

Primary prevention programmes in health care

The Danish-Mexican Collaboration

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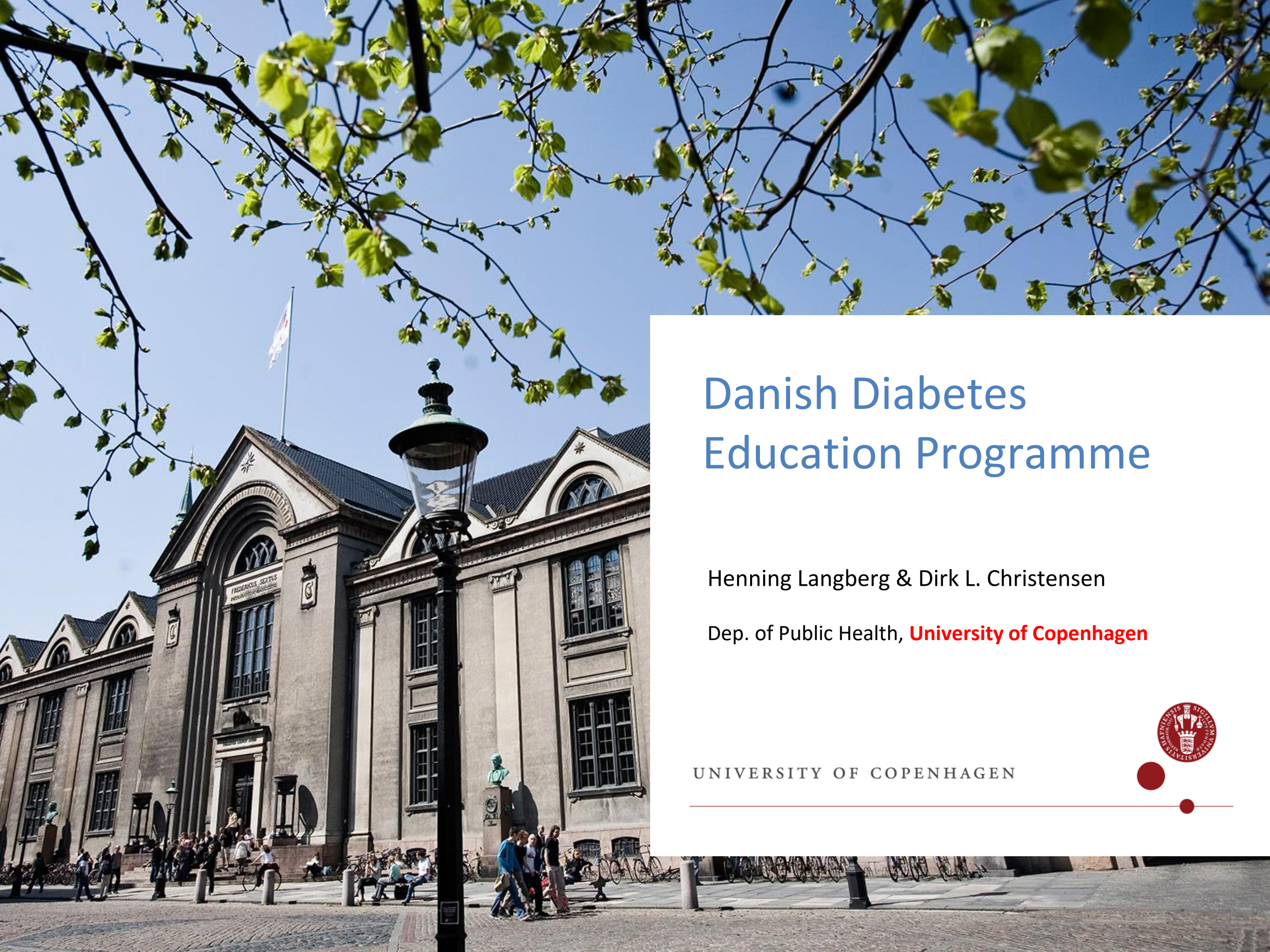
KØBENHAVNS UNIVERSITET



Disclaimer

- Consultancy fees from Novo Nordisk A/S





Danish Diabetes Education Programme

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UNIVERSITY OF COPENHAGEN



Goals - Teach the teachers



Capacity building & knowledge transfer

a four step model

Diabetes – a Global Challenge

Diabetes – clinical education

Diabetes – the Essential Facts

Diabetes – what can I do

Capacity building & knowledge transfer a four step model

Diabetes – a Global Challenge

Diabetes – the Essential Facts

MOOC – level 2 – Diabetes the essential facts

Health > News > News 2016 > New Coursera course 'D...



14 December 2016


New Coursera course 'Diabetes – the Essential Facts'

COURSERA A unique collaboration between the School of Global Health and Novo Nordisk Foundation Center for Basic Metabolic Research has led to a new Massive Open Online Course (MOOC) on diabetes, this time targeting a global public audience.




Scientists, on a daily basis far from each other, are working on very different aspects of diabetes, from microbiology to global public health. What ties them all together is the belief that there is a global responsibility to combat diabetes, and this fight can only be won through new knowledge and global awareness.

MOOC – level 2 – Diabetes the essential facts



Course Info

Preview Course

Week 1 




Week 2

Week 3

Resources

Diabetes – the Essential Facts

by University of Copenhagen





×

Welcome to Diabetes – the Essential Facts! You're joining thousands of learners currently enrolled in the course. I'm excited to have you in the class and look forward to your contributions to the learning community.


To begin, I recommend taking a few minutes to explore the course site. Review the material we'll cover each week, and preview the assignments you'll need to complete to pass the course. Click **Discussions** to see forums where you can discuss the course material with fellow students taking the class.

If you have questions about course content, please post them in the forums to get help from others in the course community. For technical problems with the Coursera platform, visit the [Learner Help Center](#).

Good luck as you get started, and I hope you enjoy the course!

 Less

Start 03/13

Week 1 

Week 2

Week 3

End 04/10

[Help Center](#)

‘Diabetes – the Essential Facts’ is live on the Coursera online platform since the 16th December 2016.

MOOC – level 2 – Diabetes the essential facts

WEEK 1

Fundamentals of Diabetes

In this first module we will cover both the basic and advanced aspects of diabetes, including the pathophysiology, diagnosis, and treatment.

4 videos

Graded: Fundamentals of Diabetes

Graded: Fundamentals of Diabetes

Graded: Fundamentals of Diabetes

Graded: Fundamentals of Diabetes

WEEK 2

Prevention and Treatment

In this second module we will focus on when prevention is most effective and how to manage overweight and obesity.

3 videos

Graded: Prevention and Treatment

Graded: Prevention and Treatment

Graded: Prevention and Treatment

Graded: Prevention and Treatment

WEEK 3

Diabetes in the Future

In this final module we will discuss some of the new research and treatment methods for diabetes, such as surgery or microships, and then we will ask the researchers where they see the field going in the future. The last lesson will be followed by a short peer... [More](#)


3 videos [expand](#)

Graded: Can we cure diabetes?

Graded: Surgery, drugs and microchips

Graded: Persuading your government to act

MOOC – level 4 – Diabetes – a global challenge


Institutions
Catalog
For Enterprise

Overview
Syllabus
FAQs
Creators
Ratings and Reviews

Diabetes – a Global Challenge

Enroll Now
Starts Mar 13

Home > Life Sciences > Medicine & Healthcare

Diabetes – a Global Challenge

About this course: Diabetes and obesity are growing health problems in rich and poor countries alike. With this course you will get updated on cutting-edge diabetes and obesity research including biological, genetic and clinical aspects as well as prevention and epidemiology of diabetes and obesity. All lectures are provided by high-profile scientists from one the world's leading universities in diabetes research.

This course is part of the EIT Health Campus programme.


We hope you will enjoy our course.

Best Wishes

Jens Juul Holst, Signe Sørensen Torekov and Nicolai Wewer Albrechtsen
Department of Biomedical Sciences Novo Nordisk Foundation Center for Basic Metabolic Research
Faculty of Health and Medical Sciences University of Copenhagen

[^ Show less](#)

Created by: University of Copenhagen



Financial Aid is available for learners who cannot afford the fee. [Learn more and apply.](#)



MOOC – level 4 – Diabetes – a global challenge

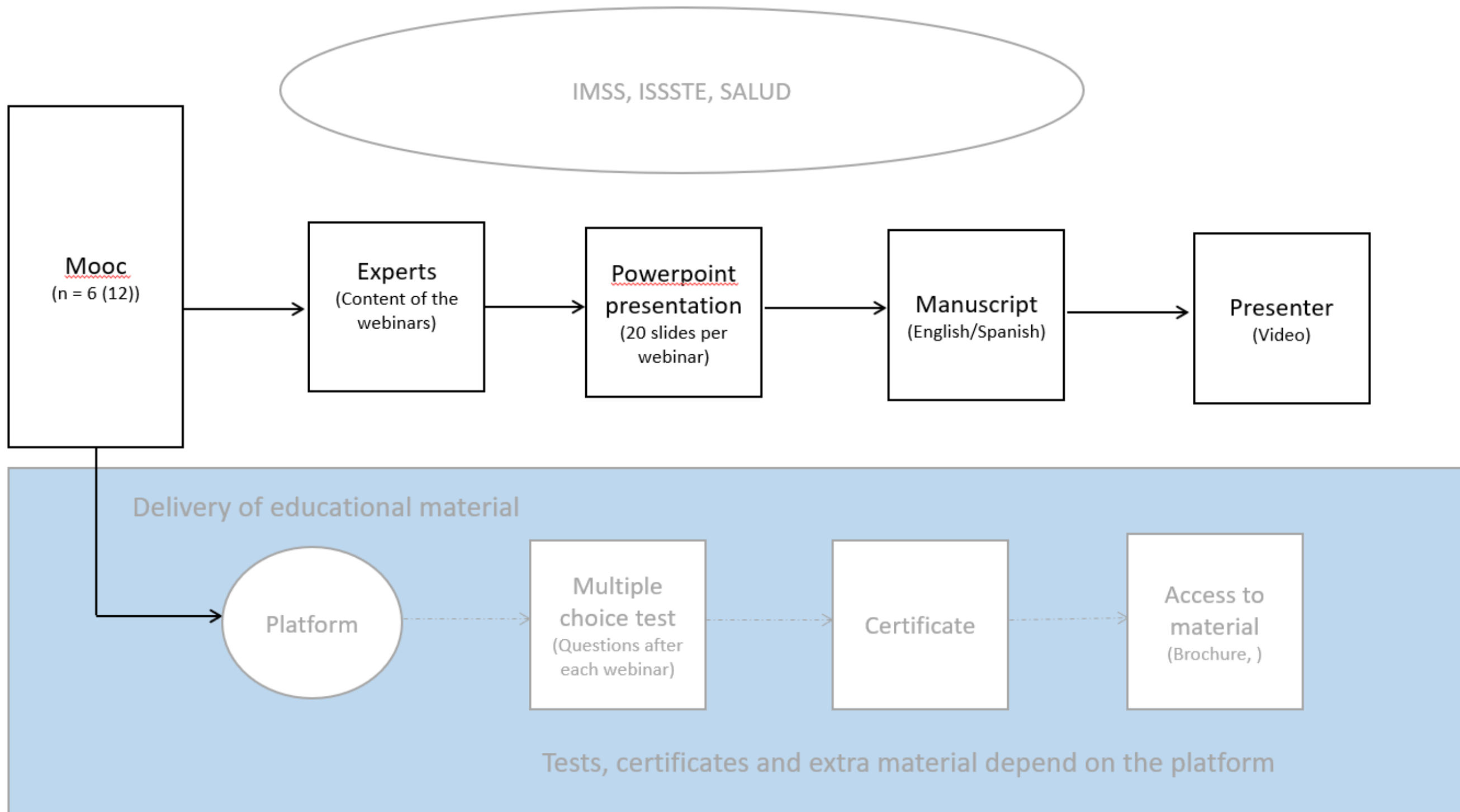
With this course you will get updated on cutting-edge diabetes research including biological, genetic and clinical aspects as well as prevention and epidemiology of diabetes. All provided by high-profile scientists from one the world's leading universities in diabetes research.

During this the course we will go through the following topics:

Module	Topic	Assignment	Workload
1	Epidemiology of Diabetes	Quiz	3-5 hrs
2	Obesity and Prevention of Diabetes	Quiz	3-5 hrs
3	Physiological regulation of plasma glucose	Quiz	3-5 hrs
4	The Incretins	Quiz	3-5 hrs
5	Clinical manifestation of Diabetes and Treatment & Treatment of Hyperglycemia with Oral Anti-diabetic Agents in Patients with Type 2 diabetes	Quiz	5-7 hrs
6	Inflammatory beta-cell destruction in diabetes	Quiz	3-5 hrs
7	Genetic aspects of Diabetes	Quiz	3-5 hrs
8	Translational aspects	Quiz	3-5 hrs
9	Development of Anti-diabetic Agents	Quiz	3-5 hrs
10	Stem cell based therapy of Diabetes	Quiz	3-5 hrs

MOOC – level 1 – Diabetes – what can I do

- Content
 - Knowledge and help to transfer of knowledge
- Improving easy access to material
 - brochures, templates, hand-outs
- Life-long learning
 - Annual updates
- Tests and certification
 - On wall (annual certificates)
- Branding
 - National home-page
 - Local stickers



MOOC – level 1 – Diabetes – what can I do

Challenges

- Penetration and distribution
 - Sharing
 - HCP
 - Patients to patients
 - Family, community
- What's in it for me?
 - Prestige, branding
 - Logo for wall,
 - Certificates
 - Participate in research projects?
 - More customers?
 - Better product
 - New role - in prevention?



Our objectives

ARTICLE III **Modalities of Cooperation**

Joint cooperation activities under this Memorandum may be conducted in the following modalities, subject to the technical feasibility and common interest of the Parties:

1. exchange of information in health matters including technical one;
2. promote the participation of health professionals from both countries;
3. participation in medical congresses, conferences, symposia, meetings and scientific workshops organized by either Party;
4. promote joint scientific research;
5. promote collaboration with non-governmental groups, including but not limited to academic institutions and philanthropic organizations, and
6. any other modality of cooperation defined by mutual agreement of the Parties.



cities changing diabetes

Addressing diabetes risk factors in urban settings



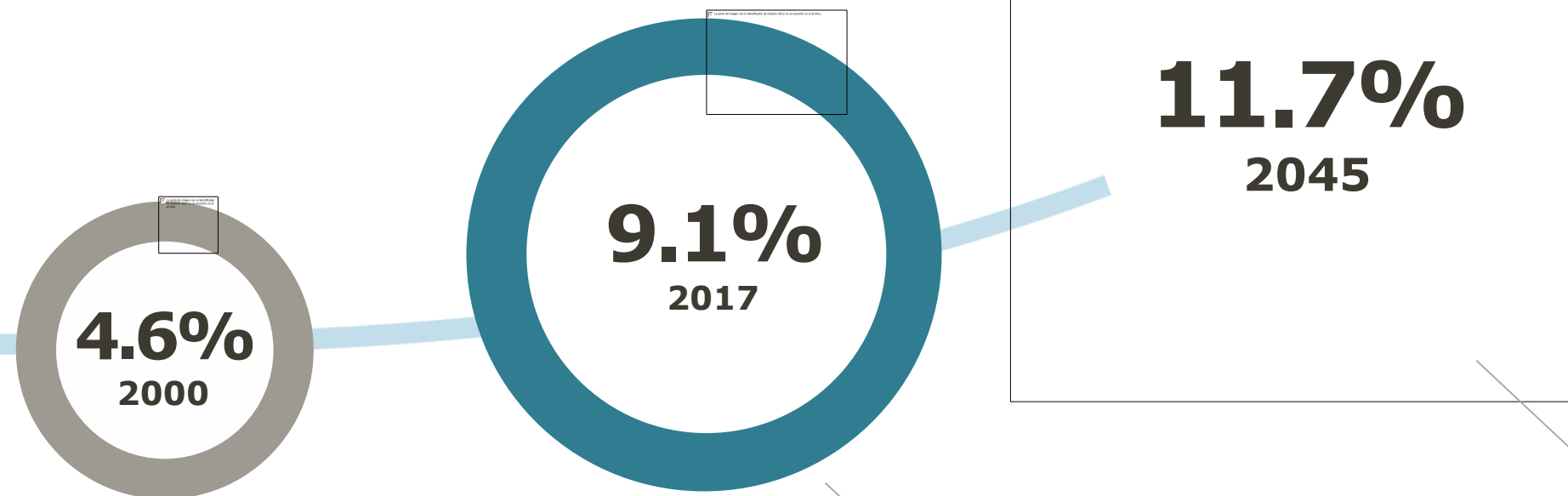
Steno Diabetes Center
Copenhagen



cities
changing
diabetes

DIABETES

Rising at an alarming
rate worldwide



More than 700 million
PEOPLE HAVE DIABETES
if no action is taken²

More than 400 million
PEOPLE HAVE DIABETES^{1,2}

References

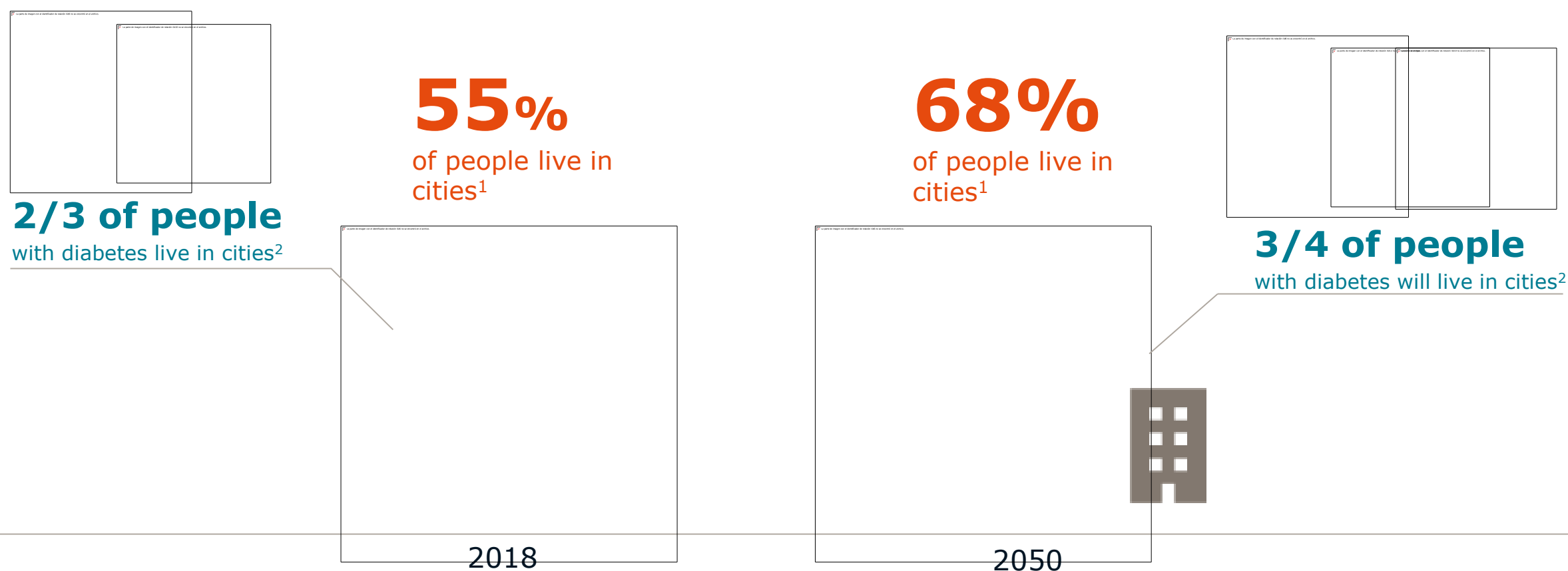
1. International Diabetes Federation. IDF Diabetes Atlas. 8th edn. Brussels, Belgium: International Diabetes Federation. 2017.
2. Cities Changing Diabetes. Diabetes Projection Model, Global. Data on file. Novo Nordisk. Incentive, ed. Holte, Denmark 2017.

cities
changing
diabetes

cities
changing
diabetes

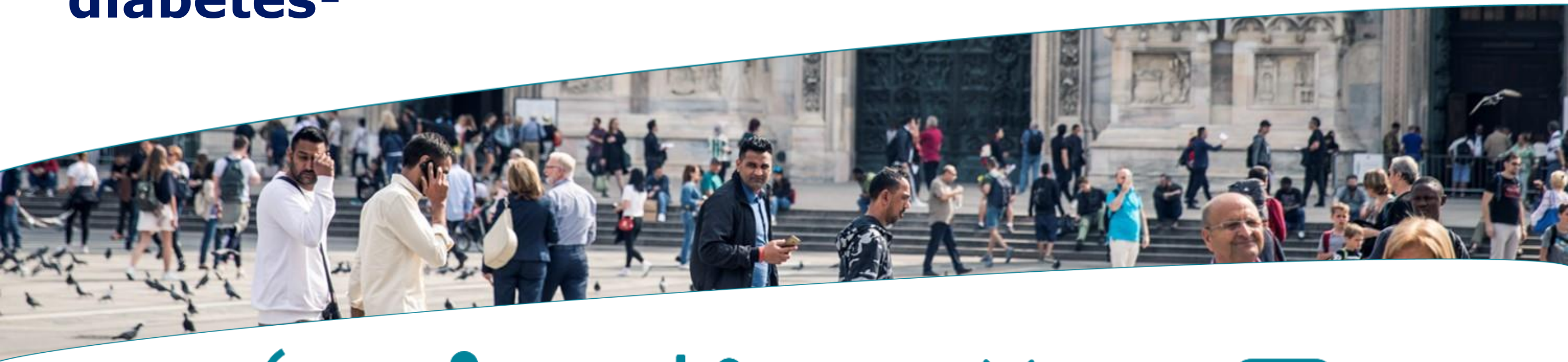
URBANISATION

- one of the most significant demographic shifts




1. United Nations Department of Economic and Social Affairs (UNDESA). *World Urbanization Prospects, the 2018 Revision*.
2. International Diabetes Federation. *IDF Diabetes Atlas*. 8th edn. Brussels, Belgium: International Diabetes Federation. 2017.

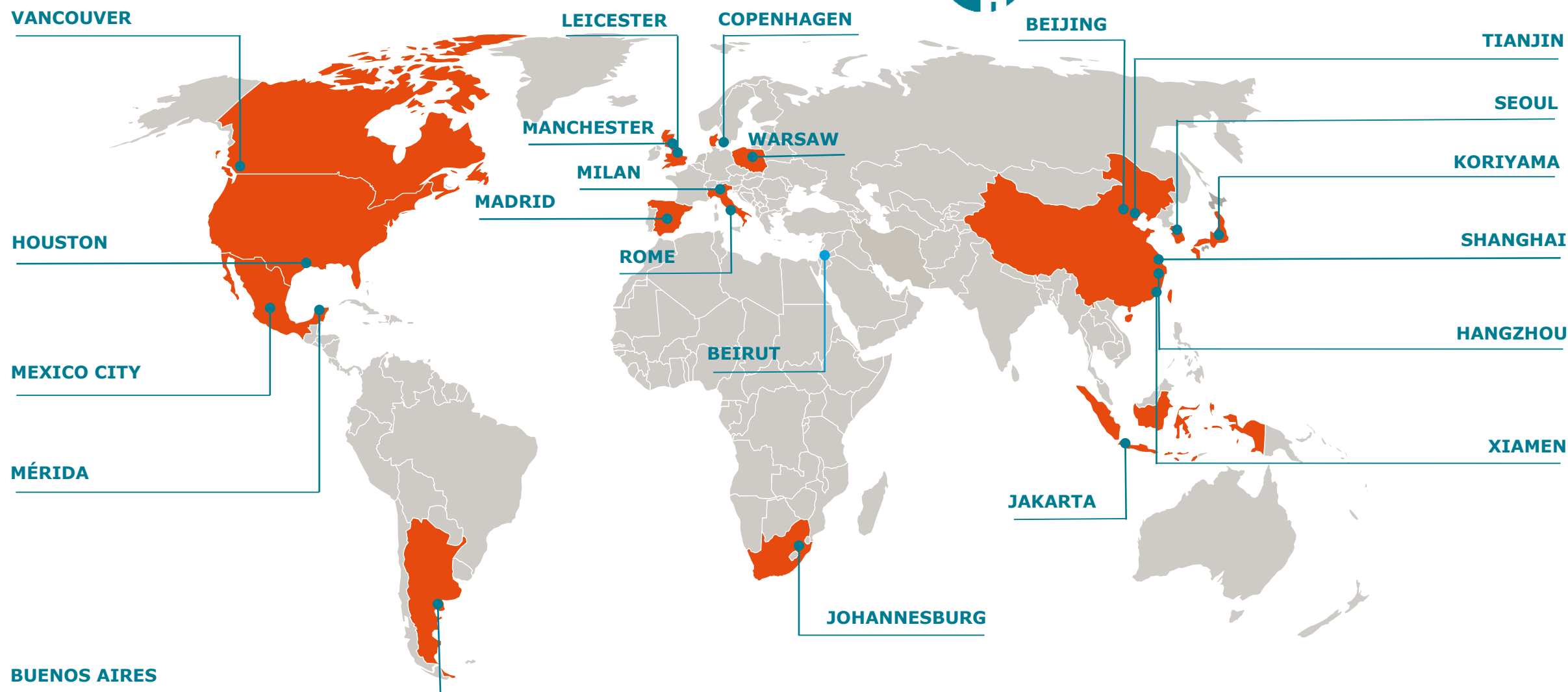
Cities influence how people **live, work and eat**, which all have an impact on obesity and diabetes¹



1. Tellnes G. *Urbanisation and health: new challenges in health promotion and prevention*. Oslo academic press. 2005

22 PARTNER CITIES

 **150⁺**
million citizens



How we bend the curve

Setting the ambition

Set an ambition for prevention using the Diabetes Projection Model



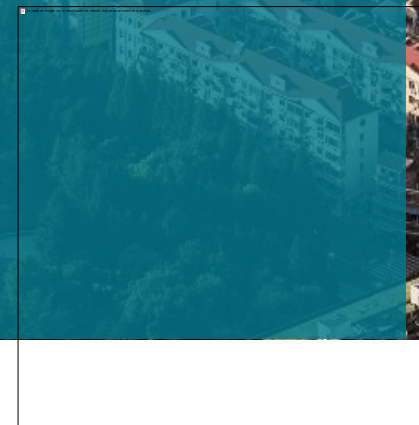
Mapping the challenge

Studying the diabetes situation and identifying social and cultural dynamics that impact diabetes vulnerability



Sharing the knowledge

Share solutions through knowledge networks, publications, exchange visits and summits



Implementing solutions

Translate global research insights and best practices into local policy and action



Global research framework

Quantitative research

SETTING THE GOAL MAPPING THE CHALLENGE

Identify *major gaps* in relation to diagnosis, treatment, targets, and outcome.



Qualitative research

UNDERSTANDING RISK AND VULNERABILITY

Explore what makes certain people *vulnerable to diabetes* and its complications. Identify specific local populations with shared priorities, needs, and capabilities



Actions

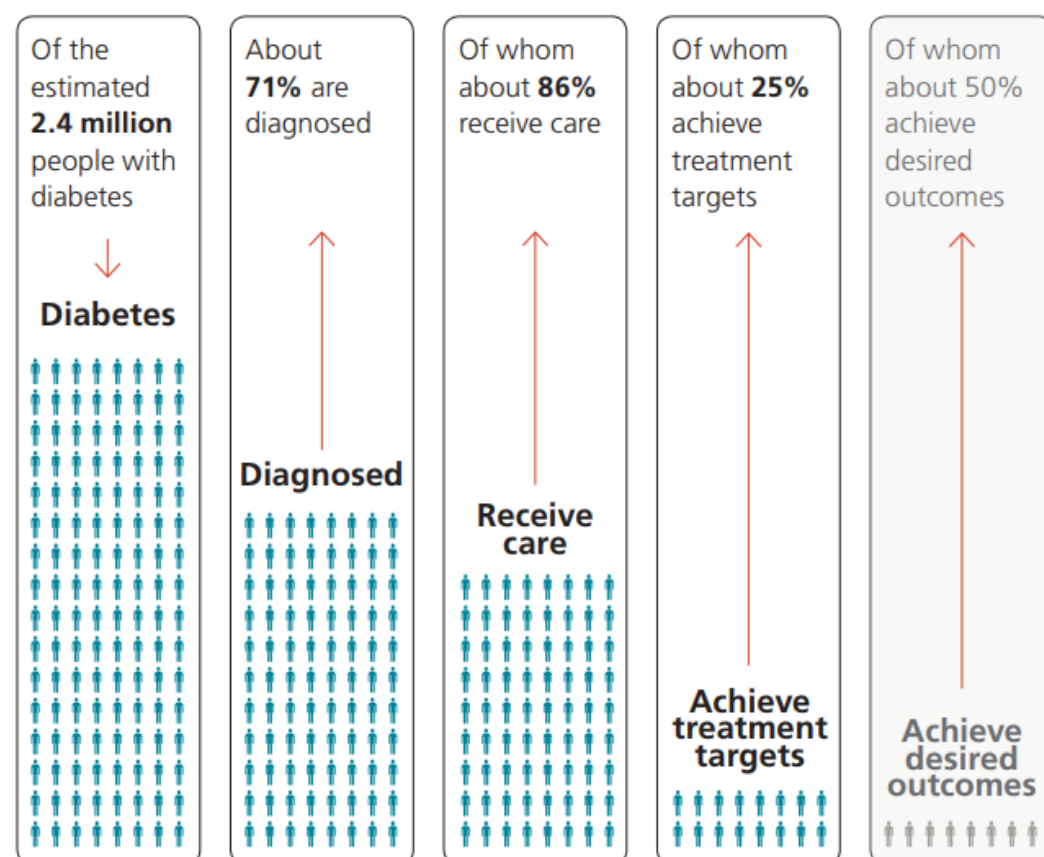
INFORM LOCAL INTERVENTIONS AND POLICIES

Highlight *research insights and inspirational cases* for building city-level action plans.



Finding the gaps

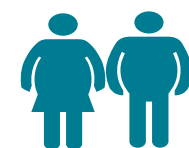
The Rule of Halves for Mexico City is based on new research performed among people with type 2 diabetes between the ages of 20 and 69, living in Mexico City.⁷⁵



13.9% of the adult population has diabetes in Mexico City




17.1% of the population have Pre-diabetes. Almost 3 in 10 adults in Mexico City have abnormal glucose levels



Overweight and obesity exceeded 70% in both men (72%) and women (76%)

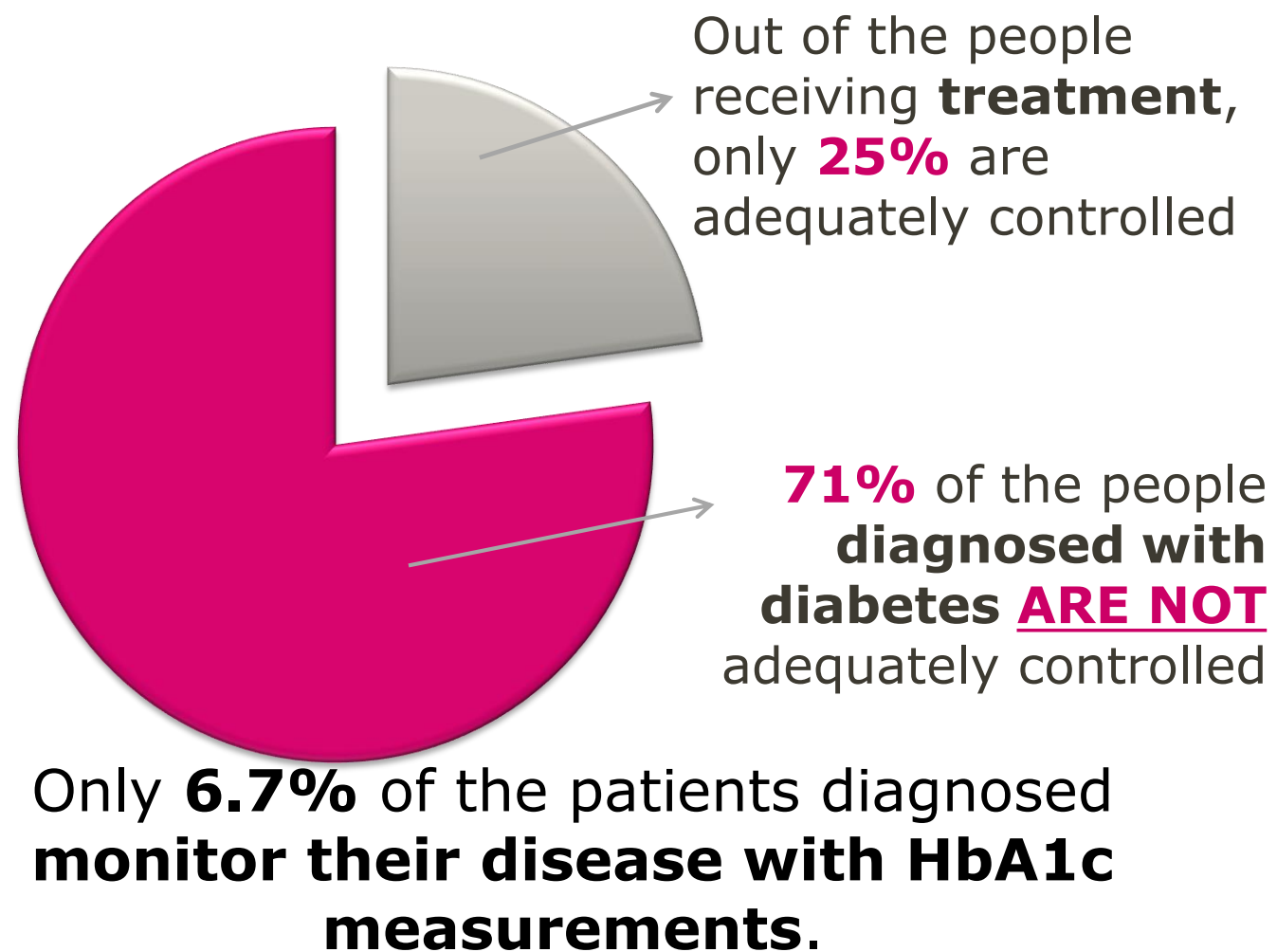
Achievements and Advances

Diabetes Mellitus in Mexico City. Representative Survey (INSP, 2015)

 **13.9%** of the adult population has **diabetes**
17.1% of the population is **pre-diabetic**

 **3 out of 10** adults in Mexico City have **abnormal glucose levels**

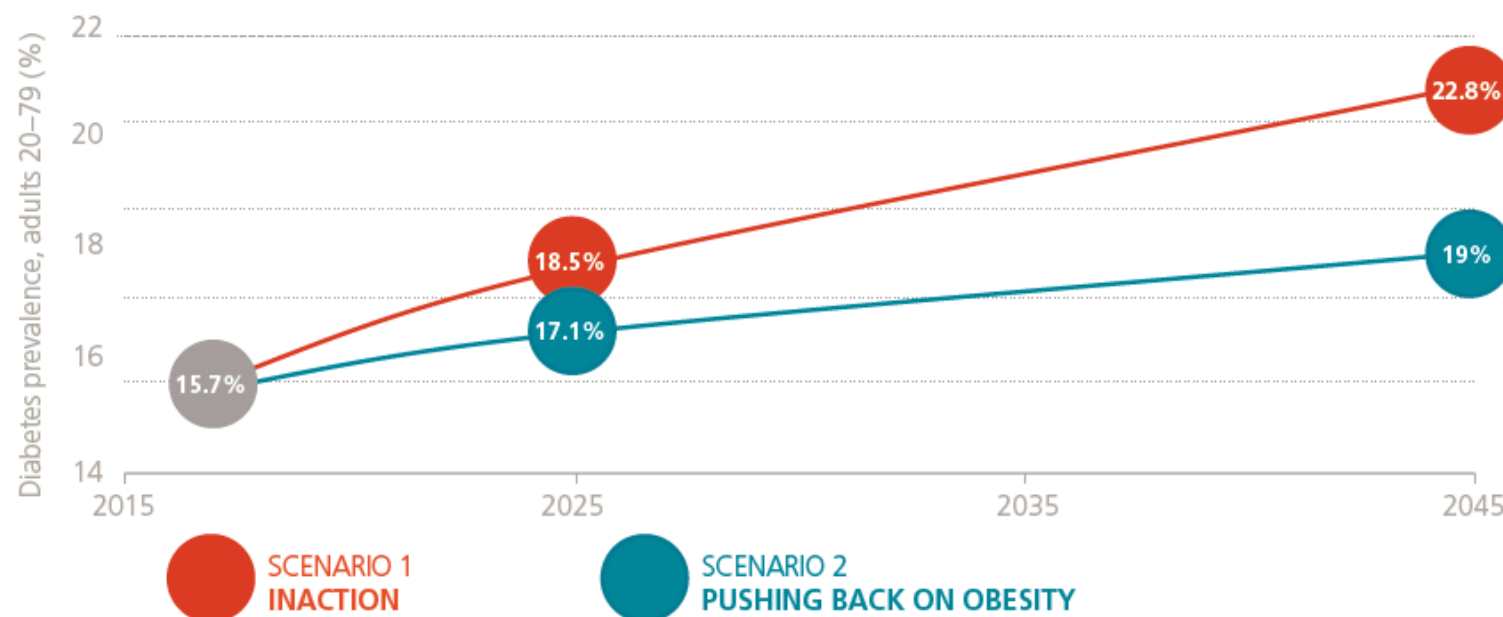
 **+70%** are overweight and obese



MEXICO CITY

is pushing back on obesity to **bend the curve** on type 2 diabetes

Two scenarios illustrate that inaction is not an option and that to hold back the rise of type 2 diabetes requires taking action on obesity.¹



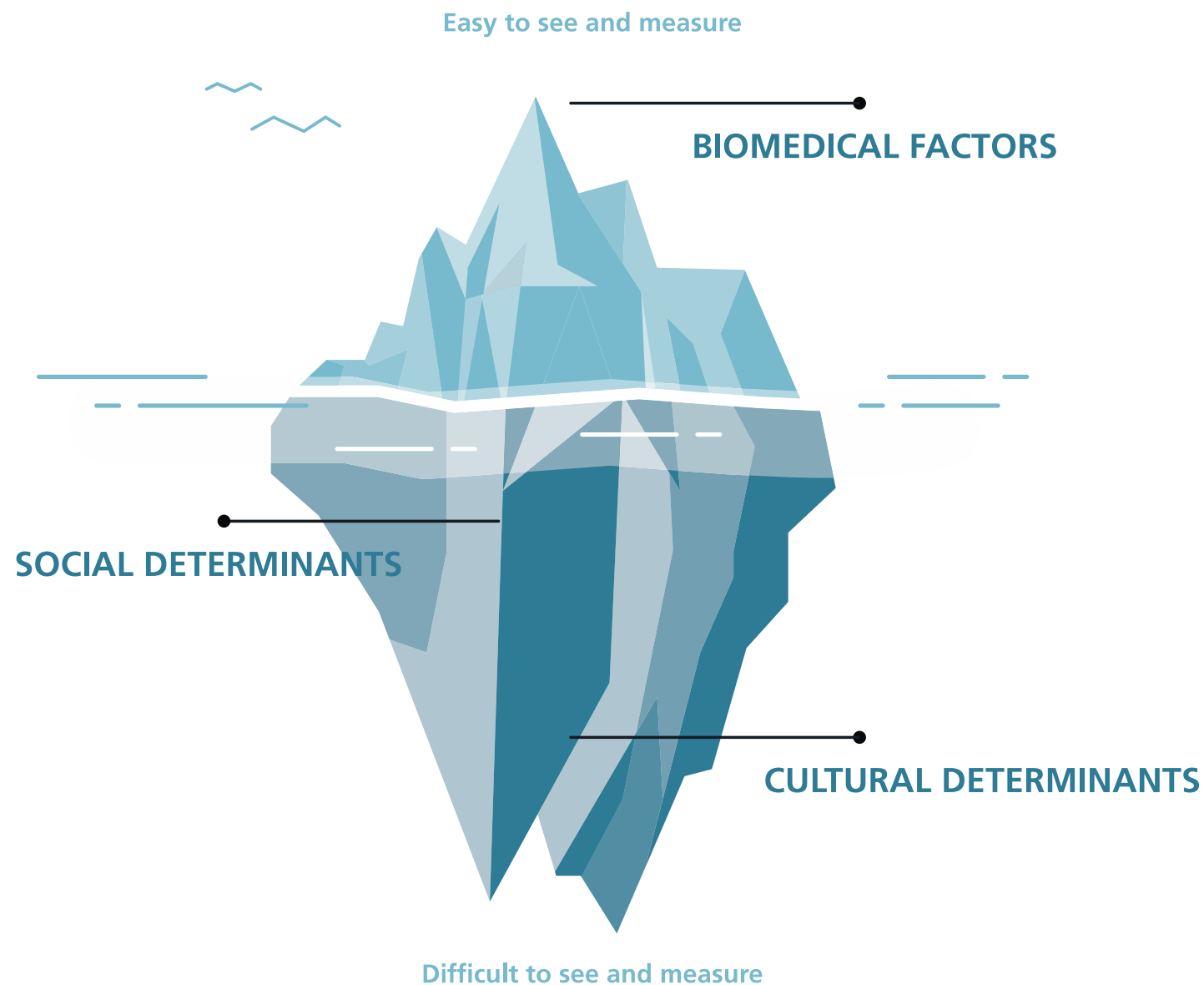
The Diabetes Projection Model plots the trajectory of diabetes prevalence over time and illustrates how reducing the prevalence of obesity by 25% would reduce the burden of diabetes.¹

Reducing obesity by 25% by 2045, could:

prevent
700,000
CASES OF TYPE 2
DIABETES.¹

save
3.3 BILLION
US DOLLARS IN HEALTHCARE
EXPENDITURE.¹

Understanding the complexity of vulnerability



The Diabetes Vulnerability Assessment

740

**FACE-TO-FACE
INTERVIEWS**

2

**HOURS PER
INTERVIEW**

75

**FIELDWORKERS
IN FIVE CITIES**



What are the **social risk factors and cultural determinants** for urban diabetes?

Who is most vulnerable to the negative effects of these risk factors and determinants, and how can those individuals and groups **become less vulnerable?**

Social factors

Financial constraints



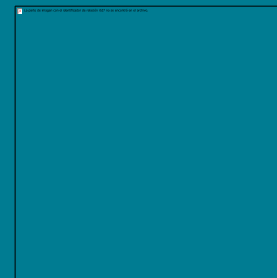
// Spending money on exercise classes or the gym is something I find difficult to do

Time constraints



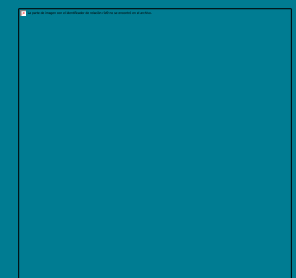
// I just don't have the time to buy and cook healthy food

Resource constraints



// I often feel lonely

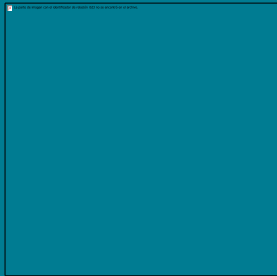
Geographical constraints



// I think that where I live, it's not very safe to be out alone

Cultural determinants

Traditions and conventions



// When I eat out together with friends, I usually end up eating unhealthy foods

View of health and illness



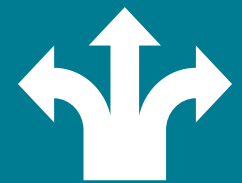
// I think that diabetes is a death sentence

Self and others



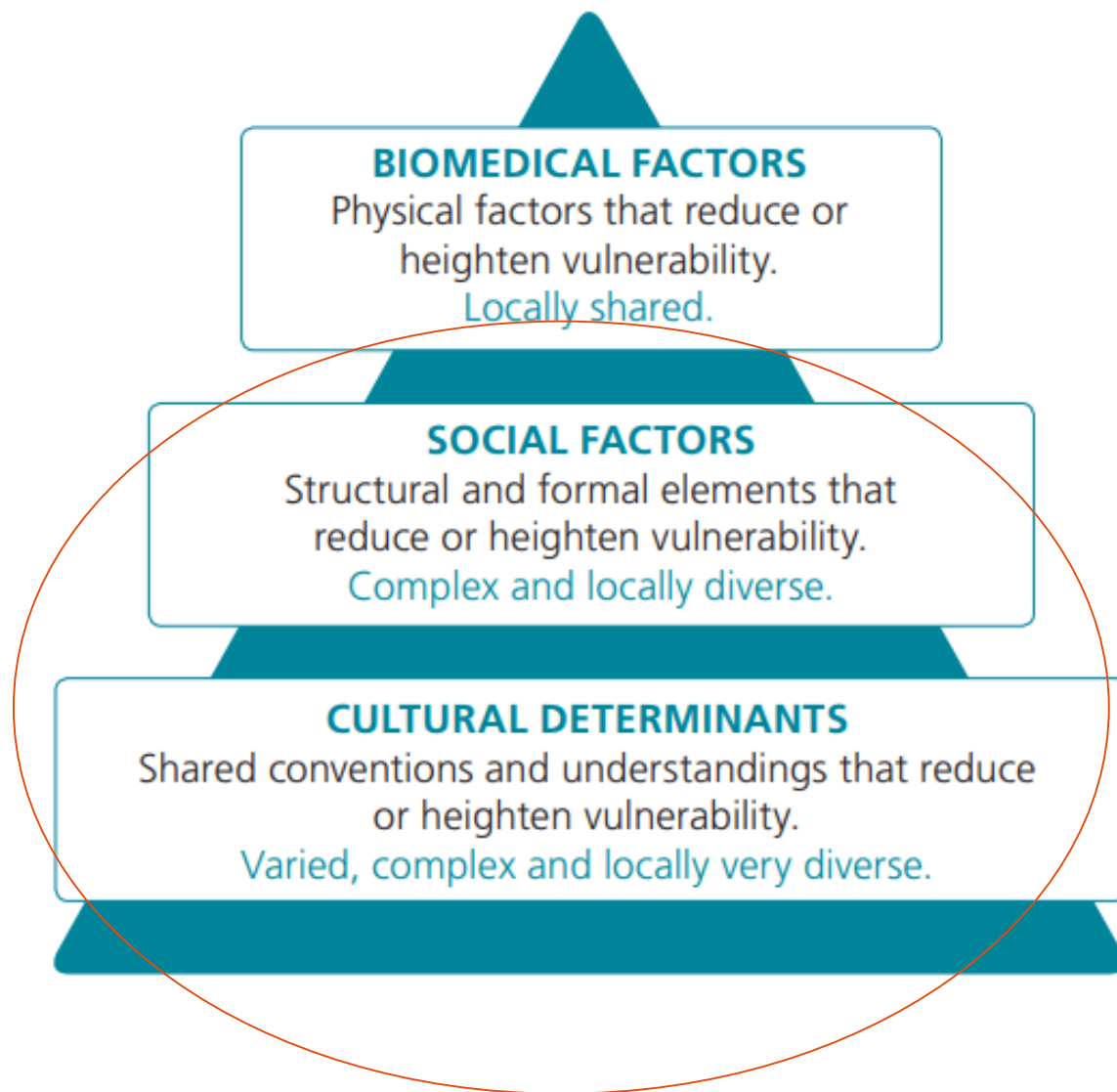
// Everybody just seems to be a bit bigger nowadays

Change and transition



// Living in the city is stressful and harmful to my health and wellbeing

Understanding vulnerability in Mexico City





Healthcare system strengthening

Accessible, affordable and quality healthcare is central in both the prevention and care of diabetes.

Cities Changing Diabetes research shows that **vulnerable citizens sometime struggle to access a city's formal health systems** or get the support they need to live a healthy life with diabetes. This can happen despite living in relatively close proximity to healthcare facilities.

We aim to build capacity in local healthcare systems and ensure that both people at risk and people with diabetes can achieve better health outcomes.





SPECIALISED DIABETES CLINIC IN IZTAPALAPA

SUMMARY

In the fall of 2016, a specialised diabetes centre in Iztapalapa was inaugurated.

The diabetes centre is the second of its kind in Mexico City and will offer consultations in internal medicine, psychology, nephrology, cardiology, dentistry, ophthalmology, podology, diabetes education, nutrition and clinical laboratory, among others and will benefit eight thousand patients annually as well as the families of those patients.

The centre will have an electronic patient record system and education for healthcare professionals in 26 health centres and the general population

PARTNERS

- Mexico City Ministry of Health
- World Diabetes Foundation

OBJECTIVES

- To improve diabetes care for the citizens of Iztapalapa through an integrated care model

INSIGHTS

Iztapalapa is the most vulnerable and most populated area in Mexico City.

The healthcare resources are distrusted in society due to the quality level of care among doctors. Insufficient insurance or the absence of insurance often is the motivator for not going to the health institutions

OUTCOME

- At least 2,000 known cases of diabetes to have received improved diabetes care
- At least 14,000 new cases of diabetes registered or detected through screening and awareness activities, and through referrals, and provided care
- At least 120 doctors trained at specialised centre and least 500 home visits conducted by mobile unit

On average patients have had a reduced level of HbA1C (from 9.3 to 6.7%) over a period of five months when engaged with ongoing contact with the Clinic

Urban planning

- Research supporting the evaluation of economy, health and climate benefits of bike and pedestrian initiatives in Mexico City

Mexico City

Cycling prevents an estimated 10 deaths per year due to the protective benefits of increased physical activity

TEN DEATHS
A YEAR
PREVENTED



THE POTENTIAL NET
PRESENT BENEFITS OF
MEXICO CITY'S BIKE
LANES TOTALS MORE
THAN US \$65 MILLION,
ALMOST 6 TIMES MORE
THAN THE COSTS



“SHOWING THE BENEFIT OF CLIMATE ACTION, HOW IT IMPACTS THE LIVES OF OUR CITIZENS AND SUPPORTS THE LOCAL, IMMEDIATE PRIORITIES FOR MEXICO CITY IS CRITICAL. THIS RESEARCH DEMONSTRATES THIS, SHOWING A WIDE RANGE OF BENEFITS FROM BIKEABILITY AND WALKABILITY ACTIONS, AND HOW THEY IMPROVE THE HEALTH, WEALTH AND LOCAL ENVIRONMENT FOR US.”

Mayor Mancera, Mexico City



CDMX



WORLD **DIABETES** FOUNDATION

The diabetes challenge: sustainable and integrated responses

- turning global commitments into national actions

World Diabetes Foundation (WDF) since 2002



WORLD DIABETES FOUNDATION: ORIGEN - OBJECTIVES - METHODOLOGY

- **Objective: Finance diabetes prevention and control projects in low or middle income countries to strengthen training, medical care, awareness and prioritization. Established in 2002 by the company Novo Nordisk S.A. (Denmark).**
- **Support low income populations and communities most affected by diabetes (assistance projects)**
- **Headquarters in Copenhagen, Denmark**
- **Separate organization (Danish regulation: statute, own directors committee, secretariat; external audit supervision)**
- **Mandate and financing confirmed by the donor and approved by the Danish authorities until 2024 (with possible extension)**



WDF: INTEGRATION OF DIABETES/NCD CARE AND PREVENTION INTO HEALTH SYSTEMS IN LMICs (NATIONAL NCD RESPONSES)

DIRECT OR INDIRECT AGREEMENT WITH HEALTH AUTHORITIES (MoH)

Tanzania

Rwanda

Kenya

Sri Lanka

Paraguay

Guyana

Colombia

Mexico (state level)

Dominican Republic

India (state level)

Angola

Bangladesh

Uzbekistan

Mozambique

Malawi

Burkina Faso

Belize

Cameroon

Peru

Palestine territories

Brazil (state level)

Argentina (state level)

Mali

Vietnam

Honduras

Swaziland

Ivory Coast

Nigeria

Tonga

Ethiopia

Gambia

UNRWA

India (state level)

Fiji

Philippines (state level)

Myanmar

Kyrgyzstan

Laos

Comores

UPCOMING

Cambodia

Brazil (state level)

Nepal

Guatemala

Thailand

Jordan



WORLD DIABETES FOUNDATION: ORIGEN - OBJECTIVES - METHODOLOGY

- **INTEGRATED NATIONAL PROGRAMMES DIABETES / NCDs**
- **Primary, secondary care**
- **Awareness (multi-sectoral)**
- **Prevention (multi-sectoral)**
- **Complications: Diabetic foot - Diabetic retinopathy**
- **Diabetes – hypertension / CVD**
- **Gestational diabetes / NCDs and pregnancy**
- **Co-morbidity diabetes – tuberculosis**

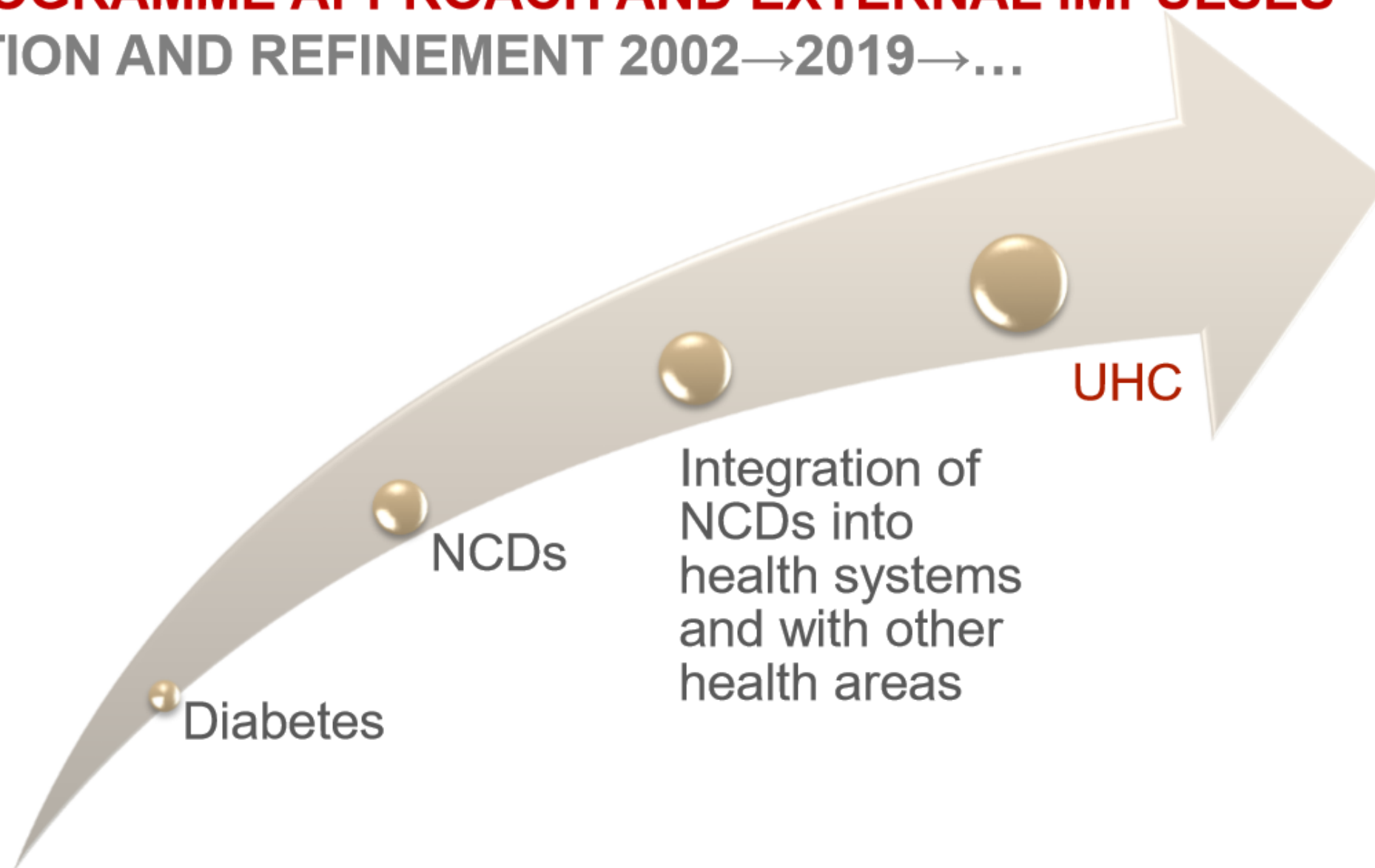


WORLD DIABETES FOUNDATION: ORIGEN - OBJECTIVES - METHODOLOGY

- **Sustainability → the imperative to collaborate directly with Ministries of Health and national and international health authorities and organizations (PAHO / WHO, NGOs, patient organizations, professional societies)**
- **Integration → diabetes / related NCDs; other health areas; comprehensive primary care**



WDF: PROGRAMME APPROACH AND EXTERNAL IMPULSES **ADAPTATION AND REFINEMENT 2002→2019→...**



FUNDACIÓN MUNDIAL de DIABETES EN MEXICO



Proyectos principales y actuales:

- Secretaria de Salud D.F: Clinica especializada/atencion primaria (Iztapalapa)
- OPS Mexico/Secretaria de Salud Edo.Mexico: Promotoras de salud (Nezahualcoyotl)
- OPS Mexico/Secretaria de Salud Campeche: Prevención comunitaria
- INSP/Secretaria de Salud Morelos: Retinopatía-servicio movil
- INSP/Secretaria de Salud Morelos: Diabetes y embarazo
- INSP/Secretaria de Salud Morelos: Diabetes y poblaciones indígenas
- INSP/Secretaria de Salud Campeche,Edo.Mexico: atencion prim. integral
- Salud Gobierno Federal (DGPS, CENAPRECE) / Secretarias de Salud de Hidalgo, Edo.Mexico,Tlaxcala/ Microclinics (EEUU): Atención primaria
- IMIFAP/DIF/Secretaria de Educacion Chihuahua: Salud escolar
- REMEDI/Secretaria de Salud Hidalgo/Tamaulipas: Atención primaria
- Salauno D.F./Edo. de Mexico: Retinopatía
- Federacion Mexicana de Diabetes: Educacion del paciente, concientizacion

Inversion agregada WDF→Mexico 2008-2018 : USD 4.2 millones

WORLD DIABETES FOUNDACION IN MEXICO

Learning and observations

- Committed and aware health professionals
- Primary care community link
- Open environment for international collaboration
- Some fragmentation of the health system
- Political prioritization



WORLD **DIABETES** FOUNDATION



**World Health
Organization**



WHO Global Dialogue on Partnerships for Sustainable Financing of Noncommunicable Disease (NCD) Prevention and Control

Copenhagen, Denmark

9-11 April 2018





WORLD **DIABETES** FOUNDATION

Gracias por su atención

Preguntas