DANISH REGIONS

HEALTH FOR ALL
VISION FOR A SUSTAINABLE HEALTHCARE

HEALTH FOR LIFE

PREVENTION IS A NECESSARY INVESTMENT

Contents

'Health for life – prevention is a necessary investment' is part of a series of papers released in the context of Danish Regions' vision for sustainable healthcare "Health for All".

Preface

We live in an era where we seek new solutions to familiar challenges. Fortunately, we are now living longer, but a longer life also means that we have a greater need for our healthcare system. At the same time, the proportion of the population in working age is decreasing. The development of new therapies and technologies and higher patient expectations will contribute to raise the standards of healthcare, but at the same time, it will put pressure on healthcare resources.

We know that resources will be scarce in the years ahead. For this reason, we need to find new ways to optimise the resources available.

We cannot afford to focus primarily on disease and only treat patients when required. Instead, we need to put equal focus on ensuring that the population is healthy and have a good quality of life. Many diseases are preventable, and we need to place a far greater focus on this.

Many good preventative initiatives are already in place. We need to further develop and implement this work across sectors. Yet, if we are to radically improve public health, we need to work together across sectors and prioritise initiatives that effectively promote good health for the whole population. To ensure that we are on the right track, we need assess whether we manage to improve public health. We all need to stand by the initiative and our joint responsibility.

The Regions wants prevention on the agenda to be prioritised. For this reason, we will present a range of initiatives that can help to improve public health. This paper is an invitation to dialogue, and debate on a much-needed initiative.

Let us sow the seed of a tree that should have been planted many years ago. Prevention is a long-term investment and will benefit both the individual and the society. Now let's get started on creating health for life!

Bent Hansen and Jens Stenbæk

Joint investment in a good and healthy life

Prevention must be on the political agenda. The Danish people deserve more good and healthy years. An investment in prevention is necessary to secure our future healthcare – and it is an absolute necessity in order to be able to provide care for the many people who will require treatment for one or more diseases.

In the spring of 2016, the Danish government, the regions and the municipalities committed to ensure the Danish population more healthy years. We can only succeed to meet this commitment if we as a society invest in the initiatives that provide the best level of health for all.

Although one cannot simply equate a good life with a healthy life, good health is a necessary basis for us to thrive and develop our full potential. With this publication, Danish Regions encourage stakeholders within and outside of the healthcare system to take joint responsibility for public health. Initiatives for children and young people must be of high priority, since habits and lifestyle are established early in life - in some cases already at the foetal stage. Yet, this publication touches on all phases of life. We must ensure that every person has the best opportunities to take responsibility for their own health throughout their life.

If we are to improve public health, all stakeholders must acknowledge their responsibility and assume their share as part of a joint and coordinated effort. Based on this, we need to establish a much stronger collaboration across parliament, public authorities, different sectors, social services, NGOs, research institutes and industry, and closely involve patients and families in this process. There is solid evidence that prevention works if it is implemented on multiple levels. Therefore, we need to take action implementing a wide range of interventions on multiple levels - from legislation and campaigns to individualised preventative interventions. Danish Regions encourages stakeholders, within and outside of the healthcare system, to prioritise and take responsibility for the prevention of diseases with a focus on the risk factors that are most significant for the development of disease.

The rewards of a coordinated and mutually binding initiative will be worth the effort invested in achieving them. It will create more healthy years, contribute to an efficient use of resources and reduce the social inequality in health, which in Denmark has risen over the past 30 years.

Responsibility for prevention in Denmark

In the Danish Health Act, there is a distinction between patient-oriented and citizen-oriented prevention. The municipalities and regions share the responsibility of patient-oriented prevention. The regions are responsible for providing patient-oriented prevention in hospitals and general practice and advising municipalities on prevention.

The municipalities are responsible for citizen-oriented prevention including creating the best opportunities for people to live a healthy life and establish preventative and health-promoting interventions.

The Danish Health Authority is responsible for medical guidance of regions and municipalities in relation to their work set in the Danish Health Act. The Danish Health Authority communicates knowledge to the general population and public authorities and helps to promote interventions supporting healthy life choices.

As said, other stakeholders hold a contributing part in securing public health. The responsibility of each stakeholder should be clearly set out in a joint national action plan.

Expensive and poor health

Nearly a third of the adult Danish population suffers from one or more chronic diseases. In the future even more Danes will suffer from chronic diseases, spending many years living with the discomfort caused by illness.

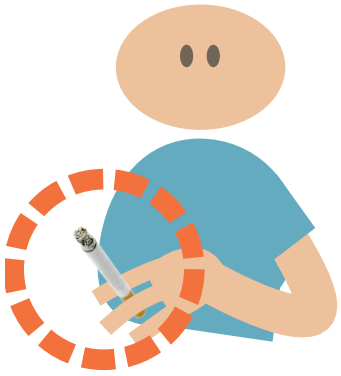
Musculoskeletal pain and mental disorders such as depression and anxiety are the most common reasons people leave the labour market. Cancer and cardiovascular disease are the foremost causes of death. Being ill and unable to live the life one wants is a deeply unfortunate situation to be in. It also places a strain on our health service and economy.

Smoking, high alcohol consumption, unhealthy diet, lack of exercise and poor mental health are closely linked to the risk of developing the most common diseases and suffering from premature death. Smoking is the single biggest risk factor in relation to morbidity and mortality. Smoking is also the risk factor associated with the greatest social inequalities in health.

A coordinated initiative, which focuses on the opportunity for each person to live a healthier life, will not only benefit each person; it will also save us for billions of kroner. It will mean that fewer people than expected will require care and treatment or leave the labour market due to illness.

THE SOCIOECONOMIC CONSEQUENCES OF DIFFERENT RISK FACTORS

There is an association between smoking, loneliness, etc. and extra costs for care and loss of earnings. The figure shows that a life without smoking, loneliness etc. would lead to substantial socio-economic savings.



SMOKING

ADDITIONAL ANNUAL COST FOR TREATMENT AND CARE

DKK 10BN

ADDITIONAL ANNUAL COST FOR LOSS OF PRODUCTION

DKK 29BN

ADDITIONAL ANNUAL COST FOR TREATMENT AND CARE

DKK 7.1BN

ADDITIONAL ANNUAL COST FOR LOSS OF PRODUCTION

DKK 22BN

PHYSICAL INACTIVITY

ADDITIONAL ANNUAL COST FOR TREATMENT AND CARE

DKK 5.3BN

ADDITIONAL ANNUAL COST FOR LOSS OF PRODUCTION

DKK 11BN

LONELINESS

ADDITIONAL ANNUAL COST FOR TREATMENT AND CARE

DKK 2.2BN

ADDITIONAL ANNUAL COST FOR LOSS OF PRODUCTION

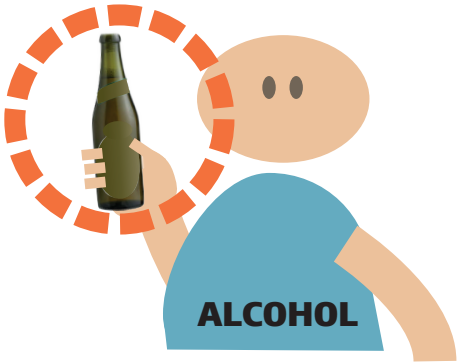
DKK 7BN

ADDITIONAL ANNUAL COST FOR TREATMENT AND CARE

DKK 1.8BN

ADDITIONAL ANNUAL COST FOR LOSS OF PRODUCTION

DKK 7.8BN



ADDITIONAL ANNUAL COST FOR TREATMENT AND CARE

DKK 380M

ADDITIONAL ANNUAL COST FOR LOSS OF PRODUCTION

DKK 7.7BN

Source: Eriksen L, Davidsen M, Jensen HAR, Ryd JT, Strøbæk L, White ED, Sørensen J, Juel K. Statens Institut for Folkesundhed, Syddansk Universitet. Sygdomsbyrden i Danmark - risikofaktor, 2016.
Note: The costs related to unhealthy eating was not possible to calculate, though an association is found.

Health for life

Danish Regions believes that we need a new perspective on familiar challenges. The basis for a binding partnership is a shared goal of achieving the best health conditions for the population and at the same time achieving a more equal distribution of health in the population.

In order to achieve the best possible health conditions for the population, we need to be better at preventing and managing different risk factors. For example, social problems can lead to less energy and willpower to stop smoking – despite having a desire to do so. There is evidence that a lack of social support and loneliness can lead to a higher risk of developing illness. The route to achieving the best health conditions will therefore not be the same for everyone, but will depend on the individual's needs and circumstances.

This means that the healthcare system need to take a holistic approach to the patients – not simply focusing on the treatment of disease. Good health is far more than the absence of disease – being fit and healthy is a matter of feeling good physically, mentally and socially.

We need to be more proactive and take greater responsibility for ensuring that healthy people remain healthy, that patients do not develop more illnesses and that illness do not deteriorate. With a focus on prevention, we want to prioritise resources to initiatives creating the best overall value for the population and the society. Early interventions in general practice can prevent development of illness and hospitalisations. Greater integration between healthcare and social services as well as partnerships with voluntary organisations, workplaces etc. have the potential to prevent the development of illness.

In order to achieve a widespread effect of preventative initiatives, it is essential to make it easy for people to live a healthy life. The local environment should support a healthy lifestyle, including possibilities for physical activity in the local area, smoke-free surroundings and easy access to healthy food. So-called structural prevention will be a cornerstone of a coordinated effort.

The regional health profiles, which describe health and risk behaviour in the Danish population, is an important tool in the planning of preventative initiatives. Municipalities already use the health profiles to plan prevention, but there is potential to make even greater use of the health profiles locally and nationwide. The health profiles can for instance provide insights into the health and well-being of the population across municipalities and local areas. This creates an opportunity for a coordinated effort with a focus on selected population groups.

The Regions will support relevant partners with data, research, specialised expertise and coaching. This may for instance include job centres, day-care institutions, schools and voluntary and social organisations. In addition, the support can also include contribution to initiatives, which focus on providing awareness, correct information and education on health matters.

The Regions encourage to collaboration

The Regions invite relevant partners to dialogue and joint action. With this paper, we want to present a range of initiatives that can help to improve public health. The paper sets out specific suggestions on how we can live longer and enjoy more healthy years. We present 4 strategic tracks and 24 specific proposals for initiatives at a national and regional level.

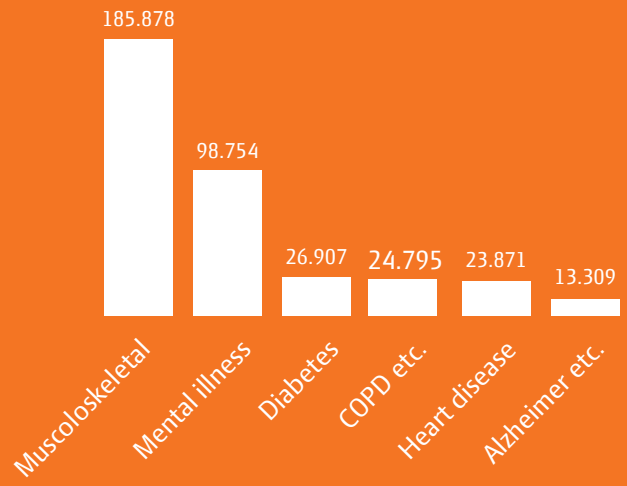
This paper does not present a definitive solution; rather, it is what we see as the first steps towards a coordinated and joined effort. We want to make use of all available skills, spanning multiple areas of responsibility and expertise. The Danish government has a particular responsibility to support the work.

It is worth remembering that Denmark has had significant success in the sphere of prevention: we have clean drinking water and good hygiene, and we have reduced mortality due to road accidents considerably – to name just a few of the preventative measures that have had a major impact on the lives of the Danish population. It is time that this persistent, systematic and effective approach produces results in the sphere of disease prevention.

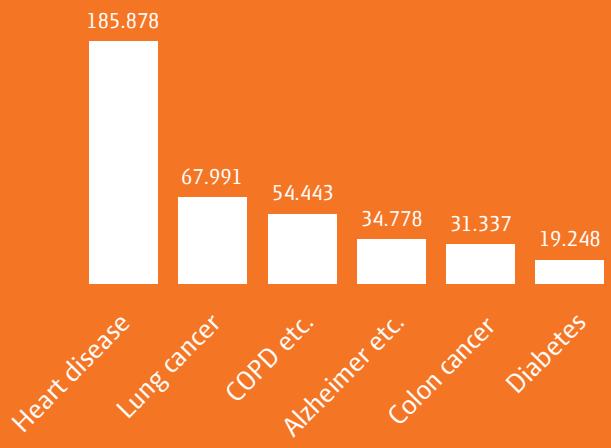
Regional meetings with the population have already demonstrated that the population believes that it is important to prioritise the prevention of illness. In addition, studies show that the Danish population in general support the implementation of prevention measures on multiple levels.

Therefore, it is time that all relevant stakeholders join in and work together to achieve the highest possible level of health in the population.

Healthy life years lost due to illness



Years lost due to premature death



Loss of healthy years due to reduced functionality, illness or premature death

The numbers show how different diseases affect public health each year. For example, in just one year the Danish population looses 186.000 healthy life years due to muscoskelatal disorders. Adding to that, the Danish population looses 185.000 years of living each year due to premature death caused by heart disease.

Sourc: Global Health Data, 2015, Institute of Health Metrics and Evaluation.

Policy objectives for prevention in the future – where do we want to go?

We have to work together and coordinate prevention

Public health is a shared responsibility. We need to put all the available expertise to work through binding partnerships with multiple stakeholders. We need to focus on all stages of the course of life. We need to have common goals with a focus on ensuring the best conditions for a good and healthy life for all.

We need to target prevention

Knowledge of the health status and health behaviour of the population will form the basis for targeted prevention. We need to improve early intervention for people at risk of developing illness or experiencing a deterioration of existing illness based on each person's needs and resources, and we need to monitor initiatives closely to assess their effect. People must be part of the solution based on their ability to take responsibility for their own health, and by incorporating relevant technology and cooperating with partners inside and outside of the health service.

We need to prioritise initiatives that have an impact

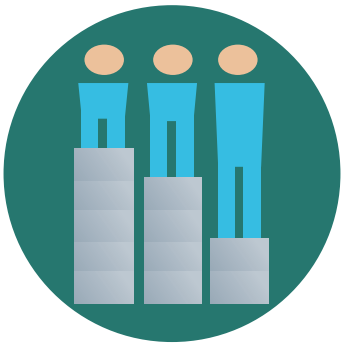
We need to prioritise and invest in the initiatives that have the most impact. We also need to create scope for the testing of new, innovative methods. This requires that we monitor and evaluate new initiatives closely. We need to focus on the health impacts for the individual as well as how we achieve the highest possible level of health in the population relative to the money spent. This requires knowledge of organisation and implementation of prevention.

Illness or loss of functionality

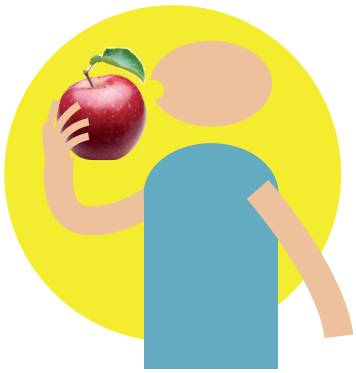
Premature death

Life expectancy

Four strategic tracks

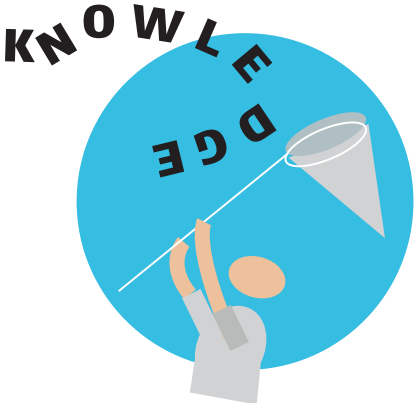


1: Equality of health
Everyone should have the same possibilities to live a healthy and good life. We need to focus on the early years of life and on conditions motivating people to live a healthy life.

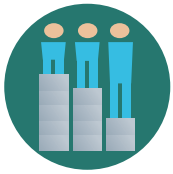


2: Prevention of chronic illness and mental illness
Binding partnerships and collaboration should be the setting for a more systematic prevention, early detection and healthy living.

3: Better use of technology
Smart use of technology can bring prevention closer to everyday life. The possibilities need to be examined and implemented.



4. Research
Knowledge of the effects of prevention is necessary.



STRATEGY TRACK 1

Equality of health

The Regions would like to take more responsibility for ensuring more equality in health by making research, data and expertise available for our partners. Moreover, the Regions are working to ensure that hospitals and general practice to a higher degree personalise treatment and care based on the needs, resources and living conditions of the individual. Personalised care will increase the likelihood of an even return on the prevention efforts invested. However, in order to ensure greater equality in health, we need to focus on settings and initiatives that promote the health of the entire population.

Equality in health means that everyone should have equal opportunities to live a good and healthy life. This is far from the case today. A large section of the Danish population have not benefitted from the improvements in health that the Danish population as a whole has experienced since the mid-1980s. This means that some people do not have the same opportunities as others to fulfil their potential of life.

People who are low educated or unemployed are at greater risk of disease and premature death compared to people with high education. Social inequality in health is expressed in two different ways: As a gradual inequality in the general population – the so-called social gradient in health. This means that exposure to health risks and disease increases gradually as the social position decreases. This is reflected in the fact that the less education one has received, and the lower one's income, the greater one's risk of poor health. Furthermore, inequality is reflected in the fact that there is a large gap in health status between the most vulnerable part of the population and the rest of the population.

In order to achieve greater equality in health, we need to create a healthy environment for all, and improve early intervention for all children irrespective of their living conditions. Initiatives exclusively targeted at vulnerable people such as vulnerable pregnant women, homeless people and drug addicts do not cancel out the social inequalities in health among the general population, but are important in a human perspective.

Inequalities in health are both unfair for the individual and at the same time, it is costly for society. For instance, it is possible to save up to 90 per cent of the cost of early retirement if everyone in the age of 30-64 had the same health status as people with a long or medium education.

The risk of chronic illness is higher in children with parents with low education, low income or unemployment.[2]

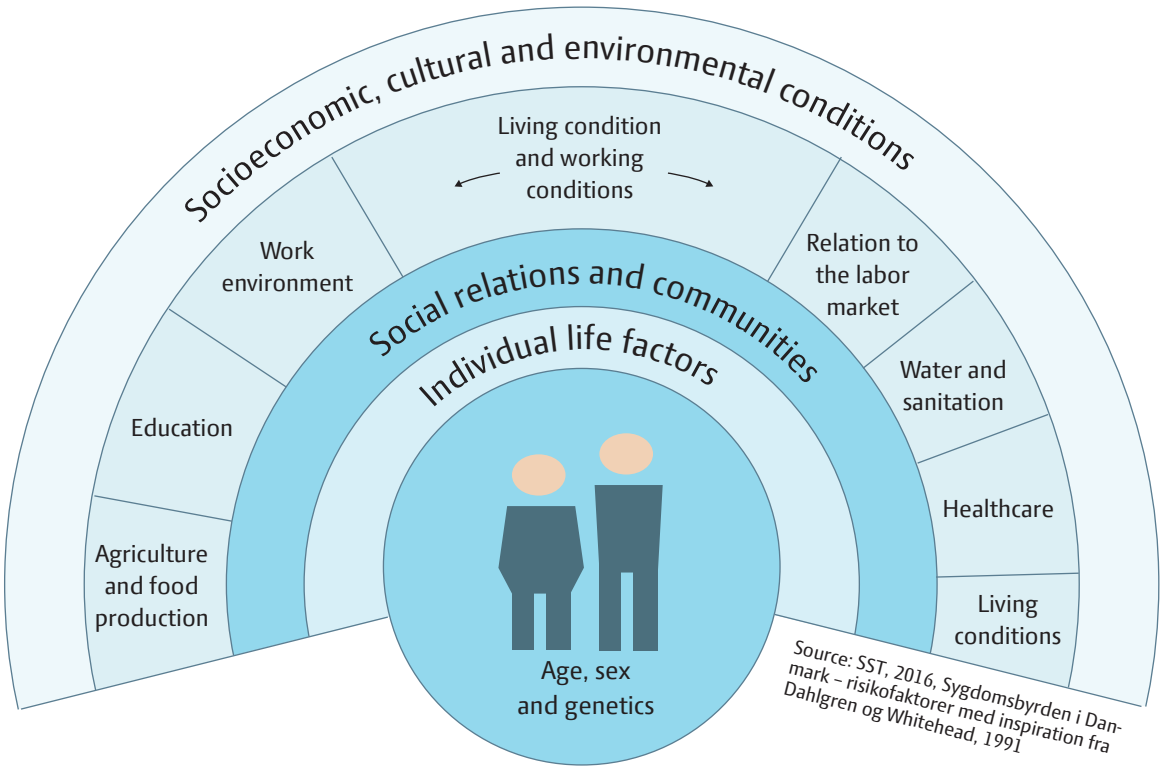
60-70 percent of inequality in health is related to smoking or alcohol consumption.[3]

People with low income live ten years shorter than people with high income.[4]

The healthy choice should be the easy choice

Evidence shows that a healthy environment is more likely to encourage children, young people, adults and the elderly to make healthy choices. A healthy environment can contribute to greater equality in health. Legislation is a way to create a healthy environment, e.g. legislation on smoke-free environments, as well as creating settings that encourage a healthy and active life. Access to bike paths, playgrounds, sports grounds and nature both in cities and in the countryside, together with access to healthy foods, are of great importance. Furthermore, so-called nudging methods – i.e. making the healthy choice the easy choice – contribute to a more healthy life. Nudging can make it easier to choose the stairs instead of the lift at work, or make it easier to choose vegetables instead of sweets at the supermarket.

The introduction of a smoking ban and settings encouraging an active lifestyle are among the most effective ways to reduce social inequality in health. Structural prevention is often cost-effective and of great benefit to the health of individuals and the overall economy.



DETERMINANTS FOR HEALTH

Early intervention for all children improves public health

Good habits and the possibility to live a long life with many healthy years begin in childhood and must be maintained throughout one's life. Research shows that greater preventative efforts targeted at all children will help to bring about greater equality in health. This may include initiatives in child healthcare or children's dental care. It may include interventions at day-care centres and primary schools, where focus may be to improve the child's empowerment and their social relations. These initiatives have a proven positive outcome, and the outcome is generally greatest for those children who have the weakest starting point.

Life-long prevention

A coordinated prevention initiative extends beyond the early years of life. Prevention must be incorporated into everyday situations, including where we live and where we work focusing on minimising exposure to risk factors. Examples of this include local communities, schools, workplaces, supermarkets, hospitals, homes, sports clubs and networks. As an example, workplaces are obvious places to improve the prevention of musculoskeletal disorders. Places like these are known as prevention arenas. As part of a national action plan, we want to select specific prevention arenas.

Our healthy everyday life

The project 'Our healthy everyday life' aims at developing and testing a dynamic model for the municipalities' work with health promotion and prevention. One goal is to increase social equality in health. The upcoming health profiles, documenting the health and well-being of the population, will allow identification of challenges, needs and strengths of the population in each municipality. Based on this knowledge together with knowledge of the municipalities and people's wishes and priorities, specific interventions will be developed, implemented and evaluated, including structural interventions, social programmes, campaigns and initiatives aimed at specific groups of the population.

Interventions based on structural changes in society is at the core of the project. The project involves the participation of multiple partners, both nationally and locally, and the population is involved from the very beginning of the project. Partners in the project include supermarkets, voluntary and social organisations, schools, day-care institutions and patient organisations.

The project is a collaboration between the Research Center for Prevention and Health, the Steno Centre for Health Promotion Research, Aalborg University, the University of Copenhagen, two regions and four municipalities. The project will begin in 2017 and last 4 years.

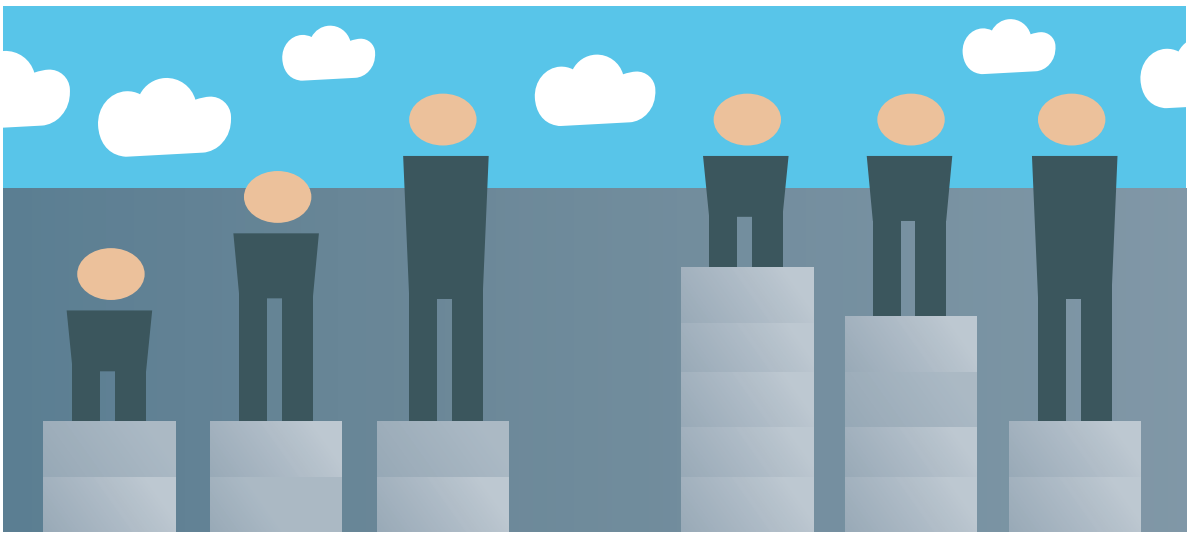
The role of the health service in a joint initiative for greater equality in health

Municipalities, regions and general practice are already working to reduce social inequality in health. A large number of projects are running, and projects showing positive outcomes should be applied more widely. There is an increasing focus on implementing a range of initiatives in order to achieve equal opportunities in healthcare.

Countries such as the United States, Scotland and Spain are already working with models that focus on how health service is organised in a way that makes proactive action possible. The models focus on the population as a whole or a specific group of the population, the lifestyle and the individual circumstances of the group, and target initiatives accordingly. It is not feasible to transfer these models directly to the Danish healthcare system. The approach is nonetheless relevant in a Danish context. A proactive approach makes it possible to utilise resources where it is most beneficial to both individuals and the society. In short, this means that different types of initiatives should be implemented based on the varying needs and resources of the population.

In order to achieve a more holistic approach to health, we have to combine services in healthcare with services in other welfare sectors. Many general practitioners experiences that some patients consult them repeatedly without the general practitioner being able to help the patient medically. These patients are often individuals who have social or mental problems or who are lonely or socially vulnerable. As it is now, general practice does not have the possibility to offer these patients alternatives to medical treatment. There is a need to integrate and develop social interventions in the treatment of this group of patients. This will help to increase patient's quality of life, promote healthier habits and avoid costly hospitalisations.

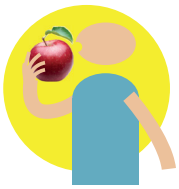
Municipalities, regions, patients themselves or voluntary organisations and patients' associations can manage the social initiatives and a large number of social initiatives already exist. However, it can be challenging for healthcare professionals to keep track of the wide range of initiatives and the possibilities of partnerships could be expanded.



"The Health Profile" – a source of knowledge of the Danish citizens

Every four years, the Regions perform health profiles, which are an important source of knowledge of the Danish population's health and health behaviour. Data comes from questionnaires completed by a large, representative sample of the population.

The health profile helps to highlight health issues and groups at particular risk of developing illness. The information is used in the planning of healthcare interventions. For instance, the health profile indicates that the Danish population's assessment of their own health varies depending on their social status. With other words, being uneducated and without work puts you at an increased risk of disease. In this way, the health profile provides knowledge that makes it possible to carry out targeted interventions with respect to various population groups.



STRATEGY TRACK 2

Prevention targeted at chronic illness and mental illness

The Regions will contribute to ensure that the Health Profile is incorporated systematically in the work with prevention aimed at preventing chronic illness and mental illness. Data on the health status and health behaviour of specific groups in the population must be utilised in the planning of prevention in order to achieve the best possible level of health among the population.

Prevention, including initiatives before and after disease arise, aimed at specific groups of the population is relevant in the context of a coordinated prevention initiative. In addition to focusing on the early years of life, the regions propose focus on groups at risk of developing illness or experiencing a deterioration of existing illness as part of a comprehensive and proactive prevention effort. This applies to young people and adults who smoke and drink too much, young people who are mentally unwell and people with mental disorders who are at risk of developing illnesses such as heart disease and diabetes. Interventions should be monitored and evaluated continuously, regardless of who is responsible, to ensure focus on effect and quality.

Partnering on targeted prevention

By means of an early and systematic intervention, hospitals and general practice can prevent the development and deterioration of illness. Every year, more than half of the Danish population is in contact with hospitals, and more than 90 per cent contact general practice. If appropriate, healthcare professionals need to focus on risk factors such as loneliness, smoking, physical inactivity, an unhealthy diet and alcohol use in the contact with each patient in order to ensure a more systematic approach to prevention. Studies show that the Danish people are prepared to discuss their health in general terms, even when the discussion does not directly relate to the reason of consultation.

Healthcare professionals must ask questions about patients' personal life situation in order to ensure that patients do not return to an environment, which contributes to them becoming ill. Such conversations can result in a range of initiatives in the municipalities – both with regard to diet, tobacco, alcohol, physical activity and mental health. In order to ensure consistency and improve the quality of initiatives it is important that all at risk patients are provided with interventions of well-known quality, irrespective of where they live.

Partnerships contributing to positive outcomes for public health

The integration of multiple stakeholders in a systematic prevention effort shows great potential. Sports associations and social organisations can contribute with initiatives for patients such as social networks, local fitness initiatives etc. Strengthened collaboration and partnerships can ensure that it becomes easier for patients to maintain healthy habits after admission, and thereby avoiding complications of illness. Partnerships may also have a positive effect on mental health by strengthening social networks in the patient's local area.

FC prostata

A partnership between a hospital, the University Hospitals' Centre for Healthcare Research and the Danish Football Association launched a project that examines the effects of being part of a football team on the quality of life of men with prostate cancer. The project also examines how being part of a football team can influence the persistence of physical exercise, muscle strength, bones and adipose tissue. Research shows that regular physical exercise can have a positive effect on men with prostate cancer in terms of reducing the likelihood of a worsening of the disease.

Local football clubs across Denmark offers men suffering from prostate cancer to practice football in teams. The club specialises the practice in relation to the needs of the group of men with prostate cancer.

The regions see a potential for a further involving of pharmacies in regards to prevention. Each year pharmacies see 94 % of the Danish population. This gives pharmacies a unique position to contribute to systematic and early detection of disease in people who seek advice and guidance, and who may not be in contact with healthcare or involved in preventative initiatives in the municipalities. One task for pharmacies may be to provide information on initiatives offered by municipalities and social associations. Such partnerships should always be based on knowledge of the health status of the local population so that initiatives can be personalised according to the needs of the population.

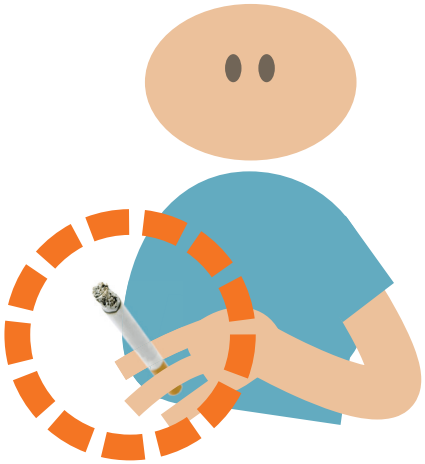
ANALYSIS OF THE POTENTIAL FOR PREVENTION WHEN HEALTHCARE IS IN CONTACT WITH PATIENTS

The daily contacts between patients and hospital or general practice represents a potential to improve prevention in relation to smoking and alcohol. Patients who smoke or have an unhealthy consumption of alcohol should be offered help systematically. This will help to increase social equality in health.

SMOKING

Almost every fourth death relates to smoking. About 18 percent of admitted patients and 17 percent of patients in contact with general practice smokes daily.

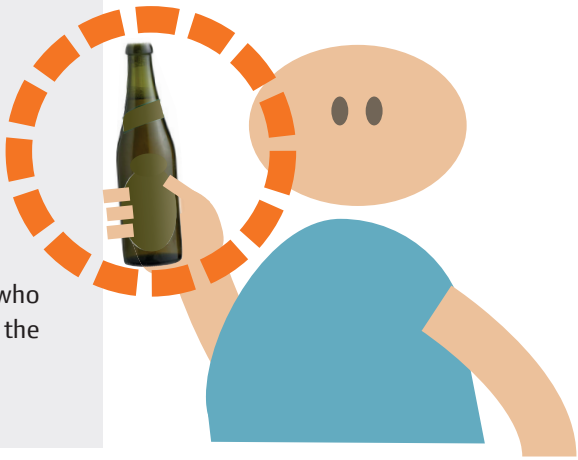
The proportion of patients admitted to the hospital who smokes daily is highest among the group of patients with low education.



ALCOHOL

Almost every twentieth death relates to excessive alcohol consumption. 8.6 percent of patients in contact with the hospital and 8.5 percent of patients in contact with general practice drinks more alcohol than recommended.

The proportion of patients admitted to the hospital who drinks more alcohol than recommended is highest among the group of patients who are unemployed or early retired.



Source: Pedersen CG, Davidsen M, Johansen NB, Christensen AI, Tolstrup JS. Forebyggelsespotentiale Ved Patientkontakter. Statens Institut for Folkesundhed, Syddansk Universitet; 2017.

Regional expertise with early intervention

The regions possess an expertise and knowledge that can be of use in others work with prevention and early intervention. Currently, we face a challenge with the mental health of young people. Young people who are mentally unwell are a group that needs specific attention in the form of early intervention and support. Together with primary schools, secondary schools and organisations, the regions have an opportunity to offer a hand to these young people so that they are provided with appropriate support that give them a good start in life.

Focus on promoting good mental health

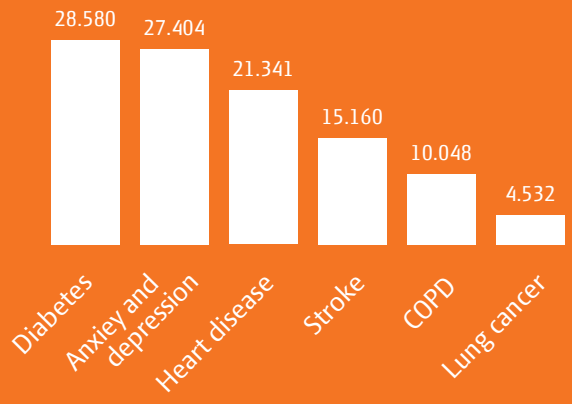
In the coming years, we specifically need to work to promote good mental health. Good mental health is of crucial significance for our health and quality of life and consequently our ability to be an active part of society.

Focus on poor mental health as a risk factor is relatively new. There is a need for closer involvement between researchers and healthcare to establish a broader perspective on the growing challenge of poor mental health. Further studies on factors leading to mental illness need to be carried out as well as studies of what constitutes good mental health. At present, we know that factors such as lack of care, poor well-being and teaching in day-care and school, unemployment and dropping out of school are risk factors of developing poor mental health. At the same time, the same conditions are linked to social inequality in health.

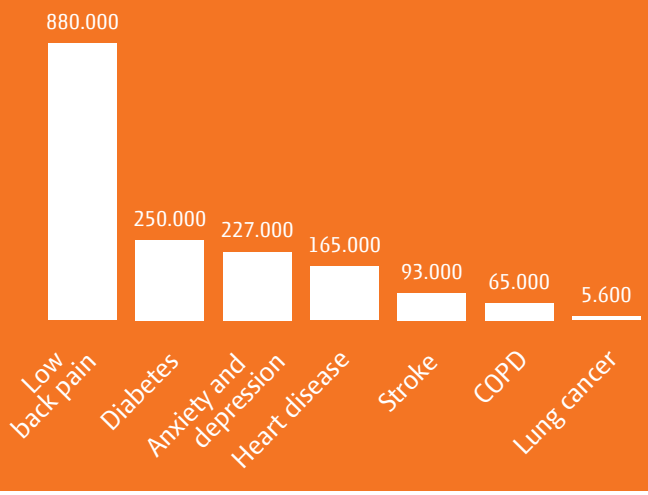
Prevention aimed at specific groups is not enough on its own

Prevention needs to be carried out a multiple levels. This will ensure the greatest impact on public health. For this reason, prevention aimed at specific groups should not be the only initiative. When local settings encourages healthy choices, there is a greater likelihood that other interventions will be effective, and that healthy habits will persist.

Incidence



Prevalence



Mental illness is expected to be the greatest burden of disease worldwide in 2020.[5]

Half of the people with mental health issues develop chronic disease such as diabetes, COPD, heart disease or musculoskeletal disorders.[6]

Each day, 40 Danish children under the age of 18 start smoking. 16 per cent of the adult population smoke daily. [7]

About 4.000 Danish people die every year because of excessive alcohol consumption. Consumption of alcohol is associated with more than 60 different diseases. [8]

Source: Sundhedsstyrelsen, Flachs EM, Eriksen L, Koch MB, Ryd JT, Dibba E, Skov-Ettrup L, Juel K. Sygdomsbyrden i Danmark – sygdomme. Statens Institut for Folkesundhed, Syddansk Univesitet 2015

Better use of technology

The possibilities presented by technology to provide individualised prevention close to home are developing rapidly. At present, the technological possibilities have yet to be utilised to their full potential. Telemedicine has shown good results in terms of minimising deterioration of illness and at the same time bringing care closer to home. Yet, there is a wide range of possibilities available, and we need to explore how technology can play a bigger role in the future contributing to ensuring good health throughout the life. An objective is that technology will be personalised to the individual's needs, resources and living situation.

In particular, the development of apps and other solutions for mobile phones and tablets has taken off. This includes solutions as webinars or forums for specific groups as well as the use of wearables. Wearables are electronic devices carried on – or implanted in – the body, which can measure things as for example the patient's blood pressure, pulse, sleep cycle or movement. These personal measurements have potential to be used in the patient's dialogue with healthcare professionals. This type of technology has the potential to detect and prevent deterioration of the patient's illness and at the same time free up resources for patients' in need of continuous one-to-one contact.

Technological applications may also include DNA profiling that can provide health staff with knowledge of patients' risk of developing illnesses.

Developing and testing technology with focus on efficacy, safety and quality

Future technological applications have the potential to benefit diverse groups of the population. Yet, there is a paucity of knowledge about what is efficient. We need knowledge about, which groups of the population who benefit from different types of technology, without this causing social inequality in health. For this reason, development of technology should be closely linked to research. There is a wide range of health applications for smart phones, which potentially can be used in the work of prevention. However, it may be difficult for the individual or the clinician to assess the quality and safety of each application. Therefore, we need to work towards providing patients and clinicians with a qualified overview of which applications are useful and efficient.

With new technology comes an ethical responsibility to assess the impact of new technology for the individual and for the society.

Web-based alcohol intervention

Web-based alcohol intervention accessible via computer, smartphone or tablet, is gaining ground internationally as an alternative or complement to traditional interventions, which require the patient to visit the doctor in person. In Denmark, the use of information technology is widespread, and this provides a solid basis for the use of new technologies in public health interventions on alcohol overuse. Only a small proportion of those who consume harmful levels of alcohol receive treatment at a treatment facility. The reasons for this include taboos and stigma associated with seeking help for alcohol abuse, geographical distance and lack of available knowledge.

The project 'lidtformeget.dk' ('a bit too much') examines whether conversational therapy carried out online rather than in person can help people with harmful alcohol consumption to:

1. Enrol in an alcohol treatment programme,
2. Participate in at least three consultations with an alcohol counsellor and
3. Reduce their alcohol consumption to a level below the Danish Health Authority's weekly limits for high-risk consumption.

The project begins in spring 2017 and is a joint collaboration between the National Institute of Public Health, the municipal Centre for Social Vulnerability and the Novavi Fund.

Research

The Regions will contribute to ensure that prevention is based on the latest knowledge and research. If the effect of a given initiative is unknown, the initiative should be monitored and evaluated. Both national and regional research communities play a central role, and the link between research and practice is essential.

Evidence shows that public health would be increased considerably if it was easier to avoid alcohol and tobacco, to exercise and to eat a healthy diet. In particular legislation, regulation, urban planning, availability of healthy foods and possibilities to exercise are documented means of achieving the goal of increasing the health of the entire population.

There is still much we do not know about the effect of different work of prevention. This includes knowledge of:

- Effective methods of organisation and implementation
- Effective prevention programmes targeted at specific groups of the population and specific arenas
- Health promotion in relation to mental health
- The potential of personalised medicine to support prevention.

It is important that knowledge of the efficacy of different preventative interventions have a direct impact on what is prioritised and implemented in the future. In relation to this, the regions would like to contribute to research within the area of prevention.

Organisation and implementation

The effects of prevention is closely linked to the organisation and implementation of the interventions and collaboration across healthcare sectors. However, the knowledge of how best to organise and implement prevention is limited, and there is need for further investigation.

Target groups and arenas

We need to research, which prevention methods work best for whom and in which arenas. This research must focus on potential for the implementation of the specific initiatives.

Mental health

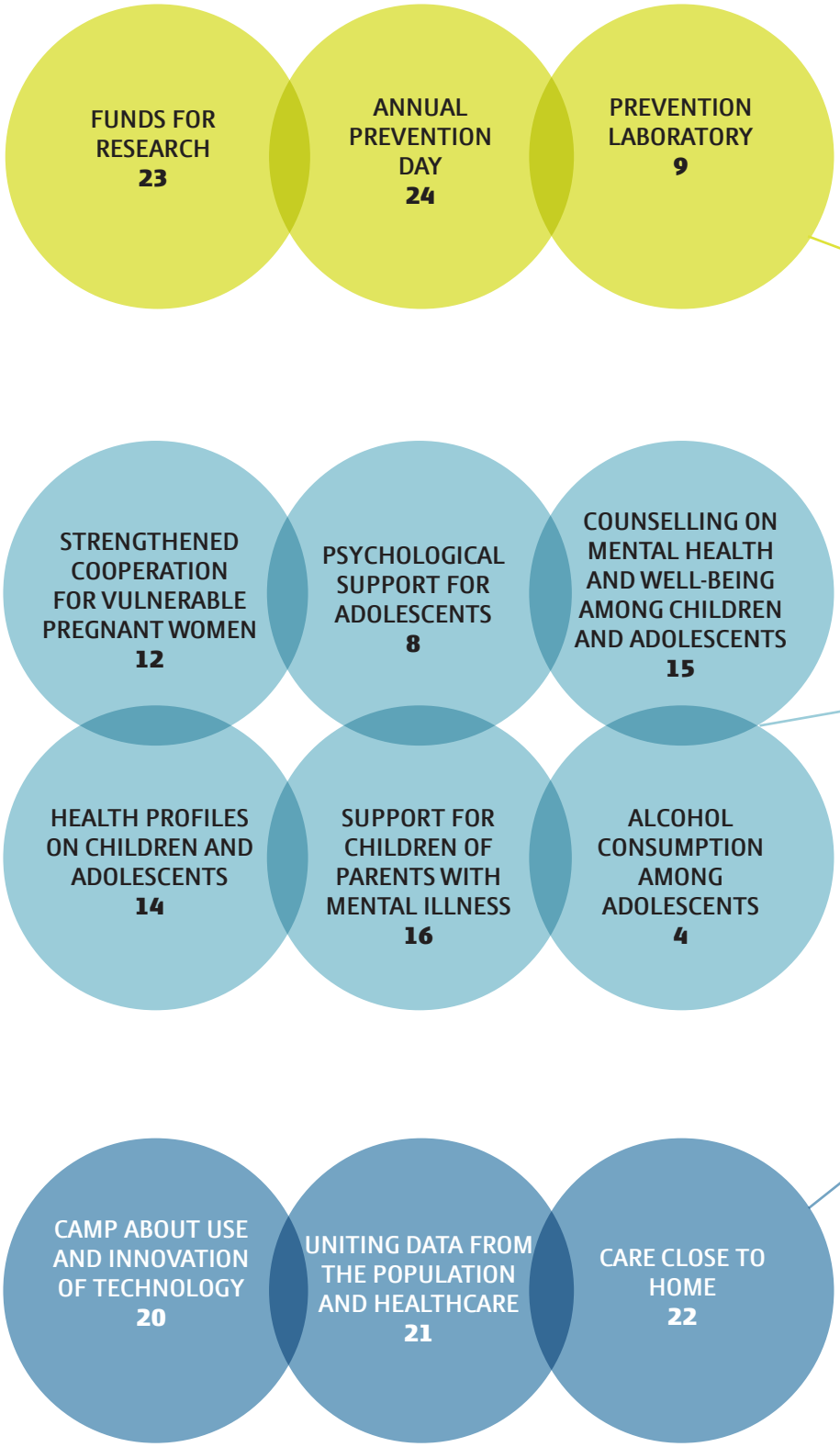
In recent years, there has been more focus on the realisation that prevention and treatment cannot reduce the burden of mental illness on its own. There is a need to implement initiatives that promote good mental health at a national level and to research what impact they have. We need more knowledge about what conditions keep us mentally healthy, just as we already have knowledge of the conditions that contribute to physical health.

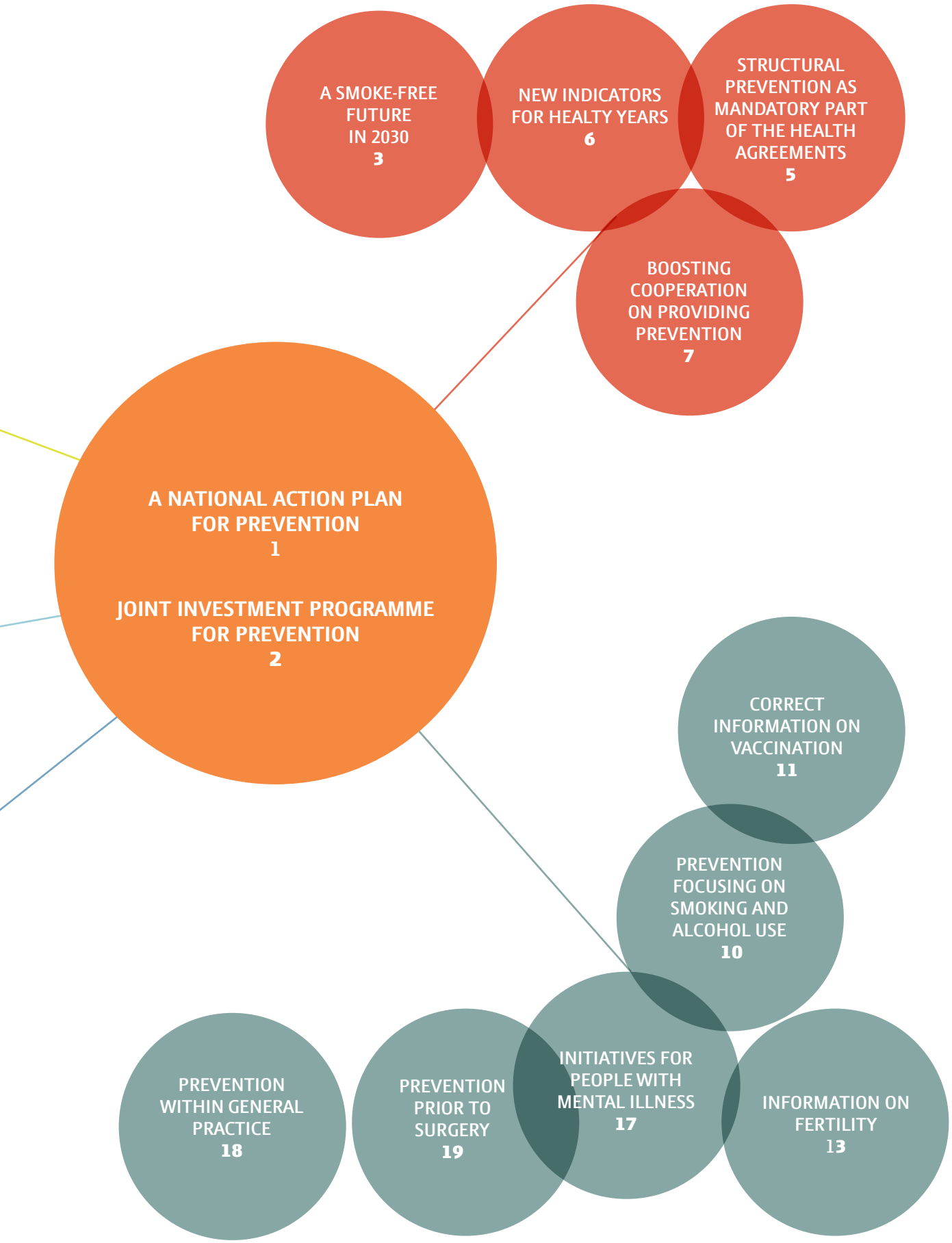
Personalised medicine and its potential in the work of prevention

A particular branch of research, which may contribute to improve prevention, is personalised medicine. Personalised medicine is in development and is primarily used in treatment, but also has great potential in the work with prevention. Personalised medicine maps out the genetic profile of a person, which can be used by clinicians and researchers to find out whether a patient is predisposed to a particular disease. At present, personalised medicine is applied for preventative purposes, including treatment of cardiovascular disease and cancer, but presents a broad range of possibilities and may contribute knowledge of how illnesses develop differently in women and men. We have to keep in mind the questions of ethics related to the use of personalised medicine.

Proposal of 24 initiatives

In the following, Danish Regions proposes 24 initiatives as part of an overall and powerful prevention effort. Each proposal is further described in the following.




A SMOKE-FREE FUTURE IN 2030
3
NEW INDICATORS FOR HEALTY YEARS
6
STRUCTURAL PREVENTION AS MANDATORY PART OF THE HEALTH AGREEMENTS
5
BOOSTING COOPERATION ON PROVIDING PREVENTION
7
A NATIONAL ACTION PLAN FOR PREVENTION
1
JOINT INVESTMENT PROGRAMME FOR PREVENTION
2
CORRECT INFORMATION ON VACCINATION
11
PREVENTION FOCUSING ON SMOKING AND ALCOHOL USE
10
PREVENTION WITHIN GENERAL PRACTICE
18
PREVENTION PRIOR TO SURGERY
19
INITIATIVES FOR PEOPLE WITH MENTAL ILLNESS
17
INFORMATION ON FERTILITY
13

Proposals for national initiatives

1. A national action plan for prevention

Danish Regions will encourage the development of a national action plan for prevention. Relevant stakeholders both inside and outside of the health service must be included in the work with the action plan. The action plan must be based on a shared understanding of prevention as an investment for the future, and a shared responsibility in relation to prevention.

The purpose of the action plan is to achieve the greatest possible level of health in the population and ensure the least possible inequality of health. There needs to be focus on promoting good mental health and preventing the development and deterioration of common diseases.

The action plan needs to address three levels of prevention. The first and most fundamental level is the structural framework for health, including legislation, possibilities for movement in the community and workplace policies for movement. The second level concerns how to communicate and inform the population, and specific target groups, concerning health issues. This is a matter of avoiding misinformation and 'alternative facts' concerning health, but also entails increasing public awareness of how to live a healthy life. The third level concerns prevention initiatives aimed at specific population groups.

A national action plan focusing on all three levels including all relevant stakeholders, will contribute to make the healthy choice the easy choice. An example of this is prevention in relation to smoking, where interventions have been carried out at all three levels. Interventions include an anti-smoking law, a ban on tobacco advertising, communication to groups at risk concerning the harmful effects of smoking and implementation of smoking cessation.

Based on a national action plan, it will be possible to organise local initiatives according to the needs of the local population.

WORKING WITH DIFFERENT LEVELS OF PREVENTION

Source: Centre for Clinical Research and Prevention

2. A joint investment programme for prevention

Danish Regions proposes that state funds earmarked for prevention are gathered in an overall investment program for prevention.

In order to strengthen focus on prevention, it is necessary to examine how regions, municipalities, etc. can apply for funding for interventions that include stakeholders across different sectors and areas.

The investment programme should fund projects that monitor and assess efficiency. This may include multi-sectoral prevention projects where the stakeholder investing resources is not the stakeholder benefiting financially. Therefore, we wish that the investment programme supports incentives to make prevention a joint investment.

The investment programme must be linked to the priorities of a national action plan.

A joint investment programme will contribute to knowledge of the effect and implementation of prevention. We need to move away from the many different start-up projects towards a strategic investment in prevention.

3.Smoke-free future in 2030

Danish Regions supports the goal of a smoke-free future. "Smoke-free future" is a partnership project initiated by the Danish Cancer Society and TrygFonden. The goal is to have no children smoking, and fewer than 5 % of the adult population smoking in 2030.

Smoking is the risk factor with the greatest impact on public health in Denmark and is the cause of the greatest amount of health inequality. Smoking is one of the main causes of cardiovascular disease, cancer and respiratory diseases. Smoking can lead to the deterioration of existing illnesses or medical conditions. In Denmark, around 13.600 people die each year because of smoking. Over the past decades, numerous steps have been taken to reduce the use of tobacco in Denmark – and for a long time with a great effect. Since 1950, the proportion of daily smokers in the population has fallen by 42 %. However in recent years, the reduction of daily smokers has stalled, and the number of daily smokers in Denmark is still higher than in the other Nordic countries.

There is a need to place a greater focus on anti-smoking initiatives. Danish Regions will do this by taking part in Smoke-free future with a focus on creating greater equality in health. This means that Danish Regions, in close cooperation with other healthcare players, in the coming years will help to achieve this objective.

4. Focus on the consumption of alcohol among young people

Danish Regions recommends raising the age limit for sale of all types of alcohol from 16 to 18 years.

Danish Regions will initiate dialogue with educational institutions on a more aggressive policy on alcohol consumption with a focus on limiting the intake of alcohol among young people

Next to smoking, alcohol is one of the most preventable risk factors that have the greatest impact on public health in Denmark. Heavy drinking increases the risk of addiction and a variety of disorders such as cancer, gastrointestinal disorders, lung disorders, liver disorders and musculoskeletal disorders. Alcohol abuse and dependency may have a variety of psychological and social repercussions. Alcohol – along with smoking – is the primary reason people with low education die premature compared with the rest of the population.

The Danish youth drink more than their Scandinavian neighbours do. Given that healthy habits form in childhood and adolescence, we need to take the alcohol consumption of young people more seriously. Use of alcohol among adolescents should be part of an intensive prevention effort.

The drinking culture reflects the norms, rules and frameworks adolescents witness. By removing the opportunities to consume alcohol at school parties and by raising the age limit for the sale of alcohol, it will influence the adolescents' drinking habits.

Another area that could influence the consumption of alcohol is the introduction of a minimum price per unit of alcohol. In Canada, the introduction of minimum prices has contributed to prevent deaths and hospital admissions. Minimum prices will influence the price of the cheapest alcoholic products, which are mainly consumed by very young people and people with alcohol problems.

The outcome of a coordinated effort in Iceland

In Iceland, initiatives implemented over a period of years had a profound effect on young people's use of alcohol, smoking and narcotics.

Today, Iceland has the healthiest teenagers in Europe. The proportion of 15- and 16-year-olds who have consumed alcohol within the past month has dropped from 42 per cent in 1998 to 5 per cent in 2016. The proportion of daily smokers among young people has fallen from 23 per cent to just 3 per cent.

Iceland's success with prevention is a result of focusing on prohibition of the sale of alcohol and tobacco, combined with a ban on commercials for both alcohol and tobacco, and introduction of alternative leisure activities.

5. Structural prevention as a mandatory initiative in the health agreements

Danish Regions recommends that future health agreements incorporate initiatives aimed at structural prevention.

Every four years the regions, the regions and the municipalities draw up political health agreements. The health agreements serve to formalise collaboration across the sectors and serve to ensure consistency and coordination of care across sectors. In the future, the health agreements should continue to be a political framework for the cross-sectoral collaboration. Yet, when it comes to prevention, the health agreements should be more ambitious.

At present, there is a requirement that the health agreements include four areas of intervention, these being: prevention, treatment and care, rehabilitation, and healthcare IT and digital workflows. In order to achieve a greater impact from prevention initiatives, it should be mandatory that initiatives also include structural prevention. At present, focus is primarily on early detection and differentiated interventions. Nudging supporting the healthy choice becoming the easy choice could be of great potential within the work with prevention.

The Healthy Cities Network

WHO has a European Healthy Cities Network, where Denmark participates. The Danish Healthy Cities Network presents a good deal of knowledge and experience on prevention and health promotion to local environments. The network supports the work of public health in Denmark by promoting cooperation between local, regional and national partners and the WHO.

The regions take part of the network by opening up for the regional research environments, and advising the municipalities on effective prevention that promotes life-long health.

6. Introducing new indicators for more healthy years

Danish Regions recommends developing new indicators for more healthy years.

In the spring of 2016, the Danish government, Danish Regions and Local Government Denmark agreed on eight national goals for the quality of the Danish health service. One goal is to promote healthy years of living. A number of indicators is set up in order to assess each goal. At present, the indicators assessing the national goal of healthy years are defined as the proportion of non-smokers among the population and the average life expectancy. The indicators influence how we manage our efforts to achieve the goal and how we determine the responsibility of each player. However, the indicators does not tell us whether the years we live are in good or poor health. Therefore, we see a need for additional indicators.

Danish Regions encourages dialogue on additional indicators to help assess whether people have a greater number of healthy years.

Since 2013, the regions have measured how many "good years" a person has as part of the health profiles. Self-assessments of health is included in order to assess healthy lived years. This is a good indicator of whether people experience a good quality of life and live a large number of years without restrictions on their daily activities. This indicator is an attempt to address the matter of how we measure how many healthy years each person has.

7. Boosting cooperation on providing prevention

Danish Regions recommends that hospitals, general practice and municipalities work together to ensure that everyone can be referred to a prevention intervention of proven quality – irrespective of where they live.

The Danish Health Authority introduced the so-called prevention packages, which are recommendations for the municipalities' work with prevention. Since the implementation, the municipalities have provided people, both those in good health and those suffering from illness, with a wide range of good initiatives. All prevention packages are based on the best current knowledge with the aim of ensuring systematic and effective prevention. The collaboration between general practitioners, hospitals and municipalities helps to ensure that people systematically receive the best prevention.

Presently, there is no requirement for the municipalities to implement the prevention packages. This means that it is up to each municipality whether to implement the proposed recommendations. Since 2016, it is possible to refer people with chronic illnesses to a start-up meeting in the municipality where a health professional together with the person referred discuss needs and wishes to participate in different preventative and rehabilitation interventions. Based on the discussion, they plan an individual programme together. In addition, there is still need to refer healthy people to relevant programmes of prevention, e.g. smoking cessation.

If we are to secure that the right persons receive the right interventions and a better collaboration across healthcare in the matter of prevention, it is necessary that the municipalities are working towards following the recommendations set out in the prevention packages. It is important that we know the quality of the interventions and that they are available locally and within an acceptable period of time. For instance, the success of smoking cessation is higher if the person receives an offer on smoking cessation within fourteen days of the referral.

Local agreements on systematic referral and the provision of care of a proven standard should be based on knowledge of the local population's health status.

8. Subsidising for psychological support for adolescents

Danish Regions recommends a trial of offering young people under the age of 18 who suffer from depression and anxiety subsidies for psychological support.

A new Ph.D. study about the effects of subsidising psychological support for young people on the use of psyhiatric care is underway. The preliminary results of the study show that subsidising for psychological support for young people over the age of 18 have a positive effect on the well-being of young people. Specifically, the number of psychiatric admissions has been reduced by almost 9 % as a result of subsidising. The figures also show that for every krone spent on subsidisings for psychological support, an average of 3.5 kroner is saved in psychiatric care.

Since 2008, young people over the age of 18 displaying signs of mild to moderate depression or anxiety have received subsidised psychological counselling. Initiatives carried out by the municipalities are often limited to addressing school-related problems or problems in socially deprived families. This means, that there is a significant gap in treatment for people under the age of 18.

The new study focuses on young people who have just reached the age of 18. It is expected that young people just below the age of 18 would benefit equally from the same scheme. The study is interesting since it provides new knowledge concerning the link between subsidies for psychiatric care, a link that has not been examined previously.

An expanded scheme has the potential to strengthen early intervention for young people at risk of becoming psychiatric patients. The study provides an opportunity to examine the impact of a similar scheme for young people under the age of 18. We need to carry out trials and evaluate them with a focus on impact followed up by an assessment of the possibilities of a broad implementation of the scheme.

The Danish Health Authority has previously investigated the scope for an expanded scheme targeted at specific groups. The conclusions of this investigation should be incorporated into the trial. For this reason there needs to be focus on defining the target group and on whether those young people referred from general practice are those most in need of psychiatric support. There also needs to be focus on ensuring that psychologists participating in the scheme have the necessary skills to treat under-18s.

Regional contributions to a joint initiative

9. A prevention laboratory

The Regions will initiate the establishment of a prevention laboratory within a defined local area.

The Regions invite municipalities, general practice and other relevant stakeholders to participate in a prevention laboratory. Partners may include sports clubs, supermarkets, pharmacies, universities and patient organisations. With the close involvement of research communities, the laboratory will conduct trials of new, innovative and knowledge-based methods with the goal of achieving the highest level of health in the population, ensuring intelligent use of technological solutions and improved cooperation on targeted prevention efforts.

Regional health profiles of the local population's health status will form the basis for the prioritisation of interven-

tions in the prevention laboratory. Methods can be trialled in arenas such as nurseries, schools, educational institutions, workplaces, etc.

New forms of cooperation will be tested with the goal of bringing about greater coherence and quality of prevention efforts.

Super cycle routes help to make the healthy choice the easy choice

So-called super cycle routes are a good example of an investment in Danish public health, which focuses on promoting physical exercise. The goal is to get more people to bicycle rather than travel by car. The super cycle routes are a collaboration between the regions and the municipalities. The ambition with the super cycle routes is to create better conditions for cyclists and provide a genuine alternative to the car – including journeys of over five kilometres.

Three super cycle routes have been established in the Capital region. In 2017, five new super cycle routes open. Together, these routes comprise a coherent network of cycling paths.

10. Systematic prevention with a focus on smoking and alcohol use

The Regions will expand the use of good methods to offer smoking cessation and counselling in relation to alcohol abuse to all relevant patients.

Studies show, that smoking cessation, either in the form of support groups or one-to-one counselling, result in larger numbers of people who stop smoking. At the same time, smoking cessation is cost-effective.

The Regions will ensure that more patients receive an offer of smoking cessation with the use of a simple method. The method 'Very brief advice' is successful in getting people to participate in smoking cessation. When using the method, the healthcare professional can make an agreement with the patient that a smoking cessation counsellor from the municipality can contact the patient after discharge from the hospital or a visit to general practice. This requires that there is an agreement in place with the municipality. This approach with respect to smoking cessation has shown positive results locally – results which can be applied nationally.

As well as smoking habits, regions will ask patients about their alcohol consumption where this is of relevance to the specific clinical situation. Based on this information, patients should be offered appropriate support within their municipality. Information on both smoking and alcohol use must be recorded in the discharge summary for the orientation of the patient's general practitioner to ensure a systematic handover.

In general, the regions assume responsibility for ensuring that conversations about lifestyle and health is a part of the patient's treatment programme in a way that makes sense for the patient and in the specific clinical situation. Health professionals can for example help to inform citizens about the benefits of an active lifestyle both in relation to diseases such as diabetes and cardiovascular disease as well as to pain and reduced musculoskeletal system function.

Effective smoking cessation

One region is part of a three-year project including hospitals, general practice and municipalities, which aims to reduce the use of tobacco.

The project systematically offers all smokers who are in contact with general practice or the hospital a referral for smoking cessation within their municipality. The project uses the method 'Very Brief Advice' (VBA). A pilot test of this method has been conducted and it is being rolled out in a hospital and at a psychiatric unit.

Within a week of receiving an electronic referral, the municipality contacts the patient and offers a consultation at which motivation, smoking habits etc. are discussed. Based on this, the patient is offered a personalised smoking cessation program.

The project is closely monitored via the national quality and research database. The preliminary results of the project show a positive impact. Half of the participants in the project succeeded in stopping smoking after six months. Of these, 86 per cent was people with low education, and the initiative therefore contributed to bringing about greater health equity.

11. Correct information about vaccination

The Regions will contribute to the work of ensuring a higher participation in the childhood immunisation program.

The introduction of vaccination has been a revolution in the sphere of prevention. Today we almost take for granted that we do not contract serious illnesses that could potentially be a threat to public health. In this perspective, it is worrying that the commitment to the Danish childhood immunisation programme is declining.

Vaccination is one of the most effective methods of prevention. This is because vaccines have a long-lasting effect, prevent both infection and disease in individuals and reduce the spread of infection in the community.

Herd immunity occurs when 95 per cent of the population is vaccinated. In 2014, only 88 per cent of infants received the first dose of the MMR vaccine, which protects against measles, mumps and rubella. While in some cases these figures may reflect under-reporting of vaccination, the figure nonetheless falls far short of what is desirable.

The HPV vaccine is part of the Danish childhood immunisation programme, and the Danish Health Authority recommends the vaccine for girls over the age of 12. The vaccination protects against a form of cancer from which around 100 Danish women die each year: Cervical cancer. Therefore, it is worrying that a falling number of girls receive the vaccine. At present, only about 28 per cent of girls who were 12 years old in 2016 received the first dose of the HPV vaccine. Previously, more than 90 per cent of girls of this age group were vaccinated.

The Regions will support the Danish Health Authority's educational campaign about accurate information concerning vaccines, and will target information efforts at parents responsible for making decisions concerning vaccination. The focus will be on spreading accurate information concerning the safety and efficacy of vaccines.

12. Strengthened cooperation in the care of vulnerable pregnant women

The Regions will strengthen cooperation between municipalities, regions and voluntary organisations in the work of prevention aimed at vulnerable pregnant women and their families. There are good results with specific services for vulnerable pregnant women and these should be spread out.

As early as during pregnancy, we can predict the risk of illness and poor living conditions for the unborn child. An effective measure to reduce social inequalities in health among pregnant women and children is to ensure that all women receive the benefit of prenatal care initiatives. For this reason, all pregnant women must be asked questions concerning their health, and smoking cessation, advice on good nutrition, exercise and alcohol rehabilitation must be accessible. At the same time, special programmes must be provided for vulnerable pregnant women facing social and psychological challenges. Such initiatives may be initiated by hospitals and subsequently followed up on by the municipalities with initiatives for the whole family, in which voluntary organisations can potentially participate.

Initiatives for vulnerable pregnant women must address the whole family by gaining a picture of both the pregnant woman and her partner's resources and needs. Early intervention can help make the new family more resilient, thereby securing the child's well-being and development, and ensuring that parents become more comfortable in the role of parenting. At present, initiatives are being trialled as part of the healthcare agreements, and the positive results from these trials should be broadly implemented.

13. Information on fertility

The regions will spread knowledge about prevention of fertility problems.

Some fertility problems can be prevented, and young people should be provided with a lot more information on this matter. At present, the information available about the treatment of fertility problems far exceeds information on prevention of these problems.

The Advisory Council for Prevention recently conducted a review of the latest research in the field, and this review can serve as the basis for an educational campaign. It is in particular factors such as weight, physical exercise, alcohol intake, smoking, use of cannabis and anabolic steroids, as well

as sexually transmitted diseases that influence our ability to become parents. In some cases, individuals who suffer from a reproductive system disease can increase their chances of pregnancy by means of a change of lifestyle.

One out of every ten women in Denmark is either involuntarily childless or does not have as many children as she would like because of her own or her partner's reduced fertility. The extent of male infertility is unknown, but what we know is that 20-21% of men never have children. It is a source of distress for couples who desperately want to have children that they do not succeed. In addition, the low birth rate and the high demand for infertility treatment places a great economic burden on society.

One way to increase fertility is campaigns targeted at young people to increase awareness of the risk factors. Health professionals, together with other relevant stakeholders, could play a greater role in such educational campaigns. At the same time, a greater focus on promoting a healthy lifestyle in general will have a positive effect on the chances of having children.

14. Health profiles for children and young people

In 2018, one region will launch a health profile for children. If the regions and the municipalities see the health profile concerning children as a valuable tool, we see a potential in expanding the use of such profiles.

At present, the regional health profiles are based on data from people aged 16 and above. The municipalities utilise the health profiles to plan initiatives, activities and policies that exert a positive effect on well-being and promote good health.

In order to plan prevention initiatives targeted at children and young people there is a need for more knowledge of children and young people's health and well-being. An expansion of the health profile framework make it possible to monitor developments in children's health status over time, thereby supporting early detection, and form the basis for prioritisation and planning, both nationally and locally.

Today, we have a number of key sources to knowledge about children and young people's well-being. These include the national survey of schoolchildren, which is Denmark's contribution to international knowledge on the health of 11-, 13- and 15-year-olds. In addition, we have the Child Health Database, which is a tool for monitoring children's health with a focus on the first years of a child's life. The database includes data supplied by child nurses and data conducted at the school nurse's examination at the first years of primary school, and will soon incorporate data from the final years of school as well. At present, one third of all municipalities contribute to this database. A third source of knowledge is the National Children's Database, which includes knowledge on breastfeeding, exposure to smoking during infancy as well as data on children's height and weight up until they start school. A fourth source of knowledge is Skolesundhed.dk, which is a tool to assess the health and well-being of children and young people aged 2-25, i.e. preschool and primary school children and young people both in and outside of education. More than half of the country's municipalities use this platform as a tool for monitoring and dialogue.

In 2018, a test of a child health profile will be launched in one region. In cooperation with municipalities and selected data sources, the region will examine whether the use of child and youth health profiles can serve to strengthen the local base of knowledge on child and youth health.

15. Strengthened regional counselling on mental health and well-being among children and adolescents

The Regions will work together with voluntary organisations to evaluate the need for closer cooperation about the well-being of young people.

The Regions in cooperation with local authorities will evaluate the need for enhanced cooperation between the regional psychiatric care and the municipalities' PPR (pedagogical and psychological counselling) psychologists.

Nearly 20 per cent of children and young people display signs of deep dissatisfaction with their lives. To some extent, unhappiness can be a natural part of being young, or it can be a result of the individual's family background or have other causes. In short, unhappiness is by no means the same thing as being ill. Nonetheless, we need to take the high number of young people who suffer from unhappiness seriously. Unhappiness – irrespective of its cause – can have serious consequences for children and young people's education, chances of completing education and, later in life, for their chances of getting a job. Additionally, there is a documented link between unhappiness and the risk of developing mental illness. Of equal relevance is the fact that mental disorders often begin in adolescence.

In psychiatric care, staff experience many enquiries from young people who are deeply unhappy, but whose problems are not of a nature or gravity that fall within the sphere of psychiatry. In this respect, closer cooperation with voluntary organisations can bring about greater coherence, since psychiatric staff will then be able to refer young people to appropriate local services. At the same time, voluntary staff can draw upon regional expertise where there is doubt about whether there is a need for psychiatric care.

By drawing on regional expertise at an earlier state, the regions can provide guidance on which type of support the individual requires and if necessary, an early treatment intervention can be made with respect to the child or young person's symptoms.

Mind My Mind

A new project offers children and young people with symptoms of anxiety, depression and behavioural problems an individual treatment programme including psychological counselling. TrygFonden funds the project and the Danish Mental Health Fund administers the project in collaboration with two regions and four municipalities.

The goal of the project is to ensure that more children and young people receive early and effective support to prevent the development of mental illness. Mind My Mind works as an intermediate link between the general prevention provided by municipalities and the specialised treatment programmes provided by the regions. Mind My Mind will support the primary care sector's ability to provide a "stepped care" approach whereby, to the greatest extent possible, problems that are more serious can be resolved within the context of the child and the family's daily life. Specialised treatment will only be initiated if other initiatives do not result in positive outcomes.

The Mind My Mind project incorporates supervision of psychologists working in the municipalities by regional supervisors.

The results of this project is ready in 2020. An assessment will then be made of whether the initiative should be implemented more widely.

16. Support for children of parents with mental illness

The Regions would like to help children and young people to cope with living with a mentally ill parent.

Around 80.000 children in Denmark grow up in families in which a family member has a mental illness. When a parent is receiving psychiatric care, the child's risk of vulnerability is increased. For this reason, we must focus on the well-being of the children of parents with mental illness.

We know that the children of parents with mental illness can have a stressful relationship to their parent and that the care situation may be surrounded by taboo. This can lead to the child suffering poor mental health over the course of childhood and adolescence.

A systematic effort to identify children and young people with a mother or father with mental illness and offer them appropriate support may help to ensure that fewer experience unhappiness or become ill themselves. The regions will seek to provide an early systematic intervention to offer support to the children of parents with mental illness, either in the form of regional initiatives or initiatives supplied by partners.

17. Health initiatives for people with mental illness

The Regions will improve care for people with mental illness by including relevant stakeholders. Focus will be on ensuring a healthy environment and providing guidance on healthy living.

People suffering from mental illness die on average 15-20 years younger than the average Dane. In approximately 60 per cent of the cases, the increased mortality is caused by somatic illness – in particular cardiovascular disease, cerebral blood clots and cerebral haemorrhage. Part of the explanation for this is higher consumption of unhealthy food, higher incidence of smoking and less physical exercise than the rest of the population. At the same time, disease and medicine may be part of the cause, and the patients in question may have difficulties accessing healthcare services. People suffering from mental illness can be in a situation where it can be difficult to live a healthy life and it can be challenging to change their habits without help. At the same time, the health profile shows that people with mental disorders are more motivated to live healthy lives compared to the rest of the population.

Research indicates that the best way to support people with mental illness to healthy life choices is to ensure easy access to healthy food and a healthy physical environment, which promotes physical exercise with the support of healthcare professionals. In order to create a healthy environment it is necessary that psychiatric organisations have health policies in place. Specifically, this may include indoor and outdoor environments in and around a social psychiatric institution in which it is easy to move around, which restrict smoking and encourage physical exercise, and staff who will support the use of this framework. Combined somatic and psychiatric accident and emergency departments may contribute to ensuring both good physical and mental health during hospitalisation.

In addition, expanding the provision of care in this area will entail that outpatient treatment supports cooperation with local authorities on lifestyle advice and ensuring a healthy environment.

In order to improve the overall provision of care, it will be necessary with close cooperation between psychiatry, social psychiatry, general practice, the municipalities, private healthcare players and patients themselves.

18. General practice as proactive providers of prevention

The Regions will initiate dialogue with general practice on how they can proactively use data to get a better overview of their patients and assess the potential for prevention.

General practice has a central role to play in ensuring early intervention and prevention. A proactive role for general practice would form the basis for a systematic approach to targeting preventative initiatives to the part of the population most in need. In order to fulfil this role it is important for general practice to be able to gain a rapid overview of the case mix of their registered patients.

An example of this is that general practice systematically calls in vulnerable patients who do not attend scheduled appointments, including paediatric check-ups and check-ups of patients suffering from chronic illnesses. A proactive approach requires access to patient data, data that the regions will provide to general practice as far as possible.

General practitioners often know their patients in a way that makes it easier for the patient to talk about his or her life situation. Nurse and other healthcare staff employed in general practice can be of good use when it comes to informing the patient about prevention or social service.

Check in – proactive general practice

The research project "Check in" provides new knowledge about prevention in general practice. In addition, the project tests the hypothesis that by adopting a proactive approach in general practice one can reach patients who tend not to actively contact their general practice. The approach is tested as a potential method for early detection, identification and retention of patients at risk of chronic illness. The project focuses on social inequality in health. The project is a randomised controlled trial of patients aged 45-64 years living in Copenhagen, who attend a general practice who is participating in the project.

The project is based at the Centre for Intervention Research at the National Institute of Public Health.

19. Strengthened prevention prior to surgery

The Regions will strengthen prehabiltation. This entails planning relevant prevention measures prior to surgery.

Based on international experience, the regions will make a business case to identify the potential personal and economic benefits of a strengthening of prevention prior to surgery. This will include an assessment of the best organisation of prehabilitation.

The physical condition of a patient who need surgery affects the results of their surgery. There is evidence that lifestyle factors such as smoking and excessive alcohol consumption can cause post-operative complications.

Consequences of smoking and excessive alcohol consumption may include infections, slow healing of wounds, longer hospitalisation and increased risk of subsequent hospitalisations and operations. Studies have shown that smoking cessation 6-8 weeks prior to surgery can reduce the risk of surgical complications by 65 per cent. In addition, an earlier intervention six months prior to surgery with a focus on lifestyle factors may result in the operation being unnecessary. This may be the case for instance with knee or hip surgery.

The Danish Health Authority made recommendations in this area, but the organisation and cooperation could be strengthened.

20. Organising a camp about the use and development of digital technologies

The Regions will assemble experts such as IT developers, health professionals, researchers etc. for an experimental collaboration on the use and development of digital technologies in prevention for specific groups of the population.

Digital technologies include applications (apps) for smartphones, computer programmes, social media, online forums and educational games. Digital technologies can focus on promoting good physical and mental health and on preventing deterioration of existing illness.

A camp with participation of relevant experts focusing on the development and use of apps can kick-start an exploration of the possibilities for intelligent use of technology in prevention. There are unique opportunities to enable research communities, industry, healthcare etc. to work together to find new solutions.

After the camp, the Regions will fund a pool of five million Danish kroner for the development of digital technologies. All new technologies will be tested in close cooperation with researchers to assess whether they have a positive impact for different groups of the population. In this context, the regions will contribute to ensure that safety and quality of data complement the development of new solutions. The regions will examine how quality assurance of health apps can be implemented on an ongoing basis.

The digital healthcare centre

The digital healthcare centre is a rethinking of the municipalities' health centres' provision of healthcare. It is a partnership consisting of one region, three municipalities, the Danish Diabetes Association and the Danish Heart Foundation. The goal is to develop and integrate digital solutions as a part of the care provided by healthcare centres. Systematic use of digital solutions will lead to increased accessibility and flexibility of healthcare, reinforcement of lifestyle changes by increasing motivation, and optimisation of resources via e.g. treatment of patients by healthcare professionals across municipalities.

The partners will in addition develop a Digital Patient Education initiative. The goal is for people with chronic illness to achieve and maintain a good quality of life and good mental health.

Existing websites, webinars, peer-to-peer online conversations and e-learning schemes will form the basis of the Digital Patient Education.

The partnership wishes to identify potential new technological solutions continually.

21. Uniting data from the population and the health service

The Regions will look at Danish and international experiences with using patient reported outcomes in combination with healthcare data.

Use of data from patients and the health service in unison has the potential to enable patients - in cooperation with health professionals – to manage their own health better. Collection of data can take place on patients' own initiative or as part of treatment and follow-up.

The use of self-reported data from patients as part of treatment is growing, and it can be used as a tool to engage patients in treatment. An example is the use of patient-reported outcomes, which is being utilised nationwide. The primary purpose of patient-reported outcomes is to personalise treatment and to focus treatment in a way that creates value for the patient. Furthermore, it has potential in the work with prevention, which we need to look further into. Self-reported data provides information on

whether a person has early signs of a worsening in their health. This presents an opportunity for intervention in respect to groups of the population that are at high risk of developing disease. Self-reported data can be compiled by patients themselves and used as part of an individual plan for improving health.

22. Care close to home

The regions will test digital prevention initiatives personalised to specific groups of the population. The first initiative will aim to provide people suffering from anxiety and mild to moderate depression web-based psychiatric counselling.

Internet psychiatry is an online programme designed to support people suffering from anxiety and mild to moderate depression. Typically, people with mental illnesses or psychological problems are referred to consultation and treatment at hospitals, private practitioners, general practice or psychologists. However, technological solutions may give people the opportunity to receive treatment via the internet.

This initiative is intended to ensure that patient groups, which do not always receive treatment, receive the treatment they require. One possible reason some patients do not receive treatment is that treatment requires a physical meeting with the psychologist. Internet psychiatry can help prevent the development of symptoms and deterioration of existing illness. We will monitor the initiative to assess the effect.

23. Funds for research

From 2018 and forward, the Regions will each year allocate 10 million kroner to a funding pool from which regions can apply for funds for research into prevention.

Research financed from the funding pool will address one or more of the following priority areas. This research can involve multiple partners and researchers.

- Studies, which gather evidence on prevention and compare existing research.
- Effective methods of organisation and implementation.
- Effective prevention programmes aimed at specific groups and arenas.
- Knowledge of health promotion and prevention in relation to mental health.
- The potential of personalised medicine in prevention

24. Establishing an annual day focusing on prevention

In 2018, Danish Regions will plan a day focusing on prevention.

The regions propose that this day is an annual event. Danish Regions will organise the first day focusing on prevention. We suggest that in the following years the day on prevention will be organised in partnership between the government, the municipalities and the regions.

The purpose of the day is to bring together key stakeholders within the spheres of prevention and health promotion and present the latest knowledge about interventions that impact and create health for life.

References – Boxes

1. Sundheds- og ældreministeriet. Bekendtgørelse af sundhedsloven. 2010; 2016 (913): Afsnit 1, Kaptiel 1. www.retsinformation.dk/Forms/r0710.aspx?id=152710.
2. Balling H, Blands J, Poulsen A, Primdahl R. *Sociale Forholds Betydning for Håndtering Af Børn Med Kronisk Sygdom*.; 2012.
3. Juel K, Koch MB. *Social Ulighed i Dødeligheden i Danmark Gennem 25 År*.; 2013. www.si-folkesundhed.dk/upload/social_ulighed_i_dødelighed_i_danmark_gennem_25_år.pdf.
4. Grønbæk M. *Social ulighed i sundhed – Fra vugge til grav* i Ploug N. Social arv og social ulighed. Hans Reitzels forlag. 2. Udgave: 2017.
5. Koushede V. For mental sundhed – et nyt perspektiv. København: Statens Institut for Folkesundhed 2015.
6. Størup M, Hjalsted B, Falk J, Finke K, Sandø N. *Forebyggelsespakke - Mental Sundhed*. Sundhedsstyrelsen; 2012.
7. Faktaark, Kræftens Bekæmpelse, Røgfri Fremtid.
8. Eliasen M, Becker U, Grønbæk M, Juel K, Tolstrup JS. Alcohol-attributable and alcohol-preventable mortality in Denmark: an analysis of which intake levels contribute most to alcohol's harmful and beneficial effects. Eur J Epidemiol 2014 Jan; 29(1):15-26.

Other references

Addiction research report, The relationship between minimum alcohol prices, outlet densities and alcohol-attributable deaths in British Columbia, 2002–09; 2013.

Christensen A L, Davidsen M, Ekholm O, Pedersen P V, Juel K. *Danskernes Sundhed – Den nationale Sundhedsprofil 2013.* Sundhedsstyrelsen; 2014.

Danmarks Apotekerforening. *Lægemidler i Danmark 2015. Lægemiddelforbug og Apoteksdrift I Danmark*; 2015.

Due P, Diderichsen F, Meilstrup C, Nordentoft M, Obel C. *Børn og unges mentale helbred*. Vidensråd for Forebyggelse.; 2014.

Diderichsen F, Andersen I, Manuel C. *Ulighed i Sundhed - Årsager og indsatser*. Sundhedsstyrelsen; 2011.

Eliasen M, Skov-Ettrup L, Christiansen AH, Pedersen MG, Mikkelsen SS, Grønbæk M, Flensborg-Madsen T, Becher U. *Alkohol, rygning og postoperative komplikationer.* Sundhedsstyrelsen: 2012.

Eriksen L, Davidsen M, Jensen HAR, Ryd JT, Strøbæk L, White ED, Sørensen J, Juel K. Statens Institut for Folkesundhed, Syddansk Universitet for Sundhedsstyrelsen. *Sygdomsbyrden i Danmark – risikofaktorer;* 2016

Flachs EM, Eriksen L, Koch MB, Ryd JT, Dibba E, Ettrup L, Juel K. Statens Institut for Folkesundhed, Syddansk Universitet. *Sygdomsbyrden i Danmark – sygdomme*. København: Sundhedsstyrelsen; 2015.

Forebyggelseskommissionen. *Vi kan leve længere og sundere*; 2009.

Grønbæk M. *Social ulighed i sundhed – Fra vugge til grav* i Ploug N. Social arv og social ulighed. Hans Reitzels forlag. 2. Udgave: 2017.

Hvass LR, Manghezi A, Folker AP, Sandø N. *Social ulighed i sundhed – Hvad kan kommunen gøre?* Sundhedsstyrelsen; 2012.

Højgaard B, Olsen KR, Pisinger C, Tønnesen H, Gyrd-Hansen D. *The potential of smoking cessation programmes and a smoking ban in public places: Comparing gain in life expectancy and cost effectiveness.* Scand J Public Health; 2011.

Jørgensen T, Capewell S, Prescott E, Allender S, Sans S, Zdrojewski T, De Bacquer D, de Sutter J, Franco OH, Løgstrup S, Volpe S, Malyutina S, Marques-Vidal P, Reiner Z, Tell GS, Vershuren M, Vanuzzo D. Populationlevel changes to promote cardiovascular health. European Journal of Preventive Cardiology 2013:409-421.

Koushede, V. For mental sundhed – et nyt perspektiv. København: Statens Institut for Folkesundhed 2015.

Kjøller M, Juel K, Kamper-Jørgensen F. *Folkesundhedsrapporten Danmark 2007*. Syddansk Universitet, Statens Institut for Folkesundhed; 2007.

Læssø A, Fisker L, Jensen AK, Kendal SC. Frydkjær T. *Forebyggelse - ifølge danskerne*. Mandag Morgen & TrygFonden; 2012.

Møller AM, Villebro N, Pedersen T, Tønnesen H. *Effect of preoperative smoking intervention on postoperative complications of total hip replacement.* Chinese J Evidence-Based Med; 2014.

Nordentoft M, Lange P, Moltke A, Krogh J. *Psykisk sygdom og ændringer i livsstil*. Vidensråd for Forebyggelse; 2015.

Knudsen L.B, Juul A, Gyrd-Hansen D, Nyboe Andersen A, Schmidt L, Svarre Nielsen H, Kold Jensen T, Birch Petersen K. *Forebyggelse af nedsat frugtbarhed.* Vidensråd for Forebyggelse; 2016.

Pedersen CG, Davidsen M, Johansen NB, Christensen AI, Tolstrup JS. *Forebyggelsespotentiale ved patientkontakter*. Statens Institut for Folkesundhed, Syddansk Universitet; 2017.

Rasmussen M, Pedersen TP, Due P. *Skolebørnsundersøgelsen 2014*. Statens Institut for Folkesundhed; 2015.

Serena BL. *Metodepapir; Tilskud til psykologhjælp og unges brug af psykiatrien.* Foreløbige resultater, Københavns Universitet; 2016.

Størup M, Hjalsted B, Falk J, Finke K, Sandø N. *Forebyggelsespakke - Mental sundhed*. Sundhedsstyrelsen; 2012.

Sundhedsstyrelsen, Børnevaccinationsprogrammet Årsrapport 2015; 2016.

Sundhedsstyrelsen, Struktur på sundheden - inspiration til sundhedsindsatser til borgere med psykiske lidelser; 2014.

Sundhedsdatastyrelsen. *Udvalgte nøgletal for det regionale sundhedsvæsen 2009-2015*. Sundhedsanalyser, Lægemiddelstatistik og Sundhedsdataprogram; 2016.

Sundheds- og ældreministeriet. *Patienternes Kræftplan - Kræftplan IV*.; 2016.

Teknologirådet for Danske Regioner. *De fem borgertopmøder; 2011.*

Links

Dansk Sygeplejeråd, Udskrivelse af patienter med skadeligt forbrug af alkohol – en randomiseret undersøgelse, dsr.dk/sygeplejersken/arkiv/sy-nr-2010-15/udskrivelse-af-patienter-med-skadeligt-forbrug-af-alkohol-en

Institute for Health Metrics and Evaluation, University of Washington. *Global Health Data Exchange, Discover the World's Health Data.* http://ghdx.healthdata.org

Psykiatrifonden. *Når børn og unge er pårørende* www.psykiatrifonden.dk/boern-unge/til-foraeldre/naar-boern-og-unge-er-paaroerende.aspx

Psykiatrifonden. *Psykisk Sundhed i Danmark*, www.psykiatrifonden.dk/viden/fakta.aspx

Statens Serum Institut. *Det danske børnevaccinationsprogram;* 2016. www.ssi.dk/vaccination/boernevaccination.aspx

Sundhedstyrelsen. *Faldet i rygning i Danmark er gået i stå* www.sst.dk/da/nyheder/2016/faldet-i-rygning-i-danmark-er-gaaet-i-staa

Sundhedsstyrelsen. *Kronisk Sygdom*. www.sst.dk/da/sygdom-og-behandling/kronisk-sygdom

DANISH REGIONS