Foundation has funded 219 projects in 90 countries, focusing on awareness, education and capacity building at local, regional and global levels. The total project portfolio has reached USD 230.7 million, of which USD 77.4 million were donated by the Foundation. In alignment with our overall strategy, our funding is earmarked for areas where it truly makes a difference – in countries where resources for diabetes prevention and treatment are very scarce and where the projected future burden of diabetes is high.

Our approach to fighting diabetes is founded on strategic integration of four identified intervention areas: Care, Prevention, Networks and National Programmes. These areas define the scope and extent of our work. In this year's Annual Review, you will be introduced to each of these areas, followed by examples from related projects. In this way, we hope to give you more than just a taste of what we do, but also an outline of the rationale for why we do it.

The latest projection from the recently launched IDF Diabetes Atlas paints a gloomy picture. The diabetes epidemic continues to grow at an unprecedented pace and threatens to overwhelm health systems if preventive efforts are not initiated. Diabetes is a development issue and, to us, changing these dire prospects begins and ends with the suffering and pain we see in the eyes of the people impacted by the devastating, yet easily preventable complications of diabetes. We need to find ways to communicate that pain and convert it into positive action for change if we are to win this battle. However, no organisation can do it alone. Even though the World Diabetes Foundation can take pride in being the leading funding agency for large community actions for diabetes care, we could not have done it without the support from our implementing partners who are the real frontline heroes in this battle and I salute them for their unwavering dedication, commitment and trust.

On behalf of the World Diabetes Foundation's Board of Directors and Secretariat, I would like to thank our sponsors, project partners and well-wishers for their continuing support and goodwill, which made 2009 yet another extremely eventful and satisfying year. ■



Dr. Anil Kapur
Managing Director
World Diabetes Foundation

Some of the most distinguished and prominent key note lectures were delivered by the former UN Secretary-General Mr. Kofi Annan and the Chinese minister for health Mr. Chen Zhu. The health minister presented China's long-term plan to address chronic diseases, including diabetes, in view of achieving the ultimate goal of the ongoing health care reform: creating a Healthy China by 2020.

Other prominent participants were policy-makers representing various government departments, diabetes associations, academics, economists, clinicians, nurses, pharmacists, the media, international organisations and pharmaceutical company executives from Novo Nordisk A/S and Roche.

In her presentation, Dr. Kong Lingzhi, the Deputy Director General of the Bureau of Disease Control and Prevention, Ministry of Health, China, commended the contribution of the World Diabetes Foundation funded initiatives, which has helped, formulate and strengthen the national programmes for diabetes prevention and control. In addition, a model for community-based care for diabetes has been developed, which is now ready to be rolled out on a larger scale.

WORLD DIABETES FOUNDATION INTERVENTION AREAS

CARE

Diabetes care focuses on improving access to and quality of care through training of personnel and patients, provision of equipment, strengthening delivery and referral systems and development of guidelines.

NETWORKS

Using networks and strategic alliances at national and global levels to encourage governments worldwide, policy-makers and funding bodies to prioritise diabetes care, allowing the implementation of much-needed sustainable and far-reaching solutions.

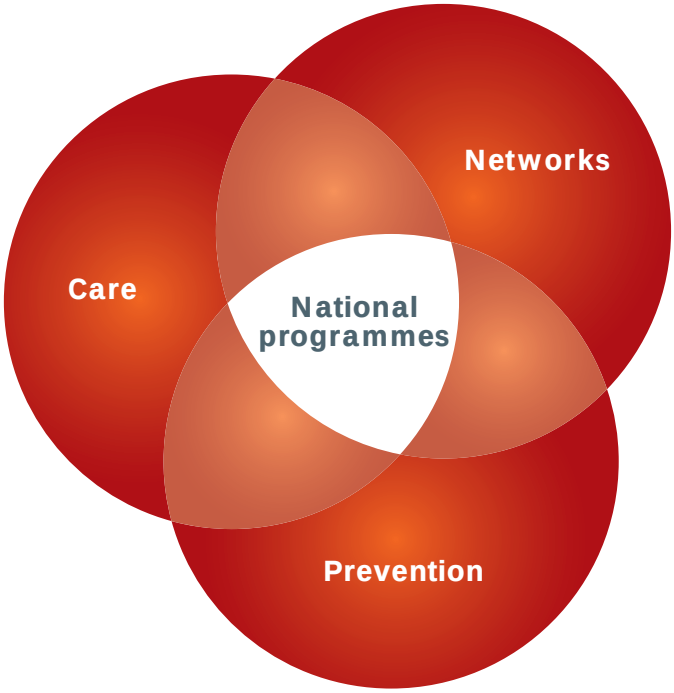
PREVENTION

Primary prevention of diabetes by addressing its risk factors and encouraging healthy lifestyle through awareness campaigns and activities either targeted broadly or for specific target groups.

NATIONAL PROGRAMMES

Integrated, comprehensive and holistic programmes and strategies for addressing diabetes, its risk factors and associated chronic diseases, spanning from primary prevention, over primary and secondary care, to tertiary care delivery in a country.

Interface between intervention areas with activities from more than one intervention area – potential push for a national programme.



OUR APPROACH TO FIGHTING DIABETES

The World Diabetes Foundation takes its point of departure in the individuals living with diabetes and focuses partly on areas where there is a great direct effect on the poorest of the poor and partly on ideas and projects which build on innovative strategies to prevent and treat diabetes and its complications – and on making these interventions accessible to the primary beneficiaries.

Ongoing research and new findings continuously add to the picture and challenge the existing and often varied perception of diabetes. Aiming at challenging status quo and initiating reform, we find that our approach must be dynamic and flexible in order to accommodate the differing needs based on culture, economy, existing health systems and structures and stages of development in different parts of the world.

This dynamic approach allows us to operate in different areas of diabetes care and prevention and to give priority to projects that contribute not only to local success, but also serve as bricks for more sustainable solutions.

"Our approach – whether operating in a national setting or on the international stage – is founded on strategic integration of four identified intervention areas: Care, Prevention, Networks and National Programmes. By integrating these areas and linking people and resources together, we are able to act as a much needed catalyst for change and ultimately help others do more," explains Ms. Sanne Frost Helt, Programme Manager at the World Diabetes Foundation.

Care

Our commitment to improving diabetes care in the developing countries concentrates on establishing health care equity through capacity building and improving access. In order to ensure long-term sustainability, emphasis is given to local ownership and leadership from those responsible for the local health system during and after the support granted by the World Diabetes Foundation. As a result, capacity and a basic infrastructure are achieved within existing structures and care is taken not to circumvent, but build on solutions found locally. This also means that the Foundation does not support construction of buildings, payment of salaries for permanent staff and running costs, development of parallel structures and procurement of medication. As these are crucial elements for long-term sustainability, the local partners are expected to assume responsibility up-front.

While focusing on improving the overall access to care, the Foundation places special emphasis on Children with Diabetes, Mothers and Diabetes, Diabetic Foot Care and Diabetic Eye Care. These areas are often neglected issues in diabetes care and may have a large impact on the beneficiaries as well as health care systems and budgets.

Prevention

Prevention is the second intervention area of the World Diabetes Foundation. Primary prevention of diabetes and its associated risk factors is central to addressing the gloomy scenario of diabetes in the developing countries – both from a human health angle and from a financial and economic point of view.

> "An alliance of national and international stakeholders has greater influence than the total sum of individual efforts."

"From the poor person's perspective, avoiding diabetes means not having to spend a significant amount of one's meagre resources on medicine and care as well as not running the risk of losing one's livelihood due to blindness or amputation. From the health care system's point of view, the impact value of a dollar spent on advocating healthy lifestyles is many-fold bigger than that of a dollar spent on amputating a leg due to diabetes," says Dr. Anil Kapur, Managing Director of the World Diabetes Foundation.

Primary interventions supported by the World Diabetes Foundation are mainly focused on raising awareness of a healthy lifestyle, including nutrition and exercise, as well as awareness of the main risk factors of developing diabetes and how to prevent it. This support is based on the premise that, other things being equal, an informed individual is more likely to make healthier choices. Interventions may target specific beneficiaries such as school children, work places, religious gatherings and relatives of people with diabetes or focus broadly on the general public.

Prevention of diabetes starts with health promotion in these groups, and improvements in this area will have a substantial impact on both the health care systems and future health care budgets.

Networks

As part of its goal to place diabetes higher on the health agenda, the Foundation takes special interest in working with networks of stakeholders at different levels to create political will for policy, strategy and action. Whereas local champions are essential for running the individual projects, a common platform among policy-makers, health systems, professional and patient associations, etc., is critical to any initiative to be sustainable and successful over time.

"We believe that an alliance of national and international stakeholders has greater influence than the total sum of individual efforts. The networks make the difference between stand-alone projects and holistic, sustainable programmes with nationwide potential and reach," says Dr. Anil Kapur.

At an international level, the Foundation interacts with policy-makers, key opinion builders, umbrella organisations and donor communities in an attempt to gain support for the cause of diabetes and related non-communicable diseases. Experience and learning from the individual projects are fed into the global health community and help shape international opinion and encourage decision-makers to act. From a care and prevention perspective, this influences national health agendas and directs attention to the individual with diabetes or those at risk of developing diabetes.

National programmes

Another intervention area of the Foundation is addressing the apparent lack of formulated health policies, strategies and action plans to address the emerging pandemic of diabetes and other non-communicable diseases. The World Diabetes Foundation has therefore found it a logical next step to facilitate sustainability of several individual projects funded in a given country by ensuring – where possible – that the interventions are elevated to a national strategy in a national non-communicable disease programme.

> "We help create a platform for non-communicable diseases in countries where, up until recently, it was commonly believed that non-communicable diseases did not constitute a serious problem."

"In other words, the World Diabetes Foundation helps ensure a move from plans to actual action. And by doing so, we help create a platform for non-communicable diseases in countries where, up until recently, it was commonly believed that non-communicable diseases did not constitute a serious problem. Implementing comprehensive, integrated and holistic national programmes requires substantial resources – human as well as financial – and the Foundation cannot fund such interventions singlehandedly. We hope that our support will empower and help national governments seek further support for this area from bilateral and multilateral development partners," explains Ms. Sanne Frost Helt.

An integrated approach

The four intervention areas of the World Diabetes Foundation are closely connected and the synergies between the four areas allow us to navigate a complex environment and enable us to make a difference for the millions of people affected by diabetes throughout the developing world. ■

About 80% of the deaths due to non-communicable diseases occur in low and middle-income countries whose youth and middle-aged adults are especially vulnerable.

By 2010 at least USD 376 billion is expected to be spent on health care expenditures on diabetes and its complications.

By 2030, this health care expenditure is expected to increase to a staggering USD 490 billion.


DIABETES CENTRE
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SUPPORTING SECONDARY AND TERTIARY PREVENTION

In the vocabulary of diabetes prevention, secondary prevention means preventing complications in people living with diabetes, i.e. managing the condition and controlling glucose levels. Tertiary prevention means preventing the worsening of diabetes complications. The latter is highly relevant in developing countries where people are often not diagnosed until a complication occurs.

The World Diabetes Foundation aims to strengthen diabetes care by supporting diabetes clinics, including the training of health care professionals in low-resource settings. The clinics are run by our partners and are often housed in an existing hospital building. In addition to diabetes treatment, many clinics deal with related conditions and complications and function as a nucleus where patients come for treatment and learn about diabetes. Once they have received education, real preventive measures can begin. Below, we present a few examples of the different types of diabetes clinics supported by the World Diabetes Foundation in the past year.

When secondary prevention minimises complications

In settings with a weak health care infrastructure, nurses and doctors are rarely trained to detect or treat diabetes. Training therefore forms an integral part of establishing secondary prevention and care. But training also goes hand in hand with setting up diabetes clinics, which provide a unique place for diabetes patients to report to. When setting up a diabetes clinic, a place for identifying, diagnosing and treating diabetes is created. One of the most important impacts of educating health care personnel and patients is early diagnosis, and this plays a crucial role for minimising complications later.

Diabetes is my friend

A small micro-clinic project in Jordan focuses on patient education through social networks that literally function as micro-clinics. It does by no means make the health care system expendable, but according to project manager Mr. Daniel Zoughbie, it builds on the basic idea that people can care for themselves and positively influence the lives of those around them when medical care is lacking and poverty ever-present. As one patient who had lived with diabetes for 12 years put it, "After attending the sessions, I have no fear anymore because the knowledge we got was more than enough to deal with and control my disease. Also, my spirit is so high and diabetes is now my friend and not an enemy anymore." Empowering patients to care for themselves is not only a smart way, it is also a sound investment that saves individuals and the health care system from treating costly complications at a later stage. Since the World Diabetes Foundation granted its support in 2007 for a period of almost two years, 756 persons with diabetes have been enrolled in the 290 micro-clinics. The pilot project ended in August 2009, but the initiative will be extended to national level.

Staff training is vital

The Oli Health Centre in Uganda's West Nile Region represents another example of secondary diabetes prevention. Every Wednesday, a room is turned into a diabetes clinic for the day. "Around 180 diabetes patients are registered at the clinic, and we see around 20 patients every Wednesday," explains Ms. Agnes Joyo, Project Manager and Medical Clinical Officer. "We talk with the patients about diet and physical activity and we monitor their BMI. If the patients have developed a complication, however, we refer them to another level of care," she says. While the continuous training of staff is vital to running the diabetes clinic, it also affects the integrated health education at the entire health centre. The trained staff extend their knowledge about diabetes to other areas of care at the health centre and create awareness about the ramifications of diabetes on hypertension, stroke, and heart diseases. The Arua community outreach project runs from August 2008 to July 2010.

Providing specialised treatment

Once basic care has been established, the climb towards more specialised treatment, i.e. tertiary prevention, can commence. Advanced treatment methods are rarely mentioned in the same sentence as poor rural populations, but modern technology has made the unthinkable a reality. Imagine putting an end to the progressing blindness of a peasant in rural India, who has gradually been losing his eyesight and been ignorant of his diabetes for years.

1,848 clinics established

18,782 doctors trained

15,527 nurses trained

37,269 paramedics trained

258,748 patients treated at general diabetes clinics

47,700 people detected with diabetic retinopathy

30,465 people treated with laser surgery

3,075 health care professionals trained in foot care

187,307 people screened for diabetic foot complications

^
Patients waiting outside the mobile eye care unit supported by the World Diabetes Foundation in Tamil Nadu's Kanyakumari district.

Diabetes clinic starter kit: Glucometers, a pair of scales, tape measures, cabinet and safety boxes, small refrigerator for insulin storage, patient file registries and patient education material.

Since 2005, the World Diabetes Foundation has been supporting mobile diabetes care projects with the objective of bringing quality care to areas where most diabetes complications would otherwise remain undetected and untreated. So far, 11 projects with mobile components have been granted support. The vast majority of these projects have been in India, the remaining being in Kenya, Sudan and Thailand.

No treatment without patient education

Although mobile clinics offer specialised tertiary care treatment, mobile clinic projects do not function in isolation; they provide advanced care in programmes with a whole range of awareness activities in their wake. The whole sustainability lies in the surrounding awareness activities and training of local health care personnel in the areas which the mobile clinics visit. More than 9,500 health care staff have received training as part of the mobile clinic projects and more than 500,000 people have been reached through awareness activities.

Comprehensive, mobile rural care

The Chunampet Rural Diabetes Prevention Project in Tamil Nadu uses a comprehensive approach to address primary, secondary and tertiary prevention concurrently. In the villages, local community health workers perform primary prevention through health education. At the base health centre in Chunampet, trained health care staff conduct secondary prevention by offering foot and eye care examination and by training patients in diabetes management. Finally, the tele-medicine van performs tertiary prevention by using advanced equipment to screen people for diabetes and related complications. When the project ended in November 2009, more than 24,000 people in rural areas had been screened.

The tele-medicine van under this project has not performed treatment, but merely made examinations and diagnoses. Yet, in the long run, the base health centre will be able to perform laser treatment locally. "Although we cannot deliver impressive numbers of eyesight saving treatments in the van, we believe that our holistic approach is sustainable," says project responsible Dr. Mohan. "Patients now come for follow-up visits more frequently and this has considerably reduced their HbA1c levels. To me, this is the most promising part because it shows that the primary and secondary prevention efforts are beginning to bear fruit," he says.

A learning process

At the last count of clinics, including the micro-clinics and mobile units strengthened or established with the support of the World Diabetes Foundation, the count ended at 1,848. According to Dr. Anil Kapur, "They may not all be well-functioning, but even if half of them remain functional it is still a great development. Rome was not built in one day, and this is a process of learning by doing – over time, they will understand how to do it right," he concludes. ■

PROVIDING CARE – PREVENTING COMPLICATIONS

Complications resulting from poorly managed diabetes are a major socio-economic burden on individuals and societies at large in developing countries. Almost 74% of people who have lived with diabetes for ten years or more will develop diabetic retinopathy – a complication estimated to affect more than 2.5 million people worldwide and which, ultimately, can lead to blindness[1]. In addition, diabetes is responsible for over one million amputations each year[2]. Ironically, these devastating complications can be prevented by simple interventions.

Diabetes is a leading cause of blindness worldwide.

The majority of existing projects funded by the World Diabetes Foundation in developing countries provide secondary and tertiary prevention in the form of early detection and care for people who are at risk of developing, or are already suffering from, diabetes-related complications such as diabetic foot and diabetic retinopathy.

Extending care in Sudan

A diabetic foot project in Sudan was launched in late 2008 with the aim of reducing the high rates of major amputations due to diabetes. The Jabir Abualiz Diabetic Centre located in Khartoum is the only centre of its kind in the country. Yet, with more than 600,000 people in Sudan currently suffering from diabetes[3], an urgent need exists to extend care outside the capital city.

The project aims at establishing 20 diabetic foot clinics at existing health care facilities throughout Sudan. The method follows the known Step-by-Step model where multidisciplinary teams are trained in the field of diabetic foot care, including screening of

1) http://www.idf.org/node/1186?unode=C1CCADE9-4A03-4D17-A662-155B3ED59FDB
2) http://www.idf.org/webdata/docs/World_Diabetes_Day_Media_Kit.pdf
3) IDF Diabetes Atlas 2009, 4th edition, 2009

high-risk patients, podiatry care, patient education, and wound dressing. Within the first year of implementation, five clinics have been established and 62 health care professionals trained. Presently these clinics are catering for 30,000 patients with diabetes and for more than 6,500 patients suffering from diabetic foot complications. The project is headed by the Jabir Abualiz Diabetic Centre in cooperation with the Sudanese Federal Ministry of Health, the Khartoum State Ministry of Health and regional ministries of health.

Project responsible, Prof. M. Elmakki Ahmed speaks with enthusiasm about the project: "Bringing screening for complications and high-quality care to patients in areas with limited access to health care will save thousands of lives, reduce the burden on health care budgets and enable us to help many more."

Optimum care saves limbs, lives and money

Another example of secondary and tertiary prevention is a regional project funded by the World Diabetes Foundation covering Bolivia, Peru, Ecuador, Colombia and Venezuela. The project is coordinated in collaboration with the Pan American Health Organization with the objective of decreasing the number of diabetic foot complications and diabetes-related lower limb amputations in primary health care units in the Andean Region.

However, combining interventions in several countries into one regional project has proven to be a challenging task, because the health care system in each country works differently and faces internal challenges. The fact that only some of the ministries of health were involved in the project added to the dispersion and the coordination efforts.

> **"Bringing screening for complications and high-quality care to patients in areas with limited access to health care will save thousands of lives, lighten the burden on health care budgets and enable us to help many more."**

It has, therefore, been difficult to achieve the objectives and the project period was therefore extended. However, thanks to committed project partners in the participating countries, the project has had an impact in some of the project countries: A clinical protocol for prevention and management of diabetes has been implemented in primary care units and health care professionals have been trained to prevent and treat foot complications by providing early detection and proper care. Another tangible result has been the introduction of a foot care model at more than ten health facilities and national referral hospitals in Peru

Almost 74% of people who have lived with diabetes for ten years or more will develop diabetic retinopathy – a complication estimated to affect more than 2.5 million people worldwide and which, ultimately, can lead to blindness.

Every 30 seconds, a lower limb is lost to diabetes somewhere in the world. Many of these diabetes-related amputations can be prevented if the right preventive measures are taken.

The Step-by-Step foot care model was developed in 2003, when the World Diabetes Foundation assembled a team of experts in the diabetic foot to develop a model for improving diabetic foot care in developing countries. It is a simple, yet extremely efficient model, which focuses on building capacity for prevention, early detection and treatment of diabetic foot complications.

and Bolivia where little or no attention had previously been given to the diabetic foot.

Saving eyesight with early intervention

Secondary and tertiary prevention is of utmost importance to diabetes-related eye complications. Poorly managed diabetes can lead to high blood glucose levels, which can weaken and damage the tiny blood vessels next to the eye's retina, resulting in diabetic retinopathy. In Bolivia, Dr. Elizabeth Duarte de Muñoz from the Living with Diabetes Centre for Education and Information in Cochabamba is implementing a project seeking to prevent blindness due to diabetic retinopathy by ensuring prevention and early diagnosis of eye complications. The project has established an ophthalmologic clinic and installed a retinal camera and a laser unit. This equipment serves patients at the Diabetes Centre as well as attendants at the monthly outreach camps. The mobile unit delivers prevention and performs early diagnosis to people in the entire department of Cochabamba where access to diabetes care is limited and many cannot afford to travel the long distances to the nearest health care facilities.

Locally rooted effort

In Thailand, diabetic retinopathy is also a widespread problem. Approximately 500,000 people suffer from this complication[4] and are thus at risk of visual impairment or blindness. More than 3 million Thais are living with diabetes – a number which doubled in only five years, mainly due to a rise in unhealthy lifestyle. By 2030, the number is expected to exceed 4.9 million.[5]

In 2009, Thailand's Ministry of Public Health initiated a mobile outreach project in collaboration with the World Diabetes Foundation and the Danish embassy in Thailand to be implemented in 36 Northern and North-Eastern provinces. Two mobile eye clinics with all the equipment necessary for detecting and treating diabetes and diabetic retinopathy will be operating with a specially trained team consisting of an ophthalmologist, an ophthalmic nurse, technicians and community health volunteers. To ensure long-term sustainability, the project is rooted in the local communities. The mobile eye clinics will always be run by local teams from the existing health care setup and specially trained to operate the mobile clinic. Furthermore, community health volunteers will be trained to conduct blood glucose testing and monitoring of patients, to raise community awareness of diabetes and its complications.

Reducing the burden

"Diabetes-related complications constitute a major threat to financially strained health care budgets in developing countries, and effective secondary and tertiary prevention in this area can, therefore, make an enormous difference. All these projects are truly remarkable examples of how the World Diabetes Foundation and its implementing project partners are contributing to create awareness and knowledge about diabetes, and at the same time help build capacity in the rural areas and in the most remote and poorest parts of the world. By addressing these problems and offering simple, preventive measures and care, each project is saving not only feet and eyes but the futures of thousands of people," says Ms. Hanne Strandgaard, Programme Coordinator and focal point for foot care projects at the World Diabetes Foundation. ■

4) Project application
5) IDF Diabetes Atlas 2009, 4th edition

BOLIVIA

The project funded by the World Diabetes Foundation in Cochabamba, Bolivia, aims to provide ophthalmic check-ups and information about diabetes-related eye complications and how to avoid them. More than 5,000 people with diabetes are enrolled into the project. In addition 3,000 people have benefited through retinal photographs. ■

THAILAND

More than 600 health care providers will be trained in detection, treatment and management of diabetes and diabetic retinopathy as part of the project funded by the World Diabetes Foundation in Thailand. They will then take turns in operating the mobile eye clinic in their local rural areas, providing free laser treatment for 8,000-12,000 people with diabetic retinopathy.

SUDAN

The project in Sudan aims at reducing the number of major lower limb amputations due to diabetic foot complications from 38% to less than 10%. The project will train health care professionals and establish new diabetic foot clinics across the country in areas with high incidence of diabetes and lack of trained health care personnel. ■

CARE FOR 176,542 PEOPLE

Since 2002, the World Diabetes Foundation has supported the training of 3,070 health care professionals in providing proper care for the diabetic foot. To date, they have provided care for 176,542 people with high-risk feet. Over the next several years, these professionals will be in a position to treat many more people with diabetes. By sharing information with their colleagues, they build even greater capacity. ■

REPLICABLE MODELS

The foot and eye care projects have had a catalytic effect on several other partners of the World Diabetes Foundation and inspired countries like Mali, Pakistan, Uzbekistan, Egypt, the Democratic Republic of Congo, Burundi, Mauritius, Kenya and Uganda to replicate the models. ■

PREVENTING DIABETES IN THE FIRST PLACE

Economic growth in developing countries has improved the standards of living and radically increased the rate of urbanisation. The change in lifestyle has brought new health problems in its wake and, ironically, is now threatening the health and economic prosperity in the same countries. The growing burden of diabetes and other chronic diseases has created an urgent need for preventive measures.

The explosive rise in non-communicable diseases is attributed to an ageing population, obesity and the spread of undesirable lifestyle behaviours, including unhealthy diets, physical inactivity, exposure to tobacco and harmful use of alcohol, as a consequence of globalisation and urbanisation. This epidemiological transition is now occurring at a scale and speed unprecedented in human history. The impact of non-communicable diseases on the productive labour force is estimated by the World Bank to generate substantial losses in national incomes amounting to hundreds of billions of dollars, marginalising families and children into a downward spiral of poverty. This is difficult to rationalise when evidence exists that more than 80% of premature heart diseases, strokes and type 2 diabetes and over 40% of cancers can be prevented by adopting healthy lifestyles, encouraged by the implementation of wise public policy.

"The pandemic spread of diabetes is the negative result of unhealthy living conditions throughout the developing world. The unhealthy lifestyle adopted by the developing countries – with diets laden with sugar and saturated fats combined with limited physical activity – is the main driver of the simultaneous spread of diabetes and other non-communicable diseases," says Prof. Ib Bygbjerg, Department of Public Health at the University of Copenhagen. He points out that, in developing countries, the unhealthy lifestyle is often not a deliberate choice not to live a healthy life, but rather the result of unhealthy alternatives being the easy and affordable choices in the short run. Awareness of the consequences and the associated risks of an unhealthy lifestyle, coupled with an enabling environment for healthy choices, are therefore critical to change this unfortunate development.

Treatment vs. prevention

According to the World Bank, non-communicable diseases account for 46% of the disease burden in low and middle-income countries and large increases are projected for the future.[1] By 2015, the World Bank predicts that non-communicable diseases will be the primary cause of death even in low and middle-income countries. The International Diabetes Federation estimates that global health care expenditures to treat and prevent diabetes and its

Of all continents, Asia has the fastest growing number of people with diabetes.

The WHO estimates net losses in national income from diabetes and cardiovascular disease to increase dramatically in developing economies by 2015. The numbers are expressed in International Dollars (ID), which adjust for differences in purchasing power.

ID 557.7 billion in China
ID 303.2 billion in Russia
ID 336.6 billion in India
ID 49.2 billion in Brazil
ID 2.5 billion in Tanzania

1 World Bank: Public Policy and the Challenge of Chronic Non-communicable Diseases, p. xviii

THREE PILLARS OF DIABETES PREVENTION

- Primary prevention focuses on raising awareness of diabetes, its consequences and how to avoid it. Type 2 diabetes is, to a great extent, preventable if one adopts a healthy lifestyle, including a healthy diet and increased physical activity.

- Secondary prevention aims at providing access to care for people with diabetes in order to prevent diabetes-related complications such as diabetic foot and diabetic retinopathy.

- Tertiary prevention aims to prevent recurrence or worsening of diabetes-related complications. For instance, proper treatment can often prevent diabetic retinopathy from developing into blindness and diabetic foot from turning into a severe complication that requires amputation.

complications will total at least USD 376 billion in 2010 and by 2030 this number is projected to exceed USD 490 billion.[2]

Although the socio-economic impact of diabetes can no longer be questioned, many governments and health planners are only now realising the impact of the epidemic they are facing, but are unable to find resources to address the problem. The need for preventive measures and the understanding of the cost-effectiveness of primary prevention interventions compared to treatment of chronic diseases like diabetes are slowly being recognised. However, the need to treat today's diseases simply triumphs over preventing tomorrow's diseases from occurring.

The coming generation

Perhaps the greatest potential for preventive measures lies in the coming generation. Type 1 and 2 diabetes is rapidly increasing in children and adolescents in many countries, whether rich or poor. A sample study of 5,802 school children carried out by Delhi Diabetes Research Centre (DDRC) shows that 18% of school children in Delhi, India, are overweight and 6% obese. 62% prefer junk food as part of their daily diet and 39% never exercise. Another study published in the Asia Pacific Journal of Clinical Nutrition found that the prevalence of overweight in urban children in Delhi increased from 16% in 2002 to about 24% in 2006. Prevalence related to obesity among adolescent children aged 14-17 was 29% in private schools and 11.3% in government-funded schools.

"A person's adult lifestyle has roots in his or her childhood and the sooner intervention is made, the more likely it will become a habit. In seeking to change the dire prospects for the coming generation, the World Diabetes Foundation is funding an increasing number of projects aimed at primary prevention among school children. The focus in these projects is to catch people before the onset of diabetes and encourage them to lead a healthy lifestyle. So the target groups are children who might themselves be at risk later in life or whose families might be at risk. The children, in that sense, are being inculcated to become ambassadors for healthy lifestyles," says Mr. Ulrik Uldall Nielsen, Programme Coordinator at the World Diabetes Foundation.

Child-to-family communication

In Andra Pradesh in rural India, the World Diabetes Foundation is funding a health promotion and diabetes prevention project, which actively involves school children as change agents in their rural communities. An impressive 118,290 school children aged 9-15 have been sensitised and trained to assess the risk of diabetes through the use of a high-risk score sheet. Subsequently, 522,515 families covering 2,378,042 persons have been sensitised by the children and 119,546 high-risk persons have been screened for diabetes.[3]

2 IDF Diabetes Atlas 2009, 4th Edition

3 Semi-annual progress report 05-137 and WDF website

"The use of child-to-family communication as a strategy for health education on diabetes has created much awareness in the rural communities and the students as well as their parents have been very enthusiastic and supportive of the initiative. The child-to-family approach has enabled us to reach some 74% of the district population – an achievement exceeding even our most optimistic expectations," says Ms. Sethu Sheeladevi, Project Manager, from the L.V. Prasad Eye Institute.[5]

Innovative learning strategies

Another project aimed at preventing diabetes and other chronic diseases through school-based behavioural intervention is currently taking place in four Caribbean countries. The intervention is intended to prevent children and their parents in St. Kitts & Nevis, St. Vincent, Trinidad & Tobago and Grenada from becoming obese and eventually developing diabetes by addressing four lifestyle behaviours: eating right, weighing right, doing daily physical exercise and having a positive self esteem.

"The use of innovative learning strategies introduced in the programme has encouraged the children to reflect on their current behaviours and explore why and how they should adopt the targeted lifestyle behaviours. Officials from the Ministry of Education, school principals, teachers, parents and the students themselves have all expressed a great interest in the project, and expectations are that the project will improve diet and physical activity patterns among the involved school children," says Dr. Fitzroy Henry, Project Manager and Director of the Caribbean Food and Nutrition Institute.

Thus far, 160 teachers and 2,400 students from 16 schools in the four countries have participated in a needs assessment survey and baseline data have been collected from 1,996 school children. 84 teachers have been trained and classroom teaching has been initiated with 824 school children.[4]

"In general, we all tend to value current health above future health. This not only colours the way humanitarian issues are approached, but tilts the opinions of policy-makers towards treatment rather than prevention. The fact is, however, that each side – prevention and treatment – benefits from the other, and some prevention programmes – notably within diabetes – have demonstrated that they can dramatically increase the total quantity of health by benefiting both current and future health," says Mr. Ulrik Uldall Nielsen, Programme Coordinator at the World Diabetes Foundation.

"With nearly 22 million children[5] below the age of five being overweight worldwide, much can be gained from primary prevention aimed at children and their parents. Obesity is a major lifestyle-related risk factor responsible for the increasing prevalence of non-communicable diseases in developing countries. A strong preventive approach supported by the local communities and authorities is essential if we are to turn the tide," Mr. Ulrik Uldall Nielsen concludes. ■

More than 80% of the estimated global expenditures on diabetes are made in the world's economically richest countries, not in the low and middle-income countries where over 70% of people with diabetes live.

Nearly 22 million children under the age of five are estimated to be overweight worldwide.

The World Bank considers health intervention that costs less than USD 100 per year of life saved as highly cost-effective for poor countries.

4 Semi-annual progress report 05-139 and WDF website

5 Asia Pac J Clin Nutr 2008; 17 (SI):172-175

PARTNERING TO FIGHT DIABETES IN CHILDREN

The World Diabetes Foundation, Novo Nordisk A/S and Roche unite to improve access to care and treatment for children with type 1 diabetes in some of the world's poorest countries.

In Africa, an estimated 38,000 children under the age of 14 suffer from type 1 diabetes, and in Tanzania, only one in five children developing type 1 diabetes is diagnosed.[1] In developing countries where health care capacity is alarmingly insufficient to care for the ones most severely affected by the disease, type 1 diabetes can be a death sentence for a vulnerable child. The life expectancy of a person diagnosed with type 1 diabetes can be as low as seven months in some countries, and many children die from diabetes without ever being diagnosed.[2] These statistics are heart rendering, especially since the majority of these premature deaths could be avoided with access to proper care and treatment.

A unified effort is required

Striving to place diabetes on the global health agenda and alleviate human suffering related to diabetes and its complications, the World Diabetes Foundation builds alliances and networks with multiple international and local stakeholders.

In cooperation with local ministries of health and local diabetes associations, Novo Nordisk A/S has initiated a project called "Changing Diabetes in Children". Roche Diabetes Care has decided to join the initiative in the first phase, which will roll out in five countries: Tanzania, Uganda, Mozambique, Guinea Conakry and the Democratic Republic of Congo. The objective is to build sustainable solutions for improving availability, accessibility, affordability and quality of diabetes care for children with type 1 diabetes by building health care capacity and improving access to care and treatment for children living in some of the world's poorest countries.

Children with diabetes represent an important focus area for the World Diabetes Foundation as these children are extremely vulnerable. In the developing world, many children with type 1 diabetes die prematurely as their diabetes is not detected in time because the health care professionals do not have adequate knowledge about diabetes – or because the health care facility which can treat these children is located too far away and not easily accessible. Or they die because the health systems fail to realise the importance of type 1 diabetes and that making insulin available to these children determines whether they are given a chance to live.

> **The life expectancy of a person diagnosed with type 1 diabetes can be as low as seven months in some countries, and many children die from diabetes without ever being diagnosed.**

The World Diabetes Foundation will join this programme by supporting the local initiatives as it has in other previous projects involving type 1 diabetes in children funded by the Foundation in Sudan and Indonesia. The Foundation's funding of the project will focus on empowering the local partners, enabling them to build and strengthen health care capacity through structured training of health care professionals to deal with the special needs of children with type 1 diabetes and their families within existing clinics or set up special clinics for type 1 children. In addition, the Foundation will help fund the development of awareness and education material for the children and their families and organise camps for the children.

The objective is to build capacity within the existing health care system in partnership with local governments to provide care for these children until they reach the age of 18. The centres will receive equipment, including computers for record keeping and developing registries, training of health care personnel and guidelines. In addition to providing logistics support and coordination, Novo Nordisk A/S will provide free insulin and syringes and Roche has pledged to supply blood glucose meters and strips for these children as well as provide help with training.

In the developing world, type 1 children's families often cannot afford to pay for insulin treatment and have very few options when it comes to affordable healthy foods.

Fighting diabetes in the developing world does not necessarily require huge investments. Improving awareness, early detection and care is very cost-effective and can largely prevent the costly complications of diabetes.

Type 1 diabetes can hit people of any age, but usually occurs in children or adolescents. Many children and adolescents find it difficult to cope emotionally with their conditions. Diabetes may result in depression and discrimination and limit social relations. It may also impact on school performance and family functioning. The financial burden may be aggravated by the cost of treatment and monitoring equipment.[1]

1 http://www.worlddiabetesfoundation.org/composite-1799.htm

2 http://www.idf.org/webdata/docs/Diabetes%20Declaration%20&%20Strategy%20for%20Africa_full.pdf

1 IDF Diabetes Atlas 2009, 4th edition, p. 30

Children in 21 municipalities throughout Bosnia and Herzegovina participated in the “Open Fun Football School” and learned about the importance of regular physical activity for preventing chronic diseases. The activities were organised by the local Diabetes Association in cooperation with Novo Nordisk.

In Jerusalem, the Diabetes Care Center at Augusta Victoria Hospital celebrated World Diabetes Day in partnership with the National Committee for Chronic Diseases, which included health care professionals and UNRWA. More than 1,200 people took part in the event, including the minister of health.

In the Malaysian city of Subang Jaya, the Sime Darby Medical Centre organised a walk with more than 350 participants.

In San Juan Baptista in Paraguay, Dr. Obregón coordinated the "Walk for Life" to mark the World Diabetes Day. Local authorities, health personnel and the voluntary fire brigade of the city of San Juan Bautista Misiones participated in the walk.

Jagran Pehel organised major walks in 22 districts across India, which included public schools, non-governmental organisations, senior state and government officials and health care professionals. More than 14,000 people participated.

In Arua, Uganda, the Global Diabetes walk was led by a brass band and had secondary school students performing songs about diabetes and local traditional dances being performed. At the health centre, screenings were carried out. A total of 10,000 people participated.

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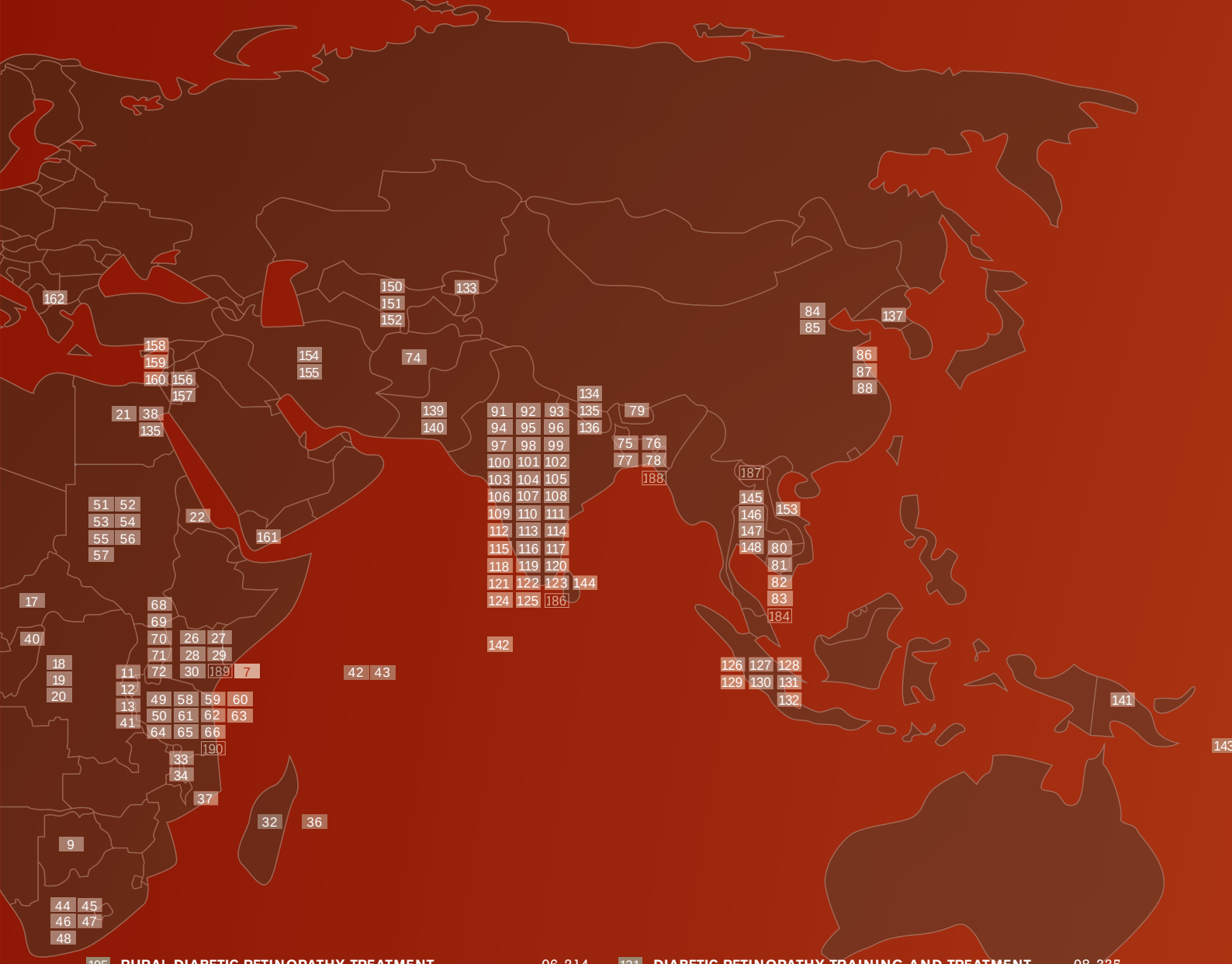

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The primary funds allocated to the fundraising activities are donated by Novo Nordisk employees and management & through the 'Take Action' programme, an employee volunteer programme where employees raise funds by taking unique initiatives or donate a monthly amount from their salary to support specific projects.

For full details on the projects funded by the World Diabetes Foundation, please visit: www.worlddiabetesfoundation.org

People with type 1 diabetes produce little or no insulin. This causes sugar to remain in the blood, leading to elevated blood glucose levels. Left untreated, this can result in complications and lead to coma and death. Treatment of type 1 diabetes typically includes a carefully calculated diet, physical activity, blood glucose testing and daily insulin injections.[2]

2 http://www.idf.org/webdata/docs/background_info_AFR.pdf

"As a diabetes care company, we have an obligation to use our resources and expertise to help these children. This project will not only provide free insulin to an extremely vulnerable group, it is also designed to build long-term solutions for insulin distribution and sustainable diabetes care for all people with diabetes in the world's poorest countries," says Mr. Lars Rebien Sørensen, President and Chief Executive Officer of Novo Nordisk A/S.

"We are committed to improving the situation of people with diabetes and their caregivers. And we are especially dedicated to projects in the developing countries where structured and high-quality diabetes care is not yet established. Together with our partners, the World Diabetes Foundation and Novo Nordisk A/S, we want to change the diabetes care landscape to prepare health care systems for the future," states Mr. Burkhard G. Piper, President of Roche Diabetes Care.

Ensuring sustainability and meeting immediate needs

Furthermore, the sustainability of the project will be ensured by making sure that the requisite health care capacity is built within the existing structure and is present and functional at the end of the intervention period. The learning from the initial process, with the evidence and positive experience created, will encourage governments to take full ownership of the project without future external support.

"While providing uninterrupted insulin and other diabetes supplies for treatment is a very important element in managing children with diabetes, we generally do not fund the provision of free medication as part of our projects. We believe this must be addressed by the local governments through appropriate health system initiatives and reforms," says Dr. Anil Kapur, Managing Director of the World Diabetes Foundation.

"The Changing Diabetes in Children Programme is an example of an arrangement where different stakeholders such as public, private, and non-governmental organisations are working in tandem to fulfil a common objective. The World Diabetes Foundation supports capacity building within existing government structures while the industry provides free insulin and other diabetes supplies to type 1 children for a specified period. Ultimately, the hope is that governments will be able to assume full responsibility over time," says Dr. Anil Kapur. ■

ON THE ROAD TO UNDERSTANDING GESTATIONAL DIABETES

As the name suggests, gestational diabetes only occurs during gestation – during pregnancy. If the condition disappears again after pregnancy, one could ask: "Why bother?" But there are reasons to bother. Firstly, if gestational diabetes is left uncontrolled, mother and child run an elevated risk of developing type 2 diabetes later in life. Secondly, a pregnancy with diabetes entails a number of risks to the baby, which also affect the birth. The most common risk is macrosomia – also known as the big baby syndrome – which complicates the birth and turns it into a high-risk affair if qualified emergency obstetric care is not available.

"Gestational diabetes is simply not understood at all – nor is the concept of women coming into pregnancy with diabetes." Dr. Manuel Carballo, Executive Director, International Centre for Migration, Health and Development.

For us, these are reasons enough to include Mothers and Diabetes as a focus area. On top of that, the area is largely unaddressed as an important maternal health issue in developing countries. Focusing on gestational diabetes is a low-cost preventive way to improve maternal and child health, and a small investment in providing screening and care services for mothers at risk for gestational diabetes is likely to have a multigenerational impact on the beneficiaries as well as on health care systems and budgets," says Dr. Anil Kapur, Managing Director of the World Diabetes Foundation. To date, the Foundation's direct investment in gestational diabetes projects amounts to USD 2.37 million, a relatively small amount compared to other focus areas, partly due to a lack of awareness of this important issue. The funds are distributed among seven projects in India, Cameroon, Sudan, Cuba, Jamaica and Panama.

Explaining Cameroon's maternal deaths

In Cameroon, a team of diabetologists initiated a three-year project focusing on gestational diabetes in December 2008. They hope to find the cause behind some of the currently unexplained fetal and maternal deaths, which takes the life of one woman for every 100 live births.

One of the main driving forces for the project responsible Dr. Eugene Sobngwi and his team to embark on this project was to include screening of gestational diabetes in the African guidelines on diabetes. "In our observations, we realised that there was no uniform practical approach towards gestational diabetes. And people, including health authorities, basically ignored the problem," he says.

The project aims at raising awareness, building

Women waiting at a primary health care centre in Chennai, Tamil Nadu, for their maternal health checks with their new born babies.

capacity and providing key data on the magnitude and outcome of gestational diabetes in urban and rural Cameroon. To date, more than 1,000 women have been screened in urban, semi-urban and rural areas and an overall prevalence rate of 5% has been documented. According to Dr. Sobngwi, this rate merely confirms what they expected to find based on the global diabetes prevalence of 6% in Cameroon stated by the Ministry of Health. As a consequence of these findings, gestational diabetes is expected to be included in the country's national health care budget for 2010.

Improving maternal care in Cuba

While the Cuban health care system already had well-trained health care personnel at its disposal, it lacked the equipment to provide and extend services and care to all pregnant women with diabetes. Since 2007, the World Diabetes Foundation has supported a project in Cuba aimed at strengthening the quality of care for diabetes and pregnancy in all provinces of the country.

According to project manager, Prof. Antonio Marquez Guillén, nine out of ten pregnancies with diabetes in Cuba are gestational diabetes, i.e. occurring in women not previously known to have diabetes. "These women would not have been found had we not screened them, and to me this is a strong argument for the necessity of screening for gestational diabetes and not only focusing on women with diabetes," he says.

With the extension of maternal services to all provinces, all women in childbearing age now have access to one of 18 provincial service centres for diabetes and pregnancy. At the diabetes and pregnancy service centre, trained personnel ensure that the women are provided with proper screenings and are controlled adequately. "With the establishment of these service centres, we have now ensured extra attention and metabolic control to all women with diabetes in childbearing age," says Prof. Guillén. "The challenge ahead of us remains to detect and treat the cases of gestational diabetes in order to diminish the future risk of diabetes in women and new born babies."

It all began in Tamil Nadu, India

In 2004, Dr. Seshiah's Diabetes Care and Research Institute in Tamil Nadu, India, initiated a project with the support of the World Diabetes Foundation to prevent and control gestational diabetes among women in rural and urban areas. The motivation for initiating the project was to collect data and verify the situation because, without proper data, health professionals only had assumptions to work on. Furthermore, they wanted to use the results to evaluate the public health measures to determine the success of intervention methods.

Seven projects in the World Diabetes Foundation portfolio focus specifically on gestational diabetes: India, Cameroon, Cuba, Sudan, Jamaica & Panama.

Projects in Congo Brazzaville and DR Congo are addressing the issue by training midwives in gestational diabetes and focusing on improved diabetes care during pregnancy.

Among 12,056 women screened for gestational diabetes in urban and rural areas around Chennai, an average of 13.8% were found to have gestational diabetes. This is much higher than the estimated global prevalence, but then again, since few women are screened for gestational diabetes globally, data are very scarce. The Tamil Nadu Health Department partnered up from the beginning and supported the initiative and as a result of the project impact, screenings were made compulsory for all pregnant women in the entire state in 2007.

"For the World Diabetes Foundation, this project has been a flagship within gestational diabetes, because it was the first endeavour for the Foundation to support, but more importantly because it has had such an immediate and positive impact," says Mr. Ulrik Uldall Nielsen, Programme Coordinator. Based on the good experience from India, the Foundation has been promoting the inclusion of screening for gestational diabetes at least in the high-risk group in the developing world as an important contributor to improving maternal health care. A second phase of this project was initiated in late 2008 and will run for a three-year period during which approximately 13,910 health care providers working with antenatal care in the public health centres will be trained. In total, it is expected that 990,000 pregnant women will be screened of whom around an expected 76,000 will have gestational diabetes.

Costly strategy not to screen

According to Dr. Anil Kapur, not screening for diabetes during pregnancy – especially in women at high risk – is both a dangerous and potentially costly strategy. "While the burden of diabetes grows, there is no global recommendation for women, gender equality and health specifically mentioning diabetes. By supporting gestational diabetes projects in developing countries, we will continue to create awareness of the necessity of screening for gestational diabetes in order to improve maternal and child health. At the same time, we will work determinedly with national and international organisations to ensure that the issue of gestational diabetes gets the place it deserves on the global health agenda," he says. ■

INTERLINKED DISEASES REQUIRE INTERLINKED EFFORTS

Developing countries with a high prevalence of HIV/AIDS and tuberculosis focus on communicable diseases whereas non-communicable diseases such as diabetes are often neglected. However, research has shown a link between diabetes and tuberculosis and HIV/AIDS, suggesting a need for further exploration of inter-sectoral approaches to screening and treatment of communicable and non-communicable diseases.

A 2007 Cambodian qualitative study by Chean Rithy Men showed that people with diabetes would rather have HIV than diabetes, because they do not receive the same benefits in terms of free medicine and, thus, face a greater risk of dying from their chronic illness than HIV-positive people do.[1]

According to the WHO Stop TB Programme in 2007, 14.4 million people were living with tuberculosis at global level. In addition, 9.2 million new cases were reported and 1.7 million deaths were attributed to tuberculosis. Recent systematic reviews of studies show that diabetes increases the risk of developing tuberculosis, especially among people living in developing countries with a high background incidence of tuberculosis.[1] Furthermore, diabetes prolongs the response time to tuberculosis treatment. Addressing diabetes is therefore vital to strengthening tuberculosis control.[2] Studies also suggest that people with HIV/AIDS who receive antiretroviral treatment are at an increased risk of developing diabetes, and people with both diabetes and HIV/AIDS face an increased risk of developing tuberculosis.[3]

The Millennium Development Goals do not mention diabetes. However, the sixth Millennium Development Goal calls for the incidence of communicable diseases like tuberculosis and HIV/AIDS to be halted and reversed by 2015. If we are to reach this goal, governments in developing countries must focus on diabetes as a significant epidemiological risk factor.

Prof. Ib Bygbjerg of the University of Copenhagen, Department of International Health, and member of the World Diabetes Foundation's Board of Directors, has worked extensively with the link between communicable and non-communicable diseases. He says, "It is no longer a question of whether there is a link between diabetes and tuberculosis as this link has now been established. Rather, it is a question of finding a cost-effective way to ensure screening, care and monitoring of this double burden of disease in the developing world where health care capacity and resources are disturbingly limited."

An inter-sectoral approach is needed

In Africa, health budgets are very limited, and communicable diseases like HIV/AIDS, tuberculosis and malaria dominate the health policy agenda. However, more than 330,000 people are expected to die from diabetes-related causes in the region next year, and the number of people living with diabetes is expected to double over the next 20 years to 23.9 million in 2030 – equivalent to the number of adults and children living with HIV/AIDS in Sub-Saharan Africa in 2008[4,5]. Moreover, as a result of the link between diabetes and HIV/AIDS and tuberculosis,

China has the highest number of tuberculosis cases in the world. Each year, 1.5million people develop tuberculosis, and 270,000 people die from the disease, and the incidence of multidrug-resistant tuberculosis is increasing.

the number of people living with both diabetes and tuberculosis or HIV/AIDS is likely to increase rapidly. This will complicate management of the diseases, have enormous consequences for the individual's wellbeing and put pressure on scarce health care budgets.

A widely held misconception exists among policy-makers, multilateral donors and even public health experts, particularly in the developed world, that diabetes is a rich man's disease. However, the fact is that the low and middle-income countries undergoing rapid urbanisation are witnessing the strongest growth in diabetes rates, and among the worst affected are the urban poor in these countries. In this context, diabetes and tuberculosis share many risk factors and socio-economic determinants of poor health outcomes. The two conditions are therefore likely to be found in the same subpopulations. "To alleviate the dual burden of disease, an integrated approach targeting both communicable and non-communicable diseases is required. Necessity is the mother of invention and when resources are scarce we must think of ways to optimise the available ones. It is time for governments to stop seeing communicable and non-communicable diseases as two unrelated areas and to start exploring joint strategies for detection, prevention and management, building on the same infrastructure and health care capacity," explains Dr. Anil Kapur, Managing Director of the World Diabetes Foundation.

Providing documentation

In order to develop internationally accepted guidelines on inter-sectoral strategies focusing on non-communicable as well as communicable diseases, additional data and documentation of the link between the diseases are needed. In South Africa,

1 Mini Review: Links between diabetes mellitus and tuberculosis: should we integrate screening and care?
2 WDF article "Diabetes training for TB health personnel, Tamil Nadu, India"
3 Article in Aidsnet January 2009: Diabetes – what has that got to do with HIV/AIDS?, pp 5+8
4 http://data.unaids.org/pub/Report/2009/2009_epidemic_update_en.pdf
5 IDF Diabetes Atlas 2009, 4th edition, p. 40
1 Article in Aidsnet January 2009: Diabetes – what has that got to do with HIV/AIDS?, p. 12

A clinical study among people with tuberculosis in Tanzania suggests that it may be relevant to screen people with tuberculosis for diabetes. The study showed that, unless screening in the form of an oral glucose tolerance test was performed when tuberculosis treatment was initiated, more than half of the people suffering from both tuberculosis and diabetes would not have been diagnosed with diabetes.[2]

the World Diabetes Foundation therefore funds a project aiming to develop a cost-effective strategy for early detection and management of diabetes and impaired glucose tolerance (IGT) in people with HIV receiving antiretroviral therapy and, thereby, to reduce diabetes-related morbidity.

According to UNAIDS, South Africa is home to the world's largest population living with HIV (5.7 million)[6]. The project seeks to assess the prevalence and risk factors of diabetes among these people by developing a simple cost-effective screening tool and teach health care personnel at primary health care facilities how to apply it when treating their HIV-positive patients receiving antiretroviral therapy. Another project in Cameroon is investigating impairment of blood glucose levels and other associated risks for diabetes in people receiving antiretroviral therapy for HIV/AIDS.

In India, the number of people living with diabetes will exceed 50 million by 2010[7], and recent estimates suggest the growing diabetes epidemic could have an even greater impact on tuberculosis incidence than HIV/AIDS. In March 2009, the World Diabetes Foundation funded the first project focusing on the link between diabetes and tuberculosis. Over the next three years, the project will train health care personnel working with tuberculosis in diabetes awareness, screening and management of diabetes in their patients as well as people working with diabetes in screening for and managing tuberculosis. The project will also generate knowledge, which can be applied for developing a model for addressing the double burden of diabetes and tuberculosis.

Finally, the World Diabetes Foundation funds a project in China, the objective being to investigate the association between tuberculosis and diabetes in order to improve treatment of people with both diseases. China has the highest number of tuberculosis cases in the world. Each year, 1.5 million people develop tuberculosis, and 270,000 people die from the disease, and the incidence of multi-drug-resistant tuberculosis is increasing.[8]

In addition, China is experiencing a rapid rise in diabetes rates, with more than 43 million people currently living with the disease,[9] and as diabetes heightens the risk of developing tuberculosis, future prospects are grim. The project will train health care personnel working with tuberculosis in detection and management of diabetes in order to document the prevalence of diabetes in Chinese people with tuberculosis. An expected 7,000 people with tuberculosis and 7,000 people without tuberculosis will be screened for diabetes, and those diagnosed

2 "Diabetes and tuberculosis – old associates posing a renewed public health challenge" 2009

6 UNAIDS 2008, http://data.unaids.org/pub/Report/2009/2009_epidemic_update_en.pdf (p.27)

7 IDF Diabetes Atlas 2009, 4th edition

8 WDF article: Screening for diabetes in TB patients, China

9 IDF Diabetes Atlas 2009, 4th edition

with diabetes will receive proper treatment. Based on the results, guidelines on treatment of patients with both diabetes and tuberculosis will be prepared and distributed to health care facilities.

Paving the way

"We have recently funded a project in Malawi to build services for diabetes. During our discussions with the International Union against Tuberculosis and Lung Disease (IUALTD), we realised that an initiative of IUALTD was building an electronic registry for primary care and we decided to co-fund the project and test whether the diabetes programme could benefit from the learning from the successful DOTS framework and whether it was possible to integrate elements of the two programmes," explains Dr. Anil Kapur.

"Diabetes, tuberculosis and HIV/AIDS are interlinked, and our efforts to fight these diseases should be as well. By funding projects documenting effective strategies and building health care capacity for screening and management of diabetes and other non-communicable diseases within existing health structures, we seek to pave the way for developing models and guidelines for an integrated approach to screening and treatment. This would benefit people with communicable diseases as well as people with non-communicable diseases and the ones suffering from the dual burden of disease," he concludes. ■

Global deaths by cause per year:

Cardio-vascular diseases:	13.4 million
Diabetes:	3.8 million
HIV/AIDS:	2.0 million
Malaria:	1.2 million
Tuberculosis:	1.7 million

THE DOTS FRAMEWORK:

The directly observed treatment short course (DOTS) framework for tuberculosis control was developed by the IUALTD and the WHO in order to allow a structured and well-monitored service to be delivered to millions of tuberculosis patients in some of the poorest countries in the world. This model can be adapted for non-communicable diseases such as diabetes.

SIMPLE SCREENING

A simple, yet effective way to screen for diabetes is to ask about and document self-reported diabetes in newly-diagnosed people with tuberculosis and, where feasible, perform a finger-stick glucometer testing for blood glucose.[3]

LACK OF FUNDING

In developing countries, programme funding within communicable diseases like HIV/AIDS, tuberculosis and malaria is often available through health-related development assistance or donations from large philanthropic organisations. This is not the case with non-communicable diseases, which are widely neglected.

3 "Diabetes and tuberculosis – old associates posing a renewed public health challenge" 2009

GIVING VOICE TO THE MANY FACES OF DIABETES

Diabetes has many faces – but very few voices.[1] Striving to give voice to millions of poor people with diabetes and place the disease on the global development agenda, the World Diabetes Foundation engages in networking activities working with relevant stakeholders to create political will and policy changes and encourage greater allocation of funds for prevention and control of diabetes and related chronic non-communicable diseases.

For any initiative to be sustainable and successful over time, it must be anchored locally based on what is feasible, driven by local champions and supported by political desire and will. To achieve this, it is very often necessary to work with other stakeholders at various levels to create a common platform for advocacy or local action and gain support for the cause of diabetes, as well as address issues which may impede progress of the objectives.

Building strategic alliances

The global health agenda cannot be changed single-handedly at an international level. Therefore, the World Diabetes Foundation has organised summits, expert meetings and forums involving health care professionals, opinion-makers and policy planners. The purpose of these initiatives is to create awareness and advocacy as well as to increase knowledge about key issues related to diabetes and its complications, analysing the issues and barriers as well as learning from successful project interventions.

At the national level, the Foundation supports meetings and roundtable discussions whereby professionals, opinion-makers, policy planners, state agencies and other key stakeholders join to formulate policy documents which contribute to the development of national programmes for diabetes and non-communicable diseases.

"Strong international and national networks are essential for attracting resources to non-communicable disease programmes and for developing and supporting sustainable prevention and care programmes. By demonstrating through our projects that solutions can be found, we try to act as a catalyst for larger initiatives at the national level," says Ms. Ida Nicolaisen, Senior Research Fellow at the Nordic Institute of Asian Studies, University of Copenhagen, and member of the World Diabetes Foundation's Board of Directors.

The World Diabetes Foundation has assumed this pioneering role, working towards the same goal as the international donors: to alleviate poverty, but using diabetes as the entry point. Few things are more convincing than real life stories, successful practices and achievements. During the last eight years, the Foundation has contributed to numerous networking activities and sharing of better practices, and this has helped open the eyes of local policy-makers and inspired countries in Africa such as Uganda, Kenya and Tanzania to lead the way in including chronic diseases in their national health policies. Ensuring alignment with local priorities and supporting local ownership of all projects are essential for the sustainability of the applied solutions. Another important factor for sustainability is participation of influential local and global stakeholders and sharing with them knowledge and experiences.

Below we share some of the highlights of 2009. ■

1 Dr. Ala Alwan, Assistant Director-General of the WHO in IDF Diabetes Atlas 2009, 4th edition, p. 9

NETWORKING AND KNOWLEDGE-SHARING ACTIVITIES IN 2009

Fifth International Symposium on Diabetes and Pregnancy, Italy

Women, diabetes and development were in focus when the World Diabetes Foundation co-hosted a session at the Fifth International Symposium on Diabetes and Pregnancy in Sorrento, Italy, in March 2009. At this meeting, experts in obstetrics, gynaecology and diabetes were surprised and enthused to see gender equality and access to care in developing countries interconnected with malnutrition in the mother, pregnancy and diabetes and the immediate and long-term impact on mother and child health.

At the end of a lively panel discussion, the conclusion was that focus on maternal health during pregnancy, including screening for and optimum management of gestational diabetes, is a low-cost intervention that goes a long way to improve maternal and child health, and potentially save future generations from developing diabetes, obesity and other related non-communicable diseases such as high blood pressure, heart disease and strokes.

WHO SEARO, Strengthening Partnerships Meeting

In India, June 2009, the World Diabetes Foundation was invited to a meeting on

Strengthening Partnerships for Integrated Prevention and Control of Non-communicable Diseases by the WHO Regional Office for South-East Asia in Chandigarh. The primary aim of the meeting was to explore and identify opportunities for strengthening partnerships on prevention and control of non-communicable diseases in the South-East Asia region and discussing a draft instrument for monitoring and evaluating national non-communicable disease prevention and control programmes. The meeting concluded with suggestions to formulate, update and strengthen national policies, strategies and programmes for integrated prevention and control of non-communicable diseases in South-East Asia based on the regional framework.

UN Economic and Social Council in Geneva

In July 2009, the World Diabetes Foundation participated in the meeting of the UN Economic and Social Council in Geneva and co-hosted a luncheon meeting with the Global Alliance for Women's Health on Women, Diabetes and Development. Amongst the various points in the ministerial declaration of the 2009 high-level segment of the Economic and Social Council, many policy components were of particular relevance to the work of the World Diabetes Foundation, including the World Health Organization Global Strategy for the Prevention and Control of Non-Communicable Diseases and its related Action Plan.

Expert meeting on the link between tuberculosis and diabetes

In November, the World Diabetes Foundation co-hosted an expert symposium in Paris with the International Union against Tuberculosis and Lung Diseases and the WHO Stop TB Department to determine the way forward for an integrated approach to diabetes and tuberculosis in acknowledgement of the two diseases being interlinked.

The 40th Union World Conference on Lung Health, Cancun, Mexico

At the 40th Union World Conference on Lung Health in Cancun, Mexico, the World Diabetes Foundation co-hosted a symposium with the International Union against Tuberculosis and Lung Diseases. The symposium presented evidence of the close link between diabetes and tuberculosis and discussed an agenda for future research and recommendations, including how to implement future screening and management protocols to address the double burden, including the relevance of using the TB-DOTS model for monitoring non-communicable diseases.

Diabetes Summit for Africa, Mauritius

In mid-November, the World Diabetes Foundation attended the international conference on diabetes in Mauritius, which was organised by the Ministry of Health and Quality of Life, Mauritius, the WHO Regional Office for Africa (WHO AFRO) and the International Diabetes Federation (IDF). The meeting was addressed by the prime minister of Mauritius, the regional director of WHO AFRO and the president of the IDF. More than 300 delegates from 47 countries in Africa attended the conference, including representatives from WHO Geneva, the Regional Health Communities, international agencies, the Commonwealth Health Secretariat, the African Union, the Indian Ocean Commission and the World Diabetes Foundation, etc. The World Diabetes Foundation presentation showcased the large footprint of the projects supported by the Foundation in Africa.

Diabetes Leadership Forum, China

On 31 October, the World Diabetes Foundation co-hosted the Diabetes Leadership Forum in Beijing, China 2009 with the International Health Exchange and Cooperation Centre of the Chinese Ministry of Health. The forum was organised by the Chinese Diabetes Society and the Chinese Centre for Disease Control and Prevention, with the support of the Bureau of Disease Prevention and Control of the Chinese Ministry of Health and the International Diabetes Federation. The forum was sponsored by Novo Nordisk A/S.

Almost 650 participants attended the forum, including policy-makers representing various government departments at central, provincial and city levels, diabetes associations, academics, economists, clinicians, nurses and pharmacists. Other participants included people with diabetes, the media, international organisations such as WHO, World Bank, National Institute for Health, USA and pharmaceutical company executives from Novo Nordisk A/S and Roche. The forum was a huge success overall and was perhaps a transforming event for diabetes prevention and care in China.

Global Diabetes Walk 2009

On World Diabetes Day, the World Diabetes Foundation coordinated the Global Diabetes Walk. This year more than 305,479 people from 51 countries took part in the annual Global Diabetes Walk – an event first

initiated by the World Diabetes Foundation in 2004 with the objective to raise global awareness and attract public attention to the disease and its consequences. The slogan of this year's World Diabetes Day and Global Diabetes Walk was "Understand Diabetes and Take Control".

Additional information is available at www.globaldiabeteswalk.net

E LIBRARY

Sharing knowledge trough E-library

Since 2002, the World Diabetes Foundation has funded more than 219 projects in 90 countries, focusing on strengthening diabetes awareness, prevention, detection and access to care at local, regional and global levels. In keeping with its strong focus on sustainability, the Foundation has developed an E-library to facilitate knowledge sharing and inspire others to do more. Relevant awareness documents, guidelines, posters and publications prepared by project partners around the world can be downloaded free of charge in several languages.

Additional information is available at www.worlddiabetesfoundation.org

Replicable models for care – virtual diabetes clinic

The World Diabetes Foundation has developed a virtual interactive diabetes clinic. The objective is to showcase a replicable clinic model in order to inspire and educate health care professionals and caregivers in how to strengthen health care capacity with relatively simple means.

The Foundation invites you to visit the clinic at: www.worlddiabetesfoundation.org ■

GLOBAL DIABETES WALK™ 2009 – WORLD DIABETES DAY

On 14 November, World Diabetes Day 2009, the international diabetes community united to show a concerted effort to raise awareness of diabetes by joining the Global Diabetes Walk, which has become an integral part of the World Diabetes Day campaign, involving a variety of stakeholders and project partners.

Since the first Global Diabetes Walk was organised by the World Diabetes Foundation in 2004, the initiative has grown into a major awareness-raising platform reaching all segments of society, including opinion builders, civil society, politicians, academia, schools and children, health care professionals, diabetes organisations, the pharmaceutical industry and the media. Behind each walk is a dedicated coordinator, who has taken the time and energy to organise a local programme to create awareness of diabetes, not only in the developing countries, but also in the developed part of the world.

This year, more than 305,479 people from 51 countries registered to take part in the Global Diabetes Walk to help raise awareness of diabetes and its devastating complications. Walk coordinators used banners, pamphlets, T-shirts and poster designs, which they downloaded from the Global Diabetes Walk website. Impressive support from people in every corner of the world made this year's walk the biggest walk in the history of the Foundation. On World Diabetes Day, the president of the International Diabetes Federation (IDF), Prof. Jean Claude Mbanya emphasised the importance of alerting the global diabetes community and stated: "The World Diabetes Day campaign aspires to a well-informed world where the myths surrounding diabetes are dispelled and a motivated community comes together to form a powerful global voice for diabetes advocacy. The campaign has the ambition to empower, educate and energise the diabetes community."

They ran, walked and talked

The Global Diabetes Walk on World Diabetes Day has proven to be internationally effective in spreading the message about diabetes. And the message was repeated through hundreds of thousands of people who walked, ran, sang and talked about diabetes. In the following, we provide some appetisers and impressions of the day. ■

^ 2,100 school students and health care workers participating at the Global Diabetes Walk in Pathanamthitta, India. The walk was organised by Dr. G Vijaya Kumar.

The theme of the World Diabetes Day 2009 was "Understand diabetes and take control."

The World Diabetes Day campaign is led by the IDF and its more than 200 member associations. Created by IDF and the World Health Organization in 1991, the World Diabetes Day became an official United Nations Day in 2007 thanks to a UN resolution that calls on all member states to organise events to mark the day. The Global Diabetes Walk has existed since 2004.

Bush Diabetes Walk in Uganda

The Arua Global Diabetes Walk took place in Uganda's north-western corner. The walk was organised by the Arua Diabetes Association in collaboration with the local Rotary and Lions clubs. All the local diabetes patients and health staff were involved in the preparations of the day.

While the regional activity had its base around the Omugo Health Centre, surrounding districts took part in making the celebration of World Diabetes Day colourful. People paraded with a brass band, secondary-school students performed songs about diabetes and local traditional dances were performed. At the health centre, screenings

were carried out. A total of 10,000 people participated. ■

500 people to start in Mexico

Although the Mexican town of Mazatlan saw its first Global Diabetes Walk in 2009, it started out well with over 500 people participating. According to nutritionist and walk coordinator Ms. Marisol Garcia, people are only just beginning to know the culture of physical activity: "But we will work with perseverance and we are eager to continue the work we have initiated here." The walk was the first step in a continuous campaign named "Prevention – doing exercise".

The Mazatlán Walk managed to involve several organisations in the cause: the College of Nutritionists, the Health & Fitness Gym, the radio station 100.3 PLANETA FM, the Mazatlan Diabetes Association and the Associations of Surgeons and General Practitioners in Mazatlan. The walk was open to the general public as well as diabetes patients and their families. ■

Tennis player attracts attention in India

That India is more like a continent than a country was displayed with the magnitude of people who took to the streets and joined the Global Diabetes Walk. From Dehradun in the north to Turunvelli in the south, a total of 167,847 people participated.

In Pune, Maharashtra, a mega walkathon attracted 4,500 social leaders, non-governmental organisations, school

children,pharmaceutical representatives and the general public to walk to celebrate the World Diabetes Day. The main attraction of the event was the Indian tennis champion Ms. Kyra Shroff, who has been living with diabetes since childhood. She was awarded the Lifetime Achievement with Diabetes Award by the Diabetes Care and Research Unit in Pune. Ms. Shroff talked about how she had overcome the barriers in her life and become number one in tennis.

In Pathanamthitta, Kerala, 2,100 students, teachers, parents and health and education authorities joined the Global Diabetes Walk. The walk was part of the Know Diabetes campaign, which also included diabetes awareness exhibitions and classes in district schools. According to walk coordinator, Dr. Vijayakumar, "Walkers would feel the beauty of walking together and learn how to burn a few calories." ■

Walk for Life in Sri Lanka

The World Diabetes Day was celebrated in the Sri Lankan capital of Colombo with a "Walk for Life 2009" organised by the Diabetes Research Unit of the University of Colombo's Faculty of Medicine and the Tharunyata Hetak youth organisation. A total of 20,000 participants, including the general public, school children, medical students, officials from the ministry of health, cricketers, athletes and celebrities, came together to create major awareness of diabetes. Apart from the walk, free screenings and information about staying fit and healthy life styles were also part of the activities.

In his speech on the World Diabetes Day, Mr. Nimal Siripala De Silva, the Minister for Health Care & Nutrition, speaker of the house in the Sri Lankan Parliament and Chairman of the WHO's executive board, addressed the magnitude of the diabetes epidemic while joining the Global Diabetes Walk:

"Diabetes is a non-communicable disease that is growing at an alarming rate in Sri Lanka. If appropriate public health action is not taken, disability and premature deaths from heart disease, cancer, diabetes and chronic respiratory diseases will increase rapidly in Sri Lanka.

The Ministry of Health of the government of Sri Lanka has therefore been working closely together with the Diabetes Task Force of the Sri Lanka Medical Association on implementing a National Initiative to Reinforce and Organise General Diabetes Care in Sri Lanka. It is our responsibility to create awareness of diabetes in Sri Lanka and we hope the public will take notice of the major walks and events coordinated on the World Diabetes Day in Sri Lanka and educate their children now before it is too late." ■

Everyday heroes

The Global Diabetes Walk made the headlines in newspapers and social media worldwide. According to Ms. Brit Larsen, Communication Coordinator of the World Diabetes Foundation, this shows what individual dedication and empowerment can do in terms of advocacy and awareness: "With the globaldiabeteswalk.net website we provide support and guidance, but the people who really make everything happen are all the local walk coordinators out there. To me, they have become my everyday heroes," she says.

The ever increasing number of walkers and the enthusiasm shown by both new and experienced walk coordinators confirm the Global Diabetes Walk as a high-impact and cost-effective way of creating awareness of diabetes. Yet another year, we lit the torch and let multitudes of people walk to spread the message. ■

NATIONAL INTERVENTIONS

An important part of alleviating poverty is to ensure health equity in developing countries. The basic foundation of health equity is a well-functioning, easily accessible system that recognises and deals with the health care challenges for all, and not just those who can afford care. The World Diabetes Foundation seeks to influence this process by advocating for broadly-based, comprehensive, horizontal interventions for prevention, and care for chronic non-communicable diseases at the primary care level by using the combination of diabetes and hypertension as an entry point.

Over the years, the World Diabetes Foundation has provided funding to a variety of well-defined projects aimed at providing diabetes care to the ones needing it the most. Many of these projects have served as eye openers, inspiration and best practice models and have helped raise awareness and understanding of the need for an integrated approach rooted in national ministries of health in order to truly make a sustainable difference.

"The experience gained in small projects provides invaluable knowledge and experience for formulating a national strategy. By taking an integrated and comprehensive approach, we seek to ensure that diabetes and non-communicable diseases in general are included in national health strategies and are approached with the necessary commitment and resources required to fight the imminent socio-economic burden of non-communicable diseases in the developing countries," says Ms. Sanne Frost Helt, Programme Manager at the World Diabetes Foundation.

Integrated and holistic programmes

The Foundation currently supports implementation of four national programmes in Africa and Asia. The countries involved are at different stages and face different challenges, but they all focus on integrated, comprehensive and holistic programmes and strategies for addressing diabetes, its risk factors and associated chronic diseases. The programmes span from primary prevention over primary and secondary care to tertiary care delivery. Best practice solutions are used as models for national policies, and synergies are achieved through an overall strengthening of health care systems and their ability to manage non-communicable diseases.

"In Uganda, non-communicable diseases have suffered from a widespread lack of understanding and appreciation of the magnitude of the problem. The whole system has been heavily biased towards infectious diseases, starting with the allocation of funds. The first step in our national programme has therefore been to initiate a national survey that will provide evidence of the prevalence and risk factors of non-communicable diseases. The data will help mobilise the government and ensure commitment and funding to non-communicable diseases and enable us to target our efforts appropriately," says Dr. James Sekajugo, Principal Medical Officer in Charge of Prevention and Control Non-Communicable Diseases at the Ugandan Ministry of Health.

The National Diabetes & Non-Communicable Disease Programme in Uganda was the first national programme to receive funding from the World Diabetes Foundation. The programme was launched in January 2008 and will run until December 2012. It targets the entire Ugandan population of about 30 million people and includes preparing a national non-communicable disease policy and an integrated work plan for prevention, detection and control of diabetes and related non-communicable diseases.

"We have an elaborate health care system, but no national policy or guidelines ensuring that things are done in an organised way. Non-communicable diseases require a disciplined approach if we are to turn the tide in this area," explains Dr. Sekajugo.

The same situation is seen in Kenya. A national programme aimed at mainstreaming comprehensive diabetes care throughout Kenya was therefore launched in April 2009.

"In the past, diabetes activities in Kenya have been conducted in an uncoordinated manner. Each player did their own things in their own way following no particular standards. In recognition of the need for a road map for all players in diabetes, the Division of Non-communicable Diseases of the Ministry of Public Health and Sanitation has now initiated the preparation of a National Diabetes Strategy. This will provide a strategic and coordinated framework for guiding the funding, planning, provision, organisation and monitoring of services for people with or at risk of developing type 1, type 2 and gestational diabetes," says Dr. William K. Maina, Deputy Director of Medical Services and Head of the Division of Non-communicable Diseases of the Ministry of Public Health & Sanitation in Kenya.

According to the 2009 IDF Diabetes Atlas, less than half the African countries responding to an IDF member association survey had a national diabetes programme, and of these only half had actually implemented the programme.

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The prevalence of diabetes in Kenya is estimated at 3.3% of the population of 36.1 million people. The prevalence is projected to increase to 4.5% in 2025.

The Step-by-Step foot care model developed in India and Tanzania forms part of the National Programme in Uganda.

The increase in non-communicable diseases, including diabetes, constitutes an enormous challenge for the Kenyan health care system. The national programme will therefore seek to improve the current state of diabetes management and strengthen the health care system so that it is geared to address the disease, its co-morbidities and its complications. Involvement of the Kenya Diabetes Management and Information Centre, the Kenya Diabetes Association, the Kenya Diabetes Study Group, Kenya Diabetes Educators and the WHO has helped shape the plan to ensure the cost effectiveness and sustainability of the programme.

> "In order to succeed, we must aim high, but not too high".

"To achieve this, we have to cooperate with all players in diabetes. Their opinions and commitments to implementing the policy guidelines are essential and for us to succeed, they must all be involved in the process right from the beginning," Dr. Maina explains.

Reaching the full potential

In Bhutan, the situation is somewhat different. Since 2004, the World Diabetes Foundation has been supporting a project aiming to strengthen the health care services, and the involvement of the Ministry of Health means that the project now has a potential to be elevated into a national programme. As in most countries, diabetes and non-communicable diseases are on the rise. However, with infectious diseases being well under control in Bhutan, attention is paid to non-communicable diseases by the government, and the Ministry of Health has been given a mandate to create a framework and implement strategies for preventing and treating non-communicable diseases.

"Our health care system is not geared to manage the increasing number of people with diabetes. We need to expand our capacity for diabetes care, starting with improving the skills of health care professionals at the hospitals. Once they have been trained and become medical specialists in diabetes management, they will move on to train primary carers to ensure that diabetes is integrated in our primary care services at all levels," explains Dr. Yeshi Wangdi from the Department of Medical Services, the Ministry of Health in Bhutan.

Strengthening capacity

Capacity building is also an important element in the national programmes in Uganda and Kenya. In Uganda, 51 diabetes and non-communicable disease clinics will be established at existing health facilities covering primary, secondary and tertiary health care levels. This capacity building will further add to the capacity already being created by three other interventions funded by the World Diabetes Foundation in Uganda, which have led to the establishment of 40 diabetes clinics throughout the country. In Kenya, the establishment of institutional capacity for diabetes management involves training of 90 health care providers from national and provincial hospitals, 400 health workers from district and sub-district hospitals, 300 nurses and nutritionists, 1,200 community health workers and special training of 200 health care providers working with maternal and child health. Almost 400 teachers in primary and secondary schools will be trained in diabetes and nutrition, and by the end of the 5-year period, 200 school support groups and 200 community support groups will have been established as part of primary prevention intervention.

Awareness initiatives

Awareness of diabetes among the general population and promotion of a healthy lifestyle play an important role in all three programmes. In Bhutan, campaigns to raise awareness of diabetes, cancer, hypertension and heart disease will be conducted, using the medical specialists as focal points, and also involving key opinion leaders to sensitise the general population through life style modification activities.

In Kenya, mass screening will be carried out at community level and a referral system will be established to reduce morbidity and mortality among women with gestational diabetes, thus reducing infant mortality rates, and thereby further strengthening maternal care services.

> "Non-communicable diseases have suffered from a widespread lack of understanding and appreciation of the magnitude of the problem. The whole system has been heavily biased towards infectious diseases starting with the allocation of funds".

In Uganda, the private sector will be involved to improve the canteen offers and to organise workplace competitions in sports to encourage people to live a more active life. Moreover, diabetes awareness workshops will be arranged for traditional healers in Uganda as part of an initiative to provide diabetes care to nomadic and displaced population groups.

"We are not looking to reinvent the wheel. We will draw on the experience from other countries and be inspired by successful interventions we can copy. In order to succeed, we must aim high, but not too high," concludes Dr. James Sekajugo.

The inter-sectoral approach applied by the Ugandan, Kenyan and Bhutanese governments will have wide implications for the general health of the countries and, because of the obvious synergies, be highly cost-effective. These programmes constitute an important basis for obtaining health equity in these countries and, hopefully, they will serve as inspiration for others to follow. ■

THE TEAM BEHIND THE WORLD DIABETES FOUNDATION

Seven years ago, the World Diabetes Foundation set out to change the course of diabetes in the developing world where relatively little attention had previously been paid to the condition. By putting an effective team together, aligning the strategy to address local needs and working closely with the project partners on the ground, the Foundation is now making steady progress towards its goals and making a difference in the lives of millions of people with diabetes.

WORLD DIABETES FOUNDATION

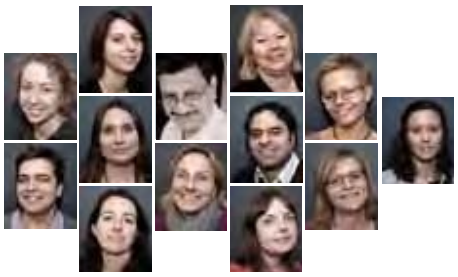
The World Diabetes Foundation has always had high ambitions, but it had to learn to crawl before it could walk. In the Foundation's first years of existence, the Secretariat consisted of few people who managed to lay a sound base for what is now a secretariat team of 13 members. In a round of interviews, they were all asked where they would place themselves if the World Diabetes Foundation was a football team, and curiously enough all positions on the field were nicely taken. This is proof of a well-functioning team where everybody knows their position while constantly keeping an eye on the overall objective of how to keep the game going – and ultimately score goals.

One motivating factor for all staff members is that they contribute to making a difference for people in need of help. A common denominator for the entire team is the broad experience from working in developing countries or with development issues. The staff members bring with them experience from business, non-governmental organisations, UN organisations and development agencies in Europe, Asia, Africa and Latin America. In the following, we share some of the personal insights and impressions from our team members, recognising that our work is just starting to gain momentum and is far from done.

About taking opportunities

Ms. Sanne Frost Helt, Programme Manager, joined the Foundation in 2002, and looking back she comments, "Back then, the World Diabetes Foundation was still a child – but already then a child with high ambitions. Since then, we have grown into a player on the international scene. This has happened because we have taken opportunities and moved fast. We have all done so with a lot of energy and we continue to work with the same level of energy. Back in 2002, I had no doubt about the potential of the Foundation and I am excited to see what we have accomplished so far".

When asked where the Foundation is headed, Dr. Anil Kapur, Managing Director, is both visionary and realistic about the future: "We are headed towards a point in time when all the relevant stakeholders understand that the issue of diabetes is so important that they have to take it seriously. Once this happens, our role as a catalyst will be less prominent. But until then, the World Diabetes Foundation will continue as a driving and leading force for advocacy and initiatives. Progress is slow at the moment, but the cause is gaining momentum," he says. ■



Dr. Anil Kapur
Managing Director

As the oldest and most experienced player, it is natural that the Board of Directors has given me the responsibility of leading the team. I am the centre forward, my job is to create openings and ensure that the team players know what their respective roles are in a given game. But I also see myself as a coach working on the game plan and tactics and ensuring we stay in the best shape to be leaders in the league. The strength of our team is the commitment, dedication and ownership to the task, which every single team member shows. The ability to function as one is an important strength and I see my team quite aligned in terms of reaching objectives. People perform different tasks, but they are aware of and have respect for what others do.

Ms. Benita Bertram
HR & Administration Manager

I place myself in the defence because I have a back-office function. It is my job to ensure that all processes and procedures are in place, and that we all know in which direction we are headed. In terms of administration and finances, I need to make sure that the ball does not cross the goal line – that a goal keeper is superfluous. In terms of HR, it is my job to nurture a good working culture where everyone can grow and develop.

Ms. Eva Holt
Administrative Assistant

I play in the defence, making sure that the base is always safe for the rest of the team. I am part of many processes and in that way I contribute to my colleagues' key areas. I am driven by our code of conduct and by the overall goal of helping people who need it.

Mr. Jamal Butt
Communication Manager

I play the offensive striker and the defensive role, as communications have a dual role to play in the fight against diabetes. In the defence, we mould the strategic messages and search for the appropriate channels to communicate the burden of the disease among multiple stakeholders. It is also my role to move forward and pass the ball across the field to our partners and even ensure that we kick the ball into the net and raise the noise about diabetes among the global audience. After the offensive mission, I consider it my responsibility to ensure a swift retreat to the defensive position, making sure that we communicate our results in a transparent manner and remain a reputed and accountable organisation.

Ms. Brit Larsen
Communication Coordinator

I play the role of a wide midfielder because I am in close contact with the defenders and midfielders at all times while creating messages, but I also need to be fast and able to make forward passes when delivering messages. When nurturing the Foundation's image, I intend to do so with a lot of precision and cautiousness and I need to be in constant interplay with my colleagues and project partners to do so properly.

Ms. Sanne Frost Helt
Programme Manager

I place myself as the sweeper in the centre back because I defend the team, but I also bring the ball out of the defence and create opportunities for the other players. In doing so, I apply my strategic overview and experience. I enjoy being part of something new and ground-breaking, and I am convinced that diabetes will become a huge area in development aid in the not too distant future.

Ms. Mette Holmstad-Petersen
Programme Assistant

I am clearly a defender because I secure the base for the rest of the team rather than playing in a proactive position. I use my linguistic background in English and French all the time, and I use my legal knowledge when I consider and formulate contracts. I enjoy the nice atmosphere in the Secretariat, and I see a lot of good vibes in spite of sometimes stressful days.

Mr. Ulrik Uldall Nielsen,
Programme Coordinator

I play the midfield because I serve as a proactive player in the offence, but I also stay back and tackle if things do not work properly. I have the freedom to move forward and backward on the field. I have been living with diabetes since I was 14. This gives me a unique user-perspective, which enables me to envisage how it is to live with diabetes in a given place. In that sense, I think I contribute a lot.

Ms. Astrid Hasselbalch
Programme Coordinator

I play in the midfielder position as I keep the ball going while juggling many projects all the time. I draw on my experience from working and living in developing countries to read and understand different cultural contexts and dynamics. I enjoy the geographical and thematic diversity of juggling 60 different projects at a time.

Ms. Hanne Strandgaard
Programme Coordinator

I am a midfielder as I like to have an overview and be involved in everything. I am curious and like to keep myself updated. Yet, when I do monitoring visits I move into a forward position as I am proactive in terms of looking for possible new opportunities. My background in health is the backbone of my everyday work. However, I am very humble when communicating with our project partners because I cherish a deep respect for their experience and expertise.

Ms. Emilie Kirstein
Programme Coordinator

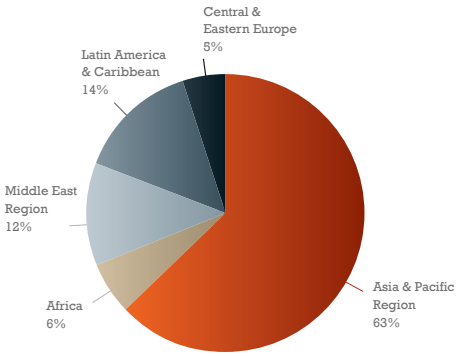
I am a midfielder because I am the stable colleague doing the base work. Once I start going on field visits, my role will turn more into that of a forward as I will have to be investigative in collecting information. It is natural for me to draw on my experience from my two years as a student assistant with the Foundation. I believe that my strengths are my overview, my systematic way of working, my familiarity with methodology as well as my personality.

Ms. Karoline Kragelund Nielsen
Student Assistant

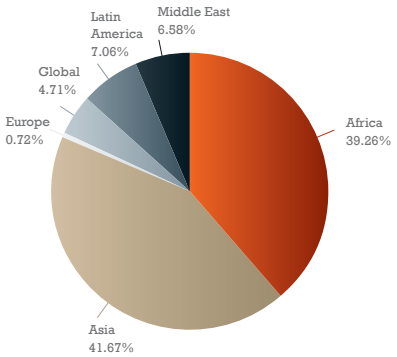
I play in the defence because I have a supporting function where I catch up on tasks when the Secretariat is under pressure. Being a student of public health while working here has been very relevant for me. I have done field work in Tanzania and Albania and this enables me to envisage what is written in applications.

Ms. Pia Lindemann Kristensen
Student Assistant

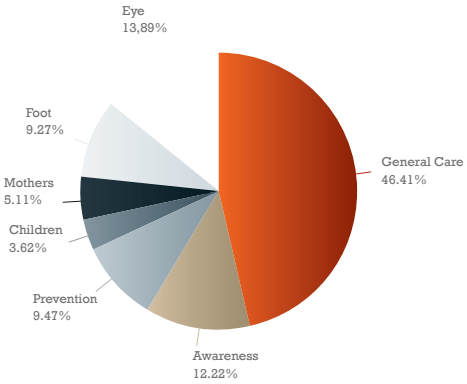
I place myself in the defence because I catch up on tasks which fall through from my colleagues because they are short of time. This is also the responsibility of a defender on a football field. I am driven by the bottom line of our mission: that we help other people. Although I only see it as figures in an Excel sheet, I still feel part of helping others and that is what motivates me. ■



Regional burden of diabetes
(World Diabetes Foundation Eligible Areas)
Source: IDF Atlas, 4th edition, 2009



Funding distribution per region
World Diabetes Foundation
2002-2009



Funding on focus areas
World Diabetes Foundation
2002-2009

A CATALYST FOR CHANGE

The World Diabetes Foundation strives to fund projects in areas bearing the brunt of the disease burden and having the least resources to deal with it. Asia and the Pacific Region, which account for almost 63% of people living with diabetes in countries eligible for World Diabetes Foundation project funding, receive 41.6% of the Foundation's funds, whereas Africa receives 39.2% of the funds despite accounting for only 6% of people with diabetes eligible for funding from the Foundation.

These are also the very same regions where resources for diabetes prevention and treatment are scarce and the projected future burden of diabetes is high. Moreover, we allocate our funding to areas where it truly makes a difference. For instance, the largest proportion (46.4%) of our funding is spent on strengthening health care systems and building health care capacity, followed by creating awareness and primary prevention.

Focusing on neglected areas

The World Diabetes Foundation allocates 13.8% of its funding to eye care (prevention of blindness) and 9.2% to the diabetic foot (prevention of amputations), as diabetes-related blindness and lower-limb amputations are the most devastating complications and the majority can be prevented by relatively simple measures.

Another important focus area for the World Diabetes Foundation is the issue of women and diabetes. Focusing on gestational diabetes is a low-cost intervention both to improve maternal and child health as well as preventing future diabetes and a small investment in providing screening and care services. Providing screening and care to mothers at risk of gestational diabetes is likely to have a multigenerational impact on the beneficiaries as well as on health care systems and budgets. To date, the World Diabetes Foundation's direct investment in gestational diabetes projects amounts to 5.1% of its funding – a relatively small amount compared to other focus areas, partly due to a lack of awareness of this important issue. The funds are distributed among seven projects in India, Cameroon, Sudan, Cuba, Jamaica and Panama.

Many children in the developing world still die prematurely because their diabetes is not detected in time as their parents do not have access or the resources to obtain care, or because health professionals do not have adequate knowledge about diabetes, or simply because the health systems fail to realise that making insulin available to these children is not merely about making treatment available, it is a matter determining whether these children will be given a chance to live. The World Diabetes Foundation therefore supports and collaborates with other organisations to develop sustainable initiatives to address these issues as well as lobby local governments to find a long-term solution. Presently, 3.6% is allocated to children living with diabetes.

Access to care

All too often, people in the developing world discover they have diabetes when it is too late and start to have serious complications. Diabetes screening, awareness camps and the establishment of clinics supported by the World Diabetes Foundation bring diagnostic equipment and trained staff to detect not only diabetes, but some of the most disastrous, yet easily preventable and treatable complicationssuch as the diabetic foot and eye complications such as retinopathy, cataract and glaucoma that can lead to unnecessary blindness.

To date, more than 4,320,950 people have been screened for diabetes through 7,454 screening camps. Documenting the number of people having received care is often difficult, but based on reports from the project partners, more than 258,000 documented cases have been treated at the 1,848 established clinics and micro-clinics funded by the Foundation. *

Training health care professionals in proper screening and care of the diabetic foot and eye care is essential to prevent needless amputations and blindness. Presently, the World Diabetes Foundation has supported the training of 18,782 doctors, 15,527 nurses and 37,269 paramedics. *

Furthermore, 47,700 cases of diabetic retinopathy have been detected and 30,465 eyes saved from unnecessary blindness through laser surgery. *

In addition, the World Diabetes Foundation has trained 3,070 health care professionals in diabetic foot care. These specially-trained health care professionals have screened more than 187,000 patients with high-risk feet, thus potentially saving thousands of people from certain disability and lifelong indebtedness. * ■

* As of 1 December 2009, the above-mentioned impact numbers are extracted from semi-annual reports and field visit reports emanating from World Diabetes Foundation implementing partners and the Secretariat.

ANNUAL ACCOUNTS 2009

Profit and loss account, 1 January - 31 December 2009

	DKK '000
Donations from Novo Nordisk A/S and others	70,256
Administration expenses	-6,027
Project expenses	-9,132
Profit before financial income and expenses	**55,097**
Financial income	5,205
Net profit for the year	**60,302**
Appropriation of net profit for the year	
Distributions from the World Diabetes Foundation	76,292
At disposal for future distributions	-15,990

Balance sheet as at 31 December 2009

Assets	DKK '000
Tied up capital	260
Fixed assets	**260**
Receivable donations from Novo Nordisk Group	2,236
Interest receivable	4,014
Total receivables	**6,250**
Bond holdings	101,064
Cash at bank	98,176
Current assets	205,490
Total assets	205,750
Equity and liabilities	
Tied up capital	260
Disposable capital	31.953
Total equity	**32,213**
Accrued distributions	171,717
Other provisions	1,820
Total short-term liabilities	**173,537**
Total equity and liabilities	**205,750**

The above is a non-audited abstract of the Annual Accounts 2009

Administrative expenses amounted to 7.99% of the Foundation's total income in 2009

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

THE WORLD DIABETES FOUNDATION

The World Diabetes Foundation is dedicated to supporting prevention and treatment of diabetes in the developing world through funding of sustainable projects. The Foundation creates partnerships and acts as a catalyst to help others do more and strives to educate and advocate globally in an effort to create awareness, care and relief to those impacted by diabetes. The World Diabetes Foundation has funded 219 projects to date in 90 countries with a total project portfolio of USD 230.7 million, of which USD 77.4 million were donated by the Foundation.

The establishment of the World Diabetes Foundation was announced by its founding father Novo Nordisk A/S on World Diabetes Day 2001. The Foundation was legally established in February 2002. A donation programme by the founding company of a maximum of DKK 650 million over a period of ten years was approved by its General Assembly and shareholders in March 2002.

In March 2008, the shareholders of Novo Nordisk A/S approved an additional endowment of a maximum of DKK 575 million over another ten-year period, bringing the two endowments from Novo Nordisk A/S up to a total maximum of DKK 1.2 billion in the period 2001-2017, i.e. the equivalent of USD 255 million (exchange rate of 4.8). The Foundation is registered as an independent trust and governed by a board of six experts in the field of diabetes, access to health and development assistance.

For further information, please visit our website at www.worlddiabetesfoundation.org

Cover photo by Jesper Westley

WORLD **DIABETES** FOUNDATION

Annual Review 2009

Edited by the World Diabetes Foundation Secretariat

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NORDIC ECOLABEL
541-740
Printed matter

The Swan is the official Nordic Eco-label, and it demonstrates that a product is a good and sustainable environmental choice. Nordic Eco-labelling aims to contribute to reducing the total burden on the environment and is introduced by the Nordic Council of Ministers.

The World Diabetes Foundation is dedicated to supporting the 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

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