Urbanisation, unhealthy lifestyles and an ageing population are driving a rise in diabetes (mainly Type 2) that has seen global prevalence increase from 4.6 per cent in 2000 to 9.1 per cent in 2017. Without urgent action, this prevalence will reach 11.7 per cent by 2045 and the accompanying cost to the individual, their families, health systems and society as a whole will become simply unsustainable.

There is increasing evidence that Type 2 diabetes is much more than a biomedical condition. Social, economic and cultural factors also affect its prevention and management. And urbanisation changes the way people live – often in a way that is detrimental to their health. Tackling urban diabetes is a vital element of meeting the challenge of non-communicable diseases that has been highlighted by the United Nations as a threat to social and economic development around the world.

Meanwhile, the World Health Organization has presented evidence that healthy urban environments can have a positive impact on citizens’ health. That is why Novo Nordisk, with UCL and the Steno Diabetes Centre, Copenhagen, set up the Cities Changing Diabetes (CCD) initiative in 2014. Leicester now joins Mexico City, Copenhagen, Houston, Tianjin, Shanghai, Rome, Johannesburg and Vancouver in a bid to ‘bend the curve’ on urban diabetes. The overall aim of the fightback has begun with the Cities Changing Diabetes project. As Leicester becomes the first UK city to join the initiative, Dr Susan Aldridge attended the launch.

The rise in prevalence in Type 2 diabetes around the world is evidence of the impact of city living on people’s health. But the fightback has begun with the Cities Changing Diabetes project. As Leicester becomes the first UK city to join the initiative, Dr Susan Aldridge attended the launch.
the initiative is to slow diabetes prevalence to 10 per cent by 2045, which translates to 111 million fewer cases of diabetes globally and would save $204 billion of diabetes-related spending, according to Novo Nordisk’s Diabetes Projection Model. This will involve a focus on reducing obesity, the single most modifiable risk factor of diabetes, by 25 per cent by 2045.

“Urban diabetes is a phrase that has come about because where people live can really affect how people live their lives, and we know that some aspects of urban or city living can have a negative impact on people’s health and wellbeing,” said Adam Burt, Market Access and Public Affairs Director, Novo Nordisk. “The number of people living with diabetes in Leicester is one of the highest in the UK – above the national average of 6.4 per cent – and rates are increasing year-on-year. It’s therefore vital that we work together with the community stakeholders in Leicester and beyond to establish a road map for addressing the national challenge of diabetes in the UK.

“We’re delighted to be working alongside the many partners in Leicester to deliver on our shared objectives. From the Leicester Diabetes Centre, to the City Council and the many faith groups across the city that are involved, it’s through this collaboration that we hope to see genuine, long-term success for the city. But Leicester is just the start.

The long-term ambition is about bending the curve of diabetes nationally and globally, so we want the legacy of this programme to be about finding a solution that will really work to improve the lives of people living with diabetes around the world.”

How CCD works
Essentially, CCD is a platform for collaboration and a unique kind of public-private partnership bringing many different stakeholders together with the common aim of tackling the complex public health issue that is urban diabetes. The programme looks into the risk factors driving the increase in diabetes in different cities and uses the knowledge gained to plan actions that will improve health outcomes for its citizens. It follows a systematic approach known as the map-share-act framework, with cities adapting this to suit their individual needs, resources and targets.

At CCD’s 2014–2016 programme review, it was noted that 18 specific projects or activities had already been initiated across the first six partner cities. Programme partners generally agreed that CCD had played an important role in getting these off the ground. They also reported that diabetes prevention and management had improved in their city since the launch of the initiative. To take just one example, stakeholders in Mexico City have joined together to launch a set of policies, regulations and initiatives to stem the rise in diabetes, which had been declared a national public health emergency in 2016.

**Why Leicester?**
Professor Melanie Davies CBE, Professor of Diabetes Medicine at the University of Leicester and Co-director of the Leicester Diabetes Centre (LDC), said: “Type 2 diabetes represents a significant challenge, especially in our multi-ethnic city, but a challenge we are committed to meeting.

“In Leicester, it’s thought that one in seven people (14 per cent) aged between 40 and 75 already have prediabetes and are deemed at very high risk of developing Type 2 diabetes within the next five years.

“If not managed properly Type 2 diabetes can lead to devastating complications, including blindness, a lost limb, or an increased risk of a stroke or heart attack. Treating these conditions costs money and it’s believed the NHS could be spending $17 billion by 2035 on diabetes. Those costs could cripple the NHS, which is why it’s crucial we find out the best way to treat Type 2 diabetes and the complications associated with the condition.

“This initiative provides an excellent opportunity for LDC and our partners across the city to get involved and work collaboratively to give the people of Leicester access to the best possible outcomes when it comes to preventing
and managing Type 2 diabetes.”

Only half of Leicester’s 340,000 population identify themselves as White, and 32 per cent are of South Asian ethnicity – a group which is six times more likely to develop Type 2 diabetes. Indeed, the diabetes prevalence rate in Leicester is 8.9 per cent, compared with a national average of 6.4 per cent. This means there are 25,000 people in Leicester who have been diagnosed with the condition and a further 6,000 remaining undiagnosed.

A Project Plan has been put together, with the following elements:

**Phase 1**
- engaging with community leaders, the City Council, local businesses and charities and other stakeholders
- working with pharmacists on screening and prevention
- exploring the role of community prevention champions
- working with schools on exercise, healthy eating and lifestyle education
- collecting audit and other data to inform engagement strategies
- developing marketing, brand, communications and dissemination strategies to develop an Operating and Sustainability Framework
- working with local eateries on healthy eating.

**Phase 2**
- map the urban diabetes challenge in Leicester
- determine the social and cultural factors involved
- share and disseminate knowledge gained
- develop an action plan for health promotion and urban design and share with other multicultural cities
- develop our vision for diabetes prevention, screening and better care to cross-cut policy change and city planning.

Councillor Adam Clarke, Deputy City Mayor, Leicester City Council, who is Chair of the Health and Wellbeing Board, described some of the ways in which the city’s diabetes challenge could be approached. “We must turn back the tide of diabetes. We owe this to our citizens. We don’t want to see the increasing impact it has. Of course, there are many challenges, but diabetes is not inevitable and we can succeed if we all work together.”

Leicester has already made some significant changes in its environment – particularly in the city centre – to make it more walking, cycling and family friendly. On transport policy, work is being done to make journeys active and healthy. The city has 130 parks, which could be made more safe and accessible, seven leisure centres and 31 outdoor gyms.

At policy level, a health and wellbeing strategy is being developed and there will also be a healthy weight strategy and the Food Plan is being updated to support better health. “Our Local Plan is critical,” said Mr Clarke. “And all the plans are cognisant of each other. We need to build all this into the DNA of the city, look at health through the prism of diabetes,” he added. “Cities Changing Diabetes is an excellent opportunity.”

The Rt Hon Keith Vaz, MP for Leicester, said he was enthusiastic about the idea of the ‘diabetes village’ (and is currently campaigning for this to be established at LDC). “Awareness, coordination – which the NHS lacks currently in diabetes care – education and research, with collection and harvesting of data, should be at the heart of our efforts and the village concept could bring all this together.”

Mr Vaz believes that there is a need to change lifestyles and the way people think about diabetes. That should begin in schools. He is to introduce a Bill to get people to go into schools to talk about health. Other important initiatives include using planning law to stop fast food outlets being located near schools and the sugar tax, which has forced retailers to change. “Leicester can be a model for the world. This new Novo Nordisk network is going to bring people together and I intend to invite them to Parliament.”

If Leicester City Football Club could win the Premier League in 2016, then the city can also meet the challenge of urban diabetes – and sport has an important role to play.

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Houston, Leicester and houses of faith
Stuart Nelson, Vice President of the Institute for Spirituality and Health, Texas Medical Center, Houston, noted some similarities between the two cities – sports, outdoor recreation, space science and a “wonderful energy”.

In Houston, mapping has identified four risk profiles that confer particular vulnerability to Type 2 diabetes and work is being done under five different themes to address the issue with a group of over 400 multi-sector stakeholders.

He spoke of the importance of work being done in faith centres in Houston.

“There is a case for a house of faith being a ‘supersetting’ for intervention work. These places are supportive, have a wide reach, fight isolation and can weave existing beliefs in with health and wellness. They are thriving hubs of activity and there is no reason not to do wellness work which can address the needs of those with the four risk profiles we have identified.”

Work done in faith centres so far coordinated by CCD involves “training the trainer” to deliver a prevention module based on 10 evidence-based nutrition and physical activity intervention. There is also a religious study module which encourages creative thinking about faith and health – one activity, for instance, involves collecting traditional recipes and modifying them to become healthier.

He concluded with “Houses of faith may not have trust in academia so it is important to run initiatives on their terms rather than in the traditional ‘top down’ approach.”

Faith centres are also important in Leicester, and Presham Singh Sandhu, MBE, Chairman of the Leicestershire Interfaith Forum, spoke about how CCD can help raise awareness of diabetes within the faith community. “We need to talk to one another,” he stressed. “If we do not, then it does not matter how many action plans we have.”

The role of sport
If Leicester City Football Club (LCFC) could win England’s Premier League in 2016, then the city can also meet the challenge of urban diabetes. And the LCFC and Leicester Tigers rugby brand and popularity can help catalyse change. Community representatives from both clubs listed a number of projects already under way to get children, the disabled, women and unfit...
We firmly believe that the Cities Changing Diabetes programme here in Leicester will be a major boost to help us drive positive environmental changes...

men involved in more physical activity. One example is Man v Fat (a national programme) which has the novel approach of not only getting men out playing football, but also being awarded game points for weight lost. Data from Leicester shows that men lost 350 kg in 15 weeks, some of them losing 10 per cent of their body weight, a level which is associated with clinical benefit. The men have a WhatsApp group to motivate one another and the LCFC brand is used to motivate. Man v Fat meets the demand for non-competitive activity in a social environment.

Meanwhile, Leicester Tigers, the UK’s best-supported rugby club uses its players as a model of health to target under-represented groups in rugby. The club has set up a number of programmes (Healthy Schools and FitFans, for instance) which are aimed at engaging the community through a mixture of health, education and social activities.

A great opportunity
Cities Changing Diabetes offers a great opportunity for stakeholders to work together in a new way. Leicester is already famous for its diabetes work. With the energy generated by this new initiative, there is now great optimism that the urgent challenge of urban diabetes can be met in a positive and innovative way.

In conclusion, Professor Kamlesh Khunti, Professor of Primary Care Diabetes and Vascular Medicine at the University of Leicester and Co-director of LDC, said: “We firmly believe the Cities Changing Diabetes programme here in Leicester will be a major boost to help us drive positive environmental changes that could reduce the risk of developing Type 2 diabetes, as well as ensure those with the condition have the right level of support and education to manage it properly.

“...This is a chance for all our representatives and agencies to come together and tackle a public health priority, placing Type 2 diabetes at the heart of a coordinated, multi-agency approach.

“We’re looking to getting the best out of Cities Changing Diabetes and harnessing its full potential, and working towards sharing solutions and driving positive action forward to fight the diabetes challenge taking place in Leicester and around the world.”

To all mayors, health ministers, city planners and others who are shaping cities.

1. Define a city goal to help everyone working on the challenge of diabetes in your city see what it will take to bend the curve on diabetes.
2. Create an action plan by mapping the challenge, understanding the areas of greatest risk and vulnerability, and designing interventions that work in your city context.
3. Establish new and innovative partnerships to work together with the leading actors in urban management and health, and community groups which have the power to tackle urban diabetes in your city, and to bring together the public and private sectors.
4. Build health into every aspect of urban strategy so that health is not left behind as cities act on the related challenges of transport, housing, food, climate change and inequality – so that mutual benefits can be realised.
5. Contribute your learning to the global effort, so that more cities around the world can optimise the health of urban citizens, and can join the fight against urban diabetes.

REFERENCES

4. WHO (2017). Quality of care is key to tackling Mexico’s diabetes emergency. Bulletin of the World Health Organization 95 (6); 393–394