Global health check
– Are we in shape for the next 15 years?
The need for healthy goals
Charlotte Ersbøll, corporate vice president in Novo Nordisk, reflects on the post-2015 agenda, why health must remain at the heart of sustainable development and how Novo Nordisk can make a difference.

On the right track?
The world’s Millennium Development Goals will expire this year. Find out how a new set of goals will take up where they left off.

In the business of health
Novo Nordisk asked three industry peers how they are contributing to sustainable development through their businesses and who they are collaborating with to improve health – see answers from BD, Novartis and Discovery Ltd.

No empty shelves
A private/non-profit partnership aims to improve the availability of essential diabetes medicines and technologies in low-income countries. Meet Dr. Kibachio Joseph Mwangi from Kenya who plays an important role in filling the knowledge gaps.

Why sustainable development and pregnancy go hand in hand
Initiatives in Colombia and Nicaragua show new ways to improve maternal and child health while at the same time preventing type 2 diabetes risk factors.
5 ways to get your pulse up in the city

Two-thirds of the 387 million people with diabetes live in cities. Key to breaking the curve is regular exercise. Check out inspiring urban exercise photos from around the world.

Using your legs in a city designed for cars

Sustainable development has become a universal concern that must be addressed in both low- and high income countries. In the US, the city of Houston illustrates the health challenges of modern urban life.

A three-part story
- Living with diabetes in the developing world

A project in Kikuyu, Kenya, offers affordable treatment to people with diabetes living at the base of the pyramid. 55-year old Jane, who gets her insulin at the clinic, shares her story.

Diabetes care close to the heart

Ali Hassan works for Novo Nordisk in Iraq and he set a goal to establish a specialised diabetes centre in the city of Kirkuk in collaboration with the Iraqi Ministry of Health. Read about what motivated him and the challenges he is facing.

The people driving sustainability
“Everything always looks impossible until it is done”

Jean-Paul Digy, head of Novo Nordisk’s Business Area Africa offers his view on how the private sector can play an active role in improving the lives for people with diabetes on a continent with huge unmet health needs.
The need for healthy goals

Charlotte Ersbøll, corporate vice president in Novo Nordisk, reflects on the post-2015 agenda, why health must remain at the heart of sustainable development and how Novo Nordisk can make a difference.

At the turn of the millennium, world leaders entered into a commitment to reach eight goals by 2015. They were launched as the Millennium Development Goals, or MDGs as they are most often referred to. In the 15 years since the launch, millions of lives have felt a positive difference in their income, health and education.1

One of the key drivers of these achievements was the recognition that improving the lives of the world’s poorest was a shared responsibility. There was no room for individuals, nations or companies to view global development as being ‘someone else’s problem’. A failure to make progress on the eight goals was not just detrimental to the human life, but to the growth and health of our economies, societies and businesses.

We are now at the next step, the post-2015 agenda, with a chance to build on the successes from the past 15 years and address the challenges, both new and unresolved, through a new set of 17 goals – the Sustainable Development Goals (SDGs).

I am looking forward to seeing UN member states, the global business community and civil society organisations convene around this new set of universal goals. I only hope we all remember to put health front and centre. Let me elaborate on why this is so critical.

Health at the heart of sustainable development

In Novo Nordisk, we believe health, particularly defeating non-communicable diseases (NCDs), must remain at the heart of the post-2015 development framework. These diseases, including diabetes, cancers, cardiovascular diseases and hypertension, account for almost half of low- and middle-income country deaths and disabilities worldwide but receive less than 1% of total development health assistance.2

Charlotte Ersbøll is Corporate Vice President of Corporate Stakeholder Engagement at Novo Nordisk.

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Since 2000, many donors have targeted funding on the health priorities contained within the MDGs despite the fact that NCDs cause 36 million annual deaths. Low- and middle-income countries already suffer 86% of the burden of these premature deaths, potentially resulting in cumulative economic losses of USD 7 trillion over the next 15 years and leaving millions of people trapped in poverty.\(^3\)

NCDs are having a devastating toll on human life, and like malaria and HIV/AIDS, which achieved amazing success under the MDGs, NCDs are also our shared responsibility.

Throughout the process, Novo Nordisk has been advocating for the inclusion of a target to reduce NCDs in the new set of development goals. We are pleased to see that goal 3 is exclusively focused on health and thrilled that one of the goal’s targets aims to reduce the mortality rate from the four major NCDs, including diabetes, with one third by 2030. As a global healthcare company, we have both a responsibility and a business rationale to drive this agenda, and the need has never been greater in both the developing and developed world.

**Identify opportunities, collaborate for success**

Prevention efforts, and ensuring timely and quality treatment to avoid complications, are paramount to reducing the NCD mortality rate. It will take universal availability and access to affordable essential medicines, healthcare services and medical technology.

But the opportunities to do even more to fight NCDs spring up in many of the new goals. Although only one of the 17 proposed goals is directly focused on health, health is inextricably linked to the others. In this issue of TBL Quarterly, we show examples of where and how NCDs, like diabetes, fit into the bigger picture.

I’ll start with goal 5, ‘achieving gender equality and empower all women and girls’. In the article *Why sustainable development and pregnancy go hand in hand*, we look at two powerful initiatives that have educated and empowered pregnant women with gestational diabetes to improve their own health and that of their child.

Next, health plays a central role in making progress on goals 1 and 8, ‘ending poverty in all its forms everywhere’ and ‘promoting sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all’. Diabetes is a chronic condition that requires ongoing treatment. For the millions of people with living wages at the base of the economic pyramid, the affordability of essential medicines such as insulin and accessibility of healthcare services can easily throw people back into poverty. In the articles *A three part story: Living with diabetes in the developing world* and *No empty shelves*, we present the challenges faced by people who try to make ends meet while keeping control of their diabetes.

Of special interest to Novo Nordisk is goal 11, ‘making cities and human settlements inclusive, safe, resilient and sustainable’. Today, nearly two thirds of people with diabetes live in cities. The article *Using your legs in a city designed for cars* shows why urban health should be a key concern if we want to ensure better future health.

In war-torn Iraq, Novo Nordisk medical representative Ali Hassan shows first-hand how goal 16, ‘promoting peaceful and inclusive societies for sustainable development’, is fundamental to providing people with diabetes vital healthcare. In the article *Diabetes care close to the heart*, we tell Ali’s story of how he helped establish a specialised diabetes centre in the city of Kirkuk, Iraq.

"Non-communicable diseases are also our shared responsibility"

Lastly, the only way we can drive impact is through collaboration and partnerships. Goal 17 urges that we must not lose sight of the need to strengthen the means of implementation and revitalise global partnerships for sustainable development. Working with others plays a central role in all the stories in this issue and in our ‘People Driving Sustainability’ interview, head of Novo Nordisk’s Business Area Africa Jean-Paul Digy explains how local and global partners in Africa are creating locally anchored, sustainable models for improving access to quality care.

The new SDGs are an exciting next step in the global development journey. As a company committed to improving the lives of people living with diabetes, the 17 goals provide a comprehensive and universally accepted framework to account for our progress on performance. As a business supplying nearly half the world’s insulin, the focus and alignment of UN member states, national and local governments, NGOs and the private sector will help us all to find solutions that create shared value. In a Q&A with some of our industry peers, *In the business of health*, you can read that we are not alone in creating business models that are focused on meeting unmet needs.

I am optimistic that 15 years from now, we will have even more stories of how individual and global health is fit for the future.

Charlotte Ersbøll
Corporate Vice President
Corporate Stakeholder Engagement, Novo Nordisk

On the right track?

The Millennium Development Goals (MDGs)

In 2000, world leaders agreed to a global partnership to reduce extreme poverty and help people achieve a better quality of life by 2015. Eight goals were agreed upon – three of them related to health.

*GOAL 4* REDUCE CHILD MORTALITY
The target to reduce child mortality with two thirds, between 1990 and 2015, has been reached by 80%.

*GOAL 5* IMPROVING MATERNAL HEALTH
The target to decrease maternal mortality with three quarters, between 1990 and 2015, has been reached by 60%.

*GOAL 6* COMBAT HIV/AIDS, MALARIA AND OTHER DISEASES
The target to have halted and begun to reverse the spread of HIV/AIDS by 2015 has been reached 100%.

The Sustainable Development Goals (SDGs)

The new goals will expand on the previous ones. They are a new, universal set of goals, targets and indicators that UN member states will use to frame their development agendas and policies for the next 15 years. 17 targets are expected to be agreed upon – one explicitly focused on health.

*GOAL 3* ENSURE HEALTHY LIVES AND PROMOTE WELL-BEING FOR ALL AT ALL AGES
Target 3.4: By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well being.

Good health yields high returns on investment – both from a human and economic perspective – because good health reduces poverty and supports economic development. With the UN’s adoption of the new Sustainable Development Goals (SDGs), the link between health and sustainable development is more relevant than ever.

Acting on the magnitude of the world’s global health and development challenges requires collaboration between many actors in society, including the private sector. To shed light on the role of healthcare companies, Novo Nordisk has asked three industry peers how they are contributing to sustainable development through their businesses and who they are collaborating with to improve health.

**BD** – “Good health is a prerequisite for sustainable development”

By Gary Cohen, Executive Vice President and President, Global Health and Development, BD (Becton, Dickinson and Company).

**What does sustainable development mean to you?**

Sustainable development means engaging in commercial and non-commercial development practices that address and support societal needs while enabling progress and growth. Sustainable development allows companies to innovate and grow in a manner that contributes positively to society, rather than pursuing their success at the expense of society.

**What role does health have to play in sustainable development?**

In my view good health is a fundamental enabler or disabler. When someone has strong health they are able to be educated, work, raise families and be productive. When health is lacking, people become burdens to themselves, their families and societies. Good health is a prerequisite for sustainable development.

**Why are the SDGs relevant for BD and how can you contribute to them?**

The SDGs provide an opportunity for companies to align their priorities, plans and operations with the broader global agenda, which in turn can increase the relevance and positive impact companies can have on society. This increased relevance can contribute to long term business success. BD is already engaged in cross-sector collaborative initiatives with governments and NGOs to address leading infectious and non-communicable diseases such as HIV and AIDS, tuberculosis, cancer and diabetes, and to help improve health systems in areas such as laboratory testing capacity and quality, infection control, medication error and safe immunization of children. These are all relevant to SDG number 3 ‘Ensure healthy lives and promote well-being for all at all ages’.

Further, our engagement in ‘Together for Girls’, a partnership to end violence against children, is relevant to SDGs 5 ‘Achieve gender equality and empower all women and girls’ and 16 ‘Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels’.

**Could you mention an example of an initiative that drives your business while also creating value to society?**

One large example of shared value creation in BD is our focus on improving health worker safety through use of safety-engineered ‘sharps’ devices. This strategy has spanned over 25 years, beginning in the late 1980s when BD was among the pioneers and early advocates for protecting health workers from injuries that can spread infectious diseases.

Our work in this area has been highly collaborative, involving engagement with activists, researchers, governments, professional societies and the broader medical technology industry. Safety-engineered devices contributed to substantial reductions in injuries to health workers, and also became BD’s single largest source of business growth.
What personally motivates you the most about BD's work?
I joined BD 32 years ago and have served as an executive officer of the company for nearly 20 years. A devotion to doing good in the world is deeply embedded in BD’s culture – I like to say that at BD, you can achieve your life’s work as part of your work life.

What is needed for businesses to create greater health impacts in the future?
A big part of this is perspective; what do business leaders see as their role in society? There is no doubt that their first responsibility is to run their businesses successfully. A company must be strong to do its best work in advancing societal interests and needs – much as a person must be healthy to be fully productive. But commercial success alone is a starting point, not an end point.

Novartis⁴ – “Partnerships are essential to address access to healthcare”

By Charlie Hough, Vice President and Global Head of Strategy, Corporate Responsibility, Novartis.

Why are the SDGs relevant for Novartis and how can you contribute to them?
SDG number 3 ‘Ensure healthy lives and promote well-being for all at all ages’ and 17 ‘Strengthen the means of implementation and revitalise the global partnership for sustainable development’ are two goals of particular interest to Novartis.

Some of our most significant access to healthcare initiatives up until now have focused on communicable diseases, such as malaria and leprosy where we have worked with others to make a significant impact on these diseases. In the future, we believe we can do more to contribute with partners to the reduction in mortality from non-communicable diseases.

Could you mention an example of an initiative that drives your business while also creating value to society?
One of the Novartis Social Ventures launched in 2007 is Arogya Parivar (‘healthy family’ in Hindi). In India, 830 million people live in rural areas and an estimated 65% of the total population does not have access to healthcare. Novartis recruits and trains locals in remote villages to become ‘health educators’, who help inform communities about health, disease prevention and the benefits of seeking timely treatment. Health supervisors serve as the initiative’s local sales force. They interact with local pharmacies and collaborate with doctors to organise health camps where villagers can receive diagnosis, treatment and preventive care.

The venture’s product portfolio consists of both pharmaceutical and generic medicines to treat conditions ranging from tuberculosis and diabetes to pain and cold relief and dietary supplements. Arogya Parivar is a commercially viable programme – it began returning a profit after 30 months and since 2007, sales have increased 25-fold. This means that the initiative is sustainable, and Novartis has created similar initiatives in Kenya, Indonesia and Vietnam.

How do you as a private sector company work together with other actors in society?
Partnerships are essential to address access to healthcare as no single actor can solve all of the issues. One specific example of a partnership is our ‘SMS for Life’ initiative, which is a public-private initiative that harnesses everyday technology to eliminate stock-outs and improve access to essential medicines, such as anti-malarial treatment, in sub-Saharan Africa.

It started out as a pilot study undertaken through a partnership between Novartis, the Roll Back Malaria Partnership, IBM, Vodafone and the Ministry for Health of Tanzania. Now we are in the process of expanding SMS for Life in several ways. In Ghana, together with the Novartis Foundation and Microsoft, we are piloting a Windows-based smart phone app, ‘eBloodBank’, to track blood supplies for 20 hospitals in the greater Accra region. If the pilot is successful, we will deploy to all 220 hospitals across the country.

What is needed for businesses to create greater health impacts in the future?
It’s about two things essentially: 1) expanding shared value initiatives to reach further down the income pyramid in both developed and developing countries to address the two billion people who don’t have access to health-related products today, and 2) developing new partnerships with governments, NGOs and other actors to address the many issues that prevent greater access to health.

Charlie Hough visiting a leprosy colony in India that Novartis supports

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⁴ Novartis is a global healthcare company based in Switzerland working with a portfolio within innovative medicines, eye care and cost-saving generic pharmaceuticals: https://www.novartis.com/
“Health is a leading measure of development failure or success”

By Derek Yach, Chief Health Officer of Vitality, part of Discovery Ltd.

What does sustainable development mean to you?
At its core, sustainable development refers to actions we take as a society to allow all people – born and yet to be born – to flourish and achieve their fullest potential.

What role does health have to play in sustainable development?
The centrality of health to sustainable development was recognised in the original drafting of the Commission on Sustainable Development back in 1992 which states that “human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature.”

Health is a key contributor to the attainment of sustainable development and is also a leading measure of development failure or success.

Could you mention an example of an initiative that drives your business while also creating value to society?
Our Vitality programme has a beguilingly simple goal: improve the health of members in ways that drives profitability for the company – and through that, greater investment in innovative and effective interventions – while providing measurable health gains for members and their families.

As members of our health and life insurance programmes become engaged with interventions, they reduce their risks of developing chronic diseases and achieve higher levels of health. They experience a range of tangible and intangible rewards – from the absence of disease and increased longevity to lower insurance premiums – that together also lower the business costs. This allows for better member health to go hand in hand with profitability in a sustainable business model. We call this ‘shared value insurance’.

How do you as a private sector company work together with other actors in society?
We recognise the limits to individual behaviour change in promoting health, and the need for complimentary environmental changes.

For that reason we work with schools across South Africa to improve the health of all children; with cities to better tackle many threats to health (Johannesburg being a first); with NGOs focused on promoting physical activity and healthy eating to expand messages and means to improving health in the USA, UK and South Africa; and with governments to find better ways of improving access to healthcare.

We know that when we combine forces with others focused on health, we have a better chance of achieving scale and sustainable impact as health becomes a desired norm.

What is needed for businesses to create greater health impacts in the future?
Businesses need to integrate sustainability into the core of their operations. One way we are doing this is by working with investors and stock exchanges to have the health of employees included in all integrated business reporting, including financial reports.

If all companies did this the same way they are increasingly reporting on environmental metrics, such as water use and carbon footprint, it would lead to greater value being placed on businesses’ most important resource: its human capital.

Derek Yach is Chief Health Officer of Vitality, part of Discovery Ltd
No empty shelves

A private/non-profit partnership aims to improve the availability of essential medicines and technologies in low-income countries, with an initial focus on diabetes. Dr. Kibachio Joseph Mwangi from Kenya plays an important role in filling the knowledge gaps.

Dr. Kibachio Joseph Mwangi is a busy man. As Head of the Division of Non-Communicable Diseases (NCDs) Control Unit in Nairobi, Kenya, his work day normally begins at 7am in the morning with early meetings with partners, government officers, patients and members of the public. This is part of his job to raise the priority to NCDs, which cover cardiovascular diseases, cancers, chronic respiratory diseases and diabetes, and integrate their prevention and control into policies.

Later in the day, he goes on field visits with partners as part of his engagement with county health teams and health facilities. His work hours rarely finish until after 7pm and it is not till two hours later that he gets home to his family due to the hustle and bustle of traffic in Nairobi.

“As the problem of NCDs slowly climbs the health agenda, there is heightened interest from all sectors of the economy and with this comes more engagement and work,” he says.

In fact, looking to the next 15 years, NCDs are projected to overtake as the leading cause of death in Africa. This comes as a surprise to many people who believe that it would be HIV or other infectious diseases like malaria or tuberculosis which are known to be major health problems on the African continent. But this is no surprise to Dr. Kibachio. And he and his team of officers will only become busier going forward.

Barriers and bottlenecks

If the rise in NCDs is not addressed, advances made over the past 15 years toward achieving the Millennium Development Goals will be threatened. NCDs, like diabetes, affect the health and livelihood of working-age populations putting a strain on family finances and even the economy. All of which could impact progress toward the Sustainable Development Goals.

“Our country is going through an epidemiological transition and if no proper interventions are put in place, NCDs have the potential of crippling struggling health systems like ours,” says Dr. Kibachio. “40 to 60% of admissions in our hospitals are NCDs, diabetes among them. There is a need to change this and ensure we can manage the condition.”

Appropriate use of medicines can considerably reduce the burden of NCDs in many countries. Despite this reality, essential medicines and crucial tools for diagnosis, treatment, and monitoring still aren’t getting to people who need it, especially in low- and middle-income countries. This means that diabetes patients who go to the local clinic or pharmacy must often return without getting the necessary treatment and care.

Many factors are contributing to this. According to the World Health Organization (WHO), one reason is that countries have discrepancies between their essential medicine, procurement and reimbursement lists. Another barrier highlighted by the WHO is that high taxes and unregulated mark-ups act to increase the costs of essential medicines reaching patients, especially in private health facilities, where prices of medicines are usually higher – even with initial low costs of procurement.


3 WHO, July 2015, Essential medicines and basic health technologies for noncommunicable diseases: towards a set of actions to improve equitable access in Member States. Available at: http://www.who.int/nmh/ecd-toolsetfinal_medicines_and_technologies02_07_2015.pdf
But more knowledge is needed so that appropriate measures can be taken. A private/non-profit partnership is working to fill this gap.

**On the path for change**

The efforts began when PATH, an international non-profit organisation specialising in global health innovation, and Novo Nordisk, a global healthcare company with leadership in diabetes care, partnered up in July 2014. The initiative – called ‘No Empty Shelves: Diabetes supplies, there when needed’ – will gather evidence and mobilise global health communities to improve the availability of essential medicines and technologies in low-income countries, with an initial focus on diabetes. Project activities are led by PATH and financed through Novo Nordisk as part of its commitment to improve global access to diabetes care.⁴

“Working with Dr. Kibachio in Kenya and Dr. Ka-Cisse in Senegal brings the challenges faced at the national level to the forefront. Affordable medicines and technologies for diabetes and its comorbidities are often unavailable in sub-Saharan Africa, leaving individuals destined for complications and early death and their families in economic ruin. It is an issue we know little about, as national surveys and datasets rarely include diabetes medicines and supplies. Together we seek to understand what is causing bottlenecks in the supply chain and driving up prices of diabetes medicines and supplies as a foundation for future action,” says Helen McGuire, director of noncommunicable disease at PATH.

“This project is the first to look closely at the availability and affordability of the range of essential medicines and technologies to diagnose diabetes and prevent or delay the onset of complications. Once we understand the data available at the global level and take a deeper look in Kenya and Senegal, we will invite our global and in-country partners to join us to define and implement a call to action. People with diabetes must be able to consistently secure affordable medicines and technologies to live a healthy and productive life,” adds Helen.

Under the guidance of a technical advisory committee composed of experts in diabetes, global health and public health supply chain management, PATH is implementing activities to generate new evidence and raise awareness of this important global health issue. The first output of the project is a global report ‘Diabetes Supplies: Are they there when needed?’ that describes the current landscape around availability of affordable essential medicines and technologies for diabetes; identifies the drivers that contribute to availability of these commodities; and recommends interventions for improving the supply of these products.⁵

The No Empty Shelves project is also conducting comprehensive supply chain assessments and pricing and availability studies in Kenya and Senegal, which will provide greater understanding of barriers and enablers to availability of these essential products. The findings from these two countries also offer the opportunity to compare contrasting health logistics structures, relating Kenya’s decentralised model to the centrally-operated system in Senegal. This is where Dr. Kibachio has an important role to play.

“We are assisting the PATH project team to develop the country assessment questionnaire for Kenya and identify facilities and key informants for the data collection. Equally, we work to provide political and institutional goodwill for the project and ensure that the findings from the study will be used for policy purposes,” says Dr. Kibachio.

**From local to global action**

Beyond the evidence building, the project will conclude with a call to action that will define a road map for future global engagement to improve the availability of essential medicines and technologies for diabetes and other NCDs.

“Together, we can scale up the impact of the project and make an important contribution to better health in low- and middle-income countries. This will support the Sustainable Development Goals and WHO’s target of achieving 80% availability of essential medicines and technologies for NCDs in both public- and private-sector facilities by 2025,” says Helen.

According to Dr. Kibachio, working in partnership is the way forward. “Ministries of health cannot wholly attend to all the issues surrounding the supply chain for affordable basic essential medicines and technologies, including generics, for NCDs. Thus there is room for partnerships to leverage the strengths, knowledge infrastructure and experiences of private and non-profit organisations,” he says.

And despite the challenges and the heavy workload ahead of him, Dr Kibachio feels more motivated than ever. “I am most motivated by the thought that the cost of inaction is greater than the cost of action,” he says. “I have watched as relatives of mine and friends lose their sight, kidney and legs to diabetes and having been blessed with the knowledge of how to intervene, I find it extremely difficult not to push myself hard enough to make a difference.”

Read more about PATH: [www.path.org](http://www.path.org).

The global landscape report is available at [http://www.path.org/publications/index](http://www.path.org/publications/index). Findings from the country assessments will be available in early 2016.

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⁵ PATH will launch the report during the United Nations General Assembly meeting at an event sponsored by Novo Nordisk on 28 September.

⁶ As outlined in the Global Action Plan for the Prevention and Control of NCDs, Available at: [http://www.who.int/nmh/events/ncd_action_plan/en/](http://www.who.int/nmh/events/ncd_action_plan/en/)
Initiatives in Colombia and Nicaragua show new ways to improve maternal and child health while at the same time preventing type 2 diabetes risk factors.

Here is a statistic that may not shock as many people as it should.

Eight low- and middle-income countries – India, China, Nigeria, Pakistan, Indonesia, Bangladesh, Brazil, and Mexico – account for 55% of the global live births (70 million live births annually) as well as 55% of the global burden of diabetes (209.5 million).¹

But why is the high number of births interesting?

The answer is found in the link between maternal health and the risk of developing type 2 diabetes.

What is gestational diabetes?

Gestational Diabetes Mellitus, also known as ‘GDM’, is a type of diabetes that occurs during pregnancy, and in most cases disappears after delivery. Similar to type 2 diabetes, gestational diabetes is related to the pancreas’ inability to cope with the amounts of sugar, which during pregnancy are higher than normal, as nature’s smart way of ensuring that there is plenty of food for the growing baby.

Gestational diabetes affects 14% of all live births² and is detected through screenings of the pregnant woman in the 24th to 28th week of pregnancy.

Undiagnosed and untreated gestational diabetes can lead to complications that threaten the health of both mother and child. Furthermore, about 50% of mothers with uncontrolled gestational diabetes develop type 2 diabetes within five years after delivery,² and children of mothers with gestational diabetes have an eight-fold increased risk of developing type 2 diabetes.³

There is general limited awareness of these linkages, and many low- and middle-income countries lack the skills and infrastructure to adequately screen, diagnose and treat gestational diabetes.

"In many countries, screening for gestational diabetes is not a part of the general care for pregnant women, and many countries lack screening and management guidelines as well as trained healthcare professionals," says Rikke Fabienke, global project manager for Novo Nordisk’s Changing Diabetes® in Pregnancy programme. "In Colombia, for example, gestational diabetes was not widely known and women were only screened randomly. There was no coordination between endocrinologists [diabetes specialists] and maternal health professionals."

**Taking action on gestational diabetes**

In 2009, Novo Nordisk made a commitment to join global efforts to improve the health of women and children. The company knew that managing gestational diabetes during pregnancy offered a window of opportunity to not only decrease birth complications, but also reduce the risk of chronic diseases, including diabetes, for both mother and child later in life.

"We had two main objectives when we set up the Changing Diabetes® in Pregnancy programme in 2009," explains Rikke. "We wanted to increase awareness and evidence on gestational diabetes and increase access to screening and we wanted to care for treatment with a focus on pregnant women in low- and middle-income countries."

For the past three years, the programme has provided support to two projects being run by the World Diabetes Foundation. In both Colombia and Nicaragua, efforts have been made to make screening for gestational diabetes an integral part of prenatal care, raise awareness on how to control blood sugar levels before delivery and promote lifestyle education. These efforts are helping to prevent mother and child from developing type 2 diabetes in the future.

"In the city of Barranquilla, Colombia, our project called Vida Nueva, or ‘New Life’, has dramatically increased both the number of mothers screened and consoled," says Rikke.

In three years, the number of mothers screened for gestational diabetes jumped from 5% to 97%, increasing the number of women diagnosed from 51 to 1,853. An increased gestational diabetes detection of 3,600%.

Additionally, 72% of primary care and obstetrics and gynaecology personnel within the public health system and more than 1,200 community health workers were trained in gestational diabetes standards of care. This led to a third of the women diagnosed with gestational diabetes attending three-day health education workshops and 90% attending nutritional counselling.

"Vida Nueva has brought access for pregnant women from Barranquilla to diagnostic tests not previously received. Never before has the number of women who benefited from the screening and management of diabetes in pregnancy been so great,” says Humberto R. Mendoza Charris, health advisor to the Mayor of Barranquilla.

Humberto goes on to say that Vida Nueva has benefited prenatal care in Barranquilla, through improved nutritional education, both during and after pregnancy. “After the first test for gestational diabetes, the majority of women follow the nutrition advice and improve diet within 15 days.”

As in Colombia, the Changing Diabetes® in Pregnancy programme in Nicaragua also shows how nutrition and diet are becoming a part of maternal health. In one Nicaraguan hospital, doctors started to view the role dieticians play as central to improving maternal health. Now, doctor visits are organised together with visits to the dietician.

“The credibility of nutritional counsellors has changed dramatically,” says Rikke. “They are now recognised as being a key part of the medical team. This is great news for women with gestational diabetes.”

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Using your legs in a city designed for cars

When talking about global development, we tend to think of developing world challenges such as poverty reduction, HIV/AIDS and access to clean water. However, with the adoption of the new Sustainable Development Goals (SDGs), sustainable development has become a universal concern that must be addressed in both low- and high income countries. In the US, the city of Houston illustrates the health challenges of modern urban life.

The new Sustainable Development Goal (SDG) 3 – ‘Ensure healthy lives and promote well-being for all at all ages’ – recognises that large unmet health needs are equally present in developing and developed nations.

Goal 11 – ‘Make cities and human settlements inclusive, safe, resilient and sustainable’ – seeks to also address rising unmet needs where they are concentrated, in cities in both low- and high income countries. Since 2014, more than half of the world’s population lives in a city and by 2050, urban populations are set to grow to two-thirds of the population globally.1 And there is a close link between urbanisation and health.

Urban health

Urbanisation is creating a wide range of new opportunities and challenges. On the one hand, people are drawn to the social and economic possibilities of urban life. On the other hand, urban development is putting strains on services and infrastructure. And the way that cities are designed and run influences how people live and can be both an enabler of – or a barrier to – good health.2

As urbanisation increase, so does the number of people with diabetes living in urban areas. Today 65% of people with diabetes live in urban areas which is equivalent to approx. 252 million urban dwellers and the number is set to increase.3 This poses a major threat to a sustainable city life. Drivers play out differently from city to city and they span infrastructural design and barriers to physical exercise4 to fast-paced working environments2 and unhealthy diet.5

Partnering up to change diabetes in cities

A programme – Cities Changing Diabetes – has set out to increase knowledge about the drivers of urban diabetes and how to tackle the issue. The global programme is a partnership between University College London (UCL),

4 WHO Physical Inactivity Factsheet. Available at: http://www.who.int/dietphysicalactivity/factsheet_inactivity/en/
one of London’s leading universities, Steno Diabetes Center, a world leading institution in diabetes care and prevention, and Novo Nordisk, a global healthcare company with more than 90 years of leadership in diabetes care. Together with local partners, the programme is mapping the problem in five ‘study cities’ across the world: Mexico City, Copenhagen, Houston, Tianjin and Shanghai.

During the past year, UCL and Novo Nordisk have conducted research training sessions in each study city. We asked Louise Hesseldal, Project Manager in the Cities Changing Diabetes programme, to share some of her reflections from Houston where one in 10 has diabetes.6

A city designed for people in cars
We must understand the challenges of diabetes in urban areas. One way to do so is by conducting so-called ‘Vulnerability Assessments’. It’s a qualitative research method developed by UCL which explores the social and cultural risk factors in regards to diabetes in urban areas – for example by exploring how people are exercising, or why they are not exercising at all.

In Houston, ten test-persons from the Houston area had been recruited to join this training session. The session allows the fieldworkers to practice interview techniques and test the questions on ‘real’ people. Interestingly enough, the majority of the people attending the training arrived by car. As one of them told me:

“Houstonians always go by car – we love cars.”

They told me that owning a car is crucial when living in Houston due to the long commute times. Even for short distances, they all preferred to take the car because it was simply too hot and humid to walk or bike anywhere. Their stories about the car-culture in Houston confirmed my first impression of the city as a town designed for people in cars.

Mall-walking the talk
Another interesting aspect of living life in Houston is that some people go to shopping malls to cool down – and even to exercise. It is called ‘mall-walking’, and apparently it is a well-established concept in Houston. Some malls open their doors early in the morning for walkers and provide formal mall-walking-programmes as part of their service offerings. And in some way I understand them: why power-walk in 80 degrees weather, when you can do it in a clean, safe and climate controlled mall?

The following day Anna Volkmann, my partner-in-crime and researcher at UCL, and I decided to go for a short afternoon-walk in the neighbourhood close to mid-town where we stayed.

We went by some nice green areas with playgrounds facilities for children and plenty of space for exercise and one observation was clear: there was no people walking, playing, jogging or bicycling.

We walked around in the area, trying not to block the road for the many cars driving there. A hard task, as there was almost no sidewalks or bike paths. We came by a mall and went inside to cool down – and we took the opportunity to go for a little mall-(power)-walk before we took a nice air-conditioning car back to the hotel.

Houston solutions
The solution to the challenges in Houston might not be to establish more mall-walk-tours. Nevertheless, it illustrates the importance of looking into innovative ways of improving healthy living in Houston while taking into consideration the social, cultural and environmental factors of the equation.

The Cities Changing Diabetes programme in Houston has capable stakeholders involved from many different fields, and it is going to be interesting to see how the insights from the vulnerability assessment will be translated into new solutions to improve healthy living in Houston.

And when combined with insights from the other study cities, we hope the programme will help drive wider action around the world. It has been said that when the history of the 21st century is written, it will be the story of cities. Let’s make it a healthy one.


This is the second article in TBL Quarterly about Houston and Cities Changing Diabetes. Read the previous one: http://www.novonordisk.com/content/dam/Denmark/HQ/Sustainibility/documents/TBL-Quarterly-no-1-2015.pdf#page=12

Learn more about Cities Changing Diabetes: http://citieschangingdiabetes.com/
5 ways to get your pulse up in the city

Two-thirds of all people with diabetes live in cities – and the number is rising. One key to reducing risk factors that lead to type 2 diabetes is regular exercise. We asked people to share their photos on Twitter or Instagram and use #UrbanExercise + # [YourCity] to see how people are finding space and time to exercise in their cities.

Here are five inspirational photos to get you laced up and moving!

#UrbanDiabetes

URBAN HEALTH ON THE GLOBAL DEVELOPMENT AGENDA

At the global level, Novo Nordisk advocates and takes action to ensure that non-communicable diseases are prioritised in the new Sustainable Development Goals. Goal 11 is focused on creating sustainable and healthy cities. Find out how our partnership approach creates shared value by engaging cities in reducing their risk for type 2 diabetes at www.citieschangingdiabetes.com

Thank you for photos from Ted Fahn (@teddear), Simon Prahm (@weloveasphalt), Søren Walther Bjerregaard (@soerenbjerregaard) and Vivian Veltman (@viviveltman).
Novo Nordisk launched the Base of the Pyramid (BoP) project in Kenya in 2012. It is a public-private partnership aimed at improving comprehensive diabetes care and ensuring availability of affordable insulin through well-established faith-based organisations. Limiting price mark-ups and controlling the price that the patient has to pay at the pharmacy is central to the project. Take a closer look from people involved in the project in Kenya.

Part 1: Jane’s story

Jane Nyambura Chege and her husband Samuel live in a three room metal building on a 2,000 square meter (½ acre) piece of farmland in Kikuyu. She is 55 years old and has been living with type 1 diabetes for 26 years.

Today, Jane is collecting her insulin vials at St. Josephs Kanyariri Dispensary in Kikuyu, a green and lush area in the highlands west of Nairobi. She recalls when she was 29 and pregnant with her youngest child.

“He did not grow very well and I was thirsty and wanted to pee all the time. I went from hospital to hospital. Some said it was malaria, others asthma. At last we went to a private clinic where they measured my blood sugar. That’s when I was diagnosed with type 1 diabetes.”

Currently, Jane is benefitting from the BoP project, getting insulin vials at 500 Kenyan Shillings (USD 5). But it wasn’t always the case. Before the BoP project, a complicated supply chain and mark-ups meant that the price of insulin varied, sometimes reaching as high as 2,000 shillings.

“To get insulin was expensive and we did not have the money. Sometimes I went without insulin, because I did not want to trouble my husband and my kids.”

Jane put her own needs aside for the wellbeing of the rest of the family. The sacrifice nearly killed her. She ended up weighing only 38 kilo. Jane attended a seminar for people with diabetes and got tested. Her sugar level was too high. She was given two vials, took the first dose and instantly she felt the difference. She has been on treatment ever since.

“One vial of insulin of 500 Kenyan Shillings sometimes lasts a month. Other times three weeks,” says Jane. “Now I feel better, although my legs are not so fine.”

Jane is satisfied with the fact that the medicine is much more affordable now than in the past, but one thing is bothering her.

“Why are AIDS patients better off than us? They get their medicine for free.”

Jane has accepted her status as a diabetic and is busy making friends, interacting with people and listening to music. She communicates regularly with the health workers that have received diabetes education through the BoP project and also makes sure that she eats healthy. Jane has joined the Diabetes Support Group at St. Josephs Kanyariri Dispensary.
“People need to be informed about diabetes as some fear it. I have an illness, but I don’t fear. My advice is to go to the doctor and get the blood sugar tested. Then you will be told what to do.”

Jane’s husband Samuel Chege is a 59-year old casual worker. Since Jane’s diagnosis, he has been a tremendous source of support.

For some time, Jane’s health has limited her ability to work, though sometimes she is able to help out on a neighbour’s farm. Samuel must make the majority of the family’s income.

A normal salary for a day’s work is 500 Kenyan Shillings, exactly the same amount as a vial of insulin for Jane distributed through the BoP project.

“In the beginning we used to pay 1,600 Kenyan Shillings or more for the medicine. To get that amount of money was really a problem. Now it is a bit easier.”

Samuel clearly sees the difference after his wife started taking the medicine regularly.

“When she did not take the drugs, she was dying.”

Part 2: The health workers

Back at the St. Josephs Kanyariri Dispensary, lab technician Cecilia Waweru takes a rest between attending to two patients.

“The BoP project is really doing something good for people in our area.”

The area around the dispensary is dominated by small scale farming with maize, beans and sweet potatoes as the main crops. There is not much space available for grazing but there are plenty of cows. Right now the price of milk is low and animal feeds are expensive, so many farmers are struggling.

Cecilia explains that they treat about 30 diabetes patients in a month.

“Ten can afford to buy the medicine and 20 are struggling. They are old or retired and don’t have the energy to go to the field. They end up borrowing money from their children,” says Cecilia. “500 Kenyan Shillings is quite affordable, even if a child has to pay for his parents’ medicine. And it is not as much as 2,000.”

At the dispensary, the staff sometimes find innovative solutions. 78-year-old Hanah Nyokabi was diagnosed with diabetes last year. She is living by herself and has no means.

Dorcus Ndiema Cherotich, nurse at the dispensary, explains: “We told a more well off diabetes patient about Hanah’s problems paying for her medicine and he got the message. He now pays for her treatment.”
Part 3: The project manager
At the Novo Nordisk office in Nairobi, Abigail Wambui Chakava is very well aware of the challenge of insulin prices. She joined Novo Nordisk in 2012 and works as the local project manager of the Base of the Pyramid project in Kenya.

“What is unique about this project is that it is a public-private partnership where Novo Nordisk has made agreements with every link in the distribution chain which makes it difficult for distributors and other actors in the value chain to exceed the agreed price.”

But the price has to be set at a level which ensures that there is a margin for everybody in the distribution chain in order for the project to sustain itself. “The ultimate aim is to create value for all the partners to ensure sustainability and scaling,” she adds.

Abigail also points to the issue that price is only part of the challenge. That is why the programme also works to improve healthcare infrastructure with training of healthcare professionals and patients and data collection as well as raising awareness about diabetes among the general public, so that more people will know if they are at risk.

“Historically in our region, non-communicable diseases like diabetes have not received as much attention as communicable diseases like HIV/AIDS. But with this project, we are slowly paving the way.”

Watch a video taking you inside the Base of the Pyramid project in Kenya http://video.novonordisk.com/video/8981893/base-of-the-pyramid-project-kenya
Diabetes care close to the heart

Ali Hassan set a goal to establish a specialised diabetes centre in the city of Kirkuk in collaboration with the Iraqi Ministry of Health. A personal motivation and the need to ensure healthier lives for patients are key drivers for him but big challenges have arisen along the way.

The city of Kirkuk is often referred to as the heart of Iraq. Not only does the area have the similar shape of a heart, it also boasts a rich cultural history and was named ‘capital of Iraqi culture’ by Iraq’s Ministry of Culture back in 2010.

The city was founded around 2000 BC and today, the estimated population of the Kirkuk governorate is around 1.4 million people. Demographically, it is an extremely diverse region with a mix of religions and ethnic groups.¹

Because of its strategic location in the central Northern part of Iraq, Kirkuk has several times in history experienced clashes with different empires controlling the city at various times. The fact that Kirkuk is located on top of some of the country’s largest oil reserves also makes the city important from a political point of view. Earlier this year, Kirkuk once again turned into a battle ground when the threat from terrorist group Islamic State (ISIS) suddenly came very close.²

Ali’s move
Ali Hassan is concerned with a different kind of fight which is how to make life better for people living with diabetes. He lives in Kirkuk and has worked for Novo Nordisk as a medical representative since 2013. And it is a very personal story that has made diabetes close to his heart.

“My father died from diabetes a little more than two years ago. In fact, he died from complications of living with diabetes for 20-25 years without getting the proper treatment. This is how my passion for diabetes care began and why I decided to join Novo Nordisk,” says Ali.

In January 2015, as part of an internal campaign called BANE³ Move, all employees in Novo Nordisk’s Iraqi affiliate were invited to identify their personal ‘move’ to support the company strategy. Here, Ali decided that his move should be to provide better treatment to the people with diabetes living in Kirkuk. ‘My move is to increase awareness about diabetes and work hard to develop a specialised diabetes clinic in Kirkuk,’ it says on a note that Ali carries with him.

Novo Nordisk has for several years provided insulin to Kirkuk, but Ali and his colleagues were aware that it takes more than medicine to provide better care to patients. With a specialised diabetes clinic, patients would not

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¹ Wikipedia, Kirkuk. Available at: https://en.wikipedia.org/wiki/Kirkuk
³ Business Area Near East (BANE)
only get access to modern insulin, but also healthcare professionals with an expertise in diabetes that is normally unlikely to find at a general practitioner and the ability to track patients in a systematic way so that their health could be monitored on a long-term basis.

This would be the first time that a specialised diabetes clinic would be established in the city of Kirkuk and Ali felt extremely motivated to carry out this work although he knew that there would be challenges ahead. However, the next couple of months turned out to be even more challenging than he had imagined.

**Kirkuk under attack**

For a long time, Kirkuk was one of the few notable cities – apart from the region of Kurdistan and its capital Erbil – in northern Iraq that hadn’t fallen to ISIS. However, in January 2015, ISIS militants attacked Kirkuk which led to a period with fierce battles where Kurdish military forces and Iraqi government troops fought to defend the city against the terrorist group.

“Everything was changed due to the bad situation, even the boundaries of my city,” Ali says. The government was no longer in control of certain areas and it was less safe to travel around the city. This made it harder for Ali to carry out his normal work as a medical representative and made it more cumbersome to prepare for the diabetes clinic in collaboration with the Iraqi Ministry of Health.

However, he continued his work with support from his colleagues, his manager and the Novo Nordisk office in Baghdad. He spent considerable time in dialogue with the Ministry of Health and the Azadi General Hospital in Kirkuk where the diabetes clinic would be located.

Finally in July 2015, an agreement was made between Novo Nordisk and the Ministry to establish the clinic which was a major milestone for Ali. “It has been a difficult situation, but I always say that if a person wants something, he should try to do it. And patients deserve that we do our best!”

Around the same time, Kirkuk was freed and its borders are now protected from ISIS. But although the city is now considered safe according to Ali, it is still under risk and fighting takes place in the areas surrounding the city.

**Preparing for the opening**

Although the fighting has died down for now and the agreement is in place, other bumps have also occurred on the way.

Several times during the summer of 2015, the government declared mandatory holidays because temperatures soared to above 50 degrees. High summer temperatures are normal in Iraq but widespread power and water cuts made everyday life complicated and progress slow.

But by the beginning of August, all the final steps for the diabetes clinic were in place. It was decided that staff from the hospital will be allocated to the diabetes clinic and Novo Nordisk will take care of further educating specialised doctors through Steno Diabetes Center\(^4\) through the STAR programme which is an international education programme for healthcare professionals working with diabetes in low- and medium-income countries. As part of the agreement, Novo Nordisk will also supply the clinic with affordable modern insulin.

And then it happened. On 14 August 2015, Ali’s dream became reality with the official opening of the diabetes clinic in Kirkuk. To begin with, Ali expects that the clinic will serve between 150 and 200 patients with type 1 and type 2 diabetes. Eventually, he also hopes to secure the sufficient resources to make a mobile vehicle with an examination room available to the clinic which can help raise awareness about diabetes and bring diabetes care to patients across the city.

“This is a great achievement for me,” says Ali. “It’s not just a job - it’s my passion, belief and future.”

\(^4\) Steno Diabetes Center is a world leading institution within diabetes care and prevention. Steno is owned by Novo Nordisk A/S and is a not for profit organisation.
Jean-Paul Digy heads up Novo Nordisk’s Business Area Africa (BAAF), leading 800 people across 53 countries. Working on a continent with huge unmet health needs, and where much of the international community’s focus and investments take place to advance sustainable development, he sees many opportunities for the private sector to play an active role in improving the lives for people with diabetes.

**Could you briefly describe your role in Novo Nordisk and your background?**

I am currently Corporate Vice President for the Business Area Africa (BAAF) headquartered in Dubai, UAE. I hold a Medical Degree in Endocrinology, a Master in Biostatistics, a PhD in Life Sciences and an MBA in Strategic Marketing. I joined Novo Nordisk in February 1986, in France, and later relocated to Algeria as General Manager. In 2011 my responsibilities were extended to the Maghreb region (Algeria, Morocco and Tunisia), and since January 2014, I am the head of the Africa region.

**Novo Nordisk has been present in Africa for many years – what do you consider to be key company milestones?**

Novo Nordisk made its first insulin shipment to Algeria back in 1936 and established its first affiliate office in South Africa in 1956. Since then, we have continuously strengthened our presence on the continent.

An important milestone was when we established a local production site in Algeria in 2006 and we have ambitions to export locally produced drugs to other parts of Africa in the near future.

For several years, we have conducted clinical trials in Africa, with 23 ongoing trials in South Africa, Algeria and Morocco in 2015. Clinical trials are a crucial part of the development process for human medicines. However, we believe that clinical trials can also lead to improvements in medical capabilities and drive scientific progress.¹

Today, we reach nearly 2 million patients across the continent. If I were to define my colleagues’ attitude and philosophy, I would use a quote from our regional guru Mr Nelson Mandela: “Everything always looks impossible until it is done.”

**In your view, what is currently the biggest challenge when it comes to diabetes in Africa?**

The biggest challenges in Africa are three-fold. Firstly, diabetes is expected to increase by 80% over the next 20 years – today, 29 million people are living with diabetes in Africa, and this number is expected to reach 52 million by 2035.² Secondly, out of all those people, 6 out of 10 do not even know they have the disease, and only half of the ones who know, are treated. And thirdly, the quality of care is very poor with only 2 out of 10 treated patients achieving the international treatment target.³

If nothing is done, we are moving towards a real disaster for Africa. On top of the above, people are generally diagnosed with diabetes 10 years younger in Africa than in Europe, and thereby the human and economic impact will be larger.

**How do you as a private sector company work together with other actors in society?**

Improving access to diabetes care is a global need. However, the response must be tailored to the local conditions. We work with local and global partners in Africa to create locally anchored, sustainable models for improving access to quality care.

I think that the best example of how we make a difference is through our Changing Diabetes® activities. We have a number of ongoing initiatives focusing on educating patients, supporting decision-makers, training healthcare professionals, and strengthening healthcare systems. Examples are the Changing Diabetes® in Children programme, the Base of the Pyramid project, the Changing Diabetes® Mobile Clinic and Barometer.

¹ For more information about the value of diabetes clinical research, see: [http://www.novonordisk.com/content/dam/Denmark/HQ/Sustainability/documents/blueprint-diabetes-clinical-research.pdf](http://www.novonordisk.com/content/dam/Denmark/HQ/Sustainability/documents/blueprint-diabetes-clinical-research.pdf)


³ People with diabetes need to control their HbA1c level (recommended target is below 7%)
the Buddy Doctor initiative and a lot of others. Common for all the initiatives is that we do them together with partners. We are always stronger when we are together.

Why are the new Sustainable Development Goals (SDGs) important to Novo Nordisk and how can you as a company contribute to reaching them?

Investing in health is key – looking at diabetes alone, data shows that a person dies from diabetes every six seconds and the epidemic caused USD 548 billion in health expenditure in 2014. And to give the full picture, disability and loss of productivity should be added to this.

Providing around half of the world’s insulin, Novo Nordisk has a responsibility and a business rationale to improve access to diabetes care. Our key contribution is to discover and develop innovative medicines and make them accessible to people with diabetes all over the world. However, we are well aware that our products only do part of the job: it takes more than medicine to change diabetes. We believe that investing in public-private partnerships is an innovative way of supporting the health related SDG and working with authorities on an integrated approach to reduce non-communicable diseases (NCDs) and not just diabetes. Those partnerships should not be limited to financial support but should be extended to scientific and technology investments and transfers like local production and clinical trials which are driven with a ‘glocal’ focus.

You just attended the International Conference on Financing for Development in Addis Ababa - what are your takeaways from this conference?

Ensuring healthy lives has been recognised as an important element, but I think we are going to see a new global framework for financing development beyond 2015. Aid commitments will dry up and the private sector is being asked to take over more financing through public-private partnerships.

There are many challenges, but also a lot of hope and energy to find solutions. During the conference, we had several ad hoc meetings with people from ministries and private sector who had an interest in discussing how we could reach better outcomes for the patients by working together. This is a very nice sign.

Novo Nordisk Africa has set itself the ambition to provide 3 million people in Africa with quality diabetes care and products by 2020, thereby reaching approx. 1 million people more than today. When leaving the conference, I felt very confident that we will be able to reach this ambitious target through joint efforts.

Looking to the future, what opportunities do you see for improved diabetes care for people on the African continent?

There is a huge unmet need to change the future of people with diabetes in Africa. The continent is in epidemiologic transition where many countries face the double burden of communicable AND non-communicable diseases. Local governments should work on two aspects: preventing the disease in the long run and improving access to quality care through timely and effective treatment of people with diabetes right now.

But governments cannot address this burden alone which is why we need more public-private partnerships. This is what we in Novo Nordisk have started in Africa, and this is what we will continue to do.

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4 Goal 3: ‘Ensure healthy lives and promote wellbeing for all at all ages’
5 Target 3.A: ‘By 2030, reduce by one third premature mortality from NCDs through prevention, and treatment and promote mental health and wellbeing’
# The Sustainable Development Goals

| Goal 1 | End poverty in all its forms everywhere |
| Goal 2 | End hunger, achieve food security and improved nutrition and promote sustainable agriculture |
| Goal 3 | Ensure healthy lives and promote well-being for all at all ages |
| Goal 4 | Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all |
| Goal 5 | Achieve gender equality and empower all women and girls |
| Goal 6 | Ensure availability and sustainable management of water and sanitation for all |
| Goal 7 | Ensure access to affordable, reliable, sustainable and modern energy for all |
| Goal 8 | Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all |
| Goal 9 | Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation |
| Goal 10 | Reduce inequality within and among countries |
| Goal 11 | Make cities and human settlements inclusive, safe, resilient and sustainable |
| Goal 12 | Ensure sustainable consumption and production patterns |
| Goal 13 | Take urgent action to combat climate change and its impacts* |
| Goal 14 | Conserve and sustainably use the oceans, seas and marine resources for sustainable development |
| Goal 15 | Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss |
| Goal 16 | Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels |
| Goal 17 | Strengthen the means of implementation and revitalize the global partnership for sustainable development |

## About Novo Nordisk and the Triple Bottom Line

Headquartered in Denmark, Novo Nordisk is a global healthcare company with more than 90 years of innovation and leadership in diabetes care. This heritage has given us experience and capabilities that also enable us to help people defeat other serious chronic conditions: haemophilia, growth disorders and obesity.

We believe that a healthy economy, environment and society are fundamental to long-term value creation. This is why we manage our business in accordance with the Triple Bottom Line business principle and consider the financial, environmental and social impact of our business decisions.

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For a deeper look at how Novo Nordisk works with sustainability visit our website at: novonordisk.com/sustainability