

**cities
changing
diabetes**



ACTION ON URBAN DIABETES

How cities are building a healthier future

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FOREWORD

Diabetes is growing at an alarming rate. It is now one of the greatest health threats facing the world – affecting hundreds of millions of people every day, and impacting many millions more every year. The condition may have a devastating personal cost for individuals, whilst simultaneously putting unsustainable economic pressures on healthcare systems.

Cities are the front line of the diabetes challenge. They are where more than half of the world's population lives, and are home to two-thirds of people with diabetes. Although cities are engines of economic growth and innovation, some of the drivers of their prosperity can also lead to widening health inequalities. They significantly impact how people live, travel, play, work and eat — factors that, in combination, affect the rise in diabetes.

Cities Changing Diabetes has set out not only to drive down the complications associated with diabetes, but also to prevent the onset of the condition altogether. The ambition of everyone in this programme is to bend the curve on diabetes; to hold back the rise and even change the trajectory over time.

Today we are a partnership of more than 40 major cities that are home to approximately 260 million people. Many more cities want to join. Through this briefing book, we are capturing the energy and drive that are alive in the partnership today. Together, we have built a strong base to build on.

To take our work to the next level, we now have to focus on driving systematic change to tackle diabetes through an integrated response that touches on all aspects of city life. Doing so requires enlisting the help of city leaders.

Increasingly, mayors are coming to understand that the decisions made about how a city is run have an impact on health. From the design of transport systems and how citizens access healthy food, to responses to other important issues, from climate change to social inequalities. Tackling urban diabetes must be achieved hand-in-hand with those who build and run cities.

Through the work that we have carried out, a series of guiding principles have emerged: focus on prevention and well-being in addition to treatment of the disease; take into account the social and cultural dynamics that put people at greater risk; form collaborations with communities and partners; and, crucially, build health into all policy decisions. It has become clear that these are the systemic approaches needed to bend the curve on diabetes in cities.

Cities are putting their names to the Urban Diabetes Declaration – committing to use it to guide the actions they deliver to respond to the diabetes challenge, and putting the health of their communities at the top of their agendas. Our hope is that all cities will join us.

As we take this next step together, we can raise the bar on action and, in doing so, improve the lives of millions of citizens, drive economic output and improve city resilience.

Join us to continue to grow this movement and step up the fight against urban diabetes.

LARS FRUERGAARD JØRGENSEN
President and chief executive officer,
Novo Nordisk

PROF ALLAN FLYVBJERG
Chief executive officer,
Steno Diabetes Center
Copenhagen

PROF DAVID NAPIER
Director, Science,
Medicine and Society Network,
University College London



Johannesburg,
South Africa

Rome,
Italy

DIABETES: ONE OF TODAY'S GREATEST HEALTH THREATS

One of the most urgent global health challenges, non-communicable diseases (NCDs) such as diabetes affect hundreds of millions of people.¹ Left unchecked, they can lead to life-threatening complications, and the burden they place on individuals, families and society is growing in every part of the world.¹

The prevalence of diabetes has been increasing at an alarming rate, and nearly half a billion people worldwide are now living with the condition.² This upward trajectory is unsustainable. In 2019, 4.2 million people died from diabetes-related causes, and global diabetes-related healthcare expenditure exceeded 760 billion US dollars.²

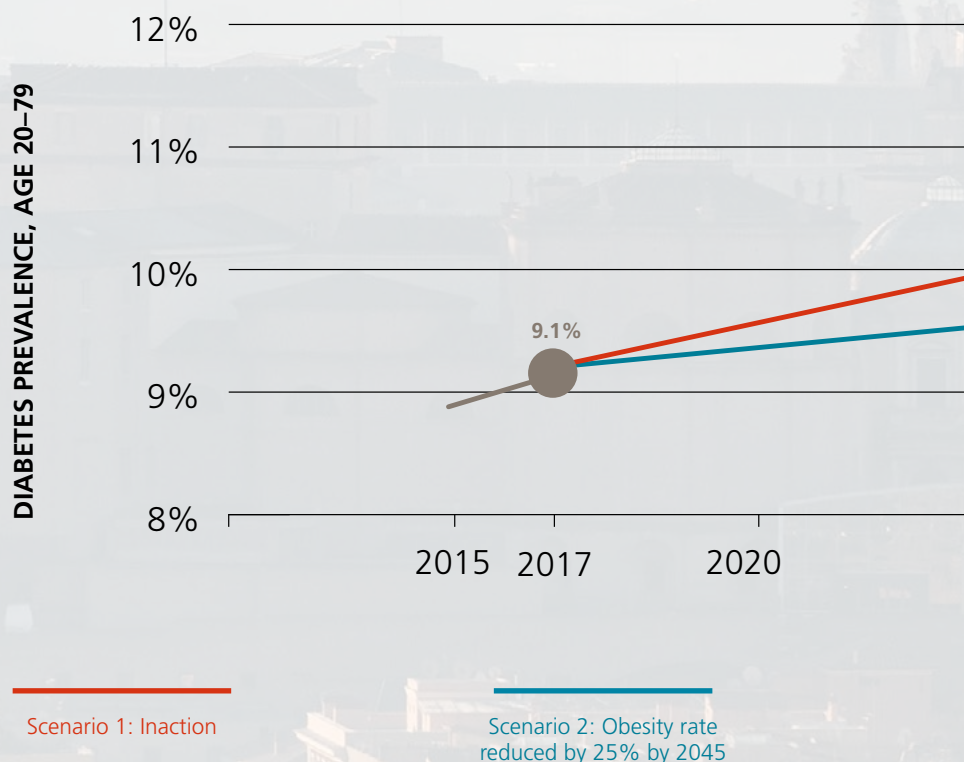
Globally, the rise in diabetes can be attributed to an increase in type 2 diabetes, which accounts for 90% of all cases.² Population ageing, economic development and increasing urbanisation – which can result in more sedentary lifestyles and increased consumption of unhealthy foods – have contributed to the increase in diabetes.^{2,3}

BENDING THE CURVE ON TYPE 2 DIABETES MEANS TACKLING OBESITY

Obesity is the largest modifiable risk factor for developing type 2 diabetes.⁴ Today, 650 million adults are living with obesity (BMI $\geq 30^*$).⁵ This number is forecast to grow to 1.4 billion by 2045 if action is not taken.⁶ An increase in the prevalence of obesity and excess weight in children and adolescents means that type 2 diabetes is becoming an issue in this demographic too.⁷ More than 340 million children and adolescents between the ages of five and 19 are overweight or living with obesity.⁵

In 2017, Cities Changing Diabetes launched an ambitious target to bend the curve on diabetes: to hold the rise of diabetes prevalence at 10% globally by reducing obesity by 25% by 2045.⁸ This is a bold goal. Yet studies have shown that even minor weight loss, equivalent to 5–7% of body weight, can make a significant difference to people's health and reduce their risk of developing type 2 diabetes.⁹

FIGURE 1: PROJECTED DIABETES PREVALENCE SCENARIOS, 2017–2045



Doing nothing is not an option. The Diabetes Projection Model, which models the trajectory of diabetes prevalence over time, shows that the prevalence of diabetes will continue to climb and could reach almost 12% by 2045.⁶ Conservatively, this would result in 736 million people living with diabetes and more than 1,000 billion dollars in global healthcare expenditure.⁶

CITIES ARE ON THE FRONT LINE IN THE FIGHT AGAINST DIABETES

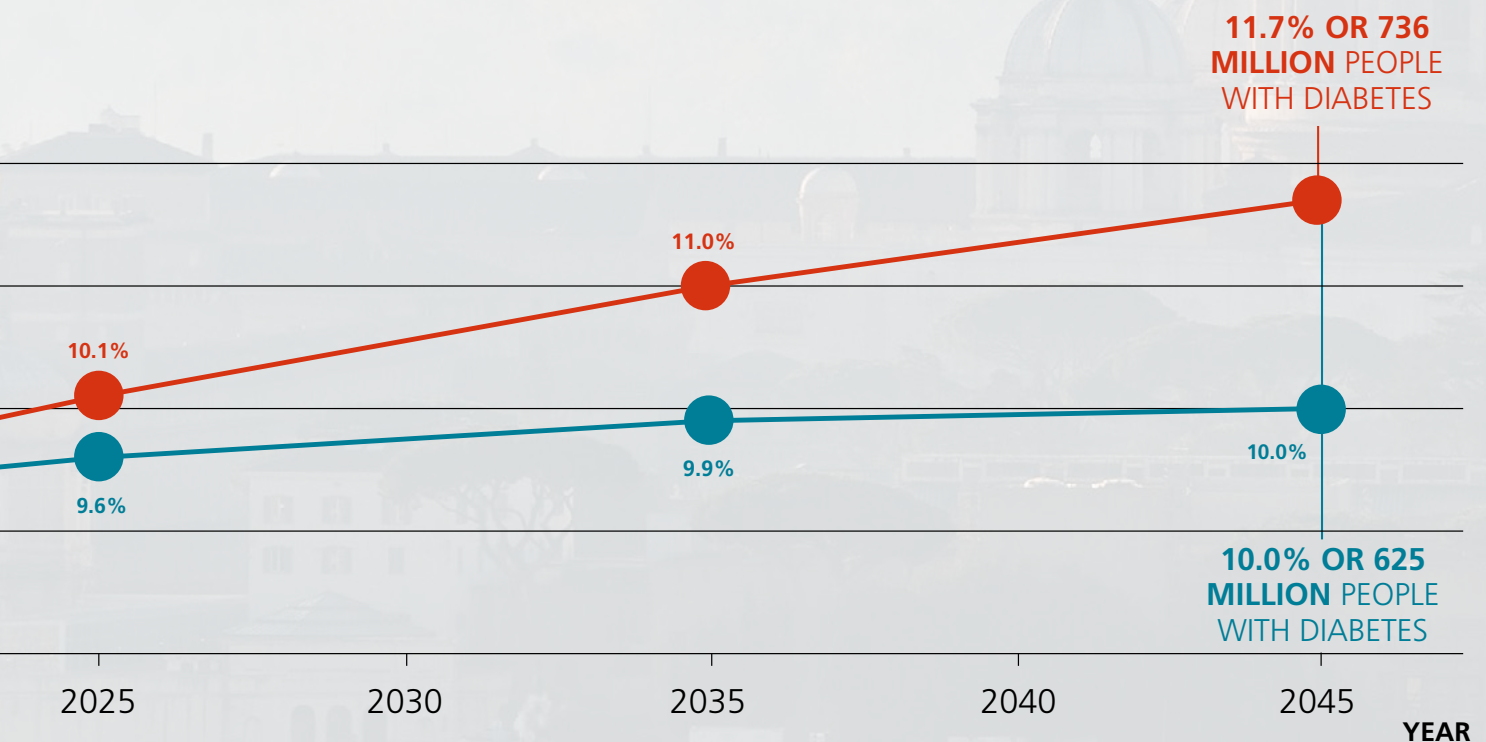
More than half the world's population (55%) lives in urban areas, and this statistic is expected to reach 68% by 2050.¹⁰ This surge in urbanisation presents a health challenge for many cities and their citizens.^{11–17} Already, two-thirds of people with diabetes live in urban areas, which is where the increase in prevalence is expected to occur.¹⁸

Urban environments influence how people live, move and, often, what they eat. Confined spaces, urban design optimised for

motorised transport, and widening distances between where people live and work all contribute to a decrease in physical activity.^{19,20} This, together with time constraints and an unhealthy food environment of cheap, processed foods, which too often are high in fat and sugar, can increase the risk of developing obesity and type 2 diabetes.^{21,22}

Because of the scale and density of urban environments, the people who design, plan, build and govern cities exercise considerable influence over the basic ingredients of a healthy life: access to decent housing, nutritious food, safe transport and mobility, and opportunities for physical activity. Cities that offer these fundamentals can dramatically reduce the incidence and associated costs of a wide range of NCDs while improving health equity for those most often exposed to such risks – children, older people, women, people with disabilities and the poor.

Rome,
Italy



* Body mass index (BMI) is a simple index of weight-for-height that is commonly used to classify overweight and obesity in adults. BMI is defined as a person's weight in kilograms divided by the square of their height in metres (kg/m²). For adults, obesity is defined as a BMI greater than or equal to 30.



Mexico City,
Mexico

THE URBAN DIABETES DECLARATION

This report is full of stories of health actions, policies and partnerships that cities are delivering to fight urban diabetes. The Urban Diabetes Declaration is designed to build on that foundation, and support city leaders as they commit to use a set of common principles to guide the actions they deliver.

This Declaration will celebrate and formalise the commitment of city leaders to adopt an integrated, city-wide response to diabetes. It was developed in partnership with many of the cities and organisations already involved in the programme. And it builds on commitments already in place in cities, such as the Italian Manifesto 'Health in the City – a common good', 'The Diabetes

Pledge' signed by Leicester's City Council and professional sports clubs in Leicester, and the 'National Cities Changing Diabetes Declaration' in China.

FIVE PRINCIPLES FOR ACTION

For the people aiming to tackle today's biggest health challenges, a series of underlying principles are emerging from experience gained through Cities Changing Diabetes. It has become clear that these are the systemic approaches needed to bend the curve on diabetes, and that is why they form the basis of this commitment. More and more cities are adopting these principles, and are signing up to the Declaration.

FIVE PRINCIPLES TO BEND THE CURVE ON DIABETES

Health promotion



INVEST IN THE PROMOTION OF HEALTH AND WELL-BEING

Cities have great potential to be health-promoting environments. This requires a shift towards viewing the prevention of diabetes and its complications as a long-term investment rather than a short-term cost. Therefore, we must prioritise health-promoting policies and actions to improve health and well-being for all.

Health equity



ADDRESS SOCIAL AND CULTURAL DETERMINANTS AND STRIVE FOR HEALTH EQUITY

Social and cultural determinants are root causes that shape citizens' opportunities for healthy living. Striving for health equity is essential in order to provide healthy opportunities for all. Therefore, we must address social and cultural determinants in order to make the healthy choice the easier choice.

Health in all policies



INTEGRATE HEALTH INTO ALL POLICIES

Health is linked to other policy agendas, including social, employment, housing and environmental policies. To improve the health and well-being of citizens, health must be integrated into decision-making processes across departments and be driven by shared policy goals. Therefore, we must coordinate action across departments to integrate health into all policies.

Community engagement



ENGAGE COMMUNITIES TO ENSURE SUSTAINABLE HEALTH SOLUTIONS

Health is largely created outside the healthcare sector, namely in community settings where people live their everyday lives. Health actions should move beyond the individual level to include the community settings where social norms that shape behaviour are created. Therefore, we must actively engage communities in order to strengthen social cohesion and drive sustainable health-promoting actions.

Cross-sector partnerships



CREATE SOLUTIONS IN PARTNERSHIP ACROSS SECTORS

Health is a shared responsibility. Creating sustainable solutions demands that all members of society acknowledge the health impact of their actions. Combining competences and pooling resources and networks are prerequisites to creating innovative, effective and sustainable solutions. Therefore, we must work together to share the responsibility for creating solutions, as no single entity can solve the challenge alone.

DRIVING CHANGE IN CITIES ACROSS THE WORLD

Since the first five cities joined Cities Changing Diabetes in 2014, the programme has grown to more than 40 cities. As more and more cities join, the programme is working in partnership with the people running those cities and influencing health who, through their actions and policies, have the power to impact the lives of millions of citizens.

CITIES CHANGING OTHER CITIES

Cities that are part of the Cities Changing Diabetes initiative have begun using the network for knowledge exchange. For example, community programmes in Leicester were inspired by the Faith and Diabetes programme in Houston, partners from Cities Changing Diabetes in Rome shared their learnings at the launch of Cities Changing Diabetes in Manchester, and Mexico City and Houston have collaborated through a research hub funded by the Robert Wood Johnson Foundation. As the Cities Changing Diabetes network grows and the programmes in the cities mature, there will be more and more opportunities for these types of exchange.

NORTH, SOUTH AND CENTRAL AMERICA²³

MEXICO CITY, MEXICO
21,782,000 CITIZENS

HOUSTON, US
6,371,000 CITIZENS

MÉRIDA, MEXICO
344,000 CITIZENS

**BUENOS AIRES,
ARGENTINA**
15,154,000 CITIZENS

PHILADELPHIA, US
5,717,000 CITIZENS

BOGOTÁ, COLOMBIA
10,987,000 CITIZENS

MISSISSAUGA, CANADA
829,000 CITIZENS

EUROPE^{23,24}

**COPENHAGEN,
DENMARK**
1,346,000 CITIZENS

ROME, ITALY
4,257,000 CITIZENS

MILAN, ITALY
3,140,000 CITIZENS

MADRID, SPAIN
6,618,000 CITIZENS

LEICESTER, UK
552,000 CITIZENS

MANCHESTER, UK
2,730,000 CITIZENS

WARSAW, POLAND
1,783,000 CITIZENS

LISBON, PORTUGAL
2,957,000 CITIZENS

MALMÖ, SWEDEN
322,000 CITIZENS

AARHUS, DENMARK
350,000 CITIZENS

BERLIN, GERMANY
3,562,000 CITIZENS

KRAKOW, POLAND
769,000 CITIZENS

BELGRADE, SERBIA
1,398,000 CITIZENS

**STRASBOURG,
FRANCE**
475,000 CITIZENS

BARI, ITALY
622,000 CITIZENS

BOLOGNA, ITALY
806,000 CITIZENS

GENOA, ITALY
680,000 CITIZENS

TURIN, ITALY
1,792,000 CITIZENS

NAPLES, ITALY
2,187,000 CITIZENS

MOSCOW, RUSSIA
12,538,000 CITIZENS



**AFRICA
AND MIDDLE
EAST²³**

**JOHANNESBURG,
SOUTH AFRICA**
5,783,000 CITIZENS

BEIRUT, LEBANON
2,424,000 CITIZENS

ISTANBUL, TURKEY
15,190,000 CITIZENS

**ASIA AND
WESTERN
PACIFIC²³**

TIANJIN, CHINA
13,589,000 CITIZENS

SHANGHAI, CHINA
27,058,000 CITIZENS

BEIJING, CHINA
20,463,000 CITIZENS

XIAMEN, CHINA
3,720,000 CITIZENS

HANGZHOU, CHINA
7,642,000 CITIZENS

KORIYAMA, JAPAN
331,000 CITIZENS

JAKARTA, INDONESIA
10,770,000 CITIZENS

SEOUL, SOUTH KOREA
9,963,000 CITIZENS

CHONGQING, CHINA
30,000,000 CITIZENS

ASAHI, JAPAN
69,710 CITIZENS

NORTH, CENTRAL AND SOUTH AMERICA

The Americas are home to almost 80 million people living with diabetes.² Over the next 15 years, this number is expected to increase by 32% to 112 million people if urgent action is not taken.² The US is the country in the region with the highest number of people with diabetes at 31 million.²

MEXICO CITY, MEXICO JOINED IN 2014

A city of firsts is stepping up to the challenge of bending the curve
Read more on page 12

HOUSTON, US JOINED IN 2014

Houston identifies trust as a driver for change
Read more on page 13

MÉRIDA, MEXICO JOINED IN 2018

Mérida makes screening more accessible in the heart of the city
Read more on page 14

BUENOS AIRES, ARGENTINA JOINED IN 2018

Driving change through diabetes education and awareness
Read more on page 15

PHILADELPHIA, US JOINED IN 2019

Philadelphia identifies neighbourhoods for research and action
Read more on page 16

MISSISSAUGA, CANADA JOINED IN 2021

Engaging diverse communities to reach at-risk groups
Read more on page 18



BOGOTÁ, COLOMBIA JOINED IN 2020

Research projects will reveal opportunities to improve health

Bogotá launched with a strong academic partnership, bringing two leading universities on board: Universidad de Rosario & Universidad Nacional. The national health secretariat and Danish Embassy were also launch partners. The partnership will carry out a quantitative research project to map and identify the non-communicable disease landscape in the city alongside a qualitative evaluation of social, cultural and economic factors related to diabetes. Early actions have included a foodscapes study of four neighbourhoods, examining the relationship between health and food deserts in Bogotá. The ambition is to enact prevention interventions focusing on improving diet, health and well-being for children and teenagers in particular.

MEXICO CITY, MEXICO

A CITY OF FIRSTS IS STEPPING UP TO THE CHALLENGE OF BENDING THE CURVE

Mexico City was the first city to join Cities Changing Diabetes in 2014, and has truly demonstrated that it is committed to tackling the challenge of urban diabetes. Following the initial research conducted as part of the programme, two concrete interventions were launched: a diabetes clinic in the district of Iztapalapa that provides comprehensive, multidisciplinary, patient-centric diabetes care in one location, and the *El Médico en Tu Casa* (the doctor in your home) initiative that has made it possible for senior citizens to be screened at home for non-communicable diseases.

12.7%
OF THE POPULATION
IS LIVING WITH DIABETES²⁵

MEXICO CITY CALLS FOR ACTION WITH THE 'NEW URBAN AGENDA'

Mexico City has not only been working to address the diabetes challenge locally, but also helping to put the topic on the international agenda. In 2016, Mexico City was one of six major cities that called on governments around the world to make health central to the 'New Urban Agenda' by focusing on preventing non-communicable diseases, prioritising health in urban policies and employing new models of collaboration. With the newly formed Interinstitutional Commission, Mexico City is once again taking the lead and stepping up to the challenge.

IMPROVING COLLABORATION AMONG INSTITUTIONS

The Interinstitutional Commission, which was set up by the Ministry of Health under the broad umbrella of the Cities Changing Diabetes programme, sees the integration of three separate institutions related to diabetes prevention and management. In 2019, the commission organised a meeting of representatives from various sectors. Around 30 people attended the meeting, including representatives from health institutions, academia, sport, education, transport and the private sector. The participants came together to specifically discuss the Cities Changing Diabetes programme and talk about how their sectors could collectively work towards reducing the impact of diabetes on the population of Mexico City.

Through collaborative consultation, the commission has determined three work streams:

- Creating a strategic approach to the prevention of diabetes and obesity
- Establishing a universal set of indicators and measurement parameters to be used by all institutions collecting data related to diabetes and obesity
- Working with stakeholders outside the healthcare sector to improve recreational spaces and opportunities for physical exercise.

This new model of collaboration will help to ensure that the Cities Changing Diabetes programme is aligned with the government's objectives to provide a comprehensive diagnosis of the city in relation to chronic diseases and bring about an overall improvement in the city's 840 health units.

LOCAL PROGRAMME PARTNERS

Secretaría de Seguridad
Pública del Distrito Federal (SSPDF)

Secretaría de Salud de
la Ciudad de México (SEDESA)

National Institute of
Public Health Mexico

World Diabetes Federation

"We've managed to observe the importance of providing comprehensive care to the patient with diabetes through a multidisciplinary team, and this is also extended to the entire health sector, considering that this is only achieved through training and resource training, without forgetting the importance of promoting change of habits among the population."

Alberto Gallardo Hernández,
Home Healthcare Attention
subdirector, Public Healthcare
Services of Mexico City

IN MEXICO CITY

17%
OF ADULTS ARE LIVING
WITH PREDIABETES²⁵

34%
OF ADULTS ARE LIVING
WITH OBESITY²⁵

HOUSTON, US

HOUSTON IDENTIFIES TRUST AS A DRIVER FOR CHANGE

After joining Cities Changing Diabetes in 2014, Houston spent more than a year conducting comprehensive research into the diabetes epidemic in the city. This research identified the Houstonians most at risk of developing the disease, and analysed the major gaps and vulnerabilities associated with diabetes in the city.

Key insights from the mapping phase included the fact that a significant number of people do not trust the formal healthcare system and that, for many in Houston, faith is the nexus around which much of daily life revolves. It became clear, through consultations with local stakeholders and communities, that an element of trust – which can be found within faith-based communities – would be essential to tackling the diabetes challenge. The Faith and Diabetes Action Work Group, which consisted of lay leaders and clergy from houses of faith, healthcare providers, public health professionals and people with diabetes, collaborated on a training programme to train lay leaders in health education and empower congregations to affect the diabetes epidemic.

FAITH AND DIABETES INITIATIVE

The Faith and Diabetes Initiative engages leaders within communities of faith to drive awareness, prevention, detection and management of diabetes. Central to the initiative is the Congregational Health Leadership Program, under which two cohorts of faith-based lay leaders have been trained to deliver Diabetes Self-Management Education and Support (DSMES) to their congregations. These community lay leaders, who serve a population of more than 75,000 Christian, Muslim and Hindu residents, provide education about diabetes management for people already living with diabetes. The initiative has brought together a range of

‘unlikely’ partners across faith communities and sectors, and is inspiring similar initiatives in cities both within and outside the US.

HOUSTON DIABETES RESOURCE CENTER

The Houston Diabetes Resource Center (HDRC) was designed to address several of the needs identified during the mapping phase, by providing an online platform for helping patients, their family members, providers and employers to better navigate a fragmented healthcare system. The HDRC is an online resource and web-based community where users can find trustworthy information and access local resources that can help them manage their diabetes. These resources have been vetted by Cities Changing Diabetes leaders who are diabetes experts from the American Diabetes Association and the Association of Diabetes Care & Education Specialists.

BITE OF HOPE

As the sixth initiative launched under Cities Changing Diabetes in Houston, local core team member HOPE Clinic created ‘Bite of HOPE’ – the first culinary institute in Houston for low-income and minority students wanting to pursue a career in the culinary arts. Inspired by projects in Copenhagen, New York City and La Paz, this innovative initiative, which combines food, health and business, is designed to train the next generation of healthy-cooking chefs and food entrepreneurs who will work to improve health outcomes in minority and immigrant communities in Houston affected by the diabetes epidemic. While preparing to launch the culinary training programme for adults in the spring of 2020, Bite of HOPE and the local school district developed an after-school programme to get students in the kitchen at an early age and help build healthy eating habits.



Houston, US

IN HOUSTON

32.5%
OF ADULTS ARE
LIVING WITH OBESITY²⁶

13%
OF TEENAGE GIRLS
AND **19%** OF TEENAGE
BOYS ARE LIVING
WITH OBESITY²⁶

LOCAL PROGRAMME PARTNERS

American Diabetes Association
American Heart Association
Asian American Health Coalition
Association of Diabetes Care & Education Specialists
City of Houston HR Department
CORE Initiative
The Fountain of Praise Church
Harris County Public Health

Harris Health System
Hispanic Health Coalition
Houston Business Coalition on Health
Houston Health Department
Institute for Spirituality and Health
University of Texas Health Science Center School of Public Health

“The Faith and Diabetes Initiative empowers people to creatively leverage their most important beliefs and practices towards diabetes self-management and prevention.”

Stuart Nelson, MA, vice president,
Institute for Spirituality and Health

MÉRIDA, MEXICO

MÉRIDA MAKES SCREENING MORE ACCESSIBLE IN THE HEART OF THE CITY

Every Wednesday morning, commuters in Mérida city centre can stop to have their blood pressure, blood glucose and anthropometric (weight, height, waist) measurements taken at an 'Attention Desk'. If high blood glucose levels are detected, the individual is invited to enrol in the Public Health Policy Municipal Centre for Nutritional Care and Diabetes (CEMANUD) diabetes education programme, Seven Steps to Control. Through this programme, participants can access workshops on healthy cooking using traditional Yucatán cuisine and educational sessions exploring the seven key behaviours required to manage diabetes.

9.2%
OF THE POPULATION
IS LIVING WITH DIABETES²⁷

EARLY DETECTION TO PREVENT TYPE 2 DIABETES

On average, the Attention Desk initiative detects 180 new cases of diabetes every month. This is important, because early detection is key to preventing diabetes-related complications, which are already present in half of all the people diagnosed with type 2 diabetes.²⁷ Cardiovascular disease, diabetes and chronic kidney disease are among the leading causes of death in Mexico.^{27,28} Exacerbating the health situation in Mexico are exceptionally high levels of overweight and obesity in the general population, and more worryingly among young people.²⁹

CITIES CHANGING DIABETES RESEARCH IN MÉRIDA

The city of Mérida is serious about preventing non-communicable diseases. Having already established numerous diabetes-related interventions, Mérida asked to join the Cities Changing Diabetes programme in 2018, and is currently in the mapping stage of the programme. Data will be collected in two stages: the first stage will focus on establishing the prevalence of diabetes in the city, and the second will explore what makes individuals more vulnerable to diabetes in Mérida and how the disease affects those living with it.

The research protocol, which was developed in collaboration with the Autonomous University of Yucatán, sets out an ambitious programme of research that aims to establish how effective the current interventions are. It will consider not only whether the interventions are working, but also whether certain interventions – such as a Sunday cycling programme – are being offered in the parts of the city with the greatest need. By establishing where diabetes is most prevalent and exploring diabetes in relation to vulnerability, the Cities Changing Diabetes programme will be able to target interventions more effectively.

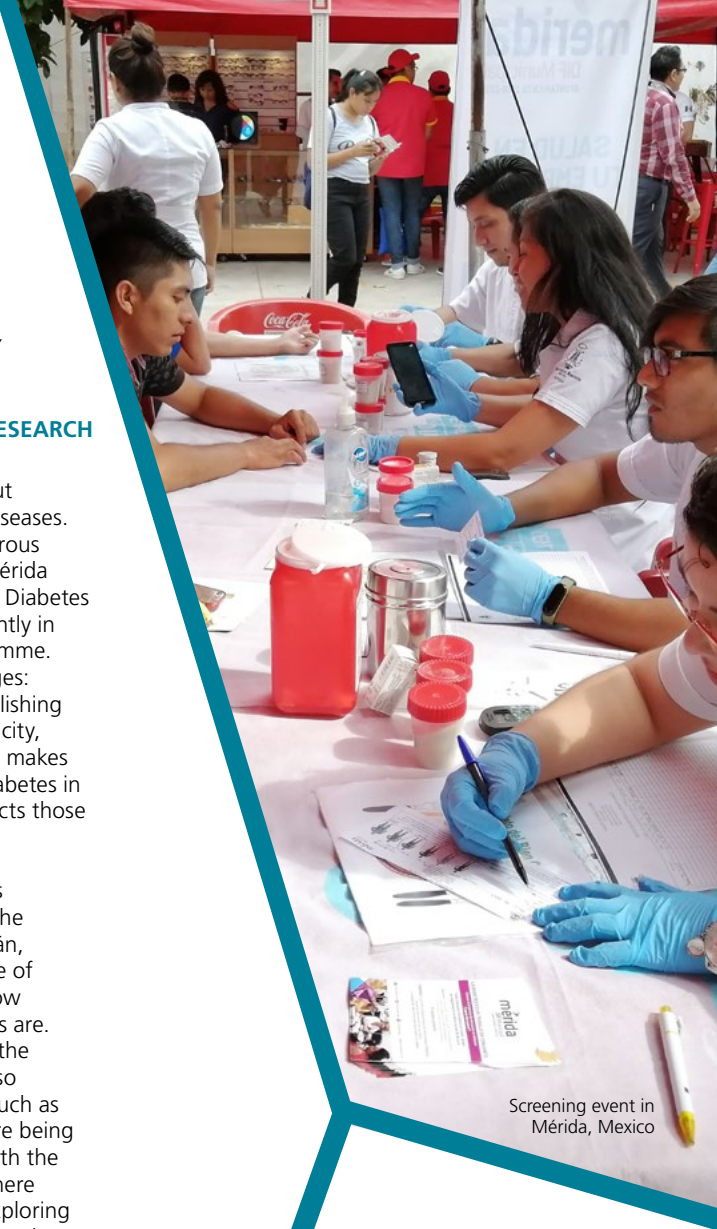
LOCAL PROGRAMME PARTNERS

Universidad Autónoma de Yucatán
(Autonomous University of Yucatán)

Asociación Mexicana de diabetes del Sureste (Mexican Association of Diabetes of the Southeast)

"The key to success has been the cross-sector commitment to recognise the diabetes challenge. The involvement of specialists representing different sectors generates a multidimensional knowledge of diabetes and what it takes to address it. I believe this multidisciplinary perspective will inspire more efficient and relevant public policies and solutions going forward."

Alejandra Pamela España Paredes, researcher at the Dr. Hideyo Noguchi Regional Research Center, Social Sciences Unit of the Autonomous University of Yucatán (Academic Coordinator for CCD Mérida)



Screening event in Mérida, Mexico

IN MÉRIDA

77.9%
OF ADULTS ARE
OVERWEIGHT³⁰

50%
OF SCHOOLCHILDREN
ARE OVERWEIGHT
OR LIVING WITH
OBESITY³¹

BUENOS AIRES, ARGENTINA

BUENOS AIRES – A GLOBAL ACTIVE CITY

As the first city in Latin America to be awarded Global Active City certification by the International Olympic Committee, Buenos Aires is committed to improving the health of its residents. During its quest to achieve Global Active City status, the city worked to promote citizens' health in different spheres. Since 2016, the first-level public healthcare system has been reinforced with 45 primary healthcare centres and the public physical activity offer has been expanded as well. Between 2016 and 2018, the number of users of public sports facilities increased more than threefold after the infrastructure was upgraded. In 2018, lunch menus in public schools were improved with healthier food. Between 2017 and 2019, free training in sports science was provided to more than 7,000 health and physical activity practitioners. There has also been a significant increase in sustainable transport since the two-fold expansion of cycle lanes and the introduction of a free public bicycle service in 2019.

ALIGNMENT WITH THE CITY'S LONG-TERM OBJECTIVES

The partnership with Cities Changing Diabetes stems from the alignment of the programme's vision for bending the curve on diabetes with the city's health objectives by reducing its biggest modifiable risk factor – obesity. In 2018, having signed an agreement with the Buenos Aires City Government, Cities Changing Diabetes took part in the Global Active City audit process.

HEALTHY STATIONS – NOW FOCUSED ON PREVENTION AND YOUNG PEOPLE

In addition, for the past eight years, a government department has been running the *Estaciones Saludables* (Healthy Stations) initiative. These stations, which are situated in popular public spaces such

as parks and underground stations, offer free health checks and nutritional advice. Almost half the population of Buenos Aires – 1.2 million people – has used one of the 40 stations. Cities Changing Diabetes became involved in this initiative when it organised diabetes training for the 120 nurses and nutritionists who staff the stations. This training, which was conducted by the patient association Liga Argentina de Protección al Diabético (LAPDI), ensured that residents visiting the Healthy Stations would receive appropriate advice on diabetes prevention and care.

The Healthy Stations have been successful in reaching older residents. However, a significant proportion of the city's school-aged population is overweight, and so the authorities are looking at new ways to engage young people. As a result, some of the Healthy Stations are now hosting 'healthy birthday parties' and community orchards to promote healthy choices. The City Government, with input from Cities Changing Diabetes, also has plans to set up mobile cooking booths, where chefs will demonstrate how to shop for and prepare healthy food at two of the city's busiest markets.

BUILDING A TOOL TO AID PHYSICAL ACTIVITY PROMOTION EFFORTS

In 2020, together with Liverpool John Moores University and the local university Universidad Favaloro, Cities Changing Diabetes will conduct research into physical activity among children and young people. This project aims to create a standardised physical activity assessment self-report tool that can be used by researchers and potentially support physical activity promotion efforts in schools.

LOCAL PROGRAMME PARTNERS

Gobierno de la Ciudad de Buenos Aires (Government of the City of Buenos Aires)

Buenos Aires Ciudad Activa (Buenos Aires Active City)

Universidad Favaloro

Instituto del Deporte

Liga Argentina de Protección al Diabético (LAPDI) (Argentine diabetes patient association)

Liverpool John Moores University

"To meet the pressure and challenges brought by rapid growth and by the consequences of sedentary lifestyle, especially among children, we've come to realise the power of physical activity and sport when key players work together to deliver transformative programmes. The Buenos Aires Global Active City certification is a unique model that helps us to capture and meet the complexity of our task, with a focus on action, impact and continual improvement."

Horacio Rodríguez Larreta, mayor of Buenos Aires, Argentina

IN BUENOS AIRES

40%

OF SCHOOLCHILDREN
AGED 10–11 WERE
OVERWEIGHT IN 2011³²

16%

OF ADULTS ARE LIVING
WITH OBESITY³³



A 'Healthy Station' in Buenos Aires

PHILADELPHIA, US

RESEARCH SHINES A LIGHT ON NEIGHBOURHOOD CHARACTERISTICS AND THEIR IMPLICATIONS FOR DIABETES

When Cities Changing Diabetes was officially launched in Philadelphia in November 2019, there was an impressive show of commitment from around 100 people representing 80 different organisations who agreed to follow-on activities through Cities Changing Diabetes. This is testimony to a strong foundation of collaborative partnerships and reflects a broad willingness to tackle emerging health issues. Over the past 15 years, the prevalence of diabetes in Philadelphia has increased by more than 50%.³⁴ Moreover, diabetes is twice as common among people living in poverty and has a proportionally greater impact on certain ethnic groups in Philadelphia.³⁴

**DIABETES HAS INCREASED
BY MORE THAN 50% IN
THE PAST 15 YEARS³⁵**

PLACE-BASED VULNERABILITY RESEARCH

New to Cities Changing Diabetes, Philadelphia will have the opportunity to build on the extensive work that has already been conducted in Houston. The programme is currently in the research phase. Existing diabetes prevalence data from the Centers for Disease Control and Prevention, known as the 500 Cities data, have been paired with health indicator data from the American Community Survey. This has enabled University of Texas Health Science Center School of Public Health researchers to identify city areas down to the census tract that do not yet have high levels of diabetes but are otherwise similar to census tracts that have high levels of diabetes, the assumption being that the residents in these neighbourhoods are at higher risk of developing type 2 diabetes.

In Philadelphia, academic lead for Cities Changing Diabetes in the US Dr Stephen Linder from UTHealth School of Public Health partnered with the Public Health Management Corporation to conduct additional qualitative research in these neighbourhoods. The research included community dialogues and neighbourhood scans to understand the place-based characteristics that may contribute to risk for developing diabetes. These characteristics include factors such as community connectedness, neighbourhood assets, social challenges, social capital and efficacy, and presence of institutions and organisations. The research will contribute to designing appropriate neighbourhood-level health and wellness interventions.

STAKEHOLDER ENGAGEMENT ROUNDTABLES

As part of the Cities Changing Diabetes research, the Health Care Improvement Foundation has facilitated a series of roundtable workshops with various groups of stakeholders – employers, community health workers, faith-based organisations and diabetes educators – to understand what the stakeholders perceive to be the biggest challenges relating to diabetes and obesity in Philadelphia.

These roundtable workshops are also being used to identify existing programmes and partnerships and how these can be leveraged as part of the Cities Changing Diabetes programme. The insights from the research and stakeholder roundtables will prove useful as the partners in Philadelphia move onto the action phase of the Cities Changing Diabetes programme in the summer and autumn of 2020.

LOCAL PROGRAMME PARTNERS

American Diabetes Association
American Heart Association
Association of Diabetes Care & Education Specialists
Congreso de Latinos Unidos
Drexel Medicine
Enon Tabernacle Baptist Church
Episcopal Diocese of Pennsylvania
Esperanza
First Episcopal District of the African Methodist Episcopal Church
Greater Philadelphia Business Coalition on Health
Greater Philadelphia Health Action
Health Care Improvement Foundation (HCIF)
IBC Foundation
Independence Blue Cross
Penn Asian Senior Services (PSSI)
Pennsylvania College of Osteopathic Medicine
Philadelphia Corporation on Aging
Philadelphia County Medical Society
Public Health Management Corporation (PHMC)
The Roman Catholic Archdiocese of Philadelphia
TJU College of Population Health
Jefferson Health System
Jefferson College of Population Health
Jefferson Center for Urban Health

"Philadelphia is a city with a rich history, passion and diversity, but also health equity problems. It takes a community to come together around the concept of healthy living. And it takes public and private sectors to impact health and wellness. It takes a team. Cities Changing Diabetes is getting all stakeholders to collaborate as a team."

David M Shipon, MD, director of preventive cardiology and cardiovascular rehab at Jefferson Health

Philadelphia, US

IN PHILADELPHIA

NEARLY
**ONE-THIRD
OF PEOPLE**
WITH DIABETES DO NOT
KNOW THAT THEY HAVE
THE CONDITION³⁴



Houston–Leicester
visit in Houston, US

HOUSTON–LEICESTER EXCHANGE

At first glance, Houston and Leicester are two very different cities, but in both multicultural cities faith plays an important role in daily life, and this has proved to be an effective way to engage with at-risk communities.

“I think there can be real knowledge sharing across cities because different people have different perspectives, they’re working with different populations and they have different resources that they’re drawing upon,” says Stuart Nelson, who is involved in the Faith and Diabetes Initiative in Houston. “Even though our cities are different on the surface, we found some commonalities and some similarities between our cities in the way we were thinking about tackling diabetes that were very exciting.”

In 2018, the team from Leicester visited Houston to learn more about how the Faith and Diabetes Initiative empowers lay leaders in diverse communities of faith to deliver diabetes prevention and management education to their congregations. This model has proved to be a practical and sustainable way to reach vulnerable communities. The teams from Houston and Leicester have continued to work together closely. The team in Leicester is currently exploring how the theme of ‘spirituality and health’ can be incorporated into its diabetes self-management programmes, which include a new programme called Safer Ramadan.

MISSISSAUGA, CANADA

COMMUNITY PARTNERSHIPS WILL CREATE A HEALTHIER, MORE LIVABLE CITY

As a part of the three cities which make up Peel Region in Ontario, Canada, Mississauga is no stranger to diabetes. Mississauga's rates of type 2 diabetes are higher than the provincial average and the second-highest in Peel Region, where 1 in 10 adults have type 2 diabetes. When broken down by age, one in six adults between the ages of 45 and 64 in Peel lives with diabetes, and that rises to one in three after age 65. 53.6 per cent of Peel Region residents are overweight or have obesity, which is the single biggest modifiable risk factor for developing type 2 diabetes. This is also a richly diverse community. Over 50% of Peel Region adults identify as Asian, Arab, Black, Hispanic or Indigenous peoples. All groups which are at an increased risk of getting type 2 diabetes.

53.6%
OF PEEL REGION RESIDENTS
ARE OVERWEIGHT OR HAVE
OBESITY

TYPE 2 DIABETES PREVENTION IN THE SPOTLIGHT

Tackling type 2 diabetes has become a priority action for Mayor Bonnie Crombie and the Mississauga City Council. To this end, the City is collaborating with partners to develop a Mississauga Type 2 Diabetes Prevention Strategy. In November of 2021, the Mayor, together with all of City Council signed the Urban Diabetes Declaration. Mississauga became the 40th Cities Changing Diabetes network city and has committed to examining City policy, conducting new primary research, and exploring community-level interventions to improve the health of Canada's sixth-

largest city. Mississauga has already implemented a number of programs and initiatives that contribute to diabetes prevention and healthy living, based on the principle that a healthy and complete community is compact, pedestrian-friendly, transit-supportive, contains a mix of uses that support daily living and enable physical activity through active transportation.

HEALTH-PROMOTING POLICIES UNDERPIN DECISION MAKING

The City has also implemented a Healthy Food and Beverage Policy for recreation facilities. A healthy-by-design approach for neighbourhood development that promotes active transportation and healthy lifestyles is also already in play. Mississauga offers a variety of public fitness and wellness programmes.

INCLUSIVITY IS A KEY INGREDIENT

To begin the Cities Changing Diabetes journey, Mississauga engaged with various stakeholders from its diverse community to discuss their diabetes challenges. Participants in these valuable discussions have included: Roots Community Services which provides culturally-relevant programs and services to inspire the Black, African, and Caribbean communities; Indus Community Services which provides culturally appropriate services to the South Asian Community; and the Family and Child Health Initiative, a group of researchers and clinicians based at the Institute for Better Health at Trillium Health Partners, who are conducting community-based participatory research alongside diverse communities in Peel.

"We are very excited to join the Cities Changing Diabetes Programme and work towards developing a made-in-Mississauga Type 2 Diabetes Prevention Strategy. Type 2 diabetes affects approximately 1 in 10 adults in Peel Region, and that can have an impact on their quality of life. These rates are significantly higher than in the rest of Ontario, placing an added strain on our public health agencies and healthcare systems, which have been stretched to the limit over the pandemic."

Mississauga Mayor Bonnie Crombie

Mississauga, Canada

MISSISSAUGA'S RATES OF
TYPE 2 DIABETES
ARE HIGHER THAN
THE PROVINCIAL
AVERAGE
IN ONTARIO AND THE
SECOND HIGHEST IN
PEEL REGION, WHERE
1 IN 10 ADULTS
HAVE TYPE 2
DIABETES



Mississauga, Canada

DIGITAL OUTREACH AND COMMUNITY CONSULTATION

Mississauga's Cities Changing Diabetes team held a series of webinars to introduce the program to stakeholders and community groups with speakers from the University of Toronto, and University College, London. The City will begin community consultations in early 2022 to seek input into developing a Mississauga Type 2 Diabetes Prevention Strategy tailored to the unique needs and challenges of Mississauga and focusing on a health equity framework.

1 IN 6 ADULTS

ADULTS IN PEEL REGION AGED BETWEEN 45 AND 64 LIVES WITH DIABETES, RISING TO

1 IN 3

OVER 65 YEAR OLDS

"We are committed to taking action to prevent and reduce the rise of type 2 diabetes in Mississauga, and we recognise that no single organisation can tackle this challenge alone. Membership in the Cities Changing Diabetes programme will help us understand our unique urban diabetes challenge and work with partners in the community to develop a strategy to prevent and reduce the rise of type 2 diabetes in Mississauga."

Mississauga Mayor Bonnie Crombie

EUROPE

Almost 60 million people with diabetes lives in Europe.² In Europe, 72.7% of the population lives in cities, and the prevalence of diabetes is higher in urban (9.3%) than in rural (7.8%) settings.² More than half (58.6%) of adults with diabetes in the region live in high-income countries.²

Copenhagen,
Denmark

COPENHAGEN, DENMARK JOINED IN 2014

**Copenhagen doubles down
on addressing health inequality**

[Read more on page 24](#)

ROME, ITALY JOINED IN 2016

**Rome's walking routes
get its citizens moving**

[Read more on page 25](#)

MILAN, ITALY JOINED IN 2018

**Creating a network for
healthy change**

[Read more on page 26](#)

MADRID, SPAIN JOINED IN 2018

**Health promotion and disease
prevention in Madrid**

[Read more on page 27](#)

LEICESTER, UK JOINED IN 2018

**Equipping sports clubs to take the
lead in promoting healthy lifestyles
in their communities**

[Read more on page 28](#)

MANCHESTER, UK JOINED IN 2019

**Intersectoral collaboration
and innovation in health**

[Read more on page 29](#)

WARSAW, POLAND JOINED IN 2019

**Warsaw identifies teachers
as drivers of change**

[Read more on page 30](#)

MALMÖ, SWEDEN

JOINED IN 2019

Malmö plans to improve health equity

Cities Changing Diabetes was launched in Malmö in 2019, with Malmö University and the City of Malmö as the core local partners. Through the programme, these partners aim to improve health equity among those with diabetes and those at elevated risk of developing diabetes. The mapping phase will explore not only prevalence and risk factors, but also, from a patient perspective, the accessibility of diabetes care and support in Malmö.

LISBON, PORTUGAL

JOINED IN 2019

Striving to create healthier neighbourhoods

At 13.6%, Portugal has one of the highest diabetes prevalence rates in Europe,³⁶ and the most recent prevalence study suggests that almost 60% of the general population is living with obesity or pre-obesity.³⁷ Given these sobering statistics, the Cities Changing Diabetes partners in Lisbon have chosen to focus their efforts on strengthening prevention, screening and educational efforts relating to diabetes in the city. Socially and economically disadvantaged communities will be at the centre of these interventions.

AARHUS, DENMARK

JOINED IN 2020

Aarhus steps up the implementation of its diabetes action plan

Cities Changing Diabetes was launched in Aarhus in 2020 to support the implementation of the city's diabetes action plan, which was put in place in 2018. The Cities Changing Diabetes partners – the city's health administration, Aarhus University and Steno Diabetes Center Aarhus – will focus on defining social investment models for diabetes prevention related to pregnant women, adolescents and people with type 2 diabetes who are at risk of developing diabetes-related complications.

BERLIN, GERMANY

JOINED IN 2020

Exercise boosting plan in targeted districts

The outlying district of Marzahn-Hellersdorf in Berlin has a higher prevalence than districts in the centre of Berlin. In some areas, the prevalence is over 20%. Partners in Berlin have committed to jointly developing measures and activities that address the urban diabetes challenge focusing on prevention, improving diabetes care, and awareness of diabetes in targeted neighbourhoods. An epidemiological study (through a Rule of Halves analysis) will reveal the diabetes situation and inform how to proceed. The first prevention project with the support of Die Bewegung für mehr Bewegung (The Movement for More Movement) is an exercise campaign built around an app that records the participants' minutes of movement. Local partners offer prizes to incentivise participation for those who manage to log the most minutes.

KRAKOW, POLAND

JOINED IN 2020

Education system is a gateway to change

The Cities Changing Diabetes programme in Krakow will promote actions and interventions to create a healthier urban environment. The city began its campaign in 2020 with a special emphasis on the school environment. Krakow has witnessed an increase in the number of people diagnosed with diabetes over the last decade, and nationwide the problem of childhood overweight and obesity is felt in the Krakow Metropolitan Area. The Cities Changing Diabetes programme aims to improve awareness and knowledge in teachers since they are uniquely equipped and positioned to influence future generations. In its first year, the partners surveyed 4,000 teaching staff in a combined initiative with Warsaw.

BELGRADE, SERBIA JOINED IN 2020

Incentivised scheme unlocks investment in urban areas

Approximately 51% of children in urban areas in Serbia live with overweight and obesity, and diabetes ranks as the fifth-highest cause of death in the country. In Belgrade, the ambition is to improve health equity among citizens with diabetes and prevent people at an elevated risk of developing diabetes. Cities Changing Diabetes partners hope to break the vicious circle caused by urban diabetes by opening city spaces to healthier activities. The first initiative, "open The Blue Circle", is an online platform that provides users with information about diabetes and specially designed walking routes in the city. Activation and goal achievements unlock donations to support primary diabetes care units in the capital, and environmental improvement investments, such as renovating walking paths.

STRASBOURG, FRANCE JOINED IN 2020

Twin prevention approach targets youth and poverty

Strasbourg is the first French city to join Cities Changing Diabetes. The founding partners include the Strasbourg municipality, Novo Nordisk France, local associations, the French Diabetes Federation, and the Food Banks national network. One-quarter of Alsatian students in the 6th grade are overweight or obese, a warning sign which motivated the partners to action. Two target groups: young people and people living on the edge of poverty, have been selected for the initial focus. A prevention project targeting young people and school kids to prevent overweight, obesity and diabetes has been initiated to raise children's and parents' awareness about health, food, and sustainability. In parallel, a food bank network partner will embark on a prevention and food education scheme. Both projects have three years of commitment.

BARI, ITALY JOINED IN 2020

Mega-partnership created to enhance clinical practices

Bari has seen an increase in the incidence of diabetes from 3.3% to 7.7% over the last 17 years. Countering this increase is a priority and has helped motivate a large coalition of more than 25 partners to achieve the Bari City Municipality's goal of improving the quality of life for people living with diabetes. Initial efforts will focus on improving clinical practice and the prevention of complications and disability. Working with the city's endocrine-diabetic network to strengthen care pathways throughout the region, Cities Changing Diabetes in Bari has a strong focus on moving from reactive to proactive care by ensuring equity in access to care and services and strengthening integration between hospital structures, local specialists and general practitioners.

BOLOGNA, ITALY JOINED IN 2020

Leveraging Cities Changing Diabetes expertise to secure funding grants

Cities Changing Diabetes in Bologna seeks to uncover inequalities in health and strengthen the municipality's public health efforts. Diabetes prevalence is 6.2%, corresponding to about 65.000 people in the metropolitan city. Currently, 29% of children aged 8-9 are overweight or live with obesity. The Cities Changing Diabetes coalition, in combination with the municipality, University, and City Local Health Unit have succeeded in attracting a grant by the EU Horizon 2020 programme on Innovative policies for improving citizens' health and well-being addressing artificial lighting – called ENLIGHTENme. Another grant, awarded by the EU Erasmus Plus programme, will help fund the InAble cities programme to promote physical activity for people over 65 years old and living with disabilities.



GENOA, ITALY JOINED IN 2020

Securing commitment through the Urban Diabetes Declaration

With an administration committed to improving health and well-being for its citizens, Genoa has taken important steps in favour of more healthy lifestyles to be strengthened as part of the Cities Changing Diabetes programme. Joining Cities Changing Diabetes is the first step towards preparing a health charter for the metropolitan city, which can be transformed into concrete policy proposals to support lifestyles that make citizens less vulnerable to diabetes. In partnership with the University of Genoa and other city stakeholders, Genoa Municipality has committed to putting the principles of the Urban Diabetes Declaration into practice by further studying the data of the disease and implementing concrete actions.

TURIN, ITALY JOINED IN 2020

Harnessing the city's green attributes for prevention initiatives

Turin has an ageing demographic coupled with socioeconomic diversity, driving pockets of high prevalence in city neighbourhoods. Diabetes prevalence rose from 3.8% to 6.8% between 2003 and 2018. 25% of the municipality population between 18 and 69 are overweight, and 7% are obese, with higher rates in people with low school education. Cities Changing Diabetes has brought together more than 25 partners and is conducting deeper data analysis to inform new interventions for both treatment and prevention. The partners will also seek to promote the city as a natural gym. Turin is well suited for this with 320 kilometres of tree-lined avenues and 207 kilometres of cycle paths. The Turin Walks Passport, an app-based initiative to boost walking activity, will launch in 2021.

NAPLES, ITALY JOINED IN 2021

Mayor endorses efforts to integrate health into all policies

Naples is the third-most populous metropolitan city in Italy, with more than 3.1 million residents. Overcoming COVID-19 pandemic obstacles, Cities Changing Diabetes was launched in May 2021. The programme was formally inaugurated by Mayor Luigi De Magistris, who signed the Urban Diabetes Declaration cementing the city's commitment to fighting urban diabetes. Naples has committed to investing in health promotion activities and will address social and cultural determinants of health with the input and expertise leveraged by the Cities Changing Diabetes partner network. At the launch, the Mayor said the city would integrate health into all policies and better engage communities to ensure sustainable, health-promoting solutions are enacted.

MOSCOW, RUSSIA JOINED IN 2021

Greening initiative to improve patient welfare kicks off actions

Moscow joined the Cities Changing Diabetes global network with fanfare at the Moscow Urban Forum hosted by Mayor Sergey Sobyenin in July 2021. Partnering with Strelka KB, a multidisciplinary consultancy and integrated urban planning practice, Cities Changing Diabetes in Moscow is committed to driving positive change and preventing urban diabetes. A 2020 Cities Changing Diabetes social study of people with diabetes found that green areas motivate people to go outside for a walk. In September, a greening initiative to improve the outdoor spaces around hospitals, first launched in St Petersburg, was rolled out at the Moscow Endocrinological Dispensary with new trees and shrubs planted to encourage patients to explore and exercise in the gardens.

COPENHAGEN, DENMARK

COPENHAGEN DOUBLES DOWN ON ADDRESSING VULNERABILITY

As the second city to join Cities Changing Diabetes, Copenhagen has made significant progress in the fight against diabetes. Unlike many other cities, citizens of Copenhagen have universal health coverage, which means that healthcare is free and people have equal access to it. Nevertheless, societal inequalities still make certain communities more vulnerable to developing diabetes.^{40,41} Copenhagen is focusing on addressing these inequalities.

INTERVENTION AT TWO LEVELS

The Copenhagen Diabetes Action Plan, which was informed by findings from Cities Changing Diabetes research, involves two tracks: the first is aimed at people with diabetes – intervention takes place at an individual level – and the second is focused on health promotion, where intervention takes place at a structural level. Examples of these two tracks can be seen in the Center for Diabetes, Copenhagen, and Tingbjerg Changing Diabetes.

11%
OF ADULTS IN COPENHAGEN
WERE LIVING WITH OBESITY IN
2017⁴²

CENTER FOR DIABETES

The first of its kind in Denmark, the Center for Diabetes, Copenhagen, provides an environment where people living with type 2 diabetes can get support and advice. In addition to a team of professionals – nurses, physiotherapists and dieticians – the centre offers a health-stimulating environment, daily activities, patient education, physical exercise and cooking classes. A peer mentoring programme pairs up people with type 2 diabetes to support each other in adopting a healthy lifestyle.

Three-quarters of people newly diagnosed with diabetes in Copenhagen visit the centre, which has proved to be so successful that the centre is due to reopen in a new, larger facility in 2023 to double capacity.

TINGBJERG CHANGING DIABETES

Tingbjerg, a socially disadvantaged neighbourhood in the north-west of Copenhagen, suffers from relatively poor socio-economic status and high levels of type 2 diabetes. The culturally and ethnically diverse neighbourhood is the focus of a healthy living and type 2 diabetes prevention programme.

Based on the ‘supersetting approach’, which involves multistakeholder engagement, in-depth understanding of local needs and citizen involvement, the programme mobilises local resources to strengthen social networks for collective community action.

Tingbjerg Changing Diabetes engages the entire community and currently focuses on three areas of intervention: food literacy, entrepreneurship and social investments. Concrete actions include a community garden created to promote outdoor life, social capital and well-being, and a citizen-driven community restaurant, which serves affordable healthy meals at the same time as providing young residents with internship opportunities. The programme has also enabled community residents to acquire farming skills and inspiration for entrepreneurship at Svanholm organic farm.

In 2020, the programme will welcome more partners, and new initiatives will be implemented.

LOCAL PROGRAMME PARTNERS

Steno Diabetes Center
Copenhagen

Danish Diabetes Association

University of Copenhagen

City of Copenhagen

“The success of this centre is based on the political priority of the diabetes problem, highly skilled and engaged healthcare professionals, collaborations within the healthcare sector and researchers, and finally strong leadership.”

Charlotte Glümer, head of the Center for Diabetes, Copenhagen

Center for Diabetes,
Copenhagen, Denmark

IN COPENHAGEN

15%
OF CHILDREN AGED
13–14 ARE OVERWEIGHT
OR LIVE WITH OBESITY⁴³
(RANGES BETWEEN 10%
AND 24% DEPENDING
ON THE DISTRICT)

ROME, ITALY

ROME'S WALKING ROUTES GET ITS CITIZENS MOVING

After joining Cities Changing Diabetes in 2017, Rome began mapping the prevalence of diabetes and obesity in the city. More than 130 experts and researchers were involved in the three-year study examining the impact of urbanisation on type 2 diabetes in the metropolitan area. This research resulted in a preliminary atlas mapping all the sociodemographic and clinical epidemiological data, a report containing insights from the vulnerability assessment and an action plan concluding the mapping process.

In addition to important data and insights, the Cities Changing Diabetes programme in Rome has also resulted in the implementation of a number of good practices.

6.6%
OF PEOPLE IN ROME
ARE LIVING WITH TYPE 2
DIABETES⁴⁴

FREE AND ACCESSIBLE PHYSICAL ACTIVITY

One such example is the Passport of Rome, City for Walking and Health (*Passaporto di Roma Città per Camminare e della Salute*), a collaboration between Cities Changing Diabetes, a network of municipalities, the Italian Athletic Federation, scientific societies and patient associations that began in 2017 to encourage citizens to take part in free and accessible physical activities.

The constantly evolving programme, which can be downloaded as a smartphone app, currently covers about 460 km

in Rome's metropolitan area. The 74 walking routes, which were designed by Olympic gold medallist Maurizio Damilano, cover urban, tourist, environmental and athletic itineraries. Each of the routes includes information about places of interest, facilities and amenities in the area. Through the app, users can track how far they have walked and challenge themselves – and others – to try new routes.

BUILDING HEALTHY COMMUNITIES

The initiative has received support from local municipalities because it ties in with the existing goals of creating more green spaces in urban areas and reducing risk factors associated with non-communicable diseases. While the initiative is broadly aimed at anyone who lives in or uses the city (roughly 100,000 people use the routes), more specific measures have been taken to involve people living with diabetes.

Thanks to efforts by patient associations and local health authorities, about 32 walking groups – roughly 600 people with diabetes – currently use these routes. Consequently, the initiative has not only provided citizens with an opportunity to exercise but has also played a vital role in building healthy communities.

Through this initiative, Rome has developed one of the most extensive networks of walking routes in Europe. Other cities can follow its example as the initiative can easily be replicated. In Italy alone, 200 cities are already involved in this project, including Milan, Turin and Bologna.

Walking routes
in Rome, Italy

IN ROME

**MORE THAN
40%**
OF RESIDENTS
CONSIDER THEMSELVES
PHYSICALLY INACTIVE⁴⁵

LOCAL PROGRAMME PARTNERS

Rome Capital City, Health City Institute, National Institute for Health, Italian Municipalities Association, IBDO Foundation, University of Roma La Sapienza, University of Roma Tor Vergata, Censis Foundation, National Institute of Statistics, Institute for Competitiveness, Centre for Outcomes Research and Clinical Epidemiology, Italian Diabetes Society (SID), Italian Diabetologist Association (AMD), Italian Society of GPs (SIMG), FederDiabete Lazio, Diabete Italia, C14+, Cittadinanzattiva, IO-Net, CONI, FIDAL, Italian Society of Paediatric Endos (SIEDP), Italian Endos Society (SIE), Italian Obesity Association (SIO), Italian Association of Dietetics and Clinical Nutrition (ADI), Fitwalking Association, Parliamentary Intergroup on QoL in Cities

"Within the European Cities Changing Diabetes programme, Rome was the first city to present a passport with urban and tourist itineraries to visit specific areas by walking through the city. Walking is healthy, and this administration is proud of contributing to making Rome the first walking city by developing 74 itineraries which cover a total of 460 km of well-being by encouraging exercise and healthy activities."

Angelo Diario, chair of Rome City Council's Committee for Sports, Wellness and Quality of Life

MILAN, ITALY

CREATING A NETWORK FOR HEALTHY CHANGE

Milan has changed a lot over the past five years: there are far more skyscrapers, but there are also more green spaces. As the city grows, administrators are looking for new, healthier ways of doing things, which is why 23 major municipalities (accounting for 65% of the population) have signed the Urban Diabetes Manifesto set out by the Cities Changing Diabetes Milan Metropolitan Network.

SETTING A GOOD EXAMPLE

The municipalities that form part of this network have already started hosting conferences to promote healthy lifestyle, nutrition, physical activity and sporting events. The mayors of three municipalities – Mr Andrea Checchi, Mayor of San Donato, Mrs Caterina Molinari, Mayor of Segrate, and Mr Paolo Micheli, Mayor of Peschiera Borromeo – have taken the initiative to create awareness about urban diabetes in their municipalities within the context of Cities Changing Diabetes by meeting at Idroscalo Lake. Each of the mayors journeyed to the meeting on foot or by bicycle.

Schools in Milan have been identified as a pivotal place to change habits and behaviours before they become too entrenched. As part of this effort, Milano Ristorazione – which supplies schools in Milan with lunches – organised an exhibition of children's paintings on nutrition and healthy behaviours.

AN OLYMPIC ACTIVE CITY

Taking inspiration from Rome, Milan has also introduced walking routes and already has 34 routes covering 175 km. One of the ambitions of the Milan Metropolitan Network is to add at least 133 walking routes – one for each of the municipalities – by 2026, when the city will host the XXV Winter Olympic Games as the first Olympic Active City.

The Cities Changing Diabetes team has enlisted the help of Eleonora Giorgi, a native of Milan and a medal-winning athlete at the World Championships in Doha, to promote the walking routes, and it hopes to get more ambassadors on board – possibly players for football clubs Milan or Inter – to create awareness about the Milan Metropolitan Network.

31.5%
OF WOMEN
ARE OVERWEIGHT,
OF WHICH 8.6%
ARE LIVING WITH OBESITY⁴⁶

SHARING BETTER PRACTICES

The ambition is that, through the Milan Metropolitan Network, municipalities will be able to share projects and better practices regarding how city planning and intervention programmes can improve quality of life for residents. At present, members of the network receive a regular newsletter detailing developments across the municipalities. In the future, however, the Cities Changing Diabetes team wants to develop a platform to enable members to be more proactive and interactive.

The Milan Diabetes Atlas was launched in January 2020, when the first mapping phase of research from the Cities Changing Diabetes programme was presented to the wide network of stakeholders who helped bring this project to fruition.

LOCAL PROGRAMME PARTNERS

Milan City Municipality
Lombardy Region
Parliamentary Intergroup on QoL in Cities
Health City Institute
National Institute for Health
Italian Municipalities Association (ANCI)
IBDO Foundation
University of Milan
University of Milano-Bicocca
University Vita Salute S.Raffaele of Milan
University Bocconi of Milan
Humanitas University
Polytechnic University of Milan
IULM University
Obesity Study and Research Centre, University of Milan (CRSO)
Censis Foundation
National Institute of Statistics (ISTAT)
Institute for Competitiveness (I-COM)
Centre for Outcomes Research and Clinical Epidemiology (CORESEARCH)
Medipragma, Italian Diabetes Society (SID)
Italian Diabetologist Association (AMD)
Italian Society of GPs (SIMG)
Lombardy Patient Association Federation (CLAD)
Diabete Italia, C14+
Cittadinanzattiva
CONI
FIDAL
Italian Society of Paediatric Endos (SIEDP)
Italian Obesity Association (SIO)
Italian Association of Dietetics and Clinical Nutrition (ADI)
Fitwalking Association
Science and Technology Museum
ANIAD

"Cities Changing Diabetes has been promoted to enhance the prevention of chronic diseases, particularly of diabetes, caused by the impact of urbanisation. It's necessary that policymakers be more sensible on urban health topics and find better prevention policies and improve the care network."

Giuseppe Sala, mayor of Milan

IN MILAN

5.75%
OF ADULTS ARE LIVING
WITH DIABETES⁴⁷

51.7%
OF MEN ARE
OVERWEIGHT,
OF WHICH 12.1%
ARE LIVING
WITH OBESITY⁴⁶

MADRID, SPAIN

HEALTH PROMOTION AND DISEASE PREVENTION IN MADRID

The *Alimentación, Actividad física y Salud* (ALAS – Food, Physical Activity and Health) programme has been taking action to promote healthy living among Madrid's citizens for nearly a decade. Established by Madrid Salud – the city government institution responsible for health promotion and disease prevention – the ALAS programme runs workshops to create awareness about how citizens can lead healthier lifestyles and reduce their risk of disease.

47%
OF ADULTS ARE
OVERWEIGHT, AND 12.1%
ARE LIVING WITH OBESITY⁴⁸

CHANGING UNHEALTHY HABITS

The ALAS programme is aimed at reducing population body mass index – a significant health priority for the city, as many adults and children are overweight or living with obesity. The programme creates awareness about healthy food products and food labelling, the effect of nutrition and exercise on health, and the fact that unhealthy habits can be changed. The programme also promotes the use of cycle paths and the Walking People Project (supported by the European Commission), which provides 90 km across 18 walking routes in and around Madrid.

The strategy targets various sectors of society – families, communities, schools and businesses – but provides more intensive interventions for people deemed to be at higher risk of developing type 2 diabetes. These individuals are selected from hospitals, healthcare centres and other community activities to be part of the programme because they are

prediabetic or overweight. The six-month therapeutic change workshop aims to reduce the risk factors for type 2 diabetes by helping participants acquire healthier habits and modify existing eating and exercise patterns.

ASSESSING THE EFFICACY OF ALAS

In 2018, Madrid Salud joined the Cities Changing Diabetes programme endorsed by the municipal government, Ayuntamiento de Madrid. The programme in Madrid focuses on assessing the efficacy of the ALAS initiative. Moving forward, the public-private partnership – a collaboration that is new to the city of Madrid – wants to include social and cultural determinants in the ALAS programme.

In close collaboration with the professionals from Madrid Salud and the APLICA Cooperative, the Cities Changing Diabetes project is involved in two key research activities:

- A quantitative study to establish the statistics related to diabetes in the city
- A study on the impacts of the interventions already put in place by the ALAS programme (a retrospective study for the period 2017–2019 and an ongoing study for the period 2019–2021).

An informal report based on the research already conducted with data collected from 1,629 people indicates that the ALAS interventions are working. An impressive 85% of the participants in the high-risk programme managed to lose weight, and 35% of the participants classified as prediabetic managed to normalise their blood sugar. Participants will be re-evaluated in 2020 to establish whether they have fewer risk factors for diabetes as a result of the programme.



IN MADRID

40.9%
OF CHILDREN BETWEEN
THE AGES OF THREE
AND 12 ARE
OVERWEIGHT, OF
WHICH 15.8% ARE
LIVING WITH OBESITY⁴⁹

LOCAL PROGRAMME PARTNERS

Key institutional partner: Ayuntamiento de Madrid

Collaborating partner: APLICA Cooperation

"In the city of Madrid, we're aware of the importance of addressing obesity and preventing type 2 diabetes to improve the quality of life of citizens. With this objective, we've been working for eight years through the Food, Physical Activity and Health programme to promote a healthy lifestyle and prevent these diseases. We believe that our participation in the Cities Changing Diabetes programme will boost our actions in this regard."

Antonio Prieto, general manager, Madrid Salud

LEICESTER, UK

EQUIPPING SPORTS CLUBS TO TAKE THE LEAD IN PROMOTING HEALTHY LIFESTYLES IN THEIR COMMUNITIES

70-year-old Jashoda Patel was overweight, depressed and in danger of developing diabetes-related complications when she joined the 12-week Healthy Goals programme run by Leicester City in the community. Now she is happier and healthier, having been motivated to lose weight and make healthy lifestyle changes. Jashoda is managing her type 2 diabetes better and is even taking part in new activities, such as boxing, and making new friends in the process.

TARGETING COMMUNITIES THAT ARE OFTEN HARD TO REACH' OR SYSTEMATICALLY OVERLOOKED

Jashoda belongs to a community that is often described as hard to reach, but Cities Changing Diabetes in Leicester is doing its best to change that misconception. An ethnically and culturally diverse city, Leicester has a large population of people of South Asian descent who are at high risk of developing type 2 diabetes. By developing health interventions that are culturally relevant and located within minority communities, Cities Changing Diabetes has enabled more organisations to engage with more at-risk populations.

The Cities Changing Diabetes initiative is led by Leicester Diabetes Centre, a world-renowned research facility at the interface between University Hospitals of Leicester NHS Trust and the University of Leicester. When Leicester joined the Cities Changing Diabetes programme in 2017, the team had access to a significant amount of research and medical data. Collating all these data enabled them to identify key focus areas. In an attempt to engage with previously overlooked communities, the Cities Changing Diabetes team set up a partnership with local professional sports

clubs, building on existing networks. These popular clubs have well-established links with the people of Leicester. Working with the Cities Changing Diabetes team, they helped to deliver prevention programmes to a broader range of communities.

THE DIABETES PLEDGE – UNITING SPORTS CLUBS AND THE CITY COUNCIL AROUND A COMMON HEALTH GOAL

The Diabetes Pledge, an initiative instigated under the Cities Changing Diabetes umbrella, has been signed by professional sports clubs and Leicester City Council, demonstrating their commitment to working in partnership to drive down type 2 diabetes in Leicester. This goal is being achieved by promoting physical activity and healthy eating within the communities where the sports clubs are located and by ensuring their health and well-being programmes are accessible, inclusive and, where possible, tailored. This has led to the creation of a number of health promotion programmes, including Walking Cricket (where participants receive coaching in cricket skills and play games of walking cricket), Healthy Goals (an education and physical activity programme) and United Leicester (a pilot health promotion programme in primary schools).

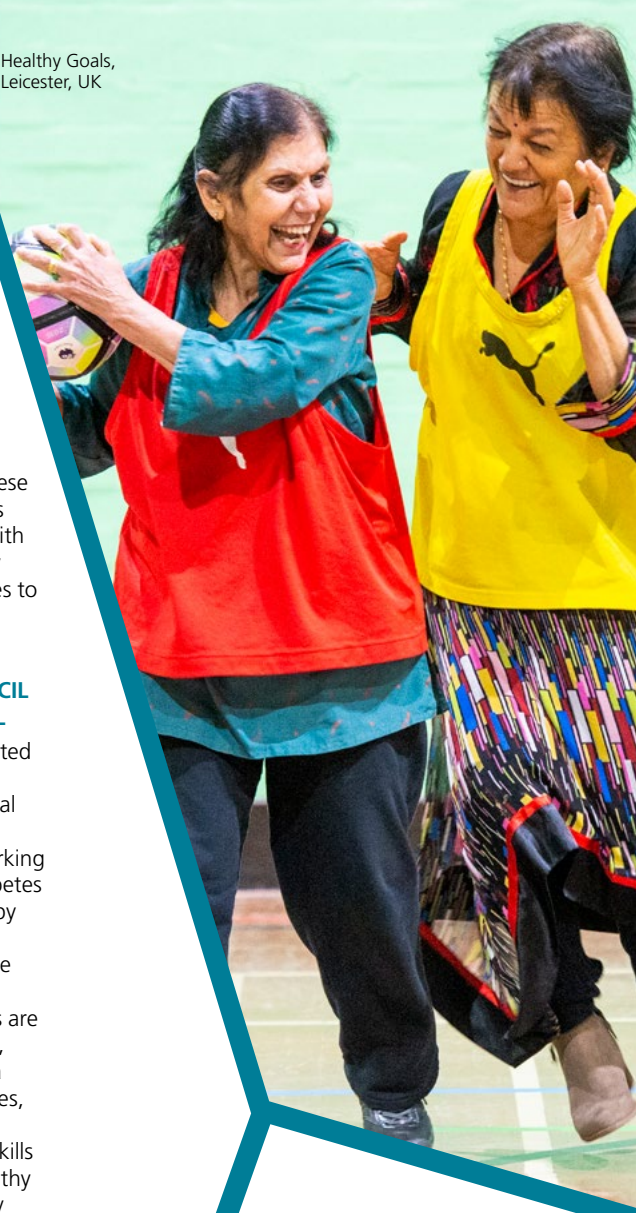
The Cities Changing Diabetes team has played an important role in ensuring that the interventions are based on evidence, that evaluation data are collected and that those leading the programmes have been trained to deliver them appropriately. Moving forward, the focus will be to ensure sustainability by identifying funding streams, applying for grants and training more community volunteers to extend the reach of these programmes.

LOCAL PROGRAMME PARTNERS

Leicester Diabetes Centre
Leicester City Council
Leicester City Football Club
Leicester Riders Basketball Club
Leicester Tigers Rugby Club
Leicestershire County Cricket Club

"The ability to reverse the rising tide of type 2 diabetes in Leicester cannot be achieved by any single intervention or organisation. Diabetes prevention in Leicester is recognised as a 'team sport' and, under the umbrella of the Cities Changing Diabetes initiative, partner organisations have been working collaboratively to tangibly reduce the impact of diabetes amongst our citizens."

Ivan Browne, director of public health,
Leicester City Council



IN LEICESTER

9%
OF ADULTS ARE LIVING
WITH DIABETES (HIGHER
THAN THE PREVALENCE IN
ENGLAND OF 6.9%)⁵⁰

37.7%
OF CHILDREN AGED 10–11
ARE OVERWEIGHT OR ARE
LIVING WITH OBESITY⁵⁰

MANCHESTER, UK

INTERSECTORAL COLLABORATION AND INNOVATION IN HEALTH

Benefiting from a devolved health and social care system, unrivalled digital assets and ambitions, academic and research capability and thriving industry partnerships, Greater Manchester is well placed to deliver innovation and change within the system with Cities Changing Diabetes.

Diabetes prevalence in Greater Manchester has doubled in the last 20 years. With 7.2% of the population living with diabetes (90% type 2, 10% type 1), the city has a higher prevalence rate than the UK average of 6%.⁵¹

The city-region has been championing a cross-sector and system-wide approach to improve the health of its 2.8 million residents.

A RESEARCH- AND INNOVATION- FOCUSED PARTNERSHIP

The Cities Changing Diabetes programme in Manchester formally began in December 2019 in partnership with Health Innovation Manchester, an academic health science and innovation system which works with NHS organisations, universities, researchers and industry to transform the health and well-being of Greater Manchester's citizens.

The partnership has established a steering group, made up of stakeholder partners and representatives from across the system. The programme has identified three workstreams for prioritisation: a diabetes vulnerability assessment, mapping and system needs readiness, and a community engagement programme.

DIABETES VULNERABILITY ASSESSMENT

The city will conduct quantitative and qualitative research to establish the prevalence of diabetes and the sociocultural determinants of diabetes in Manchester.

Comprehensive data are available on diabetes prevalence in the UK. However, the partnership intends to explore research opportunities around prediabetes. This workstream will develop a more detailed understanding of the scale of the challenge in Greater Manchester in order to inform the development of targeted initiatives to reduce the prevalence of type 2 diabetes.

MAPPING AND SYSTEM NEEDS READINESS

This mapping exercise will seek to identify existing initiatives related to diabetes in Greater Manchester. It will consider work across the patient journey, from prevention to improvements in diabetes-associated mortality rates. Its specific focus will be on the use of digital data and new analytical opportunities to drive innovation.

COMMUNITY ENGAGEMENT PROGRAMME

Manchester is a culturally diverse population where high levels of obesity and diabetes are more common among minority ethnic groups. Research from the British Muslim Heritage Centre (BMHC) – also part of the steering group – found that people from minority ethnic groups may not engage with mainstream services if they are not culturally sensitive or appropriate. By involving people, community organisations and faith leaders able to represent the views of local minority ethnic groups, the city can ensure that services reflect the needs and preferences of its communities.

LOCAL PROGRAMME PARTNERS

Health Innovation Manchester

The National Institute for Health
Research Applied Research
Collaboration – Greater Manchester
(NIHR ARC-GM)

The University of Salford

The British Muslim Heritage Centre

"We're delighted to have joined the global Cities Changing Diabetes programme this year as the latest UK site and we're looking forward to developing new innovations and research within our system to deliver diabetes prevention and treatment with a person-centred approach within Greater Manchester."

Dr Tracey Vell, clinical director of
Health Innovation Manchester

IN MANCHESTER

7.2%
OF ADULTS ARE LIVING WITH
DIABETES⁵¹

**A QUARTER OF
PEOPLE**
IN GREATER MANCHESTER
WILL DEVELOP TYPE 2
DIABETES IN THEIR LIFETIME⁵¹

WARSAW, POLAND

WARSAW IDENTIFIES TEACHERS AS DRIVERS OF CHANGE

There has been a significant increase in the number of people with type 2 diabetes in Poland in recent years.⁵² This increase is compounded by the fact that there is limited knowledge about the disease in the country and early symptoms are not always easy to identify.

5 MILLION
PEOPLE ARE LIVING
WITH PRE-DIABETES⁵²

Although Warsaw only officially joined Cities Changing Diabetes in November 2019, the Cities Changing Diabetes Scientific Council was set up in February 2019. Comprising clinicians, system experts, health economists and patient organisations, the Scientific Council will oversee the work of the Cities Changing Diabetes initiative in Poland.

CHANGE THROUGH EDUCATION

Given that 20–30% of children in Poland are overweight⁵² and are therefore more likely to develop type 2 diabetes, the Scientific Council has decided to begin its research and education efforts in schools, where children spend at least 41 hours a week. As explained by Dr Gałazka-Sabotka, dean of the Centre for Postgraduate Studies at Lazarski University, "On average, a child spends 41 hours a week at school – even a little more than the standard adult work time.

Our children shape their health attitudes in conversation with teachers and by observing their attitudes. A teacher not only educates, but also shapes awareness".

By educating children on diabetes and healthy habits, the Cities Changing Diabetes partners hope to also educate and change the habits of their parents. Consequently, teachers will propagate this knowledge and, as such, have been identified as the focus of initial research.

The planned teacher survey will explore what awareness teachers have of diabetes and its risk factors, and their personal experiences of dealing with diabetes in children. The research, which will be carried out by Lazarski University, will be completed in the last quarter of 2020. Recommendations from the research report will be used for further discussion at local and national government level.

KRAKOW TO JOIN IN 2020

While the research will initially be carried out in Warsaw, the city of Krakow is set to join Cities Changing Diabetes in the second half of 2020. When it does, the Scientific Council is planning to extend its research to include educational institutions in Krakow. These two cities are Poland's largest cities,³⁷ making them prime locations for beginning a movement for taking action to bend the curve on diabetes.

LOCAL PROGRAMME PARTNERS

Instytut Człowieka
Świadomego (ICS)

Obywatele
dla Zdrowia (PUOP)

Instytut Zarządzania W Ochronie
Zdrowia, Uczelnia Łazarskiego
(IZWOZ)

"This initiative is definitely noteworthy, given the awareness of the threat facing Polish society in connection with the increased risk of diabetes in the next two decades. Undoubtedly, as part of the Cities Changing Diabetes programme, we must thoroughly examine the problem at the level of the largest agglomerations and selected social groups to propose long-term and effective solutions in the form of health interventions tailored to the specificity of Poland."

Dr Małgorzata Gałazka-Sabotka, PhD in economics; dean of the Centre for Postgraduate Studies and director of the Institute of Healthcare Management at Lazarski University – academic think-tank dealing with research and analysis on the healthcare sector; director of the Centre for Value-Based Healthcare; vice chairman of the Board of the National Health Fund (NFZ)

IN POLAND

20–30%
OF CHILDREN ARE
OVERWEIGHT⁵³

MORE THAN
3 MILLION
PEOPLE ARE LIVING
WITH DIABETES⁵²



Warsaw,
Poland



MAKING AN IMPACT ON CLIMATE CHANGE AND HEALTH

EVIDENCE TO SPUR ACTION: WALKING AND CYCLING BENEFITS TOOL

C40 Cities – the global network of cities addressing climate change – and Cities Changing Diabetes are working together to tackle health and climate change at city level. This partnership is based on a shared belief that decisions taken today about food, energy, green spaces and transport in our cities will be pivotal in determining the state of the climate and public health for future generations.

Area of significant opportunity: walking and cycling

Infrastructure that features protected, spacious and well-located cycle lanes and pavements encourages active mobility among urban citizens. This can strongly contribute to cities delivering the reductions needed to curb CO₂ emissions, while also reducing the risk of heart disease and type 2 diabetes.

C40 Cities and Cities Changing Diabetes acknowledged that in order to not only motivate more cities to realise these benefits, but also increase the scale and pace of action required to counter these global challenges, there was an opportunity to help cities build the case for specific and effective policies related to cycling and walking.

Convening cities

To discuss this, the partners brought together the cities that had already begun to take action: bikeability and walkability in Mexico City, energy efficiency retrofits in New York City, solar water heaters in Johannesburg, Bus Rapid Transit in Santiago, and urban forestry in Melbourne. In these cities, innovative case study materials were developed to inspire others and create the foundation for starting to measure the benefits of urban actions.

The learnings from cities involved in the partnership highlighted key knowledge gaps in demonstrating pre- and post-action data. That is why Cities Changing Diabetes and C40 Cities developed the Walking and Cycling Benefits tool. This tool enables cities to measure the wider benefits of walking and cycling, focusing on health benefits from increased physical activity and the associated economic benefits. It supports cities in making a stronger case for infrastructure projects that increase active mobility with benefits for both climate and health and in turn unlock more support from a wide range of stakeholders.

AFRICA AND THE MIDDLE EAST

There are more than 80 million people living with diabetes in Africa and the Middle East; half of them are undiagnosed, meaning that they are unaware of the diabetes-related complications they are at risk of developing.²

As urbanisation increases and populations age, type 2 diabetes will pose an ever-growing challenge. Africa and the Middle East are expected to have the highest future percentage increase in the number of people with diabetes compared with other parts of the world.² By 2045, there will be almost 165 million people with diabetes – more than double the current figure.²



**JOHANNESBURG, SOUTH AFRICA
JOINED IN 2016**

Empowering Johannesburg's young
people to bend the curve on diabetes
Read more on page 34



BEIRUT, LEBANON JOINED IN 2018

Beirut is focused on building local evidence-based data

Beirut joined the programme in 2018. The programme's partners in Beirut are initially focusing on mapping the problem to ascertain what needs are not currently being met in terms of diabetes prevention and management. Once there is a clear understanding of what is needed, the Cities Changing Diabetes partners in Beirut will be able to plan their interventions accordingly.

ISTANBUL, TURKEY JOINED IN 2020

Istanbul to map the shape of obesity

Istanbul, which is home to 15.5 million people,²³ has a diabetes prevalence rate of approximately 15%.⁵⁴ This high figure is likely to rise further if something is not done to dramatically curb obesity in the city, where three in 10 people are living with the condition. As such, obesity and its risk factors will be the focus of the mapping phase of the Cities Changing Diabetes programme in Istanbul.

JOHANNESBURG, SOUTH AFRICA

EMPOWERING JOHANNESBURG'S YOUNG PEOPLE TO BEND THE CURVE ON DIABETES

South Africa has a growing obesity challenge, with more than half the country's adults estimated to be overweight or living with obesity.⁵⁵ The pervasive nature of the epidemic can be seen in the younger generation, with more than 11% of children living with obesity, the highest prevalence being among girls.⁵⁶ This potentially places the burden of non-communicable diseases on future generations.

IT IS PREDICTED THAT
28.2%
OF CHILDREN WILL BE LIVING
WITH OBESITY BY 2030⁵⁶

DIABETES AWARENESS IN SCHOOLS

In 2017, the Johannesburg Junior City Council – one of the Cities Changing Diabetes partners – initiated a programme to increase diabetes awareness and education in schools. Through this campaign, which has reached close to 3,000 children, the young councillors hope to influence not only children, but also their families. The councillors were initially provided with training on type 2 diabetes by the Novo Nordisk team in South Africa.

The campaign takes the form of a one-off performance on the theme of

diabetes by young people, in a style and language that the schoolchildren can relate to. It helps children to understand the seriousness of the disease and why it is important for those living with the disease – including parents and siblings – to manage it correctly. The performers are accompanied by a medical professional who can answer any questions that the children may have. The children are also given examples of healthy meals and exercise options, and are encouraged to share this information with their friends and families.

BUILDING CAPACITY TO REDUCE THE BURDEN OF COMPLICATIONS

Another focus of the programme is the ongoing training of nurses at selected clinics to improve the diagnosis and treatment of diabetes. It is estimated that more than half of people with diabetes are undiagnosed and are therefore not receiving treatment. This puts them at high risk of developing diabetes-related complications.

EXPLORING LOCAL VULNERABILITY AND DIABETES RISK DRIVERS

In 2020, the Cities Changing Diabetes partners in Johannesburg will commence new research into the risk factors that make people more vulnerable to diabetes. This research is being conducted at six clinics in Johannesburg.

LOCAL PROGRAMME PARTNERS

City of Johannesburg

University of the Witwatersrand
(Wits)

Johannesburg Junior Council

Gauteng Department of Health

"Even though we've been working with communities for years, every day is different, especially when it comes to working with these young people. They have the most creative ideas on how we can educate their peers about diabetes and obesity. It's great to see how they find the sessions fun whilst they also learn and share so much with their families."

Layla Campbell, operational
manager, Health Promotion,
City of Johannesburg

IN SOUTH AFRICA

13.3%
OF INFANTS ARE
OVERWEIGHT⁵⁶

ALMOST
4.6 MILLION
ADULTS ARE LIVING
WITH DIABETES²



Johannesburg,
South Africa



ASIA AND WESTERN PACIFIC

At 250 million people, more than half of all people living with diabetes in the world live in Asia and the Western Pacific.² In China alone, more than 116 million people with diabetes. Half of all people are living with diabetes in these regions do not know that they are living with the condition and are at high risk of developing harmful and costly complications.²

By 2045, another 115 million people in the region will be living with diabetes, bringing the total number to 365 million if urgent action is not taken.²

TIANJIN, CHINA JOINED IN 2014

Innovative and cooperative approach to defeat urban diabetes
Read more on page 38

SHANGHAI, CHINA JOINED IN 2014

Collaborative action fills knowledge gaps and leads to impressive results
Read more on page 39

BEIJING, CHINA JOINED IN 2017

Standardising and simplifying the diabetes treatment process
Read more on page 40

XIAMEN, CHINA JOINED IN 2017

Integrating primary, secondary and tertiary care
Read more on page 41

HANGZHOU, CHINA JOINED IN 2017

Hangzhou reaches a turning point in diabetes prevention
Read more on page 42

JAKARTA, INDONESIA JOINED IN 2018

Leading the way in Indonesia
Read more on page 43

CHONGQING, CHINA JOINED IN 2019

Introducing innovative 'double' health prescriptions
Read more on page 44



KORIYAMA, JAPAN JOINED IN 2018

Increasing awareness about how to manage diabetes

The city of Koriyama joined the Cities Changing Diabetes programme in 2018, and a public-private partnership was set up between the city government, Fukushima Medical University and Novo Nordisk in Japan. This partnership set out to investigate why many people with diabetes in the city struggle to adhere to the medical treatment plan they are advised to follow in order to achieve treatment targets for maintaining their blood glucose levels within an acceptable range. Moving forward, the Cities Changing Diabetes partners will consider action plans to increase awareness about diabetes and knowledge about how to manage the disease.

SEOUL, SOUTH KOREA JOINED IN 2019

Seoul to use research to attract partners

Seoul joined Cities Changing Diabetes in 2019 and is currently in the research phase of the programme. The quantitative 'rule of halves' research will determine the prevalence of diabetes in the city, and qualitative research will provide insights into the social and cultural causes of vulnerability to the condition in Seoul. The programme was launched with two key local partners, and it is hoped that the findings of the research will inspire more cross-sector partners to come on board.

ASAHI, JAPAN JOINED IN 2021

Sustainability and community at the heart of healthy ambition

In June 2021, Asahi became Japan's second network partner city, following Koriyama's partnership in 2018. Chiba University Hospital is an anchor partner, and Mayor Tadao Akechi officially endorsed the partnership. Since then, the new Mayor of Asahi city, Yaichiro Yonemoto, has received the partners and committed to the goals of Cities Changing Diabetes. The mapping phase has begun, and the new insights will inform both future activities and generate a timeline for action. The Mayor's policy for sustainable urban development incorporating the principles of the United Nations Sustainable Development Goals and the aims of Cities Changing Diabetes are aligned together. The Mayor has indicated a desire to improve cross-departmental efforts to help create communities where people can live healthy, sustainable lives.

TIANJIN, CHINA

INNOVATIVE AND COOPERATIVE APPROACH TO DEFEAT URBAN DIABETES

Tianjin in China was one of the first cities to join Cities Changing Diabetes in 2014. As part of the initial research, a vulnerability assessment was conducted, and this study revealed insights that allowed the programme partners to deploy evidence-based solutions to bend the curve. In Tianjin, efforts are needed to improve patient health literacy and education about diabetes for healthcare professionals (HCPs). To address these issues, Tianjin adopted an innovative and cooperative approach to fight urban diabetes. The focus is on three areas: integrating diabetes prevention and treatment into all policies and promoting co-construction and sharing; focusing on the grassroots level and innovating the mode of diabetes prevention and treatment; and promoting education and raising public awareness.

**ONE-THIRD OF
ADULTS ARE
OVERWEIGHT⁵⁷**

MEDICAL CARE AT GRASSROOTS LEVEL

As the primary health sector is the key point of diabetes prevention and treatment delivery, Tianjin has formulated a series of actions to strengthen healthcare management in local community health centres.

In an attempt to increase diabetes awareness and improve public health literacy, Tianjin set up the Four-in-One Training project, which integrates the comprehensive training contents of medical treatment, nursing, medication

and management. Through this programme, HCPs from around 300 community health centres (CHCs) have received training in diabetes diagnosis and treatment skills as well as training in improved patient management. The training, which was conducted at 30 large hospitals, drew on the expertise of 70 specialists. The project not only trained chief diabetes doctors and diabetes nurses practising in CHCs, but also integrated educational resources, and delivered health knowledge to the community.

CONFIDENCE AND TRUST INCREASED

Through the project, diabetes prevention and treatment capacity at the primary level has been significantly improved. More than 200 diabetes clinics in community health centres have been established, and close to 500 chief diabetes doctors and diabetes nurses have been trained.

Approximately 447,000 people with diabetes were cared for in their communities, the standardised care rate reached 80% and the blood glucose control rate reached 73.5%. Furthermore, the clinical confidence of the doctors practising in CHCs increased, as did the level of patient trust.

Consequently, diabetes care in Tianjin is currently moving away from the original focus of 'crowd coverage' to 'management quality and effect'. No longer an isolated medical service, diabetes care has evolved into providing comprehensive, holistic and continuous health management services.



Tianjin,
China

IN TIANJIN

15.7%
OF CHILDREN AND
ADOLESCENTS BETWEEN
THE AGES OF SEVEN
AND 18 ARE LIVING
WITH OBESITY⁵⁸

LOCAL PROGRAMME PARTNERS

Tianjin Municipal Health Commission

Tianjin Healthcare Security Bureau

Tianjin Medical Association

Tianjin Medical University

"In the future, Tianjin will rely on the Cities Changing Diabetes platform to continuously enhance diabetes prevention and control, and widely improve diabetes awareness among the general public."

Cao Xiaohong, deputy mayor of Tianjin

SHANGHAI, CHINA

COLLABORATIVE ACTION FILLS KNOWLEDGE GAPS AND LEADS TO IMPRESSIVE RESULTS

One of the world's largest and fastest-growing megacities, Shanghai is the first city in China to have been categorised as an ageing society, with residents living to an average age of 83.⁵⁹ Population ageing is accompanied by an increase in the prevalence of non-communicable diseases, including type 2 diabetes.²

Shanghai was already making an effort to tackle the diabetes epidemic when it joined the Cities Changing Diabetes programme in 2014. Challenges identified at the time included a high proportion of people with undiagnosed diabetes as well as gaps in healthcare provider knowledge related to the provision of standardised diagnosis and treatment of diabetes. Since then, however, Cities Changing Diabetes has brought together a broad range of programme partners, and this has made it easier for many stakeholders in the city to work together to tackle some of these challenges. The collaboration has yielded impressive results in determining diabetes-related risk for a large segment of the city's population.

STRENGTHENING DIABETES PREVENTION AND TREATMENT SERVICES

In 2015, Shanghai began a three-year (2015–2017) action plan to transform its public health system. Under this plan, Shanghai Sixth People's Hospital was designated as the city's municipal centre for diabetes prevention and treatment. To carry out its mandate, the hospital collaborated with Shanghai CDC, Shanghai Eye Disease and Treatment Centre and Shanghai Laboratory Centre. The system covered all 16 districts and 240 community health centres.

The system, which was put in place to fully integrate the city's prevention and health resources, ensured that residents in

Shanghai had access to a comprehensive system of diabetes prevention, intervention and treatment. The system can be used as a model for the management of chronic diseases in national urban and rural communities.

This has enabled:

- Training for medical staff and healthcare professionals practising in community healthcare centres to strengthen skills related to diabetes screening, diagnosis and treatment
- Large-scale screening for prediabetes, diabetes and diabetes-related complications
- Improvement and standardisation of the referral system in Shanghai.

MORE THAN 1 MILLION PEOPLE RISK-ASSESSED FOR DIABETES

Between 2016 and 2017, the number of people under standardised care rose from 685,000 to 749,000. By the end of March 2018, the city had completed a diabetes risk assessment for 1 million people.

During the process:

- 37,000 people were diagnosed with diabetes
- 48,000 people with prediabetes were made aware of their diabetes status
- 220,000 people with diabetes were screened for diabetes-related complications.

According to a preliminary evaluation, it is estimated that the screening of diabetic kidney disease alone contributed to a saving of almost 1 billion Chinese yuan (approx 143,000 US dollars) in potential medical costs.

LOCAL PROGRAMME PARTNERS

National Office for Diabetes
Primary Healthcare

The Sixth People's Hospital
Affiliated to Shanghai Jiao Tong
University

"The Cities Changing Diabetes programme could fundamentally change the trend of diabetes with collaborative participation and action from a broad range of stakeholders."

Jia Weiping, professor and former
director of Diabetes Branch, Chinese
Medical Association

IN SHANGHAI

29.5%
OF SCHOOLCHILDREN
WERE LIVING WITH
OBESITY IN 2014⁶⁰

**ONE-FIFTH OF
ADULTS**
WERE LIVING WITH
OBESITY IN 2013⁶¹



Shanghai,
China

BEIJING, CHINA

STANDARDISING AND SIMPLIFYING THE DIABETES TREATMENT PROCESS

The city of Beijing launched a diabetes intervention programme in 2014. A key focus of the city's programme has been to promote diabetes guidelines in community health centres (CHCs) to standardise diabetes management. Once it joined Cities Changing Diabetes in 2017, the municipality of Beijing decided to expand the existing programme to:

- Formulate and popularise practical diagnosis and treatment standards for diabetes
- Train staff in practising in CHCs in the diagnosis, treatment and management of diabetes
- Improve the standard levels of blood glucose, blood pressure and blood lipids of people with diabetes.

18.3%
OF ADULTS IN
BEIJING ARE LIVING
WITH OBESITY⁶²

ROLL-OUT OF 'THE OUTLINE'

Since 2014, Beijing has issued 10,000 copies of a document called the Outline of Diagnosis and Treatment of Diabetes in Beijing Communities. This one-page document, also referred to as the Outline, is a condensed version of the China Guidelines of Diabetes Diagnosis and Treatment. It has been issued with a

training module supporting community doctors in implementing the guidelines in practice. This tool and the training provided have simplified the community diabetes treatment process and are helping to improve the quality of care delivered in the various centres by standardising the process.

INTERVENTION CONTROL STUDY SHOWS RESULTS

Through the Cities Changing Diabetes programme, a three-year study is being conducted in the districts of Dongcheng and Tongzhou to assess the effectiveness of the Outline. About 15,000 people with similar economic and medical insurance backgrounds have been selected by CHCs in the two districts for a comparative study – before and after the programme. The results of a sample survey of 30 CHCs showed that the training had significantly improved community doctors' ability to implement diagnosis and treatment guidelines.

In addition to the intervention control study, the Cities Changing Diabetes working group is organising education and training programmes to strengthen diabetes management among community doctors. As a result, the compliance rate for blood glucose, blood lipids, blood pressure and other outcome indicators of diabetes in the pilot area could increase by more than 50% compared with the baseline.

LOCAL PROGRAMME PARTNERS

Beijing Municipal Health Commission

Beijing Diabetes Research Centre

Beijing Tongren Hospital (CMU)

Four community health centres in the districts of Dongcheng and Tongzhou

"The health behaviours of Beijing residents are changing gradually. We'll exchange and cooperate through innovative international projects like Cities Changing Diabetes, and explore and build the 'Beijing model' to effectively improve the management level and efficiency of diabetes prevention and treatment."

Liu, deputy counsel of Beijing Municipal Health Commission

IN BEIJING

20%
OF CHILDREN AND
ADOLESCENTS BETWEEN
THE AGES OF TWO AND
18 ARE OVERWEIGHT OR
LIVING WITH OBESITY⁶³



Beijing, China

XIAMEN, CHINA

INTEGRATING PRIMARY, SECONDARY AND TERTIARY CARE

At 6.2%, prevalence of diabetes in Xiamen is lower than the national average.⁶³ To ensure that this remains the case, the city of Xiamen is taking action on diabetes at all levels of the healthcare system.

INVESTING IN HEALTH PROMOTION

Moreover, when it comes to the comprehensive management, prevention and control of diabetes, the city believes that the battlefield is at grassroots level. In 2015, Xiamen began implementing a system known as the Three-Division Co-management model, which has been supported by Cities Changing Diabetes since Xiamen joined the programme in 2017.

The three divisions of this model refer to a tiered system of healthcare management: primary care (community health centres (CHCs)), secondary care (referral centres) and tertiary care (large hospitals). Through this system, people with diabetes can be diagnosed early and managed effectively at primary level, avoiding or delaying the onset of diabetes-related complications that are often complex and costly to treat at tertiary level.

ONLY 25%
OF PEOPLE LIVING WITH
DIABETES REACH THEIR BLOOD
SUGAR LEVELS⁶⁴

A COORDINATION MECHANISM

In Xiamen, the Three-Division Co-management model ensures that there is a coordination mechanism between large hospitals and CHCs. Creating such a system has required the standardisation and improvement of diabetes diagnosis and treatment capabilities at grassroots level. In turn, this has highlighted the need to develop a system to support community-based general practitioners (GPs). Furthermore, this model of care ensures that people with diabetes are cared for by a team of specialists, GPs and health managers. Together, the team provides comprehensive, multidisciplinary and holistic healthcare in the community.

44.5%
OF PEOPLE LIVING WITH
DIABETES RECEIVE CARE⁶⁴

IN XIAMEN

**MORE THAN
53%**
OF PEOPLE WITH
DIABETES ARE UNAWARE
OF THEIR CONDITION⁶⁴

LOCAL PROGRAMME PARTNERS

Xiamen Municipal Health Commission

Xiamen Medical Association

Xiamen Diabetes Institute

"The Cities Changing Diabetes project can help the high-risk diabetes population to carry out early prevention, not only by expanding the primary prevention of diabetes, but also by improving the secondary and tertiary prevention of diabetes."

Yao Guanhua, director of Xiamen Municipal Health Commission

HANGZHOU, CHINA

HANGZHOU REACHES A TURNING POINT IN DIABETES PREVALENCE

The city of Hangzhou took action when it began observing a worrying upward trend in diabetes prevalence and costly diabetes-related complications. However, after a decade of constructive efforts, the diabetes prevalence seems to be falling, decreasing by 3% from 2016. Among other things, the positive results are due to consistent cross-sector collaboration and the positioning of community doctors as drivers of change.

Hangzhou joined Cities Changing Diabetes in 2017, and has since been facilitating education and training for HCPs.

31.6%
OF ADULTS IN
HANGZHOU
WERE OVERWEIGHT
IN 2009⁶⁵

THE CHIEF TALENT PLAN TRAINING COURSE

The Cities Changing Diabetes programme aims to impact the way that people with diabetes are treated in Hangzhou. Areas for potential improvement were identified, including the diabetes management compliance rate, diabetes-related complications among people with diabetes and the quality of health management offered by HCPs.

This led to the establishment of the Chief Talent Plan training course, through which more than 100 GPs and their teams specialising in diabetes – including

GPs, diabetes nurses, pharmacists and nutritionists – received instruction during a series of standardised training seminars. The purpose of this training was to comprehensively improve the ability of primary care GPs to prevent and manage diabetes, thus making it more convenient and effective for people with diabetes to see doctors in their communities. This focus on strengthening prevention and improving diabetes management at primary care institutions has inspired other Chinese cities to adopt a similar approach.

NEW INITIATIVES TO ADDRESS PEOPLE AT RISK

Even though the prevalence of diabetes is declining in Hangzhou, there is still a need to raise awareness about diabetes among the general public. Therefore, as part of Cities Changing Diabetes, an online diabetes management app was launched for people living in Hangzhou at high risk of developing diabetes. The app connects users with medical specialists who are able to provide one-to-one guidance on health management. The app is the first of its kind in Hangzhou, and has been made possible as a result of cross-sector collaboration. All the data generated by this platform are collected by the municipality, which is one of the partners in the collaboration.

The app is one of several initiatives launched to help facilitate lifestyle change among people at risk and the general public. In 2019, close to 3,000 people joined an annual walk organised to raise awareness about diabetes.

LOCAL PROGRAMME PARTNERS

Hangzhou Municipal Health Commission

Hangzhou Primary Health Association

"Hangzhou has realised that the key to prevention and control of chronic diseases lies at the grassroots level."

Yu Qiang, deputy director of Hangzhou Municipal Health Commission



IN HANGZHOU

5.8%
OF CHILDREN BETWEEN
THE AGES OF SEVEN
AND 18 WERE
OVERWEIGHT IN 2010⁶⁶

JAKARTA, INDONESIA

LEADING THE WAY IN INDONESIA

Of the estimated 10.3 million people living with diabetes in Indonesia, only 2.7 million have been diagnosed with the condition.² Because of this, many people with diabetes have already developed serious diabetes-related complications by the time they are diagnosed.⁶⁷ This can, in part, be attributed to the imbalance between the large number of people with diabetes and the small number of specialists available to treat them.

LIMITED SCREENING AND TREATMENT

Jakarta, which is the city with the highest prevalence of diabetes in Indonesia, joined Cities Changing Diabetes in 2018. As a first step, data were collected at 10 primary care facilities. The research involved 76 GPs and 514 people with diabetes.

The data confirmed that the majority of people with diabetes in Jakarta are undiagnosed as a result of limited public knowledge and awareness of diabetes. Primary care facilities are meant to function as the gatekeeper for screening and managing diabetes; however, this system requires improvement, and only a limited number of people with diabetes achieve their treatment targets. Poor implementation of the referral system means that most people with type 2 diabetes are treated at hospitals due to a lack of trust in the primary care services.

EARLY DIAGNOSIS AND OPTIMAL CONTROL

The Cities Changing Diabetes partners in Jakarta are aiming to make the city a role model for the management of diabetes in primary care. The programme focuses on two action pillars: early diagnosis and optimal control of diabetes management.

Early diagnosis: Through the Integrated Health Counselling Post (POSBINDU) and a public awareness campaign, the Cities Changing Diabetes partners hope to increase the rate of diabetes diagnosis. Their ambition is to scale up POSBINDU activities in university campuses, offices, schools, shopping centres and places of worship.

Optimal control: To improve the expertise of community health centres (Puskesmas), the partners will develop the Diabetes Management Guideline in Puskesmas and provide training for HCPs to improve their competences related to diabetes diagnosis and management. The partners hope these initiatives will improve treatment outcomes in patients. However, the focus will not only be on HCPs. The programmes will also ensure that the support system – referral system, treatment availability and pharmacy supply – at primary care level is working well to support diabetes management.

LOCAL PROGRAMME PARTNERS

Jakarta Provincial Government

Jakarta Health Agency (DINKES)

Danish Embassy

Endocrinology Association
(PERKENI)

Medical Research Institution,
University of Indonesia
(IMERI FK UI)

Ministry of Health

BPJS (Indonesian national health
care insurance)

Centre for Health Economic and
Policy Study (CHEPS),
University of Indonesia

IN JAKARTA

MORE THAN
50%
OF PEOPLE WITH TYPE 2
DIABETES ALREADY HAVE
A DIABETES-RELATED
COMPLICATION BY THE
TIME THEY ARE
DIAGNOSED⁶⁷



CHONGQING, CHINA

INTRODUCING INNOVATIVE 'DOUBLE' HEALTH PRESCRIPTIONS

One of the largest cities in the world, the Chongqing Province area is home to 31 million people, with 15.9 million living in the city itself.²³ As with many other megacities, there is an urgent need to address the rising diabetes challenge. A comparison of figures from 2017 and 2018 suggests that, although the prevalence of diabetes and obesity is rising, awareness of the disease is decreasing.

12.7%
OF ADULTS ARE LIVING
WITH DIABETES⁶⁸

A DOUBLE PRESCRIPTION SYSTEM

When Chongqing joined Cities Changing Diabetes in 2019, the city was already planning to promote the integration of public health, clinical-based medical services and prevention, to provide comprehensive management services for patients and explore the implementation of a 'double prescription' system.

Starting with a pilot project, the city will roll out this double prescription system, with patients not only being given a

medical prescription to address their condition, but also a health prescription to guide them in lifestyle and behaviour changes. As a first step, experts will collaborate to create a health prescription plan that will be turned into a manual to guide HCPs. This will be followed by health prescription implementation training.

As in Shanghai and Beijing, Chongqing will also focus on standardising diabetes diagnosis and care, screening for diabetes-related complications, improving the skills of doctors practising in CHCs, and establishing a stronger connection mechanism between these CHCs and larger hospitals.

AWARENESS CAMPAIGN FOR PEOPLE AT RISK

There are also plans in place to target the increasing number of people at high risk of developing diabetes. The challenge will be assessed by distributing surveys both offline and via social media. The assessment will be followed by awareness-raising initiatives targeted at the general public and public screening campaigns.

LOCAL PROGRAMME PARTNERS

Chongqing Municipal
Health Commission

Chongqing Medical Association

"Through the Cities Changing Diabetes programme, we'll study the future trend of diabetes, identify the causes of the disease and promote all sectors of society to work together to improve diabetes prevention and control."

Huang Minghui, director of
Chongqing Municipal Health
Commission

IN CHONGQING

35.2%
OF ADULTS
ARE OVERWEIGHT⁶⁸

13.5%
OF ADULTS ARE LIVING
WITH OBESITY⁶⁸

Chongqing,
China



Shanghai,
China

SCALING UP IN CHINA

The development of a healthy China is central to the Chinese government's agenda for health and development. To formalise this vision, the Chinese government has set an explicit national political priority with the approval of 'Healthy China 2030' – a medium- to long-term strategic plan for the development of the healthcare sector.

HEALTHY CHINA REQUIRES HEALTHY CITIES

China faces many health challenges, including rising rates of diabetes, cancer and cardiovascular disease linked to risk factors such as smoking, an ageing population and unhealthy lifestyle. A key component of Healthy China 2030 is the promotion of healthy lifestyles and physical fitness, including the development of healthy cities, to ensure a greater focus on prevention rather than treatment.

A NATIONAL CITIES CHANGING DIABETES DECLARATION

Cities Changing Diabetes has been at the forefront of promoting thinking about healthy urban living and the prevention and management of urban diabetes. The programme has leveraged the insights and experience gained in each of the cities and developed a National Cities Changing Diabetes Declaration. The declaration went live to all cities in China at the end of 2018 and has drawn a wide response. Today, with six cities participating, China is the country with the most cities engaged in the programme.

DRIVING URBAN DIABETES UP THE AGENDA

Urban diabetes affects every city in the world. But it is not just an issue for city leaders. With diabetes on course for devastating growth, it is an issue for all leaders. A critical part of Cities Changing Diabetes is asserting urgency for action on global, national and local agendas.

At the same time, health does not manifest in a silo; it is heavily linked to many aspects of daily life. The health of urban residents goes well beyond the provision of health services.

This means that decisions taken today about food, green spaces, transport and energy in our cities will play a significant role in shaping the impact of climate and public health now – and for future generations.

That is why Cities Changing Diabetes and its partners are determined to encourage intersectoral approaches for addressing many of the systemic challenges prevalent in cities. Novo Nordisk has been working to foster new and innovative partnerships across sectors for co-creation and co-benefit – from transport and climate, to pollution and food.

GLOBAL PARTNERSHIPS FOR DRIVING CHANGE

C40 Cities: cities addressing climate change

C40 Cities is a global network of cities committed to addressing the challenge of climate change by driving urban action that reduces greenhouse gas emissions and climate risks. C40 Cities and Cities Changing Diabetes are working together to tackle health and climate change at the city level.

During the 2019 C40 World Mayors Summit, C40 Cities hosted close to 100 mayors together with civil servants, academics, politicians, businesses and civil society. As well as discussions about health and climate on the main stage with Camilla Sylvest, executive vice president at Novo Nordisk, the programme organised a side event together with the Municipality of Copenhagen on 'How to Bend the Curve on Urban Diabetes? Co-benefits of Investing in Healthy and Climate Friendly Cities'.

Read more on the C40 Cities partnership on page 27.

EAT Foundation: transforming food systems

Founded as a non-profit organisation in 2014, EAT is a global science-based platform dedicated to creating a fair and sustainable food system for healthy people and planet – leaving no one behind. In pursuit of these goals, EAT uses sound science, impatient disruption and novel partnerships. Cities Changing Diabetes and EAT has an important partnership sharing strategic advice, knowledge and financial support in pursuit of joint objectives for healthier people.

During the EAT Stockholm Food Forum 2019 the Cities Changing Diabetes programme held a site-event focusing on Strategies to improve healthy food in cities.

NewCities

Cities Changing Diabetes is supporting NewCities, a global not-for-profit organisation committed to shaping a better urban future, and its Wellbeing Cities Award, an international award recognising cities' efforts to place well-being at the heart of their policy and planning. The laureates of the 2020 Wellbeing Cities Award will be announced at the annual Wellbeing Cities Forum taking place in Montreal in 2020.

UNICEF

Novo Nordisk's partnership with UNICEF aims to tackle childhood overweight and obesity – a major risk factor for diabetes, and an issue that affects twice the number of 5–19-year-olds than it did 15 years ago. The two organisations are combining efforts to enhance knowledge and awareness on how to prevent overweight and obesity and address their root causes – with an initial focus on interventions in Latin America and the Caribbean.



In January 2020, the **World Economic Forum** celebrated the work of Cities Changing Diabetes as a 'Lighthouse Project'. The purpose is to showcase how different actors are contributing to creating a cohesive and sustainable world.

In China, Cities Changing Diabetes has been recognised as innovative for its work in supporting national targets on prevention and management of diabetes. Cities Changing Diabetes was part of the launch in 2019 of the new national diabetes track under the State Council's **Healthy China 2030** action programme. The plan consists of 15 areas – of which

In late 2018, Lars Fruergaard Jørgensen, CEO of Novo Nordisk, presented Cities Changing Diabetes at the **International Diabetes Summit** in Westminster, UK, hosted by the All-Party Parliamentary Group for diabetes.



FOUNDING PARTNERS

UNIVERSITY COLLEGE LONDON

For more than a decade, University College London (UCL) has put its weight behind understanding the impacts of urbanisation. Under the banner of its 'Grand Challenge' commitments to global health, sustainable cities, intercultural interaction and human well-being, a cross-disciplinary group has sought to contribute to urban sustainability by identifying health vulnerabilities and addressing the modifiable risk factors that can reduce the impact of NCDs globally. Applied researchers at UCL are delighted to bring their expertise to bear through supporting innovative work with global partners that will underpin Cities Changing Diabetes. More than that, their approach is aimed at making an impact that is sustainable into the future, giving new momentum to this global initiative.

For more information, visit ucl.ac.uk.

STENO DIABETES CENTER COPENHAGEN

Steno Diabetes Center Copenhagen is a world-leading institution in diabetes care and prevention. The institution was originally established by Novo Nordisk A/S in 1932, but ownership was transferred to the Capital Region of Denmark in January 2017. The institution's ambition is not only to improve the entire field within diabetes in the Capital Region, but also to contribute with inspiration and new knowledge nationally and internationally. As a partner in Cities Changing Diabetes, Steno draws on experience in creating innovative and sustainable approaches to tackling diabetes at community level, its work training healthcare professionals in cities across the world and its expertise in providing care in Copenhagen.

For more information, visit sdcc.dk.

NOVO NORDISK

Novo Nordisk is committed to driving change to defeat diabetes and other serious chronic diseases. To fulfil this purpose, the company pioneers scientific breakthroughs, expands access to medicines, and works to prevent and ultimately cure disease. The company collaborates with patients and partners to transform bold ideas into life-saving and preventive medicines. Acknowledging that it takes more than medicine to defeat a serious chronic disease the company also engages with partners globally to address the root causes of disease and develop interventions to prevent the rise of type 2 diabetes and obesity. Novo Nordisk has an ambition to be a sustainable business that is respected for adding value to society. The company thinks long-term and understands that the future is dependent on a healthy environment, society and economy. By aspiring to defeat disease whilst having zero environmental impact, Novo Nordisk addresses some of the biggest threats to human health and prosperity.

For more information, visit novonordisk.com.

CITIES CHANGING DIABETES

Not enough is known about the dynamics of how urban development can drive diabetes or how it can deliver potential health benefits to city living.

To address this, Steno Diabetes Center Copenhagen, University College London and Novo Nordisk launched Cities Changing Diabetes in 2014. The programme is designed to address the social and cultural factors that can increase type 2 diabetes vulnerability among certain people living in urban environments. Today, the programme has established local partnerships in more than 40 cities.

We believe the best results can be achieved when we work together across sectors and disciplines. This makes public-private partnerships essential in order to improve health in cities.



A PARTNERSHIP FOR DRIVING CHANGE

THE CITIES CHANGING DIABETES PROGRAMME HAS THREE INTERCONNECTED ELEMENTS:

Map the challenge to understand the areas of greatest risk and vulnerability and guiding the design of interventions.

Share research findings and action insights through strong partnerships in each city and global knowledge networks and events.

Act in partnership through specific health interventions and policy decisions, based on evidence and experience.

These different elements come together to create impact by supporting city leaders and those who influence health to drive change.

The stories in this report show how that is happening in practice in partner cities around the world, and the way that strong partnership and keeping up momentum helps to create and sustain change. Mexico City is building on the experience of health actions and evaluation to now implement the Interinstitutional Commission to drive greater cross-sectoral policy focus. In Copenhagen, the initial research helped to shape a city-wide diabetes strategy which is now leading to new focused interventions in some of its more socially disadvantaged neighbourhoods.

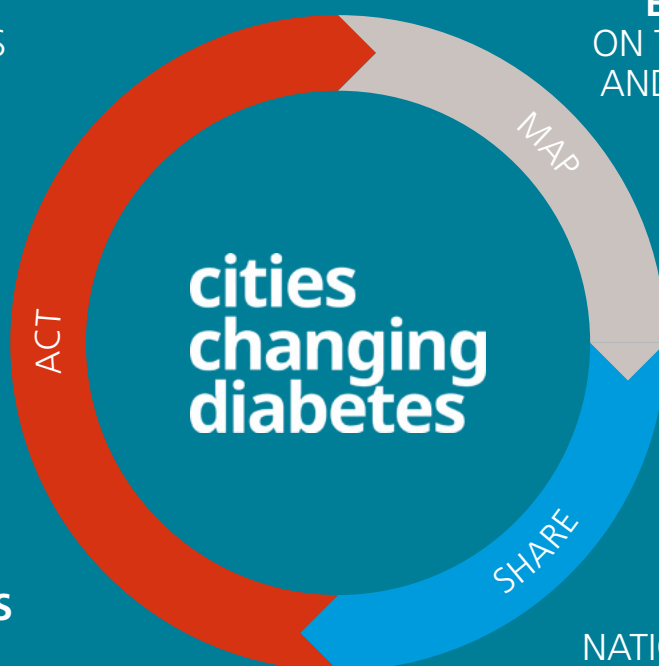
These stories, and many others in this report, provide the foundation on which the Urban Diabetes Declaration can now build as more cities look to join the programme and, together, the partners work to bend the curve on urban diabetes.

**MORE HEALTH
ACTIONS
IN MORE CITIES**

**STRONGER
EVIDENCE BASE
ON THE CHALLENGE
AND WHAT WORKS**

**GREATER
POLICY FOCUS
ON HEALTH AT
GLOBAL, NATIONAL
AND CITY LEVELS**

**ADVOCACY
ON GLOBAL,
NATIONAL AND CITY
AGENDAS TO SHOW THAT
ACTION ON HEALTH IN CITIES
IS NECESSARY, DESIRABLE AND
ACHIEVABLE**



PARTNERS WORKING TO BEND THE CURVE

Cities Changing Diabetes has demonstrated the power of new types of public-private partnership, with more than 160 global and local partners collaborating across disciplines to map the diabetes challenge, share solutions and drive actions to bend the curve on urban diabetes.

Partners include city leaders and ministries, academia, diabetes associations, health insurers, community groups and business corporations. The rise in urban diabetes is a shared challenge for all of society. If nothing is done, the global prevalence of diabetes will continue to rise and destroy lives, cripple healthcare systems and damage economies.

AARHUS, DENMARK

City of Aarhus, University of Aarhus, Steno Diabetes Center Aarhus / Aarhus University Hospital, Central Denmark Region

ASAHI, JAPAN

BARI, ITALY

Bari City Municipality, Bari Metropolitan City, Parliamentary, Intergroup on QoL in Cities, Health City Institute, Italian Municipalities Association (ANCI), IBDO Foundation, University of Bari, Censis Foundation, National Institute of Statistics (ISTAT), Institute for Competitiveness (I-COM), Centre for Outcomes Research and Clinical Epidemiology (CORESEARCH), Medipragma, Italian Diabetes Society (SID), Italian Diabetologist Association (AMD), Italian Society of GPs (SIMG), Association of people with diabetes in Bari, Diabete Italia, C14+, Cittadinanzattiva, CONI FIDAL, Italian Society of Paediatric Endos (SIEDP), Italian Obesity Association (SIO), Italian Association of Diabetics and Clinical Nutrition (ADI), Fitwalking Association TO Walk LAB, Active citizenship

BEIJING, CHINA

Beijing Municipal Health Commission, Beijing Diabetes Prevention and Control Office, Beijing Tongren Hospital, CMU, 30 community health centres in the districts of Dongcheng and Tongzhou

BEIRUT, LEBANON

Municipality of Beirut, Lebanese University – Faculty of Public Health, Chronic Care Centre, Danish Embassy, Lebanese Society of Endocrinology, Diabetes and Lipids (LSEDL)

BERLIN, GERMANY

City of Berlin Marzahn-Hellersdorf, The Embassy of

Denmark in Germany

BOGOTÁ, COLOMBIA

Danish Embassy of Colombia, Health Secretariat of Bogotá, Universidad de Rosario, Universidad Nacional

BOLOGNA, ITALY

Bologna Capital City, Bologna Metropolitan City, Italian Municipalities Association (ANCI Emilia Romagna), University of Bologna, Local Health Authority "AUSL of Bologna", Local Hospital Health Authority "IRCSS Sant'Orsola of Bologna", Observatory CINECA, ARNO, Italian Society For The Study Of Diabetes (SID Emilia Romagna), Italian Association Of Clinical Diabetologists (AMD Emilia Romagna), Italian Society of Clinical Pediatric Endos (SIEDP), Italian Society of General Practitioners (SIMG Emilia Romagna), People with Diabetes' association (FeDER), Third sector/ volunteer (VolaBo), National Institute of statistics (ISTAT), Centre for outcome research and clinical epidemiology (CORESEARCH), Parliamentary Intergroup on QoL in Cities, Institute for Competitiveness (ICOM), Censis foundation, IBPO foundation

BELGRADE, SERBIA

Beograd, Embassy of Denmark, Plavi Krug, Gradovi koji Manjaju dijabetes, Dijabetoski Savez Srbije

BUENOS AIRES, ARGENTINA

Gobierno de la Ciudad de Buenos Aires / Ciudad Activa, Universidad Favaloro / Instituto del Deporte, LAPDI / Liga Argentina de Protección al Diabético (LAPDI), Liverpool John Moores University

CHONGQING, CHINA

Chongqing Municipal Health Commission, Chongqing Medical Association, Administrative Committee of Chongqing Liang Jiang New Area (provisional),

Chongqing Medical Insurance Bureau, Chongqing Administration of Sport (provisional)

COPENHAGEN, DENMARK

Steno Diabetes Center Copenhagen, Danish Diabetes Association, University of Copenhagen, City of Copenhagen

GENOA, ITALY

Genoa City Municipality, Liguria Region, University of Genoa, Parliamentary Intergroup on QoL in Cities, Health City Institute, Italian Municipalities Association (ANCI), IBDO Foundation, Censis Foundation, National Institute of Statistics (ISTAT), Institute for Competitiveness (I-COM), Centre for Outcomes Research and Clinical Epidemiology (CORESEARCH), Medipragma, Italian Diabetes Society (SID), Italian Diabetologist Association (AMD), Italian Society of GPs (SIMG), Italian Society of Paediatric Endos (SIEDP), Cittadinanzattiva, VINCE GENOVA association, Adult diabetes association (FAND), Young diabetes association (ADG), CONI, FIDAL

HANGZHOU, CHINA

Primary Health Division, Hangzhou Municipal Health Commission, Hangzhou Primary Health Association, related community health service centres

HOUSTON, US

American Diabetes Association, American Heart Association, Association of Diabetes Care & Education Specialists, Congreso de Latinos Unidos, Drexel Medicine PENDING MOU, Enon Tabernacle Baptist Church, Episcopal Diocese of Pennsylvania, Esperanza, Greater Philadelphia Business Coalition on Health, Greater Philadelphia Health Action, Health Care Improvement Foundation (HCIF), IBC Foundation

Independence Blue Cross, Penn Asian Senior Services (PSSI), Pennsylvania College of Osteopathic Medicine, Philadelphia Corporation on Aging, Philadelphia County Medical Society, Public Health Management Corporation (PHMC), The Roman Catholic Archdiocese of Philadelphia, TJU College of Population Health and Jefferson Center for Urban Health

ISTANBUL, TURKEY

Istanbul Municipality (IBB), General Consulate of Denmark in Istanbul, Diabetic Children's Foundation (DIYAÇEV), Turkish Association for the Study of Obesity (TOAD)

JAKARTA, INDONESIA

Jakarta Provincial Government, Jakarta Health Agency (DINKES), Danish Embassy, Endocrinology Association (PERKENI), Medical Research Institution, University of Indonesia (IMERI FK UI), Ministry of Health, BPJS (JKN Provider), Centre for Health Economic and Policy Study, University of Indonesia (CHEPS)

JOHANNESBURG, SOUTH AFRICA

City of Johannesburg, Wits University, Johannesburg Junior Council, Gauteng Department of Health

KORIYAMA, JAPAN

Koriyama City Government, Fukushima Medical University

LEICESTER, UK

Leicester Diabetes Centre, Leicester City Council, Leicester City Football Club, Leicester Riders Basketball Club, Leicester Tigers Rugby Club, Leicestershire County Cricket Club

LISBON, PORTUGAL

The Municipality of Lisbon, The Association for Protection of People Living with Diabetes in Portugal (Associação Protectora dos Diabéticos de Portugal,

APDP), The Regional Health Administration of Lisbon and Tagus Valley (ARSLVT, Administracao Regional de Saude de Lisboa e Vale do Tejo. i.P.), NOVA Medical School, Nova University (Universidade Nova de Lisboa)

MADRID, SPAIN

Madrid Salud, Aplica, Ayuntamiento de Madrid

MALMÖ, SWEDEN

The City of Malmö, Malmö University, Region Skåne

MANCHESTER, UK

Health Innovation Manchester, The National Institute for Health Research Applied Research Collaboration, Greater Manchester (NIHR ARC-GM), The University of Salford, The British Muslim Heritage Centre

MÉRIDA, MEXICO

Universidad Autónoma de Yucatán (Autonomous University of Yucatan), Asociación Mexicana de diabetes del Sureste (Mexican Association of Diabetes of the Southeast)

MEXICO CITY, MEXICO

World Diabetes Federation, Secretaría de Seguridad Pública del Distrito Federal (SSPDF), Secretaría de Salud de la Ciudad de México (SEDESA), National Institute of Public Health Mexico

MILAN, ITALY

Milan City Municipality, Lombardy Region, Parliamentary Intergroup on QoL in Cities, Health City Institute, National Institute for Health, Italian Municipalities Association (ANCI), IBDO Foundation, University of Milan, University of Milan Bicocca, University Vita Salute S.Raffaele of Milan, University Bocconi of Milan, Humanitas University, Polytechnic University of Milan, IULM University, Obesity Study and Research Centre, University of Milan (CRSO),

Censis Foundation, National Institute of Statistics (ISTAT), Institute for Competitiveness (I-COM), Centre for Outcomes Research and Clinical Epidemiology (CORESEARCH), Medipragma, Italian Diabetes Society (SID), Italian Diabetologist Association (AMD), Italian Society of GPs (SIMG), Lombardy Patient Association Federation (CLAD), Diabete Italia, C14+, Cittadinanzattiva, CONI, FIDAL, Italian Society of Paediatric Endos (SIEDP), Italian Obesity Association (SIO), Italian Association of Dietetics and Clinical Nutrition (ADI), Fitwalking Association, Science and Technology Museum, ANIAD

PHILADELPHIA, US

American Diabetes Association, American Heart Association, Association of Diabetes Care & Education Specialists, Congreso de Latinos Unidos, Drexel Medicine, Enon Tabernacle Baptist Church, Episcopal Diocese of Pennsylvania, Esperanza, First Episcopal District of the African Methodist Episcopal Church, Greater Philadelphia Business Coalition on Health, Greater Philadelphia Health Action, Health Care Improvement Foundation (HCIF), IBC Foundation, Independence Blue Cross, Penn Asian Senior Services (PSSI), Pennsylvania College of Osteopathic Medicine, Philadelphia Corporation on Aging, Philadelphia County Medical Society, Public Health Management Corporation (PHMC), The Roman Catholic Archdiocese of Philadelphia, TJU College of Population Health, Jefferson Health System, Jefferson College of Population Health, Jefferson Center for Urban Health

ROME, ITALY

Rome Capital City, Health City Institute, National Institute for Health, Italian Municipalities Association, IBDO Foundation,

University of Rome La Sapienza, University of Rome Tor Vergata, Censis Foundation, National Institute of Statistics, Institute for Competitiveness, Centre for Outcomes Research and Clinical Epidemiology, Italian Diabetes Society (SID), Italian Diabetologist Association (AMD), Italian Society of GPs (SIMG), FederDiabete Lazio, Diabete Italia, C14+, Cittadinanzattiva, IO-Net, CONI, FIDAL, Italian Society of Paediatric Endos (SIEDP), Italian Endos Society (SIE), Italian Obesity Association (SIO), Italian Association of Dietetics and Clinical Nutrition (ADI), Fitwalking Association, Parliamentary Intergroup on QoL in Cities

SEOUL, SOUTH KOREA

Seoul City Government, Korean Diabetes Association, Korean Society for the Study of Obesity, International Diabetes Federation (IDF)

SHANGHAI, CHINA

The Sixth People's Hospital Affiliated to Shanghai Jiao Tong University, Shanghai Centre for Disease Prevention and Control (SCDC), Shanghai Eye Protection Centre, community health centres, community hospitals

STRASBOURG, FRANCE

Banque Alimentaire du Bas-Rhin, Anques Alimentaires, Novo Nordisk, Strasbourg.eu, Embassy of Denmark, La Fédération Française des Diabétiques, Myfood, CENTRE EUROPÉEN D'ÉTUDE DU DIABÈTE, Association des diabétiques du Bas-Rhin, Association Siel Bleu

TIANJIN, CHINA

Tianjin Medical Association, Tianjin Medical University,

TURIN, ITALY

Turin City Municipality, Turin Metropolitan City, IRES Economic and Social Research Institute, Parliamentary Intergroup on QoL in Cities, Health City Institute,

Italian Municipalities Association (ANCI), IBDO Foundation, University of Turin, Censis Foundation, National Institute of Statistics (ISTAT), Institute for Competitiveness (I-COM), Centre for Outcomes Research and Clinical Epidemiology (CORESEARCH), Medipragma, Italian Diabetes Society (SID), Italian Diabetologist Association (AMD), Italian Society of GPs (SIMG), Caped Associations of people with diabetes in Piedmont, Diabete Italia, C14+, Cittadinanzattiva, CONI, FIDAL, Italian Society of Paediatric Endos (SIEDP), Italian Obesity Association (SIO), Italian Association of Dietetics and Clinical Nutrition (ADI), Fitwalking Association TO Walk LAB, ANIAD

WARSAW, POLAND

Instytut Cloweika Swiadomega (ICS), Obywatele dla Zdrowia (PUOP), Instytut Zarzadzania W Ochronie Zdrowia (IZWOZ)

XIAMEN, CHINA

Xiamen Municipal Health Commission, Xiamen Medical Association, hospitals and communities at all levels in Xiamen, Xiamen Diabetes Institute

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