EYES ON DIABETES

Over 400 million people currently live with diabetes. **One in two is undiagnosed.**

Screening for type 2 diabetes is important to ensure early diagnosis and treatment to reduce the risk of serious complications.

**ACT TODAY TO CHANGE TOMORROW**

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Promoting diabetes care, prevention and a cure worldwide

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World Diabetes Day (WDD) was first introduced as a day to raise awareness of diabetes and related complications in 1991. The International Diabetes Federation (IDF) and the World Health Organization developed the initiative in reaction to the rise in cases of diabetes worldwide. November 14th was chosen as WDD because it is the birthday of Sir Frederick Banting, a medical scientist who co-discovered insulin and used the discovery to successfully treat a 14-year old boy with type 1 diabetes. In 1923, Frederick Banting and John James Rickard Macleod received the Nobel Prize in Medicine for their discovery which forever changed the fate of millions of lives worldwide by increasing their chances for survival.

WDD became an official United Nations Day on December 20, 2006 with the passage of United Nation Resolution 61/225. The official date aims to raise awareness of diabetes, its prevention and the medical care that people with the condition need to avoid devastating complications. Governments, non-governmental organizations and private businesses are encouraged to increase awareness of the disease, particularly among the general population and the media.

WDD is led by thousands of volunteers and professionals dedicated to improving the lives of people living with or at risk of diabetes. The IDF develops the WDD campaign each year and awareness is disseminated with campaign support and facilitation by IDF member associations worldwide, including the American Diabetes Association, Diabetes UK, Diabetes Australia, the Canadian Diabetes Association, Diabetes South Africa, Diabetes New Zealand and the Diabetic Association of India. These organizations arrange events at international, national and local levels. Typically, annual events leading up to and on the day of November 14th include:

- Conferences, workshops and seminars for health and public policy professionals.
- The distribution of information to encourage at risk individuals to be screened for diabetes.
- Events to highlight diabetes in local and national media, including television, newspapers and Internet publications.
- WDD races to increase awareness of diabetes.
Civil leaders around the world issue proclamations on WDD to raise awareness of diabetes in their communities. Many events aim to raise money for research into improved treatments for type 1 and type 2 diabetes, and ultimately a cure for type 1 diabetes.

The theme of World Diabetes Day regularly changes. For example, the WDD theme between 2009 and 2013 was focused on diabetes education and prevention. Other past WDD campaign themes have included human rights, healthy eating, obesity, the disadvantaged and vulnerable, and children/teenagers with or at risk for diabetes. These campaign themes are integrated into massive public events such as press events to discuss the increase in diabetes prevalence, sporting events, breakfasts, leaflet/poster campaigning, and lighting ceremonies. “Going blue” marks WDD with millions of advocates proudly wearing blue hats, t-shirts and even painted faces with the blue circle. Landmark buildings and monuments around the world are lit up in blue to help spread awareness of the day.

In 2014-15, ‘Healthy Living and Diabetes’ was the theme of WDD. Diabetes education and prevention is critical to help the public understand diabetes warning signs and the risks associated with diabetes. Once a person is diagnosed with diabetes it is critical that they are empowered to self-manage, and have access to care for best management practices and treatment.

In this way, World Diabetes Day also aims to enhance diabetes education worldwide so it provides the information people need in order to live with the condition and treat it carefully. The theme for 2016 ‘Eyes on Diabetes’ focuses on the importance of early screening for diabetes. One in two people with diabetes remain undiagnosed, which makes them particularly susceptible to the complications of the condition, causing substantial disability and premature death.

'Eyes on Diabetes' campaign speaks directly to the risk of eye disease leading to blindness. Of the 415 million adults worldwide living with diabetes (2015), over one third will develop some form of diabetic retinopathy – a complication of diabetes that can lead to vision impairment and blindness. In addition, more than 93 million adults, or one in three, currently living with diabetes have diabetic retinopathy. Early detection and timely treatment of diabetic retinopathy can prevent vision loss and reduce the impact of diabetes on individuals, their carers and society.

This November, IDF hopes to achieve 1 million individual screenings through the Test2Prevent initiative. The year’s activities and materials will focus on promoting the importance of screening to ensure early diagnosis of type 2 diabetes and treatment to reduce the risk of serious complications. Many people who live with undiagnosed type 2 diabetes are not aware of their condition and are at a much greater risk of complications.

By the time of diagnosis, diabetes complications may already be present so early screening is very important. The World Diabetes Day campaign ‘Eyes on Diabetes’ also stresses that screening for all diabetes-related complications is an essential part of managing all types of diabetes for healthier, more productive and longer lives.
World Diabetes Day (WDD) has been celebrated as the official awareness day for diabetes for 25 years, since 1991. IDF and the World Health Organization created the initiative in response to growing concerns about the escalating health threat posed by diabetes worldwide. World Diabetes Day became an official United Nations Day in 2006 with the passage of United Nation Resolution 61/225.

Today, the World Diabetes Day campaign isn’t limited to just one day:

- WDD is a platform to promote IDF advocacy efforts throughout the year.
- WDD is leading global efforts to promote coordinated and concerted actions to confront diabetes as a critical global health issue.
WDD is represented by IDF’s blue circle logo that was adopted in 2007 after the passage of the UN Resolution on diabetes. The blue circle is the global symbol for diabetes awareness, signifying the unity of the global diabetes community in response to the diabetes epidemic.

The theme of World Diabetes Day (WDD) 2016 is ‘Eyes on diabetes’. WDD key campaign messages include:

- Screening for type 2 diabetes in communities worldwide is critical to modify the course of undiagnosed and untreated diabetes and reduce the risk of complications.

- Screening for diabetes complications, including retinopathy and other eye diseases, is an essential part of managing all types of diabetes.

With over 230 national diabetes associations in 170 countries and territories, IDF represents the interests of the growing number of people with diabetes and those at risk. The following compilation represents a snapshot of all the awareness activities organized by the IDF’s global diabetes community to mark World Diabetes Day 2016.

Visit [www.idf.org/wdd-events](http://www.idf.org/wdd-events) to see a more comprehensive overview planned activities this November.

**AFRICA**

**Ghana**

Diabetes Youth Care will be organizing a two-day mini camp and eye screening session for young people living with diabetes in Ghana on November 11-13.

**Rwanda**

The Rwandan Diabetes Association has a week-long series of activities planned for World Diabetes Day. These include screening for type 2 diabetes, heart disease and eye complications on the occasion of Kigali Car Free Day on 6 November; a Blue Half-Marathon on 13 November to increase diabetes awareness among the Rwandan population and promote the importance of physical activity in helping to prevent type 2 diabetes and diabetes complications; the lighting of the Kigali Convention Center in Blue; and an extensive media campaign through national, community and private radio, national television and print media.

**EUROPE**

**Belgium**

In Brussels, the IDF European Region will be organizing a lunch debate on “Mobilising Political Will” at the European Parliament on 8 November. The event will be hosted by Marian Harkin MEP and Anne Hedh MEP to facilitate a discussion between MEPs, the Commission and IDF Europe Members on the development of a European strategy to prevent diabetes and diabetes complications. The partnership with the European Parliament includes an exhibition on diabetes, blood glucose testing for MEPs and staff, as well as a ‘vitality’ healthy dish on offer for the whole week at the canteen of the Parliament.

**Denmark**

The Danish Diabetes Association will be conducting type 2 diabetes risk assessments at approximately 200 venues throughout the country on November 14. In addition, landmarks such as Frederiksborg Castle in Copenhagen and the Energy Tower in Roskilde will be lit in blue for
World Diabetes Day.

**Germany**

DiabetesDE has joined forces with German Diabetes Aid and the German online community #dedoc to conduct a country-wide type 2 diabetes screening campaign – Germany Measures! – through online risk assessments and blood glucose screenings during the month of November.

**Turkey**

The Turkish Diabetes Association will be organizing a week-long series of awareness activities in Istanbul under the theme “Eat Healthy - Be active - Prevent Diabetes”. These include screenings for type 2 diabetes in collaboration with the city administration, the distribution of brochures and type 2 diabetes risk assessments to the general population. Diabetes awareness videos will be displayed on public trains, metros, buses, ferries and airplanes.

**Middle East and North Africa**

**Lebanon**

In Beirut, the Chronic Care Center will attempt to form the world’s largest human blue circle. Also in the city, 400 individuals will participate in the Beirut Marathon on November 13 to raise diabetes awareness, with blood glucose testing being provided at the start.

**United Arab Emirates**

In Abu Dhabi, Sheikh Khalifa Medical City will conduct a community-based outreach programme to promote healthy lifestyles, prevention and early detection of diabetes, through raising awareness among public and health care providers. Over 2,000 people are projected to participate in screening for type 2 diabetes.

**NORTH AMERICA**

**Guyana**

The Guyana Diabetes Association will be organizing a cocktail reception and dinner in the capital Georgetown, involving local and international speakers and government representatives.
**Trinidad and Tobago**

The Girls Association of Trinidad and Tobago has partnered with Caribbean Lifestyle Diabetes Centre to bring awareness to diabetes. On 14 November there will be a talk on diabetes and the formation of human blue circles at 5 locations on the island.

**SOUTH AND CENTRAL AMERICA**

**Brazil**

In São Paulo, a blue picnic (Piquenique Azul) will be held for people with diabetes and their friends and families. The event will feature physical activity, talks about living with diabetes, music and competitions with prizes.

**Honduras**

A social media campaign will be conducted using the hashtag #ojoconladiabetesHN to increase diabetes awareness and promote the use of the blue circle, the global symbol of diabetes.

**SOUTH EAST ASIA**

**India**

In Lucknow, Uttar Pradesh, Lekhraj Diabetes Hospital & Medical College will organize a day-long event that will include a diabetes seminar and press conference, risk assessment for type 2 diabetes, random blood glucose testing for individuals identified as being at moderate to very high risk, and a diabetes walk with blue balloons handed out to all participants. Activities will culminate with the blue lighting of the hospital.

**Maldives**

The Diabetes Society of Maldives will conduct free blood sugar testing at multiple locations across the country on 14 November.

**WESTERN PACIFIC**

**Australia**

Diabetes Queensland is organizing a fundraising event - [SWIM10 SWIM-A-THON](#) to support vital research and support services forQueenslanders living with all types of diabetes.

**Hong Kong**

Youth Diabetes Action is organizing a Diabetic Eye Disease Seminar in Hong Kong on 26th November 2016. Attendees can meet with an ophthalmologist and learn how to prevent diabetic eye disease.

**Malaysia**

Students’ Club Tour De’Force of the Faculty of Hotel & Tourism Management, UiTM Sabah will be organizing an outdoor recreational event on Sunday 13 November 2016. The main highlight will be the formation of a human blue circle on top of the picturesque Bukit Tirig hill. Activities for local communities and participants will also include medical check-ups and general awareness about diabetes.
IDF SCHOOL OF DIABETES: TACKLING DIABETES THROUGH EDUCATION

World Diabetes Day 2016 on 14 November marks the launch of the International Diabetes Federation’s School of Diabetes, a flagship initiative of the Federation to help address the gaps that currently exist in the provision of quality care for people with diabetes around the world. Diabetes Voice spoke to IDF President Dr Shaukat Sadikot about the IDF School of Diabetes and what it will achieve.

Why is there a need for a School of Diabetes?

When the 5th edition of the IDF Diabetes Atlas came out in 2011, it had a significant amount of data but one statistic stood out in that year: one person died of diabetes related complications every SEVEN seconds. When the 7th edition of the Diabetes Atlas was published in 2015, we learned—every SIX seconds one person dies from diabetes (5 million deaths).

During this time, almost every association had published new guidelines and consensus statements, and a good deal of new information was published in a myriad of journals disseminated through a variety of conferences and meetings. Additionally, a variety of new medications were launched for the treatment of diabetes. Despite all of these advances, the care and treatment of people with diabetes worldwide is not improving at an acceptable rate.

Today, we have a huge amount of knowledge about diabetes and we also have medications for treating diabetes, but too many people living with diabetes today do not have access to information, care or treatment. The primary aim of the activities of the International Diabetes Federation (IDF) is to improve the lives of people with diabetes and therefore, it is time to come out of the ivory towers of academia and look at the ground reality. We have an obligation to increase diabetes knowledge among healthcare providers, particularly primary care physicians, diabetes educators and people with diabetes.

If we are to prevail against diabetes, we have to empower health professionals so that they are best equipped to address all aspects of diabetes. Education is our main strategy to tackle diabetes and a key focus area for IDF.

What are the main components of the IDF School of Diabetes?

The IDF School of Diabetes is international in scope and will provide a source of online education and certified courses on various aspects of diabetes prevention and care. Certain components will be open access and deal with basic education and information for people with diabetes as well as their healthcare providers. The certified courses have been developed for physicians, both specialists and primary care physicians, and for diabetes educators. The online courses will use the continuing education format so that participants will be able to update their knowledge for a specific period of time. Some of the courses will be tutorials with access to tutors and mentors from the seven regions of IDF. Initially, the courses will be available in English, and further languages will be added in future, subject to funding.

The School will also offer an open forum for discussion, linking to D-Net, where people with diabetes and healthcare providers can ask
questions and share their experiences.

It is important to make clear that the IDF School of Diabetes will not issue degrees or diplomas but only certify that individuals have undergone training in their field. A nominal fee will be charged for the certificate courses to ensure the future sustainability of the School.

**How will the School be governed and structured?**

The School of Diabetes will be governed by a Board of Directors comprised of representatives from the seven IDF Regions. The the day-to-day management of the School will be the responsibility of an appointed Dean and Vice Dean who will head small committees that will oversee all content. A Science Audit group will specifically validate the content of the certified courses. An Honorary Faculty of around 250 experts from various fields will set up the courses, assist with updating them, and act as tutors and examiners. They will also be responsible for the open access education and lead the discussion groups in the open forum. The faculty will also work closely with IDF Centers of Education, which we anticipate will expand to as many countries as possible. In addition, individuals who complete the certificate courses will be eligible to become Fellows of the IDF School of Diabetes.
The IDF School of Diabetes is supported by an unrestricted educational grant from AstraZeneca. Danilo Verge, Vice President CVMD, Global Medical Affairs, AstraZeneca, shares his thoughts on the partnership.

Please tell us why AstraZeneca is partnering with IDF on the School of Diabetes?

“Diabetes continues to be one of the world’s most significant health challenges. While our focus at AstraZeneca includes the development of medicines that reduce the global burden and complications of diabetes, we’re also committed to developing and supporting programs that provide education and enable access to healthcare. The IDF’s School of Diabetes initiative fits perfectly with our ambition.

With a public health challenge as great as the one we face with diabetes, we know we can’t act alone if we hope to address it effectively with a strong impact to reduce the global burden of diabetes. Partnerships working with organisations such as the IDF are key.”
The key goal of management of type 2 diabetes is to help people with the condition achieve good glycaemic control through best practice for care, treatment and education for self-management. Staying within near normal blood glucose values improves current wellbeing and minimises the risk of future complications. People with undiagnosed type 2 diabetes are at particular risk from developing complications, because the signs and symptoms of diabetes are often not felt or detected for many years, even decades. Tragically, it is not uncommon for people to be first diagnosed with diabetes after presenting with vision loss due to diabetic retinopathy, or a neuropathic foot wound that may require amputation. Given this predicament,

It is well known that the number of people with diabetes is increasing rapidly across the globe such that in 2015, IDF estimated there were 415 million adults living with diabetes, the vast majority of whom have type 2 diabetes. What is not so well known is that almost half of all people living with diabetes do not know they have it.¹

WHY SCREEN FOR TYPE 2 DIABETES?

David Cavan

It is well known that the number of people with diabetes is increasing rapidly across the globe such that in 2015, IDF estimated there were 415 million adults living with diabetes, the vast majority of whom have type 2 diabetes. What is not so well known is that almost half of all people living with diabetes do not know they have it.¹
there is a race against time to identify those with undiagnosed type 2 diabetes, and to provide a diabetes treatment plan that incorporates nutrition and exercise guidelines, often with medication, before such complications arise. Not only is this essential for the future wellbeing of the individuals concerned, it also makes economic sense, as treating the complications of diabetes accounts for a substantial proportion of hospital admissions and overall diabetes healthcare costs.

How can we best identify people with undiagnosed diabetes? The answer of course lies with screening. The WHO-IDF report on Screening for Type 2 diabetes (2003) defines screening as “the process of identifying those individuals who are at sufficiently high risk of a specific disorder to warrant further investigation or direct action.” Before exploring how screening should be undertaken, it is important to define who falls into the category of sufficiently high risk. Although type 2 diabetes is increasing progressively across the world, there are large differences in prevalence between countries and so wider population-based screening might be more appropriate in a country with high prevalence such as Nauru (with estimated age-adjusted prevalence of 24.1%) than in a country such as Tanzania (4.1%).

Known risk factors for type 2 diabetes are well accepted, and a number of risk assessment scores have been developed in order to help identify those at high risk. One of the most well-known is FINDRISC, developed in Finland. This has been validated in a number of countries, and is available in an interactive form on the IDF website. A number of other countries (including France, Canada, Germany, UK and Australia) also have similar scores designed for their own populations, as listed on the IDF website. The scores generally ask about age, ethnicity, body mass index, waist circumference, diet, physical activity, history of high blood pressure and family history of diabetes. A score is generated from the responses and this guides the person completing the form as to their level of risk and whether they need further assessment.

Those identified as high risk should have a diagnostic blood test taken. These are shown in the table. The ‘gold standard’ for diagnosis of diabetes is an oral glucose tolerance test. This involves having a blood sample taken for measurement of glucose after an overnight fast, then taking a drink containing 75 grams of glucose, followed two hours later by another blood sample to measure glucose level. The advantage of this test is that it assesses both fasting and postprandial glucose in a standardised way. It is however quite inconvenient and time consuming for the person taking the test, as well as for the staff conducting it. Alternatives are to measure just the fasting value (of necessity this still requires an overnight fast and may miss postprandial hyperglycaemia) or a random glucose value (but this may miss fasting hyperglycaemia).

In order to address these issues, an expert group convened by WHO in 2011 recommended that
### Table

<table>
<thead>
<tr>
<th>Diagnostic Test</th>
<th>Intermediate hyperglycaemia ('pre-diabetes')</th>
<th>Diabetes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fasting Glucose</td>
<td>≥110-125 mg/dL (6.1-7 mmol/L)</td>
<td>≥126 mg/dL (7.0 mmol/L)</td>
</tr>
<tr>
<td>OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HbA1c</td>
<td>6.0-6.4% (42-47 mmol/mol)</td>
<td>≥6.5% (48 mmol/mol)</td>
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<td>OR</td>
<td></td>
<td></td>
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<tr>
<td>2-hour glucose following ingestion of 75g glucose load</td>
<td>140-199 mg/dL (7.8-11.0 mmol/L)</td>
<td>≥200 mg/dL (11.1 mmol/L)</td>
</tr>
<tr>
<td>Or random plasma glucose</td>
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HbA1c could be used as a screening test for diabetes with a cut-point of 6.5% (48 mmol/mol) being diagnostic. The advantage is that this is a single test that can be taken at any time of day and does not require fasting. However, it is more expensive than measuring glucose and therefore less affordable in low-resource settings. It is important to be aware that a value below 6.5% does not conclusively exclude diabetes. While the finding of a high concentration of glucose in the urine is likely to indicate diabetes, it is not recommended as a reliable screening test as a clear urine test does not exclude diabetes.

These diagnostic tests will determine whether a person does indeed have diabetes, thus enabling them to receive appropriate lifestyle advice and medication, if necessary, to manage their type 2 diabetes and help reduce the risk of complications. Importantly, these tests will also identify if they are in the category of intermediate hyperglycaemia, commonly known as pre-diabetes. The significance here is that, if people with pre-diabetes make lifestyle changes, it is possible to prevent progression to the development of type 2 diabetes. This was demonstrated in a number of studies in the early years of this century. What some of these studies also showed is that a proportion of people with pre-diabetes reversed to normal glucose tolerance. This is in stark contrast to the commonly-held belief up until the 1990s, which was that if you had impaired glucose tolerance (as it was then called), there was a high chance you would develop type 2 diabetes and there was little that could be done to influence that risk. One can imagine the psychological impact of such a diagnosis on an individual. Indeed, one of the potential risks of undertaking a screening test is the impact on the person, quite apart from the impact of the condition being screened for.

"IT IS POSSIBLE TO PREVENT PROGRESSION TO THE DEVELOPMENT OF TYPE 2 DIABETES."

There is evidence from the ADDITION study amongst others that screening for type 2 diabetes does not make people feel anxious or depressed, or falsely reassured if their screening test was negative. However, in this study, people who...
screened positive for diabetes were offered lifestyle advice and treatment. It is therefore essential, that regardless of the outcome of the screening, the person being screened is offered appropriate advice on what to do with the result. Many existing screening questionnaires, such as the FINDRISC, provide some basic information appropriate to each individual’s score. It is even more important that those who undergo a diagnostic blood test receive information appropriate to the result. For those whose levels are normal, this could be as simple as some basic written information about maintaining a healthy lifestyle and avoiding weight gain. For those with pre-diabetes, this should include more specific information about measures that individuals could take to help reduce their risk of developing type 2 diabetes. These will need to be culturally appropriate, but should at least focus on encouraging increased physical activity and on reducing intake of sugar and processed foods that are high in fat, sugar and salt. Such information could be based on the IDF healthy eating advice published for World Diabetes Day 2014, which advised that individuals can reduce their risk of type 2 diabetes by:

- Choosing water or unsweetened coffee or tea instead of fruit juice, soda, and other sugar sweetened beverages.
- Eating at least three servings of vegetables every day, including green leafy vegetables such as spinach, lettuce or kale.
- Eating up to three servings of fresh fruit every day.
- Choosing nuts, a piece of fresh fruit or sugar-free yoghurt for a snack.
- Limiting alcohol intake to a maximum of 2 standard drinks per day.
- Choosing lean cuts of white meat, poultry and seafood instead of processed meat or red meat.
- Choosing peanut butter instead of chocolate spread or jam.
- Choosing whole-grain bread instead of white bread.

The IDF online type 2 diabetes risk assessment, adapted from FINDRISC
bread, brown rice instead of white rice, whole grain pasta instead of refined pasta.

These same messages will also be appropriate for those diagnosed with type 2 diabetes; however, these individuals should also be encouraged to visit their doctor for a full assessment to determine whether additional treatment is needed and whether their diabetes has already led to any complications that need to be addressed.

In conclusion, there are accessible tools for identifying people at high risk of developing diabetes and of diagnosing them with either prediabetes or type 2 diabetes. IDF encourages the global community to screen for diabetes because early lifestyle intervention and treatment in both groups can protect future health and reduce healthcare costs required to treat complications.

David Cavan, MD, is Director of Policy and Programmes at IDF.

References
Diabetic retinopathy is one of the most feared complications of diabetes and one of the leading causes of preventable blindness in the working age population in developed countries. As the number of people with diabetes increases worldwide, the number of people who are at risk for developing retinopathy increases, too.

Additionally, there are approximately 193 million people worldwide with undiagnosed diabetes according to the IDF estimates which is close to half of all people with diabetes.\(^1\) People with undiagnosed diabetes are more prone to diabetes complications like retinopathy leading to blindness because living with uncontrolled and untreated diabetes for many years, if not decades, is a well known consequence.

Today, it is long overdue for all multi-stakeholders involved in the prevention and care of people at risk for or living with diabetes to have their eyes on diabetic retinopathy and other long-term diabetes complications.

**Seeing is believing: current evidence-base**

Every person with diabetes is at risk for developing diabetic retinopathy, and the risk increases with the duration of diabetes. In the 1930’s many scientists thought that middle-aged overweight people with type 2 diabetes were the only phenotype to have diabetic retinopathy. After the discovery of insulin in 1921, doctors and researchers witnessed that younger people with type 1 diabetes (T1DM) started living longer and that they also were developing retinopathy.\(^2\) Since the early decades of 1900, a growing number of studies have been published on diabetic retinopathy; the first article in PubMed, an index of reputable medical journals, dates back to 1946 and more than 28,700 articles have appeared since then in PubMed only.

What is the current evidence-base in the field of diabetic retinopathy, and the research that further raises our hopes for the future?

For nearly the last three decades, studies have clearly shown the long-term benefits of good glycaemic control, delay and slow down the progression of diabetic retinopathy. A clear and an accepted evidence base comes from the Diabetes Control and Complications Trial (a controlled clinical trial in T1DM that ran from 1983-1989), and the Epidemiology of Diabetes Interventions and Complications (a long-term observational follow-up study). After a diabetes duration of 30 years, the cumulative incidence of proliferative diabetic retinopathy was 50% in the conventional treatment group with less tight glucose control, and 21% in the intensive treatment group—a differential that reflects the powerful effect of intensive blood glucose control over time.\(^3\)

In addition, many treatment advances that began as compelling, are today the practice standard. For nearly four decades, laser photocoagulation
has been the effective approach for the treatment of sight-threatening retinopathy. The strongest evidence came from two landmark trials in the 1970s and 1980s; the Diabetic Retinopathy and the Early Treatment Diabetic Retinopathy Studies. These studies showed how pan-retinal laser photocoagulation can reduce the risk of moderate to severe visual loss at least by 50%, if timely intervened.

In 2012, the FDA approved ranibizumab (an anti-VEGF) for the treatment of diabetic macular edema. Ranibizumab was the first approved treatment in nearly 30 years for intraocular use to treat diabetic retinopathy in people with severe diabetic macular edema. A dexamethasone intravitreal implant (corticosteroid) was approved in 2014, and another anti-VEGF, aflibercept, was approved in 2015 with similar indications. Other molecules are also on the way.

The question is whether these favourable research outcomes in closely-followed up and highly motivated individuals with diabetes are translated into the real lives of people with diabetes?

The relationship between the period of diagnosis of T1DM and the changes in visual impairment was examined in a population-based longitudinal study. The prevalence of visual impairment was lower in those persons who were diagnosed more recently than in those diagnosed earlier. For example, the prevalence of visual impairment in people with duration of T1DM between 15-19
years was 13% among those diagnosed in 1960-69, and 4% among those diagnosed in 1975-79. Although there is a huge improvement, it is still beyond what we desire, and diabetic retinopathy is still among the leading causes of preventable blindness.

It is an important health problem; there is an accepted treatment for patients with recognized disease, facilities for diagnosis and treatment are available. There is an early asymptomatic stage. There is a suitable examination; the test for retinal examination is acceptable. The natural history of the disease is more or less understood; we know whom to treat. It is cost-effective. The patients need to be regularly screened.

The International Diabetes Federation together with the Fred Hollows Foundation have published “Diabetes eye health. A guide for health professionals” with a special emphasis on screening and integration of health services, in order to improve the eye care of people with diabetes, and to prevent the burden of diabetes related visual loss.

Sadly, in our world today the number of people with diabetes who have recommended eye examinations and follow-up are much less than the numbers desired. This disparity constitutes many lost opportunities for saving sight and preventing moderate or severe visual loss in the majority of cases.

Improving our vision for healthcare today, ensures a healthier tomorrow

There is a clear gap between the available evidence and its translation into the lives of people with diabetes. Diabetic retinopathy remains one of the
leading causes of preventable blindness despite the tremendous advances in medical technology, medicine, and medical devices.

These gaps may exist due to several factors; ranging from inadequate healthcare systems, uneducated or under-resourced healthcare providers and finally, to people with diabetes themselves who cannot access information or treatment. We can bridge these gaps by transforming our healthcare systems from reactive to proactive and from being disease-centered to patient-centered. We can provide better integration of health services, by improving the coordination and collaboration between the health disciplines, and by making healthcare services, medicines and medical devices accessible, available and affordable.

To achieve all of these, we need comprehensive nationwide diabetes planning. Retinopathy screening and management should be part of this strong, coordinated and comprehensive response. To have a positive change in ‘real life’ for successful implementation, a strong, coordinated and comprehensive plan can only be realized with measurable goals, monitoring and allocation of adequate financing.

Today, we cannot definitively prevent the development of diabetic retinopathy, but prevention of related moderate to severe visual impairment is in our hands. We all have to work together in order to save the sight and maintain the quality of life in people with diabetes.

Dr. Sehnaz Karadeniz is IDF Europe Regional Chair, Professor in Ophthalmology at Istanbul Science University and Founding Member of the Turkish Diabetes Foundation. She lives in Istanbul, Turkey.

References
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Over 400 million people currently live with diabetes. Diabetes can lead to eye disease which can cause blindness if not caught early.

Screening for diabetes complications is important to ensure optimal health.

ACT TODAY TO CHANGE TOMORROW

www.worlddiabetesday.org
The Race to Beat Diabetes, an annual promotion by the Institute for Children with Diabetes (ICD), reached its 18th milestone in 2016. Thousands of people gathered at the Moinhos de Ventos Park in Porto Alegre, Brazil on June 5, 2016. Approximately 20 thousand people participated in the event; many ran the course while others cheered on and donated to the event by buying a t-shirt for a noble cause - to help children and adolescents with type 1 diabetes live better lives. In addition to promoting healthy physical exercise and volunteer work within the community, the Race to Beat Diabetes brings much needed public awareness about diabetes. Moreover, the race raises funds for the benefit of the 3,188 children and adolescents assisted by ICD with the help of the Conceição Hospital Group and the Brazilian Ministry of Health.

The Race to Beat Diabetes was originally inspired by the successful and hugely popular races in Europe and the US focused on raising funds for all types of diabetes. The first Race to Beat Diabetes was held in 1999 with a special fundraising purpose: to build the actual center for ICD. The ICD building project started as a dream but was financially achieved with the help of community donors. From 1999–2004, all Race to Beat Diabetes fundraising activities and donations were dedicated to the ICD building.

Since 2005, all financial resources raised from the Race to Beat Diabetes have been used to maintain ICD’s infrastructure and to fund and maintain services and projects for the benefit of ICD patients. The race relies on the sponsorship of companies and the support of municipal public agencies. For awareness and promotion, the race receives communications support from the state government. The Race to Beat Diabetes has raised 1,597,378 US dollars over the past 18 years.

The total distance of the Race to Beat Diabetes is four kilometers and throughout the event, organizers hand out free water and fruit to the race participants. The ICD awards medals to all participants that finish the race as a token of appreciation for their achievement and solidarity, and prizes are also distributed. At the final ceremony, trophies are given to ICD sponsors and to those participants who raised the most money, often from the activity of selling t-shirts to friends, companies and schools.

Generating excitement for the race
This year the theme chosen for the 18th race was to show the great rivalry between the most beloved soccer teams of the region. As many people from other parts of the world may know, soccer is a very significant part of Brazilian culture. Race organizers created the #vesteacamisa
(#wearthejersey) hashtag event on social media to get participants and the public excited about the race. #Vesteacamisa is based on Brazil’s love of soccer, mimicking how soccer players exchange team jerseys at the end of each game. The player’s exchanges are typically photographed or filmed and due to fan excitement, become viral on the Internet. To participate in ICD’s event this year, individuals simply had to wear a jersey from an opponent’s team, take a picture or shoot a video, and publish it on social media, challenging friends to participate also.

In 2013, ICD created a very successful Race to Beat Diabetes with the help of Usain Bolt, the Jamaican sprinter and Olympic champion. In 2013, Usain, who participated in an exhibition event in Brazil that year, appeared and was given a Race to Beat Diabetes t-shirt. The Olympian’s participation, including many photo opportunities, generated nationwide and social media enthusiasm which put the race and diabetes at the center of public attention.

The Institute for Children with Diabetes
ICD has been working for nearly 13 years to give children living with diabetes the care and treatment necessary to prevent diabetes complications, such as neuropathy, kidney disease and retinopathy. Currently, ICD’s work has shown a 91% reduction in patient hospital stays. This superior achievement is a result of ICD’s commitment to continuous education programs in diabetes, proper treatment with access to new technologies and also social assistance offered to children and adolescents living with diabetes. ICD’s technical team includes endocrinologists,
nurses, nutritionists, dentists, social workers and experts in nephrology, ophthalmology, psychiatry, and physical education. Our professionals provide comprehensive care to the children and adolescents we serve. ICD operates from 8 am to 5 pm with ambulatory care, a day hospital and a hot-line.

Examples of ICD’s programs and activities include:

• A type 1 diabetes education program providing 15 video classes, recorded by ICD’s medical and technical teams, and aimed at expanding knowledge on type 1 diabetes where there is a need. Through the site www.educacaodiabetestipo1.com.br health professionals can register, have access to ICD classes, and deliver the information to patients and their families.

• A quality of life program – called PAQ Life targets adolescents that have very high glucose levels (HbA1c > 11%). The idea is to listen and identify issues from patients and family members and to help improve diabetes treatment, which often includes specific solutions to deal with daily difficulties. ICD professionals help to establish realistic goals to decrease HbA1c averages and usually are able to decrease HbA1c by at least 1% over the period of three to four months.

• Other ICD programs include a medical necessities program which supplies insulin, syringes, test strips, and other necessary medication. ICD also provides sports incentive

The institutional model adopted by ICD and the ICD management team has also made it possible to develop a superb team of professionals in charge of fundraising, marketing and administrative work. These professionals and volunteers have made it possible to secure financial resources for the projects that promote the health and quality of life for children and adolescents with diabetes.

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For more information:
ICD: www.icdrs.org.br
ICD Facebook: facebook.com/icdrs

ICD’S WORK HAS SHOWN A 91% REDUCTION IN PATIENT HOSPITAL STAYS.
Over 400 million people currently live with diabetes. One in two is undiagnosed.

Screening for type 2 diabetes is important to ensure early diagnosis and treatment to reduce the risk of serious complications.

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