

# cities changing diabetes

PROGRAMME  
**REVIEW**  
2014–2016



Steno Diabetes Center  
Copenhagen





# CONTENTS

FOREWORD ..... 03

ABOUT THIS REVIEW ..... 04

## CHANGE

A CATALYST FOR CHANGE IN CITIES ..... 06

## SHARE

BUILDING RELATIONSHIPS –  
A FOUNDATION FOR ACTION ..... 10

## MAP

CHANGING THE APPROACH TO DIABETES  
THROUGH EVIDENCE AND NEW  
RESEARCH TOOLS ..... 13

## ACT

TAKING ACTION ..... 15

## FUTURE

LOOKING TOWARDS THE FUTURE ..... 20

## ABOUT

CITIES CHANGING DIABETES ..... 22

METHODOLOGY ..... 23

REFERENCES ..... 24

**415**  
**MILLION**  
PEOPLE HAVE  
**DIABETES**  
**2 in 3**  
LIVE IN  
**CITIES<sup>1</sup>**





# FOREWORD

In response to the unsustainable global rise of type 2 diabetes,<sup>1</sup> we launched Cities Changing Diabetes in 2014. Essentially a platform for collaboration, Cities Changing Diabetes is a first-of-its-kind public–private partnership built around the idea of bringing a multitude of different stakeholders and expertise together to find common cause in addressing a complex public health issue. The programme aims to investigate the challenge and underlying risk factors driving the burden of diabetes in cities, drive action to halt the rising prevalence of diabetes and improve health outcomes for people already living with the condition.

Five cities – Copenhagen, Houston, Mexico City, Shanghai and Tianjin – initially joined the programme, which has since been expanded further to include Johannesburg, Rome and Vancouver. Today, more than a hundred partners across the world, including city leads, ministries and city administrations, local academia, diabetes associations, health insurance companies, local community centres and business corporations, are cooperating with Cities Changing Diabetes to step up to the challenge through research and collective action.

With almost three years of research into the risk factors for type 2 diabetes, specifically the sociocultural factors, our work is gaining credibility and traction, and significant progress has been made within each of the programme cities. To continue this momentum, it is time to take stock of what we have achieved and learnt so far.

This review is focused on the period 2014–2016 and presents findings from a comprehensive programme assessment involving partner interviews, media analysis and desk research. A pattern of overarching themes emerges from the interviews about the benefit and impact of the programme. New and strong relationships, a fresh approach to thinking about diabetes, and tangible improvements in diabetes management are consistently highlighted as the main programme impacts.

These themes point to the positive impact of the Cities Changing Diabetes partnership as a catalyst for change and, at the same time, highlight opportunities for the future. While partner cities have come a long way in uniting stakeholders across the healthcare system and promoting change, there is an opportunity to enhance collaboration even further and expand the programme to more sectors, agendas, disciplines and cities. Acknowledging the importance of the role that urban planning and climate have on the health of citizens, the global partnership with C40, launched in 2016, is an example of moving the programme beyond stakeholders in health. Sustainable resource allocation, evidence-based intervention and impact evaluation are other opportunities signalled by partners.

As we transition into the next phase of Cities Changing Diabetes, committed cross-sector collaboration is needed to create healthier cities. This review should serve as a starting point for identifying the drivers of change and building common cause among all parties for bending the rising global curve of diabetes prevalence.



**LARS FRUERGAARD  
JØRGENSEN**  
President and chief executive  
officer, Novo Nordisk



**ALLAN FLYVBJERG**  
Chief executive officer, Steno  
Diabetes Center Copenhagen



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



# ABOUT THIS REVIEW

This review investigates the impact of the Cities Changing Diabetes partnership and relevant activities initiated in the period 2014–2016. The overall purpose of the review is to inform the future programme direction by exploring the following objectives:

- To document and understand the impact of the Cities Changing Diabetes approach
- To capture and share learnings from global and local programme activities.

'Impact' is defined broadly as the changes – big or small, positive or negative, expected or unexpected – that Cities Changing Diabetes creates and contributes towards.

Findings detailed in this review are derived from three research activities:

- **Partner and researcher interviews:** 36 partners and researchers from the six cities involved with the programme for the longest period of time, namely Mexico City, Copenhagen, Tianjin, Shanghai, Houston and Rome,\* were interviewed and asked about their perception and experience in relation to four main categories: 1) Benefits and impacts; 2) Value drivers; 3) Challenges; and 4) Ideas for the future.
- **Investigation of medium- to long-term media trends:** A media trend analysis was conducted by an external agency to explore whether, and to what extent, Cities Changing Diabetes has contributed to changes in global and local coverage of urban diabetes.
- **Desk research:** Secondary research was conducted to provide a status overview of activities within the main elements of the partnership model: map, share, act.

MORE INFORMATION ABOUT THE METHODOLOGY IS AVAILABLE ON PAGE 23.

\* Rome formally joined the Cities Changing Diabetes initiative in early 2017 under the auspices of the Health City Institute. The Health City Institute, an independent think tank created as a response to the urgent need to study the determinants of health in cities, has convened Italian stakeholders around the urban health agenda since early 2015.

## MAP-SHARE-ACT

Since 2014, Cities Changing Diabetes has followed a systematic approach of building evidence by mapping the challenge in partner cities, defining and piloting actions on the ground and, most importantly, sharing findings and outcomes along the way. This is referred to as the map-share-act framework.

According to partners, Cities Changing Diabetes has led to positive changes in how the diabetes challenge is perceived and approached. This review validates the view that the programme can play a pivotal role in shaping healthier cities around the world. At the same time, the programme has contributed towards elevating health, and particularly diabetes, on the urban agenda globally.

## SHARE

### CITIES CHANGING DIABETES CONVENES STAKEHOLDERS WHO DO NOT NORMALLY COLLABORATE AROUND A SHARED GOAL

In the process of working together, strong relationships are built that stimulate action. Moreover, breaking down silos at city level leads to significant gains in efficiency and effectiveness. Enhanced coordination and collaboration can translate directly into benefits for people with diabetes.

City government (18%), the research sector (22%) and local NGOs such as community organisations and patient organisations (26%) are the main sectors involved with the programme at city level. Health is the main focus of the organisations involved – almost 70% of the partners are focused on health.

Programme representatives have actively spread the urban diabetes message and shared insights from the programme, and there has been a positive uptake in the media as a result, in particular in local media and on Twitter.

READ MORE ON PAGE 10

## MAP

### CITIES CHANGING DIABETES RESEARCH IS CONTRIBUTING TO A SHIFT IN HOW DIABETES IS PERCEIVED AND APPROACHED

The research conducted within the programme contributes to a holistic and multi-disciplinary approach to tackling diabetes in cities.

The Cities Changing Diabetes research collaboration advances global research capacity and networks within social and cultural determinants of health through peer-reviewed publications, policy papers, research tools as well as training of academic staff.

READ MORE ON PAGE 13

## PARTNER RECOMMENDATIONS FOR THE FUTURE

- More sharing and collaboration across and within cities is called for that includes an even greater diversity of partners and sectors.
- Greater focus on measuring and evaluating impact, and more research on interventions and solutions.
- Amplify the focus on action and implementation, including how to improve the link between research and action.


## ACT

### CITIES CHANGING DIABETES PROMOTES AND ACCELERATES ACTION ON THE GROUND

Programme partners describe the role of the programme as "promoting", "facilitating" or "accelerating" major initiatives in diabetes management that have been initiated since 2014.

A total of 18 specific actions have been initiated. Actions are mainly initiated within the areas of community involvement in health (30%), health-promoting policy (38%) and health system strengthening (27%).

READ MORE ON PAGE 15



CHANGE

Copenhagen, Denmark

# A CATALYST FOR CHANGE IN CITIES

---

*Facilitating a process that builds new relationships around shared insights and common goals – relationships that commit and stimulate partners to take action – stands out as the single most important contribution of Cities Changing Diabetes.*

## **RELATIONSHIPS, RESEARCH AND RESOURCES DRIVE CHANGE**

Cities Changing Diabetes is a catalyst for change – especially on the ground at city-level and many partners are impressed by what has been achieved over a relatively short period in the individual cities.

Generally, all partners interviewed speak positively of the benefits and impacts of Cities Changing Diabetes. Only one in five mention specific areas where they find that the programme has had no or only limited impact. For instance, the programme's impact on organisational priorities and day-to-day operations is mentioned as an area of limited impact. Furthermore, only one stakeholder specifically mentions a potential negative impact, namely that the programme's focus on diabetes may divert attention from other pressing issues.

Partners involved accredit the programme with informing, supporting and accelerating the process towards change. Across all interviews, there is a clear indication that the relationships, research findings and resources facilitated and provided through

Cities Changing Diabetes are key drivers of change. These three themes, which appear to be essential for understanding how the programme contributes to driving change, are reflected across the responses to all interview questions.

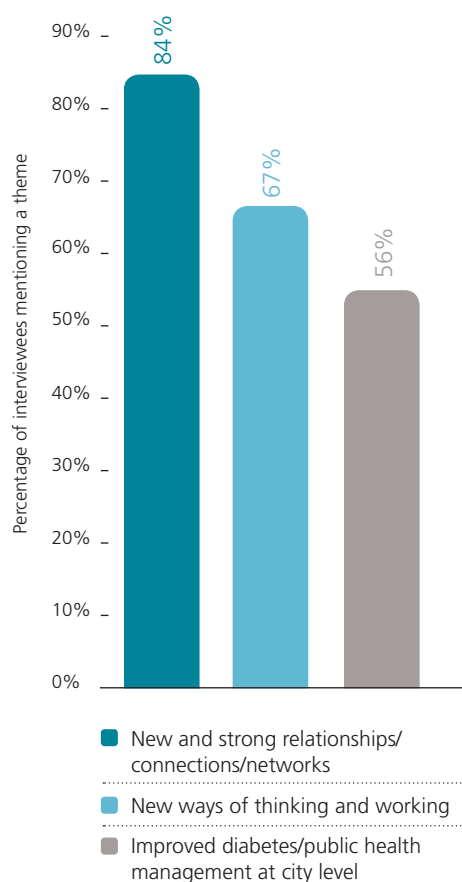
Relationships seem particularly important, and the relationships between 'non-traditional' partners established through the programme are the most valued programme impact in the eyes of the programme partners (Figure 1). Furthermore, several of the key success criteria highlighted by partners interviewed – flexibility, ethics, communication, leadership and process facilitation – all support the conclusion that strong relationships are crucial for driving change (Figure 2).

*"If we hadn't been to the Cities Changing Diabetes meetings, we'd have continued to work the same way as before, each working with our own strategies and not realising that the disease is hitting us. The only way we've found to have an impact is that we all work together."*

**DR ALBERTO GALLARDO HERNÁNDEZ**, COORDINATOR OF HOME TREATMENT, HEALTH GOVERNMENT OF MEXICO CITY

**FIGURE 1** TOP THREE BENEFITS AND IMPACTS AS PERCEIVED BY PARTNERS

*Relationships are the most highly valued benefit of the programme*



*"We've established some really good relationships in the working group, and we've also been disagreeing without anybody getting angry about it. Those relationships provide... agility is perhaps the right expression – and because the relations in the working group have been good, it's also been possible to throw some wild ideas on the table."*

**KATRINE SCHJØNNING**, HEAD OF PUBLIC HEALTH, COPENHAGEN

■ READ MORE ABOUT THE NETWORKING EFFECT ON **PAGE 10**

*"It's a total change of perspective. Previously, when talking about diabetes, we always thought of it as an individual problem, so the solutions were solutions for an individual. I think that the true value is to have people understand how important this change of perspective is: going from disease understood as an individual problem to disease understood as the result of environmental, urban and general policies. It becomes the change from individual responsibility to collective responsibility. It's a truly important paradigm which we can't undervalue."*

**DR ANTONIO NICOLUCCI**, MD, CORESEARCH, CENTER FOR OUTCOME RESEARCH AND CLINICAL EPIDEMIOLOGY, ROME

■ READ MORE ABOUT DIABETES RESEARCH AND PRACTICE ON **PAGE 13**

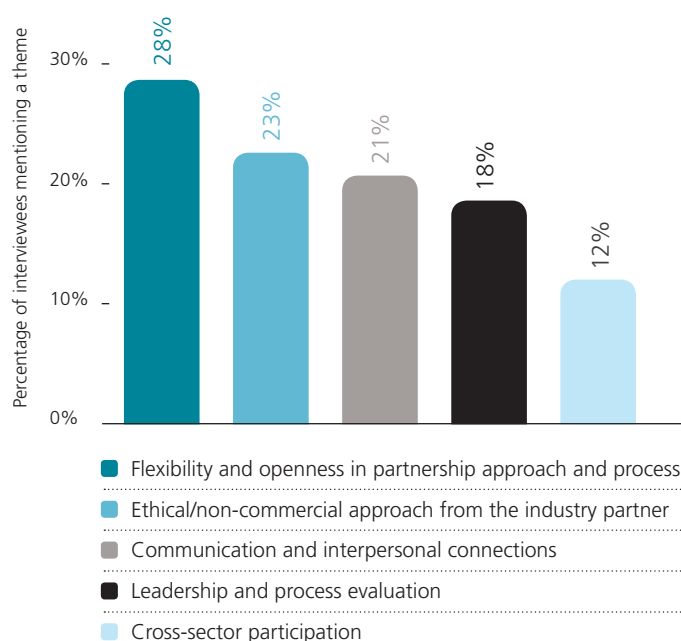
*"We used not to have diabetes clinics, and we had no survey to find out what was happening. We hadn't developed public health strategies. But we found prediabetic patients who didn't even know themselves, and nor was the health system aware that this issue existed. And now they have it. All this will undoubtedly be reflected in a better quality of life for people, and certainly reduce expenditure and costs to the health system."*

**DR ARMANDO AHUED ORTEGA**, SECRETARY OF HEALTH, MEXICO CITY

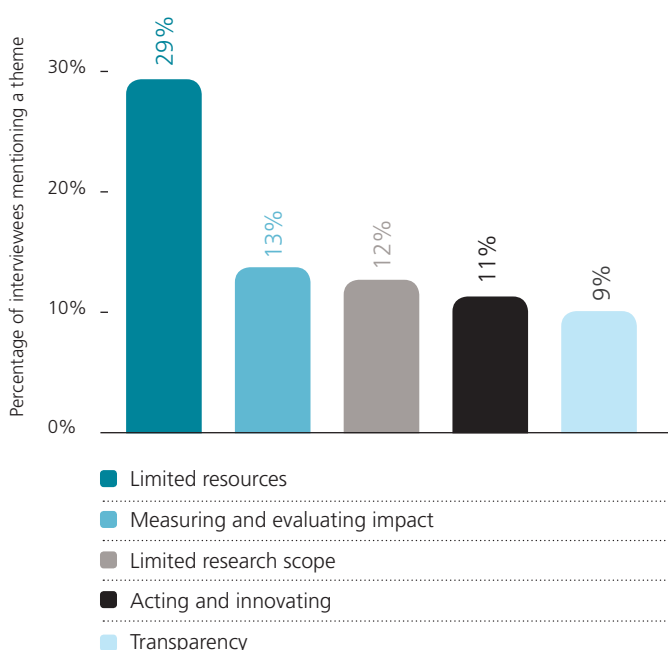
■ READ MORE ABOUT CONTRIBUTIONS TO ACTIONS ON THE GROUND ON **PAGE 15**

**FIGURE 2** TOP FIVE VALUE DRIVERS AS PERCEIVED BY PARTNERS

*Flexibility in approach and process is a key value driver*

**FIGURE 3** TOP FIVE CHALLENGES AS PERCEIVED BY PARTNERS

*The main challenge is limited resources*





## URBAN DIABETES IS A DEVELOPMENTAL IMPERATIVE

Tackling urban diabetes is integral to the success of the overall response to non-communicable diseases (NCDs) and the achievement of international development goals. Cities Changing Diabetes has, since its inception, focused on engaging stakeholders at all levels of society to elevate diabetes on the urban agenda.

Since 2011, there have been several global policy documents, high-level meetings and development agendas rallying all of society to take action on health and include health in all policies.

Major NCDs, such as diabetes, have been elevated to the top of the agenda because they constitute one of the most significant challenges for development in the 21st century and threaten to undermine social and economic development throughout the world.<sup>2,3</sup>

However, most countries will need to scale up efforts to meet the commitments they have made through the Sustainable Development Goals (SDGs)<sup>3</sup> – specifically the targets to reduce premature NCD mortality by a third by 2030 and to achieve universal health coverage. With two-thirds of the world's population living in cities by 2050, cities must be centre stage in global health and development issues.

### INFOBOX 1 CITIES CHANGING DIABETES AND THE GLOBAL HEALTH AGENDA

#### GLOBAL NCD AND URBAN AGENDA

**UN Political Declaration on the control and prevention of NCDs** places diabetes and other NCDs on the global political agenda.<sup>2</sup>

**Rio+20 Summit on Sustainable Development**, with its focus on sustainable cities, acknowledges NCDs and diabetes as a major challenges of the 21st century.<sup>4</sup>

**UN review of progress in implementing the 2011 Political Declaration on the control and prevention of NCDs.**<sup>5</sup>

**17 SDGs** and 169 targets announced with the aim of stimulating action towards 2030. Health and the importance of sustainable cities and partnerships are strongly represented in the goals and targets.<sup>3</sup>

**WHO's Global report on urban health** presents evidence that, in cities, progress in health depends on shaping healthier urban environments.<sup>6</sup>

**The New Urban Agenda: An Opportunity for Urban Health** side event to the 69th World Health Assembly highlights the urgency of incorporating the broad determinants of health in SDG implementation and the HABITAT III New Urban Agenda.<sup>7</sup>

**The UN Global Compact Leaders Summit** provides a dynamic stage to jump-start action on the SDGs.<sup>8</sup>

**The World Economic Forum Annual Meeting of the New Champions** convenes enterprises for public-private cooperation.<sup>9</sup>

**Habitat III: The New Urban Agenda**, a United Nations conference on housing and sustainable urban development, recognises health as an integral component of sustainable urban development.<sup>10</sup>

**The C40 Climate Leadership Forum**, a network of the world's megacities committed to addressing climate change, takes place.<sup>11</sup>

#### CITIES CHANGING DIABETES GLOBAL ADVOCACY

2011

2012

2014

Cities Changing Diabetes programme launches in five major cities: **Mexico City, Copenhagen, Houston, Tianjin and Shanghai.**

2015

**Novo Nordisk and C40** announce a research-based partnership aimed at establishing that green policies in cities are beneficial to both the state of the environment and the health of citizens.

2016

Cities Changing Diabetes **presents an example of how public-private partnerships** bring value by focusing on dealing with the root causes of diabetes.

Presentation of the Tianjin Cities Changing Diabetes programme at a **stakeholder dialogue** hosted by the WEF at the request of the WHO's Global Coordination Mechanism on NCDs.

Cities Changing Diabetes partners write an **open letter as a wake-up call for urban health**, which was posted in *The New York Times* ahead of the Habitat III conference.

At Habitat III, Cities Changing Diabetes hosts **workshops with the International Federation for Housing and Planning** on cross-sector partnerships to realise the 'new urban agenda'.

Cities Changing Diabetes and C40 host a **side event about the health benefits of climate actions**. The session sees the launch of joint research on health and climate benefits from climate actions.

Cities Changing Diabetes programme launches in **Johannesburg and Vancouver.**

## PUTTING URBAN DIABETES ON THE URBAN AGENDA

In a world of competing priorities, raising diabetes on the urban agenda is no small task. Cities Changing Diabetes has joined leading stakeholders in calling for greater integration of city management and health, by taking new insights to high-level health, urbanisation and sustainable development events. Between 2014 and 2016, programme representatives spread the urban diabetes message and shared insights from the programme at numerous events, including high-level events and agendas such as Habitat III and the World Economic Forum (Infobox 1).

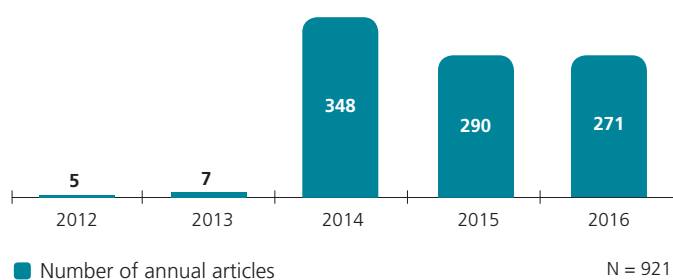
Media play a large role in shaping public debate and forming policy agendas. Cities Changing Diabetes has initiated a range of global and local communication activities in support of the overall purpose of generating awareness and moving diabetes up the agenda of those that manage and shape cities. Comparing media coverage between 2012 and 2016, two years before and after the programme launch, it is clear that these efforts have contributed positively to an increase in media coverage of diabetes in urban settings. The impact is most significant in the media in programme cities and on Twitter.

### LOCAL MEDIA COVERAGE TRENDS IN CITIES

The analysis of long-term trends in media coverage in programme cities shows a significant increase in articles on urban diabetes since 2014 (Figure 4). This is also reflected in the potential audience reach or total number of different people or households exposed to a medium. The potential reach increased by 58% between 2013 and 2016. Notably, this is an increase that is not seen in comparator cities<sup>†</sup> without Cities Changing Diabetes activities.

**FIGURE 4** URBAN DIABETES HEADLINES IN LOCAL MEDIA

*Significant increase in the number of articles on urban diabetes in partner cities (2014–2016)*



### GLOBAL MEDIA COVERAGE TRENDS

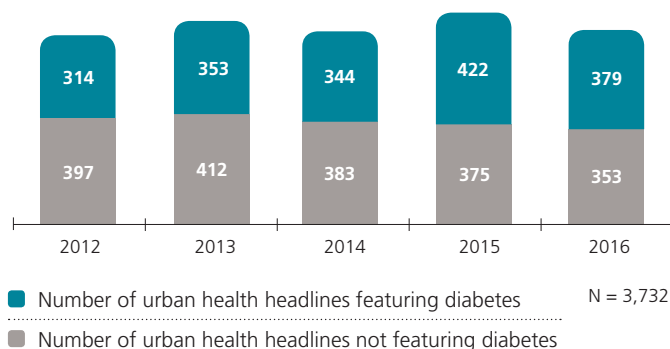
Looking at media impact on a global scale, a Factiva<sup>‡</sup> search of headlines shows no significant change in the coverage of urban health from 2012 to 2016. Nevertheless, there is a modest positive trend in the number of urban health headlines including diabetes (Figure 5). The annual growth in headlines mentioning diabetes is

5%, whereas the number of headlines on urban health grows by 0.7% annually. Several headlines appeared in prominent global media, including *The Financial Times* and *The Guardian*.

A closer look at full articles on diabetes in urban settings shows that Cities Changing Diabetes is contributing to an increase in media coverage, most significantly in 2014 and 2015. In 2014, when Cities Changing Diabetes was launched, 47% of the articles mentioned "Cities Changing Diabetes", "Novo Nordisk", "University College London" or "Steno Diabetes Center".

**FIGURE 5** GLOBAL URBAN HEALTH AND DIABETES HEADLINES

*No significant change in urban health headlines (2012–2016)*

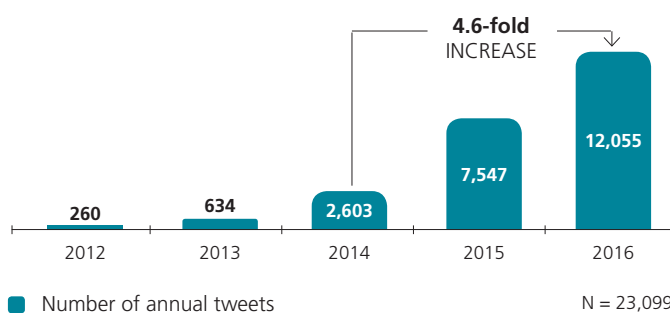


### SOCIAL MEDIA COVERAGE TRENDS

Social media have become an increasingly important advocacy tool in any effort to connect stakeholders around a common cause. Cities Changing Diabetes has leveraged social media to both raise awareness about urban diabetes at global and city level and engage diverse stakeholders in the conversation. The number of tweets on diabetes in urban settings has more than quadrupled since 2014 (Figure 6). In 2016, 42% (5,138) of tweets on diabetes in cities used the Cities Changing Diabetes hashtag #urbandiabetes. The potential reach and engagement of the #urbandiabetes conversation has also grown, increasing from a reach of 1 million people in 2014 to 5 million in 2016.

**FIGURE 6** NUMBER OF TWEETS ON URBAN DIABETES

*More than fourfold increase in tweets on diabetes in cities (2014–2016)*



<sup>†</sup> Monterrey, Oslo, Hangzhou, Beijing, Dallas and Milan.

<sup>‡</sup> Factiva is a business information and research tool.



SHARE



Global Cities Changing Diabetes Summit 2015  
Copenhagen, Denmark

# BUILDING RELATIONSHIPS

## A FOUNDATION FOR ACTION

*Cities Changing Diabetes convenes stakeholders who do not normally collaborate around a shared goal. In the process of working together, strong relationships are built that inspire action.*

Sharing and collaborating across sectors is the cornerstone of the Cities Changing Diabetes approach. At global level, the programme is informed and developed through global partnerships between Novo Nordisk, University College London and Steno Diabetes Center Copenhagen.

The programme has also created impetus for wider collaboration between stakeholders and key actors in other sectors. The research-based partnership between Novo Nordisk and the C40 Cities Climate Leadership Group is an example of this. The partnership aims to generate new insights into a range of co-benefits of climate action, in particular improvements in the health of city populations. Read more about the partnership between Novo Nordisk and C40 on page 12.

Cities Changing Diabetes is also a member of the International Federation of Housing and Planning (IFHP) and is collaborating with IFHP to link the urban diabetes agenda with the organisation's work on good urban governance.

Interaction and exchange between cities is facilitated through a biannual Global Cities Changing Diabetes Summit, knowledge networks and global programme communication channels. The first summit was held in Copenhagen in 2015 and attracted more than 300 stakeholders, including local city partners, community leaders and global experts, for a discussion about the urban diabetes challenge.

At city level, activities have been guided by the map–share–act framework. The framework uses an analytical approach, involving both quantitative and qualitative research, to gather evidence on the challenge of diabetes in urban areas. Then, through a process of dialogue, conclusions are drawn from the findings, and the implications of the research findings for actions are discussed. Thus, while the way that this framework has been implemented locally differs, the programme is structured around this standard approach. In developing the programme, it has been a conscious decision not to approach each city with a predetermined hypothesis about what works or what should be done.

In terms of partnership management, the city partnerships are organised in different ways adapted to local circumstances (culture, local practice, health system organisation) and partner preferences for engagement. For example, in Copenhagen and Houston, a steering group or core team sets the direction of the partnership, and one or more working groups drive initiatives. In Rome and Mexico City, Cities Changing Diabetes involves a broad range of stakeholders convening around specific events and joint projects.

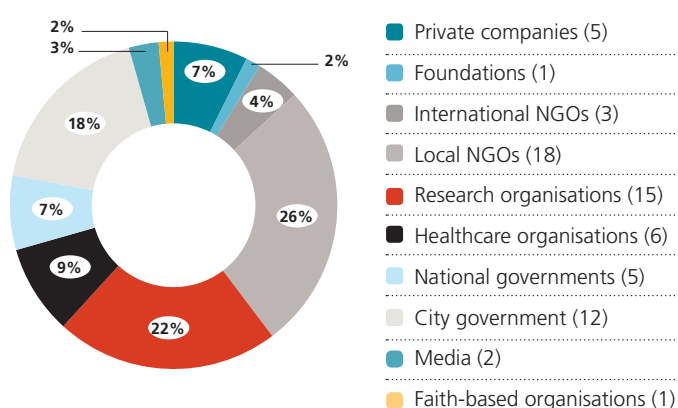
Inspired by ideas of generating shared value<sup>12</sup> and collective impact,<sup>13</sup> Novo Nordisk supports the city processes with dedicated local and global project managers. This organisation was established to coordinate the various dimensions and stakeholders involved in the programme and drive progress by ensuring a common agenda and continuous communication, and providing backbone support for the entire initiative.

## A GROWING CROSS-SECTOR COMMUNITY FOCUSED ON HEALTH

Globally, more than 100 organisations are engaged in Cities Changing Diabetes. A review of the sectoral and focus composition of the global and local partners included in this review reveals that the primary sectors represented are city governments, academia and local NGOs (Figure 7).<sup>5</sup> With the notable exception of Houston, there is limited involvement from private sector companies in Cities Changing Diabetes. The partnership in Houston represents the most diverse cross-sector engagement, including local churches and local businesses.

**FIGURE 7** PARTNERSHIP COMPOSITION BY SECTOR<sup>†</sup>

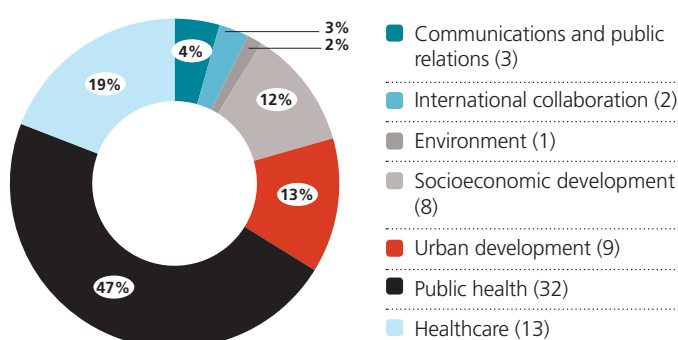
*Local NGOs are the most heavily represented sector*



In general, health (public health or healthcare) is the central focus of the partners involved in the programme, with C40 and IFHP being the most significant exceptions (Figure 8).<sup>5</sup>

**FIGURE 8** PARTNERSHIP COMPOSITION BY TOPICAL FOCUS<sup>5</sup>

*The majority of partnerships have a public health focus*



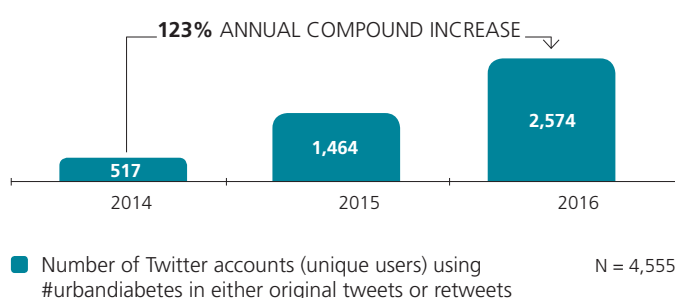
<sup>5</sup> Includes global partnerships and formal partners in the six cities covered by this review and excludes the wider Cities Changing Diabetes networks in those cities.

## AN EMERGENT ONLINE COMMUNITY

As is evident from the #urbandiabetes community on Twitter, the social media conversation (including original tweets and retweets) around urban diabetes is growing (Figure 9). Compared with 2014, the number of unique users of #urbandiabetes was five times higher in 2016. Of the total 4,278 unique users of #urbandiabetes at the end of 2016, 115 used the hashtag more than 10 times. More than 50% of the most active users are Cities Changing Diabetes staff at Novo Nordisk or partners, who contribute the majority of the tweets. A handful of Cities Changing Diabetes partners and key online influencers drive reach and engagement via social media.

**FIGURE 9** THE GROWING #URBANDIABETES COMMUNITY

*Significant annual compound increase in the number of users of #urbandiabetes (2014–2016)*



## RELATIONSHIPS AND COLLABORATION ARE HIGHLY VALUED

The leading theme identified, when discussing the perceived benefit and impact of the Cities Changing Diabetes programme with stakeholders, was new and stronger relationships – irrespective of the partnership approach in individual cities. Four out of five interviewees state that programme meetings, events and working groups bring stakeholders together who may not otherwise have met due to lack of tradition of cross-sector collaboration or limited resources.

*"I'm working with people who I wouldn't have traditionally worked with. For example working with hospital systems, insurance carriers at this level. Of course, I may have an opportunity to run across some of these folks in passing, or we may be at a meeting together, but to work as closely with them as we are on Cities [Cities Changing Diabetes] is really, I think, unprecedented in any type of thing that we've done here in Houston at this level."*

**DR FAITH E FOREMAN**, ASSISTANT DIRECTOR, HOUSTON HEALTH DEPARTMENT

In stakeholders' experience, the process of working together facilitates a deeper understanding among partners and builds trust and strong relationships that accelerate and facilitate joint action.

*"The long process we've been through in Copenhagen has been a precondition for the fact that we today, without shaking, can enter into bilateral as well as multilateral collaborations within the framework of Cities Changing Diabetes."*

**PAUL BLOCH**, SENIOR RESEARCHER, STENO DIABETES CENTER COPENHAGEN



## COORDINATION AND COLLABORATION ARE EFFICIENT AND EFFECTIVE

Improved coordination and collaboration feature as another top theme when it comes to benefit and impact, which are closely related to the value of relationships. Avoiding having to 're-invent the wheel', getting a better overview of local actors and resources and, not least, coming together as a joint team to make a greater impact are all examples of how many stakeholders value the efficiency and effectiveness gains of the Cities Changing Diabetes collaboration.

*"Cities Changing Diabetes has definitely helped to improve collaboration among key stakeholders. Medical institutions came to us first, then disease prevention and control division got involved and, later, we have communities and community agencies joining us. We all put our heads together to control diabetes and there's definitely more collaboration."*

**CAI CHUN**, DEPUTY DIVISION CHIEF, DIVISION OF DISEASE PREVENTION AND CONTROL, SHANGHAI MUNICIPAL COMMISSION OF HEALTH AND FAMILY PLANNING

## Improved collaboration benefits people with diabetes

In Tianjin and Houston, some partners who are healthcare professionals assert that improved coordination and collaboration have translated directly into improved diabetes management and patient care.

*"I've been able to meet many individuals and teams who're able to provide, often concurrently, additional services for my patients. When my patients no longer need my services, I can, with confidence and ease, transition them to the sure care of these care partners. I know these patients will be able to self-manage their health with the utmost care and support. I truly couldn't be more pleased or feel more fortunate to be a part of Cities Changing Diabetes."*

**JOY ASHBY CORNTHWAITE**, CERTIFIED DIABETES EDUCATOR, MCGOVERN MEDICAL SCHOOL AT THE UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT HOUSTON-UTHEALTH

## CASE STUDY 1 CONNECTING AGENDAS AND NETWORKS

The global partnership between Novo Nordisk and C40 is an example of the value that can be derived from connecting agendas and networks. Climate and health – including diabetes – share many of the same root causes, such as motorised transportation, processed food, lack of green areas and pollution. Interestingly, they also share some of the same benefits. That is why C40 and Novo Nordisk partnered up in 2015 to advance research on the role of cities in the fight against climate change and poor health. The aim of the research on co-benefits is to help city leaders build a case for specific policies that will have the greatest impact on both emission reductions and improved health.

*"The urgency of the climate crisis requires bold and radical action to transform our cities. The same policies and projects that will create sustainable and low-carbon cities, also have the potential to tackle inequality, boost economic growth and crucially improve public health. So any conversation about climate action also needs to be about jobs, quality of life and health."*

**RACHEL HUXLEY**, RESEARCH MANAGER, C40

The partnership with C40 has expanded over time in terms of scope, outreach and parties involved. The first collaboration project was centred around piloting a new co-benefit research framework in five cities, while the next phase is focused on measuring the health and climate benefits of walking and cycling initiatives, in particular, in 12 cities. The technical expertise is being provided by Gehl, a world-leading urban design company. In 2017, C40, Gehl and Novo Nordisk hosted a joint 'Healthy and liveable cities masterclass' in Copenhagen, with the participation of six city teams from the C40 city network.

Furthermore, the partnership between C40 and Novo Nordisk has led to an increased outreach to a much wider range of important stakeholders through sharing of platforms (C40 Mayors Summit, the Cities Changing Diabetes Global Summit, shared presentations at various conferences) and distribution through more communication channels (Twitter, websites, articles etc).

*"For the Cities Changing Diabetes programme, the partnership with C40 doesn't only serve a common cause of promoting cleaner and healthier cities, but also gives access to a well-established network of the world's most powerful city leaders."*

**DORTE BLUME**, ASSOCIATE PROJECT DIRECTOR, NOVO NORDISK





Houston, USA

# CHANGING THE APPROACH TO DIABETES THROUGH EVIDENCE AND NEW RESEARCH TOOLS

*The research being conducted within Cities Changing Diabetes changes perspectives and practice, contributing to a more holistic and multi-disciplinary approach to tackling diabetes in cities.*

It is broadly acknowledged that health is determined by several factors, including genetic inheritance, personal behaviours, access to quality healthcare and the general external environment.<sup>14</sup> However, in recent years, research has documented associations between sociocultural factors and health. Despite this, diabetes research continues to remain focused on diabetes as a biomedical condition.<sup>14</sup>

## MIX OF RESEARCH TOOLS EMPLOYED TO UNDERSTAND THE DIABETES BURDEN

With a long-term view to addressing this knowledge gap, Cities Changing Diabetes has developed a set of research tools (Infobox 2). The tools employ both quantitative and qualitative methods to explore and better understand the social and cultural factors that increase vulnerability to risk factors for type 2 diabetes and perpetuate poor management of the condition.

### INFOBOX 2 CITIES CHANGING DIABETES RESEARCH TOOLS

#### QUANTITATIVE RESEARCH TOOL

The **Rule of Halves** is a framework that shows where gaps need to be closed to ensure that everyone with diabetes is diagnosed, everyone diagnosed gets treated and everyone treated has a better outcome. In the treatment of diabetes, this is critical to avoiding complications and risks for those living with the disease, and reducing treatment costs for the health system.

#### QUALITATIVE RESEARCH TOOLS

The **Diabetes Vulnerability Assessment** is a research tool for identifying city-level factors that make certain groups of people vulnerable, or conversely, resilient to diabetes and its complications. The Vulnerability Assessment is an innovative approach for establishing a local evidence base with a special focus on the social and cultural factors that impact the health and well-being of residents.

The **Urban Diabetes Risk Assessment** tool identifies the shared priorities and attitudes towards health and diabetes in a group of participants. As such, it allows for the design of tailored city-level interventions and policies that are more effective in preventing and managing diabetes than those targeted at general populations.

The research tools and manuals are available at [citieschangingdiabetes.com](http://citieschangingdiabetes.com)



## PEER-REVIEWED SCIENTIFIC ARTICLES

Over a period of less than two years, the global research collaboration including University College London (global lead), Steno Diabetes Center Copenhagen, National Institute of Public Health Mexico, University of Copenhagen, Tianjin Medical University, Shanghai Diabetes Institute and University of Texas has led research in all programme partner cities. The research has already resulted in a promising publication pipeline, with 17 articles submitted to scientific publications for peer review. To date, 19 abstracts and posters have been presented at scientific congresses. Analysis of the data from the research is ongoing and this will continue to contribute to the building of a new evidence base and the publication of such evidence.

## CHANGING PERCEPTION AND PRACTICE IN DIABETES

When asked about what they perceive to be the main benefits and impact of the programme, the second most dominant theme emerging from the interviews is "new ways of thinking and working" invoked by Cities Changing Diabetes research. Several of the partners interviewed refer to the programme research as an "eye-opener" that has contributed to changes in how diabetes is perceived and approached.

The qualitative research on diabetes vulnerabilities is changing views about people at risk and diabetes risks in general, from focusing on individual risk and responsibility to seeing diabetes as a collective risk and responsibility, whereas the quantitative analyses have contributed to changes in the understanding of diabetes as a public health challenge – and the urgency of preventing and controlling it.

*"Cities Changing Diabetes opened up a whole new world – that we needed to look at people from vulnerable populations versus poor populations. When we looked at vulnerable populations, that gave us the opportunity to serve more of our congregation than just a very small segment of the congregation. Cities Changing Diabetes was really critical in helping us make that paradigm shift."*

**GEORGE ANDERSON**, CHIEF OPERATING OFFICER, THE FOUNTAIN OF PRAISE, HOUSTON

Furthermore, the need for a multi-disciplinary approach to diabetes treatment is another insight generated from Cities Changing Diabetes research.

*"In the past, we'd leave the management of diabetes to medical personnel alone. But we now know that the attention given must be multidisciplinary in nature... and we've implemented several measures, guidance, in order to give it [diabetes] comprehensive treatment."*

**DR PLÁCIDO ENRIQUE LEÓN GARCÍA**, DIRECTOR OF MEDICAL CARE, SECRETARIAT FOR HEALTH, MEXICO CITY

## CASE STUDY 2 BUILDING NEW COMPETENCES AND GENERATING NEW DATA

Performing both quantitative and qualitative research in some cities has required the development of new competences and skills, along with the establishment of baseline data.

In Mexico City, the absence of representative epidemiological data on the burden of diabetes meant that blood samples, along with other data, needed to be collected.

In Tianjin, the qualitative research involved detailed training of field workers from 16 key hospitals in Tianjin. The training was conducted by University College London. Globally, performing the qualitative research resulted in the training of 75 field workers, who collectively conducted 746 interviews.

*"From the research, I began to master more research methods and tools, which broadened my thinking for other projects... This project deepened my understanding of the source of diabetes and provided new networking related to my work."*

**PROF MA JUN**, DEPUTY DEAN, SCHOOL OF PUBLIC HEALTH, TIANJIN MEDICAL UNIVERSITY

## CASE STUDY 3 ELEVATING URBAN DIABETES ON THE GLOBAL RESEARCH AGENDA

The impact of Cities Changing Diabetes research extends beyond the partner cities and the programme. The ongoing research being conducted in partner cities is laying the foundation for informing future policy for tackling diabetes and health in cities. In 2017, WHO Europe issued a policy brief on the cultural contexts of health and well-being, with Cities Changing Diabetes Global Research Lead Professor David Napier from University College London as the lead author.<sup>15</sup> The policy brief explores the relationship between culture and health, and includes a case on the sociocultural aspects of the diabetes pandemic and the social, biosocial and medical domains of the Rule of Halves. In addition, an article about the mixed-methods research protocol to create a broader understanding of type 2 diabetes and its drivers in urban areas was accepted for publication in the leading international journal *BMJ OPEN* (British Medical Journal).

Also in 2017, the Robert Wood Johnson Foundation (RWJF) awarded a three-year, 2.4 million US dollar grant to University of Texas Health Science Center at Houston (UTHealth) to create the Healthy Cities Research Hub: Exploring Drivers of Diabetes and Other Chronic Diseases.<sup>16</sup> The research hub focuses on extracting and translating the findings from Cities Changing Diabetes in Houston, Mexico City and Vancouver and sharing the results to help other cities put them into action.

*"This is an opportunity to extend the community-based work of Cities Changing Diabetes through new tools for evaluation and dissemination, so that the results proven here can help other cities."*

**DR STEPHEN LINDER**, LEAD RESEARCHER ON THE PROJECT AND DIRECTOR OF THE INSTITUTE FOR HEALTH POLICY AT UTHealth SCHOOL OF PUBLIC HEALTH



Cyclist, Houston, USA

# TAKING ACTION

Since the launch of Cities Changing Diabetes, major initiatives have been implemented to improve diabetes management in programme cities. Although not all activities can be attributed to the programme, programme partners generally agree that Cities Changing Diabetes has played an important role in supporting or facilitating change.

Halting the rise of urban diabetes takes more than understanding the challenge and mobilising stakeholders. The programme takes an action-oriented research approach aimed at changing the course of diabetes by piloting new solutions and interventions on the ground. Based on research findings, actions are stimulated across four action arenas: health-promoting policy, urban planning, community involvement in health and health system strengthening (Infobox 3).

## INFOBOX 3 ACTION ARENAS



### HEALTH-PROMOTING POLICY

Increase the awareness and understanding of urban diabetes and get evidence-based insights incorporated into local policy.



### URBAN PLANNING

Focus on diabetes prevention by showing the importance of health-promoting aspects such as walkability and bikeability in urban planning.



### COMMUNITY INVOLVEMENT IN HEALTH

Strengthen communities around vulnerable citizens with diabetes, or at increased risk of developing diabetes, to improve their quality of life, diabetes care and treatment outcomes.



### HEALTH SYSTEM STRENGTHENING

Engage stakeholders at all levels to build capacity in the local healthcare system.

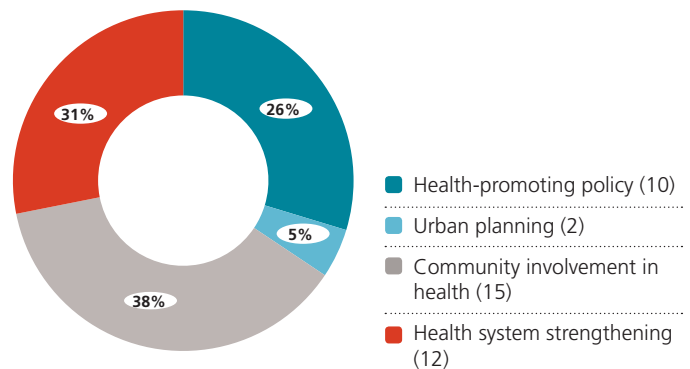
## CITIES CHANGING DIABETES ACTION ON THE GROUND

During the first two years of the Cities Changing Diabetes programme, activities focused on mapping the diabetes challenge and establishing partnerships at city level as a foundation for driving change. By the end of 2016, a total of 18 projects or activities had been initiated collectively across Mexico City, Copenhagen, Houston, Tianjin, Shanghai and Rome.

Although several initiatives apply to more than one action arena, the majority of the actions initiated concern community involvement in health (38%), health-promoting policy (26%) and health system strengthening (31%). Urban planning is the action arena with the fewest activities by end of 2016 (5%) (Figure 10).

FIGURE 10 CITIES CHANGING DIABETES ACTION ARENAS<sup>§</sup>

Many actions include an element of community involvement



<sup>§</sup> The total number of action arenas exceeds 18, as some actions address more than one action arena.



## ACTION IS THE KEY TO CHANGE

Throughout the interviews, it was evident that the focus on action of Cities Changing Diabetes is highly appreciated by partners. In fact, an even sharper focus on action and implementation, guided by research, is a key aspiration for the future. In addition to the actions initiated within the programme partnerships, all stakeholders interviewed in the six cities report that, in their view, diabetes management has improved since the programme was launched in their city. Improved diabetes and public health management is among the top three most mentioned themes concerning benefit and impact. The improvements mentioned fall into several sub-themes, including improved patient care, improved diabetes prevention and control (policy and regulation), the establishment of new health infrastructure (eg clinics) and improved education of healthcare professionals, patients and the general public.

In Mexico City, key stakeholders have joined forces and launched a comprehensive set of new policies, regulations and initiatives to halt the rise of diabetes, which, in 2016, was declared a national public health emergency by the minister of health.<sup>17</sup> In Shanghai, at the end of 2015, the Shanghai Municipal government included the prevention and control of diabetes in the third stage of its public health project.

The programme's perceived degree of contribution to improvements in diabetes management varies from one stakeholder saying that "none of this would have happened without Cities Changing Diabetes" to another stakeholder saying that "Cities Changing Diabetes only played a coordinating role".

Between these positions, there seems to be a consensus across the interviews that the local Cities Changing Diabetes partnerships, as a minimum, have "further promoted existing agendas and goals" or, indicating a more significant contribution, "facilitated" or "accelerated" changes in diabetes management that were not already planned.

In Houston, the partners interviewed provide examples of both types of impact, whereas stakeholders in Shanghai and Tianjin only speak about the programme helping to promote existing agendas and goals. The interviewees from Copenhagen and Mexico City generally attribute an important role to the programme in terms of facilitating and accelerating important changes in diabetes management at city level. In Copenhagen, for example, the stakeholders interviewed argue that the Cities Changing Diabetes partnership commitment and the relationships established in the working group informed the development of an action plan for type 2 diabetes in the city<sup>18</sup> and accelerated the establishment of a specialised centre for diabetes care. The Copenhagen Centre for Diabetes offers multiple professional skills, such as podiatrists, eye screening facilities as well as social and psychological counselling under one roof.<sup>18</sup>

*"I wouldn't say that we wouldn't have established the Centre for Diabetes anyway, or that we wouldn't have made an action plan for diabetes, but Cities Changing Diabetes definitely speeded things up."*

**NINNA THOMSEN**, MAYOR OF HEALTH AND CARE,  
COPENHAGEN



## CITIES CHANGING DIABETES ACTIVITIES ACROSS SIX CITIES, 2014–2016



### MEXICO CITY, MEXICO

Cities Changing Diabetes research highlighted that socioeconomic vulnerabilities are exacerbated when people cannot engage with healthcare services and that there are numerous barriers, such as lack of resources and trust in institutions, that can prevent engagement. In Mexico City, the research has informed ways of overcoming some of these barriers and making care more accessible.

#### DIABETES CLINIC IN IZTAPALAPA

One of the ways that Cities Changing Diabetes is working to address barriers is through the establishment of a specialised diabetes centre with the capacity to treat 8,000 patients annually in Iztapalapa, one of the poorest suburbs of the city.

**ACTION ARENAS:** Community involvement in health • Health system strengthening

**PARTNERS:** World Diabetes Foundation • Mexico City Ministry of Health

#### EL MÉDICO EN TU CASA (THE DOCTOR IN YOUR HOME)

The 'El Médico en Tu Casa' programme brings healthcare professional services directly to the homes of people who otherwise may not be able to access them. As a result of the research from Cities Changing Diabetes, diabetes care screening and care have been integrated into the services offered by the successful maternal health programme.

**ACTION ARENAS:** Community involvement in health

**PARTNERS:** Mexico City Ministry of Health



### COPENHAGEN, DENMARK

Cities Changing Diabetes research in Copenhagen highlighted the complexity of vulnerability and identified certain groups who are most vulnerable. This research has informed a city action plan for type 2 diabetes, and actions are being undertaken that are directly related to addressing these vulnerabilities.

#### HEALTH AND THE LOCAL COMMUNITY

A programme focused on social network-based activities, environmental design and promoting healthy living, by addressing the complex social and health-related challenges in vulnerable areas of Copenhagen.

**ACTION ARENAS:** Health-promoting policy • Urban planning • Community involvement in health

**PARTNERS:** Steno health promotion research • Local housing sector • Local community groups • Local public institutions • Local businesses • City of Copenhagen • Capital Region Health Research Centre

#### MENTORING AND PEER-TO-PEER SUPPORT

A programme involving mentoring and peer support for vulnerable citizens with type 2 diabetes by professionals and peers, to reduce social inequalities in diabetes management and care. There are plans for the programme to be integrated into the city's health promotion and prevention activities.

**ACTION ARENAS:** Health-promoting policy • Community involvement in health

**PARTNERS:** Danish Diabetes Association • Steno Diabetes Center Copenhagen • University of Copenhagen

#### GENERAL PRACTICE FOR ALL

The Cities Changing Diabetes research clearly highlighted certain vulnerable areas in the city, and the city has taken action with the establishment of a combined health and social services centre in a vulnerable part of the city.

**ACTION ARENAS:** Health-promoting policy • Health system strengthening

**PARTNERS:** University of Copenhagen • City of Copenhagen • Doctors' Union

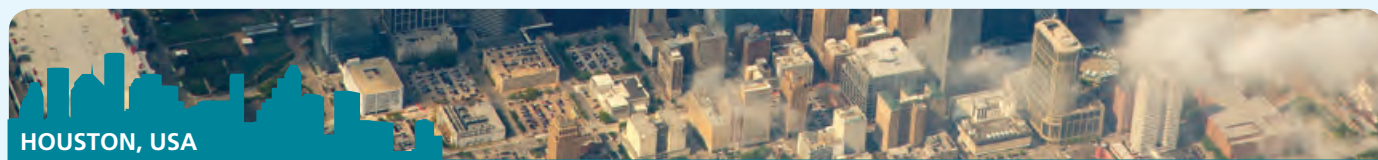
#### MEN IN COPENHAGEN

The Cities Changing Diabetes research also led to a peer-to-peer programme to help 'vulnerable' men manage their health, engage in the local community and potentially rejoin the labour market. There are plans for the programme to be included in the city's health promotion and prevention activities.

**ACTION ARENAS:** Health-promoting policy • Community involvement in health

**PARTNERS:** City of Copenhagen • National Institute of Public Health





Cities Changing Diabetes research from Houston revealed that vulnerability does not equal disadvantage. In addition, the research uncovered knowledge about which communities are particularly vulnerable to diabetes. These insights, along with quantitative data and stakeholder engagement activities, have resulted in local initiatives aimed at reaching vulnerable groups by creating new multi-disciplinary and multi-sector networks.

#### HOUSTON DIABETES RESOURCE CENTER

Houston Diabetes Resource Center is an online community that connects patients, providers and employers with Cities Changing Diabetes programmes, educational resources and programmes in the community via navigation provided by certified and trained community health workers.

**ACTION ARENAS:** Health-promoting policy • Community involvement in health • Health system strengthening

**PARTNERS:** Gateway to Care\*\* • American Diabetes Association • Chevron • CHI St Luke's Health • Cigna • City of Houston HR Department • Harris County Public Health • HOPE Clinic/Asian American Health Coalition • Houston Health Department • Memorial Hermann Health System • South Texas Association of Diabetes Educators • UTHealth McGovern Medical School

#### FAITH AND DIABETES INITIATIVE

Faith and Diabetes is a systems change effort to assist houses of faith with developing congregational health ministries and provide diabetes prevention and awareness efforts for their members.

**ACTION ARENAS:** Health-promoting policy • Community involvement in health • Health system strengthening

**PARTNERS:** The Institute for Spirituality and Health at the Texas Medical Center\*\* • TMF Health Quality Institute\*\* • Harris County Public Health\*\* • Houston Health Department\*\* • Abel-Arnold and Associates • American Diabetes Association • American Heart Association • Catholic charities • Houston Graduate School of Theology • Houston League of Business & Professional Women • Houston Methodist • Memorial Hermann Health System • Northwest Assistance Ministries • Pazzaz Group • Sam Houston State University • Texas A&M AgriLife • Texas AHEC East Greater Houston Region • The Fountain of Praise • The Texas Conference of the United Methodist Church • UTHealth McGovern Medical School

#### EMPLOYER DIABETES PREVENTION PROGRAM

The Employer Diabetes Prevention Program (DPP) project is an effort to improve the availability of the DPP among community providers and engage employers in adopting the programme.

**ACTION ARENAS:** Health-promoting policy • Community involvement in health • Health system strengthening

**PARTNERS:** Houston Business Coalition on Health\*\* • Texas AHEC East Greater Houston Region\*\* • American Diabetes Association • Chevron • City of Houston HR Department • HarrisHealth • Houston Methodist • Humana • Kelsey-Seybold Clinic • King Ranch • Memorial Hermann • Omada Health • Powell Industries • Rice University • Texas Department of State Health Services • Willis Towers Watson • YMCA Greater Houston

#### BUILDING PEER SUPPORT CAPACITY

Building Peer Support Capacity is an initiative involving employers, providers and community partners, to create and enhance peer support networks for people with diabetes.

**ACTION ARENAS:** Health-promoting policy • Community involvement in health • Health system strengthening

**PARTNERS:** Chevron • City of Houston HR Department • Community Health Choice • Harris County Public Health • HarrisHealth • Hispanic Health Coalition • HOPE Clinic/Asian American Health Coalition • Houston Health Department • Houston Independent School District • Houston Methodist • Kelsey-Seybold Clinic • Memorial Hermann Health System • Northwest Assistance Ministries • Rice University • The Texas Conference of the United Methodist Church

#### PROVIDER-DRIVEN PREVENTION

Provider-Driven Prevention promotes Cities Changing Diabetes-developed diabetes prevention initiatives to the provider community and uses providers as a resource for increasing appropriate referral to the programme.

**ACTION ARENAS:** Community involvement in health • Health system strengthening

**PARTNERS:** Harris County Medical Society • City of Houston HR Department

\*\* Lead.

\*\* Co-lead.



## TIANJIN, CHINA

In Tianjin, Cities Changing Diabetes research revealed that vulnerability is embedded in cultural beliefs, impacting perceptions of risk and management of diabetes. Low health literacy levels, diabetes education levels and socioeconomic challenges also significantly impact people's access to information about diabetes and their ability to manage the disease. Tianjin is currently focusing actions on addressing some of these vulnerabilities, by improving access to qualified care and correct information.

### HEALTHY STAR COMPETITION

A story-sharing competition for people with diabetes, where stories are selected to be included in peer education. The winners of the competition become trainers for future patient education.

**ACTION ARENAS:** Community involvement in health • Health system strengthening

**PARTNERS:** Tianjin Diabetes Prevention and Treatment Association

### TRAINING OF 'CHIEF GPs OF DIABETES'

Cities Changing Diabetes in Tianjin has supported the training of more than 300 physicians to become 'Chief GPs of Diabetes' in Tianjin. The goal was to improve diagnosis and diabetes treatment.

**ACTION ARENA:** Community involvement in health • Health system strengthening

**PARTNERS:** Tianjin Health and Family Planning Commission • Tianjin Medical Association



## SHANGHAI, CHINA

Cities Changing Diabetes quantitative research in Shanghai revealed that approximately 32% of people with diabetes remain undiagnosed and that few of those who have a diagnosis and receive care achieve their treatment targets. Spurred on by these findings, the Shanghai Municipal Health and Family Planning Commission launched the 2015-2017 Diabetes Intervention Program. Cities Changing Diabetes is supporting the new three-year action plan across 241 community health centres in Shanghai.

### HEALTHCARE PROFESSIONAL TRAINING IN SCREENING FOR DIABETES

Training in the screening of populations at high risk of type 2 diabetes was provided for more than 200 healthcare professionals.

**ACTION ARENAS:** Community involvement in health • Health system strengthening

**PARTNERS:** Shanghai Health and Family Planning Commission • Shanghai Center for Disease Control and Prevention • Shanghai Preventative Medical Association

### HEALTH MANAGEMENT SPEECH CONTEST

The project was designed to improve the capability of healthcare professionals in community health centres. A series of training sessions and four speech contests were held in 241 community health centres in 2016.

**ACTION ARENAS:** Community involvement in health • Health system strengthening

**PARTNERS:** Shanghai Health and Family Planning Commission • Shanghai Center for Disease Control and Prevention • Shanghai Preventative Medical Association



## ROME, ITALY

Research in Rome is ongoing; however, several activities have already taken place and others are in the pipeline.

### TWO-YEAR MASTER'S DEGREE

A master's degree in urban planning and health for people aiming to gain skills in organisation and management relevant to the global health field.

**ACTION ARENAS:** Urban planning • Health-promoting policy

**PARTNERS:** Università Cattolica del Sacro Cuore

### ROME CITY WALKING ROUTES

The mapping out of 38 walking routes in Rome, covering about 261 km, for people with diabetes.

**ACTION ARENAS:** Health-promoting policy • Community involvement in health

**PARTNERS:** Rome Capital City • Walking School • Health City Institute • Italian Athletic Federation • Cittadinanzattiva • Italian Diabetes Society (SID) • Italian Diabetologists Association (AMD)

### HEALTH IN THE CITY: THE COMMON GOOD

A manifesto with key points that can guide cities to study and improve the determinants of health in their urban environments, and which can be leveraged to devise strategies to improve lifestyles and the health of citizens.

**ACTION ARENAS:** Health-promoting policy

**PARTNERS:** Health City Institute • i-com • ANCI • Federsanità ANCI • National Institute for Health (ISS)



# LOOKING TOWARDS THE FUTURE

*Based on experience and learning from the past few years of Cities Changing Diabetes, partners are calling for more of what they appreciate most about the programme – more collaboration and more evidence-based action.*

The Cities Changing Diabetes programme's focus on a combination of evidence, action and cross-sector participation is highly appreciated by the interviewed stakeholders and, as previously described, different benefits and impacts are ascribed to each programme element.

Looking specifically at the drivers of success (Figure 2), having a shared goal that each party will benefit from achieving and being mutually committed to contributing to partnership progress – what some partners refer to as "productive pressure" – are frequently mentioned as critical factors for advancing the programme's ambition. On the importance of having a shared goal, several interviewees note that Novo Nordisk's non-product-focused approach, described as "ethical" and "altruistic", and the respect shown for partners' integrity and their respective boundaries, have not only played an important role in decisions to join the programme but also throughout the partnering process. Although there is widespread recognition among the partners interviewed that private sector involvement catalyses action, some partners report that they sometimes still have to justify their participation in Cities Changing Diabetes due to the involvement of a pharmaceutical company.

*"I'm strongly in favour of collaboration between public and private entities, when transparent. I think that it's madness if industry doesn't collaborate with public science, and public science doesn't collaborate with industry."*

**PROF ANDREA LENZI**, PROFESSOR IN ENDOCRINOLOGY,  
UNIVERSITY OF ROME SAPIENZA AND PRESIDENT, HEALTH  
CITY INSTITUTE

## RELATIONSHIPS AND INTERPERSONAL CONNECTIONS ARE IMPORTANT

When speaking about how benefits and impacts have been achieved, the partners list a range of topics pertaining to how the partnership is managed. Firstly, getting back to the importance of relationships, flexibility and openness in the partnership approach and process stands out as a key driver of success.

A few of the interviewees advocate a more standardised and systematic approach to the Cities Changing Diabetes partner selection and partnership management. However, most stakeholders interviewed seem to agree that when it comes to how the local partnerships and projects are organised, there is no 'one size fits all' approach.

Secondly, the interpersonal connections are very important. The Cities Changing Diabetes staff, dedicated to supporting the local and global partnership processes, are often highlighted as playing a crucial role in driving things forward and resolving challenges that occur along the way. In general, a continued dialogue and information flow, even when there is nothing new to report, is considered essential for continuously nurturing and strengthening partner relationships and progressing partnership activities.

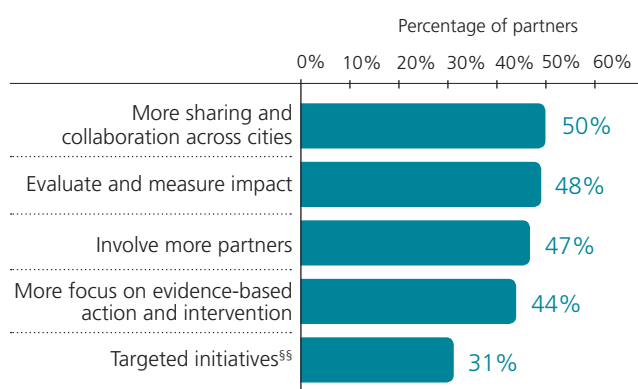
Finally, sufficient resources, financial and human, are critical to what has and still can be achieved. The most frequently mentioned challenge related to Cities Changing Diabetes is limited resources (Figure 3).

## MORE ACTION AND MORE COLLABORATION

Looking towards the future and the great challenge of halting the rise of diabetes in cities, interviewees call for more action on the ground based on existing and emerging research results (Figure 11). This includes evaluating ongoing interventions, and developing and measuring the impact of research-based interventions to identify the most efficient and effective ways of improving diabetes prevention and management. Several of the partners interviewed propose that a more targeted intervention approach may be a way to maximise the impact of Cities Changing Diabetes. Examples include targeting programme interventions towards specific target groups, such as young people, or around particular challenges, such as primary prevention, screening or improved control of people with diagnosed diabetes. Some interviewees also suggest that Cities Changing Diabetes could strengthen advocacy efforts and more actively engage in informing international debates about health in cities.

**FIGURE 11** OPTIMISING IMPACT – IDEAS FOR THE FUTURE

*Interviewees call for more sharing and collaboration*



<sup>55</sup> Initiatives mentioned include, pilots and activities targeting specific audiences or specific goals.

*“Real sharing, sharing beyond coming to the summit and saying, ‘Hey, this is what we’re doing’, but we’re really sharing in the sense of what we can implement. I’d love to be able to see that in 10 years or shorter, that we’re now able to say that maybe there’s a similar initiative or there’s a similar programme that Rome and Houston have because they had a similar issue or barrier and we were able to share... I’d like to see us really sharing these initiatives.”*

**DR FAITH E FOREMAN**, ASSISTANT DIRECTOR, HOUSTON HEALTH DEPARTMENT

*“I think it’s worth considering introducing focus areas across the collaboration. It might be a particular target group or a particular phase in the patient journey, committing the cities involved to generate new insights and take new initiatives within the focus area. This would also be a way to engage diabetes experts from each city.”*

**NINNA THOMSEN**, MAYOR OF HEALTH AND CARE, COPENHAGEN

## DIFFERENT VIEWS ON IMPACT MEASUREMENT

Impact measurement and evaluation are considered necessary by most stakeholders interviewed; however, there is no unified answer regarding how this should be done and at what level. Measuring the impact of targeted interventions at city level is widely considered fairly straightforward. However, understanding the impact of a portfolio of interventions and, not least, impact across cities and countries is considered to be a greater challenge. Some argue that measuring changes in health outcomes across cities is the only way that the programme can keep its focus on driving change in the long term, requiring the programme to take a uniform and systematic approach to impact measurement. Others, keen to maintain programme flexibility, advocate for a more pragmatic approach where the level of activity and progress made is what is measured.

*“If this isn’t focused and aggregated in the right way, if there’s not unity of effort and a clear focus on certain outcomes, we run the risk of the whole thing being weakened; the risk that, like so many initiatives, it remains something that makes a lot of noise and buzz and is very visible but that, in the end, perhaps, has little of the effect that we want to achieve.”*

**PROF SIMONA FRONTONI**, DIABETOLOGY, UNIVERSITY OF ROME TOR VERGATA

## PARTNERSHIP EXPANSION

Another key theme for the future is enhanced collaboration and partnership expansion. Although some partners are concerned that a focus on onboarding new cities will come at the expense of keeping the attention on continued research and implementing already initiated local actions, the majority support expansion to more cities at national and international levels. Central to this is a call for increased and enhanced collaboration, and sharing of best practices across cities. Such collaboration could be national, global or regional (for example, Cities Changing Diabetes ‘hubs’ in the European Union or Latin America), or it could be a collaboration between a smaller group of Cities Changing Diabetes cities. Increased professional networking across cities, and within the already established knowledge networks, is also proposed by several interviewees. At city level, several stakeholders interviewed see opportunities for involving more local partners, in particular schools and organisations focused on nutrition and physical exercise, are frequently mentioned as potential new partners at city level.

*“We have to reach out to society, to individuals, to families, to teachers, to food producers, to everyone, to build a common front to tackle a problem as severe as the one we’re facing. It’s an emergency in Mexico and in the world.”*

**DR ARMANDO AHUED ORTEGA**, SECRETARY OF HEALTH, MEXICO CITY

Broader involvement by other parts of the city administration, over and above those directly responsible for health and care, also seems to be a key objective in some cities. Furthermore, to strengthen the link between research and action, it is recommended that research partners, field staff and city coalitions work more closely together to facilitate the translation of research findings into actions and to maximise research impact.





## ABOUT

# CITIES CHANGING DIABETES

The Cities Changing Diabetes programme is a commitment to drive action against type 2 diabetes and obesity in cities on a global scale. Our ambition is to raise the issue on both the global health agenda and the agenda of those shaping cities for the future. We aim to improve understanding of the driving factors behind the rise of diabetes in urban settings, then share and apply that knowledge to real-world solutions for people to live healthier lives.



Cities Changing Diabetes was initiated in 2014 by three global partners: Steno Diabetes Center Copenhagen, University College London and Novo Nordisk. Given the nature and scale of the challenge, we have built a partnership relating to urban diabetes that extends beyond the three global partners.



Taking on a challenge as immense as urban diabetes requires a collaborative effort at all levels. The success of Cities Changing Diabetes will be determined by our ability to work together and contribute our knowledge and capabilities within our respective areas of expertise. The programme has the best local partners on board from each of the eight cities to build new knowledge about urban diabetes and identify appropriate strategies for acting on this global health challenge.

The programme is currently active in eight cities: Copenhagen, Houston, Johannesburg, Vancouver, Mexico City, Rome, Tianjin and Shanghai. In each city, partners with different expertise and knowledge are collaborating on the programme.

## NOVO NORDISK

Novo Nordisk is at the forefront of one of today's great health challenges: diabetes. As a specialist in diabetes treatment, the company is committed to finding the next generation of medicines through long-term investment in innovation. The company's key contribution is to discover and develop these medicines, manufacture them to scale and make them accessible wherever they are needed. But living with chronic disease is about more than getting the right medicine. That is why Novo Nordisk works on helping people to receive the right treatment and achieve the right outcomes. The company is committed to playing its part in the global fight against diabetes, and Cities Changing Diabetes is at the heart of this commitment. We call it Changing Diabetes®.

For more information, visit [novonordisk.com](http://novonordisk.com).



## STENO DIABETES CENTER COPENHAGEN

Steno Diabetes Center is a world-leading institution in diabetes care and prevention, with a focus on the early stages of the disease. Established by Novo Nordisk A/S in 1932, the centre is a not-for-profit organisation working in partnership with the Danish healthcare system. The centre was transferred to the Capital Region on 1 January 2017 to become Steno Diabetes Center Copenhagen. As a global partner in Cities Changing Diabetes, Steno Diabetes Center Copenhagen draws on its experience in creating innovative and sustainable approaches to tackling diabetes at community level, and its work on training healthcare professionals in cities across the world and its expertise in providing care in Copenhagen. The centre expects to make a significant contribution to the fight against urban diabetes.

For more information, visit [sdcc.dk](http://sdcc.dk).



## UNIVERSITY COLLEGE LONDON

Over the last few years, University College London 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 University College London 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](http://ucl.ac.uk).

# METHODOLOGY

This review is an internal partnership review issued by the global Cities Changing Diabetes partnership. With the overall purpose of informing the future direction of the programme, the objectives are:

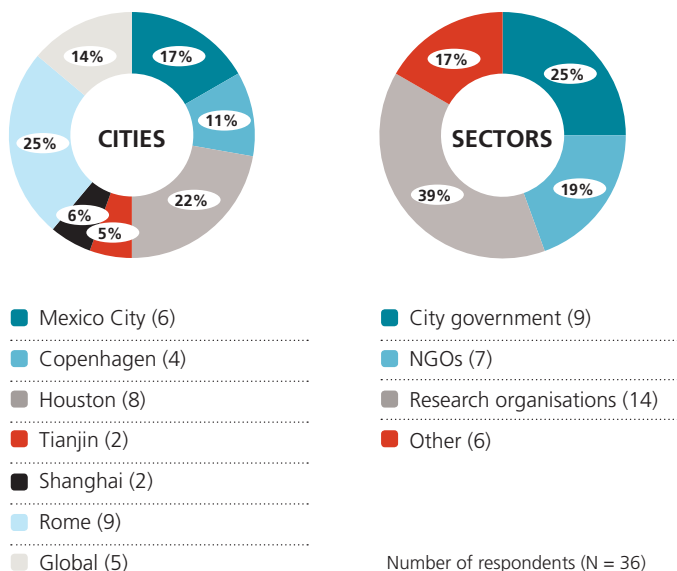
- to document and understand the impact of the Cities Changing Diabetes partnership approach, 2014–2016
- to capture and share learnings from global and local programme activities. The cities in the scope of the review are the cities with the longest experience of working with urban diabetes (Mexico City, Copenhagen, Tianjin, Shanghai, Houston and Rome).

The review was conducted by an impact assessment team at Novo Nordisk, supported by University College London and Steno Diabetes Center Copenhagen.

## PARTNER INTERVIEWS

To capture key learnings and understand how partners perceive and experience the impact of the programme, 36 partners with solid insight into and experience with Cities Changing Diabetes activities were interviewed. Sector-wise, the interviewees are representative of the global network of programme partners (Figure 12). Geographically, partners from China are underrepresented in the interview study (Figure 12).

**FIGURE 12** NUMBER OF RESPONDENTS ACCORDING TO CITIES AND SECTORS



It is important to note that the results of the interview analysis are indicative of programme impact as perceived by those partners that are or have been most actively engaged with the programme. With more than 100 partners involved, 36 is not a statistically significant group of respondents.

## INTERVIEW PROCESS

A semi-structured interview guide was used in all countries, with some local adaptation. The guide has four main categories of question: 1) Benefits and impacts; 2) Value drivers; 3) Challenges and 4) Ideas for the future.

To encourage a balanced perspective, the key questions were phrased in an open manner: “Have you benefited from Cities Changing Diabetes? If yes, how? If no, why not?” Furthermore, the guide includes specific questions about potential negative impacts and programme challenges.

The interviews were conducted in the local language and transcribed and translated into English to allow analysis across sectors and countries. The interview analysis was based on a combination of qualitative and quantitative methods. Firstly, the transcripts were manually coded to identify the themes talked about within each question category. Secondly, the strength of the themes was assessed quantitatively, by counting the number of interviewees addressing the theme.

To compensate for the skewed geographical representation, all cities were given equal weight in the quantitative analysis. This means that the consolidated data presented in Figures 1, 2, 3 and 11 are average results based on the average values in cities. This method neutralises the weight of the number of interviewees across cities, but gives extra weight to respondents from Shanghai and Tianjin.

As a way to perform a sensitivity analysis, data were also analysed from a sector perspective to identify variations in ranking of the themes. Finally, to explore how the perceived impact is generated (drivers of change), cross-cutting patterns across the four categories of question were identified.

## MEDIA TREND ANALYSIS

The media trend analysis, conducted by an external agency, explores whether and to which extent Cities Changing Diabetes has contributed to changes in global and local coverage of urban diabetes. The traditional media analysis investigates volume trends in number of headlines, full articles and tweets from 1 January 2012 to 31 December 2016. To assess the contribution of Cities Changing Diabetes, the local media analysis includes a comparative search of media coverage in cities without Cities Changing Diabetes programmes. The comparative cities are Monterrey, Oslo, Hangzhou, Beijing, Dallas and Milan. The search tools used in the traditional media analysis are Factiva, Google, Yahoo and Bing, supplemented, for the local media analysis, by media monitoring reports provided by the Cities Changing Diabetes team at Novo Nordisk. Radian6 was used for the Twitter analysis.

The scope of the search was global, but limited to the languages used in the Cities Changing Diabetes programme (English, Chinese, Spanish, Italian and Danish). Furthermore, Norwegian was included in the search, as media coverage in Copenhagen was compared to media coverage in Oslo.

Further information on the methodology is available upon request from [sustainability@novonordisk.com](mailto:sustainability@novonordisk.com).



## JOIN THE CONVERSATION

CitiesChangingDiabetes.com

#UrbanDiabetes

@CitiesDiabetes 

---

### REFERENCES

**1.** International Diabetes Federation. *IDF Diabetes Atlas, 7th edn*. Brussels, Belgium: International Diabetes Federation;2015. **2.** UN General Assembly. *A/66/L.1. Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-Communicable Diseases*. In: Assembly UNG, ed. *New York: United Nations*. New York;2011. **3.** UN General Assembly. *A/RES/70/1. Transforming Our World: The 2030 Agenda for Sustainable Development*, UN General Assembly Resolution. New York, US: United Nations; 2015:1–35. **4.** UN General Assembly. *Report of the United Nations Conference on Sustainable Development*. Paper presented at: UN Doc. *A/CONF2012*. **5.** UN General Assembly. *Outcome document of the high-level meeting of the General Assembly on the comprehensive review and assessment of the progress achieved in the prevention and control of non-communicable diseases Vol A/RES/68/300* New York, US: United Nations; 2014:1–8. **6.** World Health Organization. *Global report on urban health: equitable healthier cities for sustainable development*. World Health Organization; 2016. **7.** The New Urban Agenda: An Opportunity for Urban Health. Paper presented at: World Health Assembly 2016; Geneva International Convention Center. **8.** UN Global Compact Leaders Summit 2016. 2016; New York, US. **9.** Annual Meeting of the New Champions. Paper presented at: Annual Meeting of the New Champions 2016; Tianjin, China. **10.** UN. *Urbanization and Development Emerging Futures. World Cities Report*. Nairobi, Kenya: Nairobi, Kenya: United Nations Human Settlement Programme (UN-Habitat);2016. **11.** C40 Cities Climate Leadership Group. 2016; <http://www.c40.org/>. Accessed July, 2017. **12.** Kramer MR, Porter M. Creating shared value. *Harvard business review*. 2011;89(1/2):62–77. **13.** Kania J, Kramer M. Collective impact. *Stanford social innovation review* Winter; 2011. **14.** Hernandez L, Blazer D. Institute of Medicine (US) Committee on Assessing Interactions Among Social, Behavioral, and Genetic Factors in Health. *Genes, Behavior, and the Social Environment: Moving Beyond the Nature/Nurture Debate. National Academy of Sciences*, US. 2006. **15.** Napier AD, Michael Depledge, Michael Knipper, et al. *Culture matters: using a cultural contexts of health approach to enhance policy-making*. World Health Organization, Regional Office for Europe;2017. **16.** UTHHealth receives \$2.4 million grant to drive action-oriented research on healthier cities [press release]. [www.uth.edu: UTHHealth2017](http://www.uth.edu: UTHHealth2017). **17.** Quality of care is key to tackling Mexico's diabetes emergency. *Bull World Health Organ*. 2017;95(6):393–394. **18.** *Action Plan for Type 2-Diabetes 2016–2019*. Copenhagen, Denmark: City of Copenhagen;2016.

All data from partner interviews, media analyses and desktop research are on file. Novo Nordisk A/S 2017

---

October 2017

