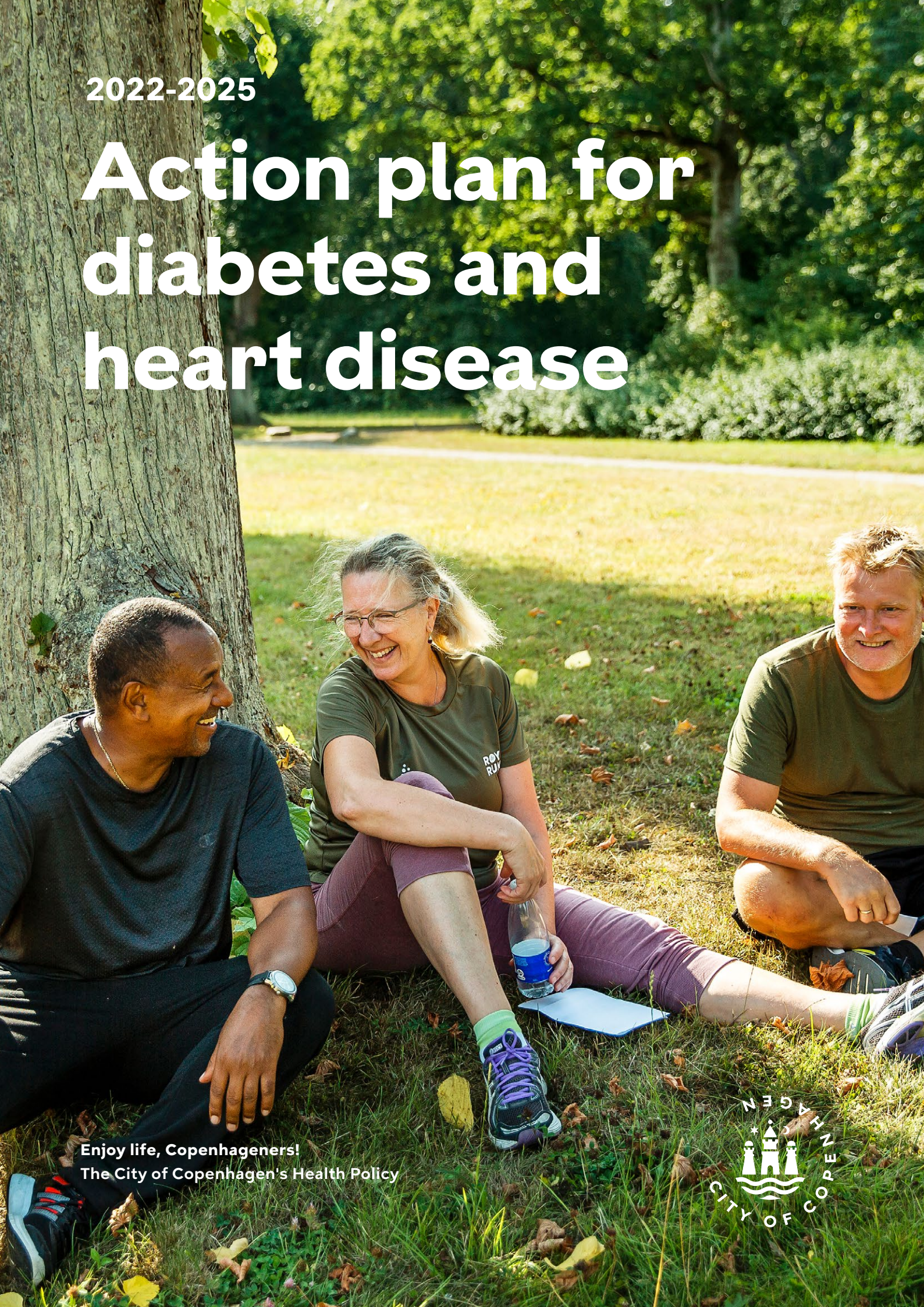
2022-2025

Action plan for diabetes and heart disease



Enjoy life, Copenhageners!
The City of Copenhagen's Health Policy

CITY OF COPENHAGEN

Action plan for diabetes and heart disease 2022-2025
2022

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Introduction

In 2016, the City of Copenhagen's Health and Care Committee adopted its *Action plan for type 2 diabetes 2016–2019*. The action plan was part of the *Enjoy life, Copenhageners!* health policy. It created a platform for an ambitious and holistic effort to support residents of Copenhagen with type 2 diabetes.

Since then, the first important steps on this journey have been taken – including the milestone of the establishment of the Centre for Diabetes. This centre is the first-of-its-kind specialised local authority diabetes rehabilitation facility in Denmark. It offers residents of Copenhagen help and support with managing everyday life with this chronic disease.

The Centre for Diabetes has achieved its objective of creating somewhere where all Copenhageners with type 2 diabetes and their families feel welcome and benefit from the highest quality healthcare. But its ambition does not stop there. Since 2020, the centre has also provided support for Copenhageners with heart disease. We decided to take action in this area because an increasing number of Copenhageners are affected by both diabetes and heart disease.

Chronic disease has major consequences for the individual and for society. People with diabetes and/or heart disease often have reduced quality of life and are at high risk of developing mental health issues, which can manifest as stress, anxiety and depression. Many experience feelings of guilt, shame and personal responsibility. Related physical complications such as kidney failure, amputations and blindness are frequently experienced by people with type 2 diabetes, while heart disease is one of the most frequent causes of death in Denmark. Many people living in Copenhagen are at considerable risk of developing type 2 diabetes and/or heart disease. Those at highest risk include people who are overweight, people with sedentary lifestyles, smokers and people with prediabetes. There is huge prevention potential in intervening with Copenhageners at high risk of developing serious chronic diseases such as type 2 diabetes and heart disease.

Diabetes and heart disease in figures

- There are around 20,000 people living with type 2 diabetes in Copenhagen, and around 2,000 Copenhageners are newly diagnosed with diabetes each year.
- More and more Copenhageners are developing type 2 diabetes.
- People with type 2 diabetes have higher mortality compared with the rest of the population, mainly because they often die early from heart disease.
- 15,000 Copenhageners are living with chronic heart disease.
- More than 2,000 Copenhageners are diagnosed with heart disease each year.
- Many Copenhageners with either type 2 diabetes or heart disease also have other chronic diseases.
- One in five Copenhageners with type 2 diabetes also have heart disease.
- One in four Copenhageners with heart disease also have type 2 diabetes.

Health Profile 2017

The content and strategic objectives of the action plan

The action plan will help those Copenhageners at highest risk of developing type 2 diabetes and/or heart disease. They will receive help and support with managing everyday life and maintaining their physical and mental health. Copenhagen residents with a chronic disease will be better able to manage their day-to-day activities, living a good life while tackling their disease and its potential consequences. If Copenhageners acquire skills that support living with diabetes and/or heart disease, it reduces the risk of their disease becoming worse and increases the possibility of preventing other chronic diseases.

Another ambition is to help identify the target group at highest risk of developing type 2 diabetes and/or heart disease. The aspiration is to delay the onset of these chronic diseases, thereby delaying any serious consequences. The action plan describes how the City of Copenhagen will work to achieve the strategic objectives in the period 2022–2025.

Managing everyday living means that a person

- lives a good life without the disease taking over
- can apply the information obtained about their disease in their day-to-day life
- can take action to mitigate the consequences of the disease
- follows an agreed medical treatment programme and visits their GP or hospital for regular check-ups
- takes care of their physical and mental health.

DOCUMENTED EFFECTS OF THE PROGRAMME AT THE CENTRE FOR DIABETES

Better self-rated health
At the start of the programme, 41% of participants rated their health as not very good. By the end, this had fallen to 27%. The proportion rating their health as good increased from 39% at the start of the programme to 51% at the end.

More people managing their everyday life with type 2 diabetes
At the start of the programme, 21% of participants felt confident in their ability to manage their diabetes. By the end, this had increased to 40%. The same increase was seen at the end of the programme compared with at the start in those participants who strongly agreed with the statement "I now feel able to manage my diabetes".

Better control of high blood sugar
Average long-term blood sugar (HbA1c) reduced significantly, by 6.1 mmol/mol, which is in line with the results found in the literature. This reduction had been maintained six months after the end of the programme.

Reduction in diabetes stress
At the start of the programme, 38% of subjects experienced diabetes stress. By the end, this had fallen to 22%.

Improvement in physical fitness
The proportion of participants rating their physical fitness as poor fell from 28% at the start of the programme to 7% at the end.

More people eating vegetables daily
Twice as many participants were eating vegetables daily at the end of the programme compared with at the start.

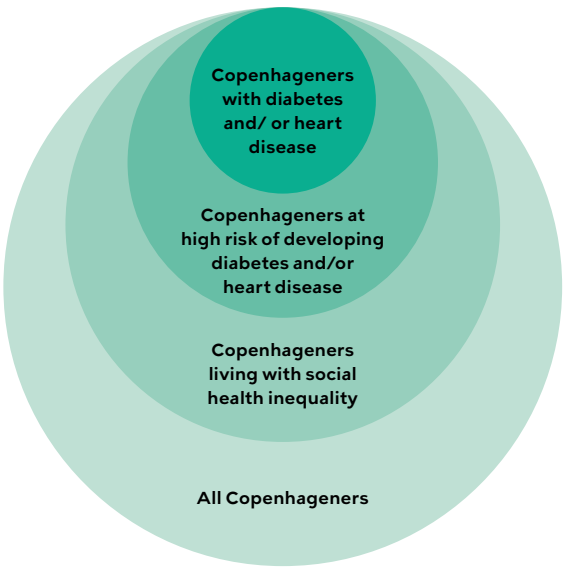
Effects measurement,
Centre for Diabetes, 2019–2020

The context of the action plan

The action plan's goals and content are closely related to the City of Copenhagen's public-facing prevention effort, as set out in the Health Policy, which for a number of years has been based on a structural approach. Structural prevention comprises measures and initiatives that impact and change local physical or cultural factors that are relevant for the health of the city's residents. The primary focus of the structural approach is to adapt and alter the environment in which Copenhageners live and move around.

The structural approach to prevention provides a valuable framework for the goal of this action plan, which is for Copenhageners living with, or at risk of developing, diabetes and/or heart disease to get help and support with managing everyday life and maintaining their physical and mental health. Part of the structural prevention work relates to the city's health-related environment. The aspiration is for a health-promoting environment that prompts Copenhageners to be more active and enjoy peace of mind, and for the healthy choice to be the easy choice in Copenhagen. The focus is to stimulate everyday life incorporating more active leisure time and daily exercise, increase participation in clubs and associations, ensure access to healthy food in the city and carry out strategic work to make Copenhagen a world leader in exercise.

Figur 1



- Copenhageners with diabetes and/or heart disease are the primary target group of the action plan
- Copenhageners at high risk of developing diabetes and/or heart disease are a target group that the action plan aims to identify in order to delay the point at which serious risk factors develop into chronic disease
- The structural public-facing prevention work is primarily targeted at Copenhageners living with social health inequality
- Ultimately all Copenhageners are a target group of the prevention group

The content of the action plan

The action plan is divided into four mutually dependent tracks. Figure 2 shows the interrelationship between target groups, principles and prioritised tracks. We will elaborate on the four tracks below. The action plan supports the vision of the Health Policy to ensure improved quality of life and equal opportunities for Copenhageners.

Figure 2. The content of the action plan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Principles

This action plan is based on the following basic principles:

1. **We work in a person-centred and differentiated way,** so that programmes and interventions are organised based on the individual's needs, motivation and preferences.

   The goal is to engage with the individual resident on the following basis:

   1. Determine what is important for the individual
   2. Determine what the individual is motivated to achieve
   3. Determine how the individual can best be supported in relation to principle 1 (importance) and principle 2 (motivation).[1]

2. **We work with the broad and positive health concept and health- education principles.** This also means that we give equal weight to physical and mental health and take our starting point from the WHO's definition of mental health as "a state of mental well-being that enables people to cope with the stresses of life, realize their abilities, [...] and contribute to their community".

3. **We involve citizens, family and civil society** as much as possible, to gain greater knowledge and understanding of the interventions that the individual requires.

   User involvement is a basic principle of the work, with citizens actively participating in their own treatment and providing input on both the operation and development of services and interventions.

4. **We work in an evidence-, knowledge- and practice-based way** and routinely trial new interventions to meet individuals' needs and address their issues. This means that we are an experimentarium for generating new knowledge and evidence. We therefore collaborate broadly and partner with researchers, colleagues in other parts of the health service and civil society – because the aspiration is to be a national and international lighthouse within the rehabilitation of type 2 diabetes and heart disease.

Track 1

Cohesion across the board

It is well known in the local health service that coordination challenges are often encountered when programmes involve hospitals, general practice and the local authority, or involve multiple administrations or departments within a local authority or hospital. This issue is exacerbated by increased specialisation in the health service. The starting point for this action plan is that health for all Copenhageners with type 2 diabetes and/or heart disease can be significantly improved if individuals are provided with a comprehensive and coordinated effort across specialisms and sectors.

The Health and Care Administration is part of an extensive network of actors who play an important role when efforts to support individuals with type 2 diabetes and heart disease need to be coordinated.

The Centre for Diabetes and Heart Disease aims to take the lead in engaging organisations and stakeholders across sectors. We will work to ensure that actors in the health service enter into binding collaborations around common goals for the general population of citizens with type 2 diabetes and/or heart disease, so that more Copenhageners achieve their treatment goals.

Together with colleagues in other parts of the health service, we will focus on ensuring better transitions through frequent and timely communication with and about citizens and patients using more than one service.

PRIMARY NETWORK ACTORS

Civil society
The two large patient associations: the Danish Diabetes Association and the Danish Heart Foundation.

Internally within our own organisation
Nursing units, rehabilitation centres, care homes, activity centres/clubs, and city-wide centres, including the Centre for Cancer and Health, the Centre for Mental Health, the Centre for COPD, the Centre for Child and Youth Health and Voksentandplejen (Adult Dental Care).

The Social Administration
The 20 residential mental health facilities are home to around 750 Copenhageners, more than a third of whom are assessed as having one or more chronic diseases.

General practice
Across sector boundaries, programmes need to be coordinated with around 300 GPs across 200 practices.

Hospitals
Two emergency hospitals across four locations as well as Steno Diabetes Center Copenhagen.

What efforts will we prioritise?

In order to implement this approach in practice, we will:

- give high priority to cross-sectoral collaboration with hospitals and general practice. The goal is to strengthen collaboration and communication across the three sectors so that we reach 2,000 annual referrals to programmes at the Centre for Diabetes and Heart Disease by 2024

- strengthen collaboration with general practice and hospitals on common goals for individuals with type 2 diabetes and/or heart disease. We will use shared data and new

- methods to communicate about individuals – for example via shared programme plans that provide healthcare professionals (HCPs) in all sectors with information about what is important for the individual

- strengthen working relations in the Health and Care Administration, and across specialised centres and the care sector, so that health and personally experienced quality are increased for the population as a whole

- prioritise health maintenance so that Copenhageners with type 2 diabetes and/or heart disease have the best chance to live a healthy and active life. We will therefore enter into binding partnerships with patient associations and civil society to strengthen efforts and activities across the local-authority area and civil society, and design sustainable and lasting solutions

- prioritise close collaboration with other relevant specialists and actors in the health service – including dentists, opticians, chiropodists and pharmacists – to prevent serious complications

- develop targeted upskilling of employees at residential mental health facilities, together with the Social Administration and relevant actors in the Health and Care Administration, in order to increase awareness around prevention, detection and screening of type 2 diabetes and heart disease.

The above prioritised efforts are closely related to public-facing prevention work focusing on health-promoting urban spaces. In this respect, the Health and Care Administration works with the other administrations on safe routes to school, exercise-promoting urban spaces, elderly-friendly urban environments, and similar initiatives.

Track 2

Health equality

There is considerable health inequality associated with type 2 diabetes and heart disease in Copenhagen. These diseases affect Copenhageners with a short education more than Copenhageners with a medium-length or long education, while Copenhageners with a short education are diagnosed later than those with a long education.

Copenhageners with a long education also have a lower risk of developing complications later, losing their jobs and dying early from chronic diseases. This way of describing health inequality is referred to as the social gradient.[2]

The social inequality associated with type 2 diabetes and heart disease is also evident in particularly disadvantaged groups. For example, Copenhagen residents who experience mental illness can expect to live 7–10 years less than their neighbours without mental illness. The reduced life span is due in part to the fact that individuals who experience mental illness often have many more serious physical diseases, particularly heart disease and type 2 diabetes. Vulnerability to health risks and chronic diseases is also higher in some neighbourhoods of the city and among Copenhagen residents with an ethnic-minority background.

Despite the increased political focus on increasing health equality, the trend is still heading in the wrong direction. Indeed, social health inequality has increased.[3] Increasingly, there are differences in how long and healthily Copenhageners live depending on their position in society; in many cases, this inequality is intensified in the health service.

In line with the City of Copenhagen's Health Policy, the ambition of this action plan is to work in a targeted way to increase health equality among Copenhageners living with, or at high risk of developing, type 2 diabetes and/or heart disease. We will achieve this by intervening with initiatives targeting the social gradient and vulnerability. Currently, Copenhageners with type 2 diabetes or heart disease can receive a comprehensive, specialised local-authority rehabilitation offering. We want to enhance this offering in the coming years inorder to increase health equality. We will take account of the different starting points, motivation and needs of residents. This means that we will develop bespoke interventions targeting vulnerable groups in collaboration with voluntary mentors and ethnic-minority health advisers. But we will also expand digital health solutions generally and use technology to bring the health service closer to people's day-to-day lives. Other less vulnerable individuals will simply be offered a digital platform that helps them maintain a healthy and active lifestyle.

What efforts will we prioritise?

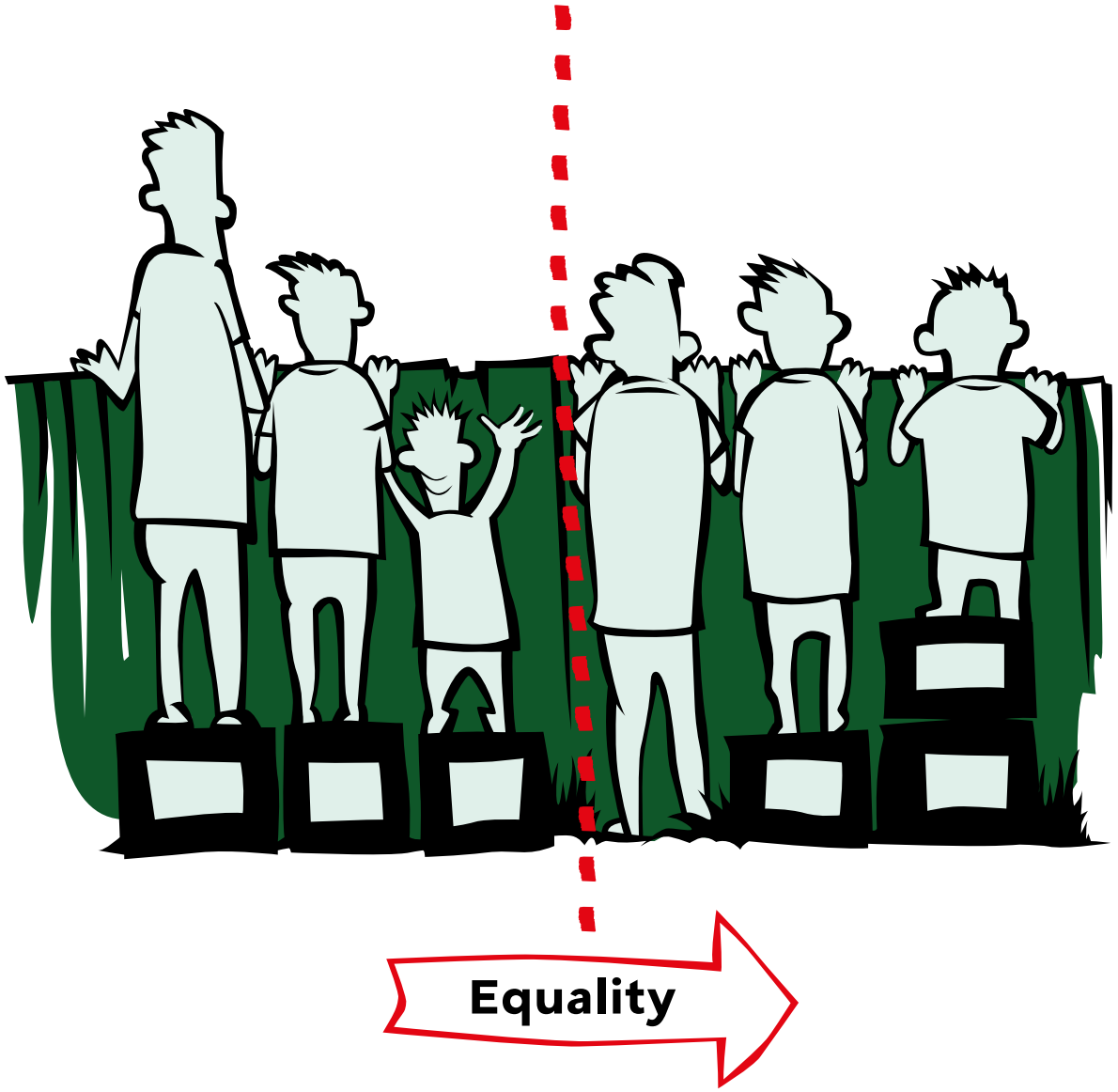
In order to implement this approach in practice, we will:

- work in a person-centred way and develop differentiated interventions targeting citizens' different needs and preferences. This might involve interventions that are culturally, linguistically and socially adapted to the target group of Copenhagen residents with an ethnic-minority background who are at increased risk of developing type 2 diabetes and/or heart disease

- work closely with other city-wide units, relevant actors in the local community and GPs to establish outreach efforts in deprived neighbourhoods where we are working on health promotion, prevention, rehabilitation and support with navigating the health service

- enter into a binding collaboration with the Social Administration and expand knowledge of the social area among employees at the Centre for Diabetes and Heart Disease. Another specific focus area, in collaboration with the Employment and Integration Administration, is to support Copenhageners with heart disease who lose their affiliation with the labour market when a chronic disease strikes.

These prioritised efforts will also be framed by the structural prevention work focused on creating cohesion between specific health services and a health-promoting framework for those citizens with the greatest needs. This includes a focus on ensuring that services for Copenhagen residents with type 2 diabetes and heart disease are linked to prevention work in deprived neighbourhoods such as Tingbjerg.


Equality

Track 3

Mental health

Health is more than just the absence of disease. It is also about the individual being able to realise their abilities, cope with the stresses of life and socialise with other people.

Health is about the positive aspects of everyday life and what adds value to each individual's life. In addition to the absence of disease, working with the broad and positive concept of health involves quality of life and living conditions, because Copenhagen residents should have the opportunity to live a good life despite their disease.

This understanding of health and disease will be evident in the way in which we engage with residents of Copenhagen. The health-education approach entails that Copenhageners with type 2 diabetes and/or heart disease learn how to look after themselves and take care of their thoughts, emotions and actions so that their bodies and minds can function as well as possible.

Interventions will be organised with a focus on the participants' own experiences, emotions and needs rather than a theoretical understanding of disease.

There is a close link between physical and mental health. Copenhageners with heart disease or type 2 diabetes have a two to three times greater risk of developing mental health problems compared with the rest of the population.

Mental health issues can make it harder for individuals to live with their disease and take care of themselves on a day-to-day basis. Depression associated with chronic disease can lead to increased risky behaviours, such as smoking, sedentary lifestyle or reduced self-care. This in turn has health-related consequences on the progression of the disease, meaning that mental health issues can make the physical disease worse.[4,5]

MENTAL HEALTH PROBLEMS IN THE TARGET GROUPS

Anxiety and depression

- 20–25% of people with coronary heart disease or heart failure experience depression or anxiety.

Diabetes stress

- 32% of people with type 2 diabetes experience disease-related stress.

- 38% of citizens starting a programme at the Centre for Diabetes show signs of diabetes-related stress.

What efforts will we prioritise?

In order to implement this approach in practice, we will:

- strengthen efforts to help citizens with chronic disease and mental health issues by developing activities that are specifically aimed at Copenhagen residents with type 2 diabetes or heart disease combined with mental health issues. These efforts will be developed in close collaboration with the Centre for Mental Health and will target the individual's needs, including psychological assistance where necessary

- ensure that employees of the Centre for Diabetes and Heart Disease have the skills to identify physical and psychological needs and issues that impact daily life for Copenhageners with type 2 diabetes or heart disease. HCPs must be equipped to assess whether a psychological reaction or issue requires referral for specialised help

- aim for the needs assessment in the engagement with the individual citizen to cover both physical and psychological responses to life with chronic disease. In this respect, systematically collected patient-reported outcomes (PROs) can be an extremely useful tool. PROs give individuals the opportunity to point to those issues that are most pressing and which it is therefore important for the rehabilitation intervention to take into account

- further develop activities and initiatives that support individuals' mental well-being and that can make it easier to cope with life with type 2 diabetes or heart disease

- increase the focus on outdoor life by further developing rehabilitation interventions in nature and actively using urban spaces in the programmes. Being in nature can have a positive influence on feelings of welfare and well-being and can help reduce symptoms of stress and depression. This also means that we need interventions focusing on mental well-being.

Track 4

A practically oriented knowledge centre

The City of Copenhagen wants to promote the Centre for Diabetes and Heart Disease as a national and international knowledge and skills centre for local-authority rehabilitation of people with type 2 diabetes and/or heart disease.

The local-authority rehabilitation effort is part of the overall health effort for people with type 2 diabetes or heart disease that is described in the programmes for the two diseases.[6] The content of individual rehabilitation interventions follows the recommendations of the Danish Health Authority, which as far as possible build on evidence from recent systematic research reviews.[7]

Much of the existing evidence and knowledge concerning rehabilitation is linked to specific interventions, often in relation to narrowly defined target groups. Local-authority rehabilitation interventions, such as those at the Centre for Diabetes and Heart Disease, have a broader aim to support people with type 2 diabetes or heart disease so they can live well with their disease day to day. The effect of the overall effort can therefore be difficult to document in a clinical research set-up, because the effort involves multidisciplinary integrated interventions and individuals who – in addition to chronic disease – often have other significant issues.

The City of Copenhagen wants to help close this knowledge gap. As a practically oriented knowledge centre, the Centre for Diabetes and Heart Disease wants to be a pioneering organisation that works with researchers and partners to develop and trial solutions that create value for Copenhageners and improve the overall quality of treatment and rehabilitation. Citizens and users play an active role in the solutions that are developed and contribute within the co-creation processes to coming up with the best solutions.

Strategic partnerships

Currently, the City of Copenhagen is involved in important strategic and international partnerships in the area of diabetes, and this action plan aims to focus on developing similar partnerships in the area of heart disease.

The partnership with Steno Diabetes Center Copenhagen includes research and development initiatives, including upskilling of employees on the latest diabetes treatments and rehabilitation, the development and evaluation of learning materials aimed at citizens with an ethnic-minority background, and an enhanced effort around user involvement.

The Cities Changing Diabetes initiative aims to create knowledge and solutions related to issues connected with type 2 diabetes in cities around the world. Copenhagen, together with a large number of other cities, is part of this initiative, which provides a unique opportunity to share results and experiences internationally and acquire knowledge and inspiration from other cities and organisations working within the area of type 2 diabetes and the city as a healthy place to live.

Partnerships with patient associations such as the Danish Diabetes Association and the Danish Heart Foundation can ensure a focus on important common agendas, for example in relation to maintaining and co-creating interventions that make a difference in everyday life.

Knowledge and skills must be deployed in practice

In order for academic knowledge to benefit people with type 2 diabetes or heart disease, it must be deployed in practice by employees. Employees at the Centre for Diabetes and Heart Disease must maintain a high level of academic expertise that is routinely updated to reflect new research, clinical practice and important experiences as they emerge, both nationally and internationally.

As a practically oriented knowledge centre for local-authority rehabilitation, the aim is also to make knowledge and skills available to partners and professionals within the City of Copenhagen, other local authorities, other parts of the health service and internationally.

Many areas of the local-authority health service, including residential care and social services, want their employees and managers to have up-to-date academic knowledge and skills to support their health work. The aim is to contribute to an increased level of knowledge among local-authority public-facing staff that ultimately benefits people with type 2 diabetes or heart disease.

What efforts will we prioritise?

In order to implement this approach in practice, we will:

- actively contribute to research, development and the dissemination of knowledge and results within local-authority diabetes and/or heart rehabilitation. This means collaborating closely with our partners to initiate new research and development projects in areas where systematic knowledge is lacking

- involve Copenhageners and partners in innovative processes where we work together to come up with solutions to important issues

- make knowledge, results and skills available to colleagues, national and international partners, and other stakeholders

- help increase the quality of local-authority health data in the areas of diabetes and heart disease so that in future local authorities can deliver data to national quality databases. This will ensure legitimacy in the collaboration with actors in other parts of the health service.

Notes

1 Anbefalinger for behovsvurdering i den afklarende samtale.
Danish Health Authority, 2019.

2 Lighed i sundhed - Artikelsamling om lighed i sundhed and fænomenets betydning i det danske samfund.
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3 Social ulighed i sundhed.
Danish Health Authority, 2020.

4 Depression as a Risk Factor for Poor Prognosis Among Patients with Acute Coronary Syndrome: Systematic Review and Recommendations.
A Scientific Statement from the American Heart Association, 2014;129:1350–1369.

5 Ismail, K., Moulton, C.D., Winkley, K. et al. The association of depressive symptoms and diabetes distress with glycaemic control and diabetes complications over 2 years in newly diagnosed type 2 diabetes: a prospective cohort study.
Diabetologia 60, 2092–2102 (2017).

6 Forløbsprogram for type 2-diabetes.
Capital Region of Denmark, 2009/2016;
Forløbsprogram for rehabilitering af hjertesygdomme.
Capital Region of Denmark, 2019.

7 Anbefalinger for Forebyggelsestilbud til borgere med kroniske sygdom.
Danish Health Authority, 2016; Indsatskatalog, Centre for Diabetes, September 2020.