

# NATIONAL ACTION PLAN AGAINST OBESITY

Recommendations and Perspectives  
Short version

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External working group under the National Board of Health

Center for Health Promotion and Prevention

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# Foreword

In September 2001 the National Board of Health took steps to develop a proposal for a national action plan for prevention and treatment of obesity. What follows is a short version of this proposed action plan. In the unabbreviated text (only in Danish) may be found a more thorough introduction to the scientific background and the considerations underlying the recommendations that have been focused on.

The backdrop to the plan is that obesity is a rapidly increasing problem in Denmark. It is estimated that 10–13% of the Danish population is overweight, which corresponds to at least 400,000 individuals. Furthermore there is a dramatic increase in the number of overweight children and adolescents.

Obesity has a number of consequences which may result in serious complications and which also take the form of poor well-being and social isolation. In addition to personal costs obesity therefore represents a burden to public budgets in a number of ways. There is a need for action with regard to individual lifestyle, with regard to the organization of society and with regard to the norms that prevail in social environments. The changes proposed in the plan will therefore require an understanding that goes beyond purely medical aspects.

The health care sector plays a central role in the treatment and guidance of individuals with respect to health issues, but the causes underlying obesity are so complex that the health care sector alone cannot solve the problem. To promote health and prevent obesity presupposes assistance from other professions and sectors and requires that the problems involved are focused on at local, regional and national levels.

Obesity is an individual condition and only the individual can counteract the problem. But it is the task of society to establish a framework that supports citizens in their attempts to maintain constant body weight. Therefore the plan focuses on what the individual can do, what people can do together and how society can support individuals in their attempts to maintain stable body weight.

The plan does not involve any specific ideal of slimness but rather suggests a balanced view of body weight and health which implies that slim does not equal healthy and overweight in itself does not necessarily equal poor mental and physical well-being. Views of what constitutes the good life are very subjective and the plan is based on this fact. When the plan is implemented, it is important, therefore, that messages are balanced and differentiated with regard to gender and age so that initiatives to prevent obesity do not encourage dissatisfaction with one's own body and dieting that takes the form of eating disorders, especially among teenagers.

In the present shortened version of the plan focus is on the practical perspectives and it is described what can and should be done in relation to various target groups. Moreover importance has been attached to a division of tasks between the private level, community level (e.g. schools and workplaces) and the public sector.

With this plan the National Board of Health aims to look at overweight in a holistic perspective and provide a basis for exchange of experience and dialogue with regard to future initiatives. Through sharing knowledge and experience on the Board's web page and in new networks we hope that many people will be motivated to confront the problem of overweight. Now is the time to act. There is no excuse for waiting.

The National Board of Health would like to thank the Danish Nutrition Council's working group for their contribution to the section on documentation.

And thanks are due to the external working group which has contributed significantly to the creation of a common platform for the National Board of Health recommendations.

National Board of Health, March 2003

Jens Kristian Gøtrik  
Chief Medical Officer

# Important messages

- 
- There is a difference between obesity, which involves health risks, and general dissatisfaction with a few extra kilos
  - Slim does not necessarily equal healthy
  - Overweight does not in itself lead to poor mental and physical well-being
  - Stable body weight is better than weight loss that is not maintained
  - Adults are significant role models for children, therefore:
    - Spend less time in front of the box
    - Use your car less
    - Do not mob those who are overweight

Child care institutions, schools, work and the leisure sector are important frameworks for health habits. Especially significant are the following:

- Access to healthy food and fresh drinking water
  - No vending machines
  - Exercise friendly environments, stairs rather than lifts
  - Play and physical activity as part of everyday routines
-

# I. Background

In 2000 WHO<sup>1</sup> pointed out that the prevalence of overweight is increasing at an alarming rate – especially among children. In 1999 the National Board of Health produced a report on the prevalence of overweight in Denmark,<sup>2</sup> and in 2001 the Danish Society for Obesity Research issued a consensus report.<sup>3</sup>

Both Danish reports point out that the problem of overweight is also on the increase in Denmark – especially among young adults – and that there is a need for preventive action.

In the autumn of 2001 the National Board of Health established an external working group (cf. p. 32) with a view to developing a proposal for a national action plan against obesity in Denmark.

In September 2002 in connection with the Danish EU presidency the National Board of Health held a conference on obesity. At this conference leading international researchers documented the prevalence and consequences of the problem of obesity. And it was concluded at the

conference that prevention and treatment initiatives should be taken immediately on the basis of existing professional knowledge concurrently with the gathering of new knowledge.

On December 2nd 2002 as a follow up to this conference The Council of the European Union adopted a number of conclusions that underline the necessity of preventing and reacting vis-à-vis the problems caused by obesity and the need to adopt an interdisciplinary approach.<sup>4</sup>

Concurrently with National Board of Health initiatives the Danish Nutrition Council has produced a report on the significance of various factors for the development of overweight and the Council has proposed a number of prevention initiatives.<sup>5</sup> The National Board of Health and the Danish Nutrition Council have agreed that the Council's report should form the basis of the documentation part of the National Board of Health action plan. The report of The Danish Nutrition Council may be consulted for a more thorough overview of documentation.

**TABLE 1**

**Classification of overweight on the basis of WHO definitions (the categorization refers to the health risk of various degrees of overweight and only applies to adults)**

Classification	Alternative designation	BMI (kg/m <sup>2</sup> )	Health risk
<b>Underweight</b>		<18,5	Depends on causes underlying underweight
<b>Normal weight</b>		18,5–24,9	Average
<b>Overweight</b>		≥25	
Moderate overweight		25–29,9	Slightly increased
Severe overweight	Obesity	≥30	
- Obese class I	Obesity	30–34,9	Moderately increased
- Obese class II	Severe Obesity	35–39,9	Severely increased
- Obese class III	Extremely severe Obesity	≥40	Extremely increased

1 WHO, Obesity – Preventing and managing the global epidemic. Report of a WHO consultation on Obesity, Geneva, WHO, 2000

2 Bl Heitmann, Richelsen B, Laub Hansen G, Hølund U, Overvægt og fedme – befolkningen sundhed set i relation til den øgede forekomst af fedme i Danmark, National Board of Health 1999

3 Svendsen OI, Heitmann Bl, Raben A, Rytting KR, Sørensen TIA et al. Fedme i Danmark, Klaringsrapport, Journal of the Danish Medical Society 2001/63 Suppl 8

4 Cf. [www.sst.dk/forebyggelse/faglige\\_omrader/overvagt](http://www.sst.dk/forebyggelse/faglige_omrader/overvagt): link [www.obesity.dk](http://www.obesity.dk)

5 Richelsen B, Astrup A, Hansen GL, Heitmann BL, Holm L, Kjær M, Madsen S AA, Michaelsen KF, Olsen S, Den danske fedmeepidemi, Oplæg til en forebyggelsesindsats, Ernæringsrådet 2003.





# II. The problem of obesity

## 2.1 The problem of obesity

In recent decades there has been a marked increase in the prevalence of obesity in Denmark. Since 1987 there has been an increase of almost 75%. The increase is seen especially among adolescents and among individuals with low levels of education. At present 30 to 40% of adults are overweight (BMI $\geq$ 25). This concerns more than 1.3 million Danes. 10 to 13% are obese (BMI $\geq$ 30), which corresponds to about 400,000 individuals. Almost 100,000 suffer from health problems as a consequence of obesity (BMI $\geq$ 35).

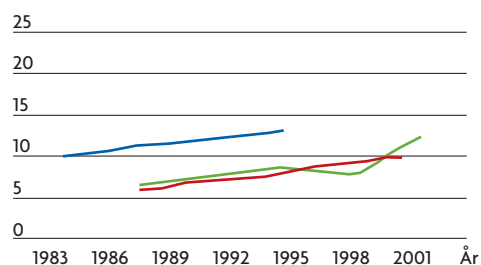
Also among children an alarming increase in the prevalence of obesity has been seen in recent years. In 1997 between 7 and 10% of children of 14 to 16 years of age were overweight. About 4% were obese which represents a tripling over the period 1972 to 1997.

The development in Denmark reflects a global trend which according to the WHO means that if development continues unchanged, 60–70% of all Europeans will be overweight by 2030.

**FIGURE 1**

**DEVELOPMENT OF OBESITY AMONG MEN IN DENMARK**

% WITH BMI  $\geq$ 30



Source: Danish Nutrition Council 2003

Glostrup: Population Study, Glostrup 1982–998 (measured values)

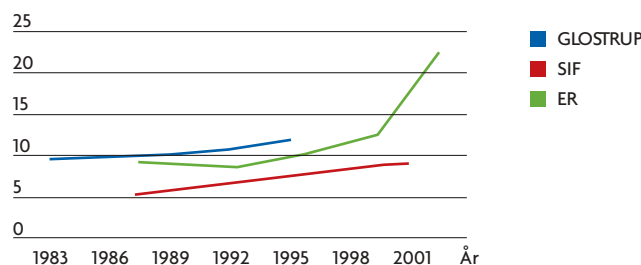
SIF: National Institute of Public Health, recurrent population studies (self-reported values)

ER: Danish Nutrition Council calculation corrected for underreporting (self-reported values)

**FIGURE 2**

**DEVELOPMENT OF OBESITY AMONG WOMEN IN DENMARK**

% WITH BMI  $\geq$ 30



Source: Danish Nutrition Council 2003

# The problem of obesity

## 2.2 Food and exercise habits of the Danes

Average energy intake has gone down in recent decades both among children and adults and at the same time there has been an increase in the prevalence of overweight. Although on average Danes consume less energy, there are population groups who have a high energy intake and at the same time expend little energy. Also sugar intake among children and adolescents is far too high. 14% of children's energy intake stems from sugar (recommended level max 10%), and 3 out of 4 children and adolescents consume too much sugar of which more than half is in the form of sweets, cakes and ice cream and more than a third in the form of soft drinks.

More and more Danes have sedentary jobs, and it does not look as if those who are physically inactive at work compensate through physical activity in their spare time. Transport has become less physically demanding. Distances between home and work increase and so does the number of cars. And bicycling is becoming less common.

Altogether development seems to show that the average Dane consumes more energy than required in view of energy expended.

## 2.3 Consequences of obesity

Obesity is associated with increased morbidity and mortality and with poor well-being and social isolation. The risk of falling ill depends on the degree of overweight. Fat deposits around the abdomen – the 'apple-shaped' figure – are especially dangerous. Overweight influences metabolism and plays a role for the development of type 2 diabetes, cardiovascular disease and certain cancers. Moreover overweight increases the risk of osteoarthritis, lung disorders and sleep problems. Finally overweight and repeated slimming diets increase the risk of eating disorders.

Obese individuals are often discriminated against in schools and on the labour market. Especially children suffer from this, and overweight individuals, both children and adults, often suffer from low self-confidence, social isolation, depression and anxiety.

A strictly economic analysis of actual costs related to obesity in Denmark has not been made. It has been calculated that 4 to 8% of the health care budget is linked to overweight related diseases and if the rapid increase of obesity continues, these costs will of course go up.

## 2.4 Weight loss

Persons with normal body weight live longer than the overweight, and mortality increases the more BMI exceeds 30. Deliberate weight loss improves well-being in the individual both mentally and physically. The beneficial effect of weight loss is especially seen in people who already suffer from weight related complications. Therefore treatment of obesity should always be recommended – especially when there are weight related complications. The most important thing is to prevent overweight and avoid major weight fluctuations.

## 2.5 What is overweight?

Overweight is a sign of long term imbalances involving intake of more energy than is expended (positive energy balance). The causes underlying such imbalances are complex and include both behavioural, environmental and biological aspects.

High energy food – i.e. food with high fat and/or sugar content – may increase the risk of overweight and obesity. Especially in persons with a sedentary lifestyle who are predisposed for overweight. On the other hand low energy foods – i.e. food with low fat and sugar content and rich in fibre – may reduce the risk of weight gain and obesity.

Physical activity plays a positive role with regard to a number of the consequences of obesity, e.g. type 2 diabetes, hypertension and cholesterol levels. The effect is greatest if physical activity is combined with reduced energy intake. Physical activity contributes to maintaining stable body weight without necessarily losing weight unless dietary habits are also changed.

It is known that psychosocial factors play a role in relation to obesity though it is not known exactly how. But obesity is especially seen in population groups with low

# The problem of obesity

levels of education and low earnings. It is also considered that the interplay between parents and children is especially important in connection with both prevention and treatment of obesity in children.

Finally genetic factors play a significant and independent role and genetic factors may influence susceptibility to environmental factors that increase the risk of overweight. Gender influences the distribution of fat in the body – men typically become 'apple-shaped' whereas women typically become 'pear-shaped' if they gain body weight, and this influences the risk of complications. Moreover there are critical stages in life, i.e. periods with an increased risk of gaining weight. In the case of women this is especially during pregnancy and in connection with the menopause whereas in men weight gain often levels out around 50 to 60 years of age.

## 2.6 Who are at risk?

Individuals with obese family members have an increased risk of obesity. Children with overweight parents often themselves become overweight, and the reasons for this may be genetic factors as well as the family's food and exercise habits.

A person who is overweight and has

- Type 2 diabetes
- Hypertension
- Increased cholesterol level
- Occurrences of cardiovascular disease in close relations

– will have increased risk of complications.

Women develop extreme obesity more often than men, and this often happens in connection with pregnancy and the menopause. Large scale smokers and especially young people often gain weight if they stop smoking. Moreover there are a number of drugs which increase the risk of weight gain.

A small group suffer from compulsory overeating, Binge Eating Disorder (BED), which is a psychiatric disorder seen in about 2% of the adult population. Among the overweight BED is seen in about 8%.

## 2.7 How can obesity be prevented in adults?

Little is known about the prevention of obesity. Available scientific results show that it is possible to prevent a rise in the mean BMI of a given population but at the same time indicate that it is considerably more difficult to prevent obesity than to lower cholesterol levels and limit smoking.

And too little is known about how to improve the initiatives taken by health care professionals with regard to prevention and treatment of overweight individuals. But there are some promising methods that should be investigated further. These are among other things further training of healthcare professionals, treatment by dieticians and interdisciplinary and cross sectoral initiatives. Moreover there are good results from follow-up and repeated admonitions from treatment staff.

When all is said and done, it is necessary to evaluate and develop new strategies based on Danish conditions and targeting the Danish population if we want to reduce overweight problems in Denmark.

## 2.8 Prevention of overweight in children and adolescents

School is the setting for most initiatives targeting children and adolescents, and these initiatives focus on increased physical activity and healthy eating habits. Initiatives that combine various strategies have not been investigated, but initiatives in schools combined with family involvement seem to have a certain effect. It is known that an important element in the prevention of overweight in children and adolescents is that they should spend less time on television viewing and computer games.

More studies are required to throw light on which initiatives are effective. Nevertheless it is important to take action now and to produce new knowledge on a variety of methods and their effect concurrently with attempts to solve the problem.

# The problem of obesity

## 2.9 Identification

The primary health care sector holds a key position in relation to identifying unfortunate weight development in time. General practitioners may react to weight changes in patients who visit them for other reasons and let weight management be a natural part of the treatment plan for persons with overweight related diseases such as type 2 diabetes, cardiovascular disease, hypertension and certain cancers and arthritic conditions. And when doctors prescribe medicines that may lead to weight gain, the prescription should be accompanied by counselling on the avoidance of weight gain.

In connection with pregnancy consultations general practitioners and midwives may play an active role to help women avoid unnecessary weight gain.

It is decisive that adults who are in contact with a child who shows inappropriate weight development take action at an early stage. Municipal health services carry out measuring of weight and height at regular intervals and results are compared with reference values for each age group. If a given child deviates from average values, action should be taken at an early stage so as to avoid the problems involved in obesity. General practitioners can take action in connection with the scheduled health examinations of children in the case of excessive weight gain. Educators and teachers may take part in the identification and support of children and adolescents who have social problems as a consequence of overweight.

General practitioners have contact with teenage girls when counselling on contraception. On these occasions overweight

may be discussed if necessary, and body weight may be discussed with young men in connection with medical board examinations. Especially with regard to children and adolescents it is decisive to adopt a balanced approach that takes into account the risk of dissatisfaction with one's own body and eating disorders.

## 2.10 Treatment of obesity

Treatment of obesity is not just a matter of what is commonly understood as traditional medical treatment. It is to a large extent a matter of interdisciplinary educational and psychological effort aiming to bring about lasting life-style changes.

The basic element in any treatment of obesity both in children and adults is low energy food combined with regular exercise. The aim is to reduce body weight and keep the lower weight level. Initially a treatment target will be weight reduction of about 10%. When this has been achieved, further targets may be established.

Medical treatment may be considered for adults. Weight loss achieved in this way may play an important role both with regard to quality of life and risk of disease, in the short term and in the long term. But the problem is that obesity will often return. After five years most patients will have the body weight that they had when treatment was initiated. There is a lack of knowledge about which treatment and follow-up activities give the best results.

Physical activity improves fitness and can help maintain body weight but contributes to weight loss only to a limited extent. It is recommended that physical training is

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Any treatment aiming to achieve weight loss and weight management – i.e. avoidance of weight regain – should consist in a combination of:

- low energy food (food with a low content of energy and a high content of fibre)
  - increased physical activity
  - psychosocial intervention addressing self-confidence and social acceptance
-

# The problem of obesity

initiated at a moderate level, e.g. physical activity 30 to 45 minutes three to five days a week.

Surgical treatment to achieve weight loss is an option for extremely obese patients (BMI>40 or >35 with obesity related complications) when other treatment has failed and there is a high risk of medical complications and death as a consequence of obesity. Studies indicate that life long medical control following surgical treatment is required.

When weight loss has been achieved, the great challenge is to maintain weight loss and avoid weight regain. Weight management in the form of nutritional changes, physical activity and behavioural changes are usually necessary for the rest of the patient's life.

Patients with Binge Eating Disorder have several problems that require treatment: compulsory overeating, obesity and psychiatric complications. Therefore long term interdisciplinary intervention is required.



# III. Proposal for action

## 3.1. Objective

The objective of the action plan is to contribute to producing awareness and cultural norms in the Danish population that promote normal weight development. Also the action plan should counteract habits that lead to overweight and contribute to reducing body weight for persons who already suffer from or have a special risk of developing obesity – especially persons with type 2 diabetes and cardiovascular disease.

### *The overall objective is*

- To prevent more persons from developing BMI $\geq$ 30
- To reduce body weight among persons with BMI $\geq$ 30

### *Intermediate aims are*

- To prevent overweight in persons with normal body weight
- To prevent weight gain in overweight persons (BMI $\geq$ 25) and/or stabilise weight in persons who have achieved loss of body weight
- To prevent obesity related complications
- To promote loss of body weight in persons with obesity or with obesity related conditions

**FIGURE 3**

Management of obesity.

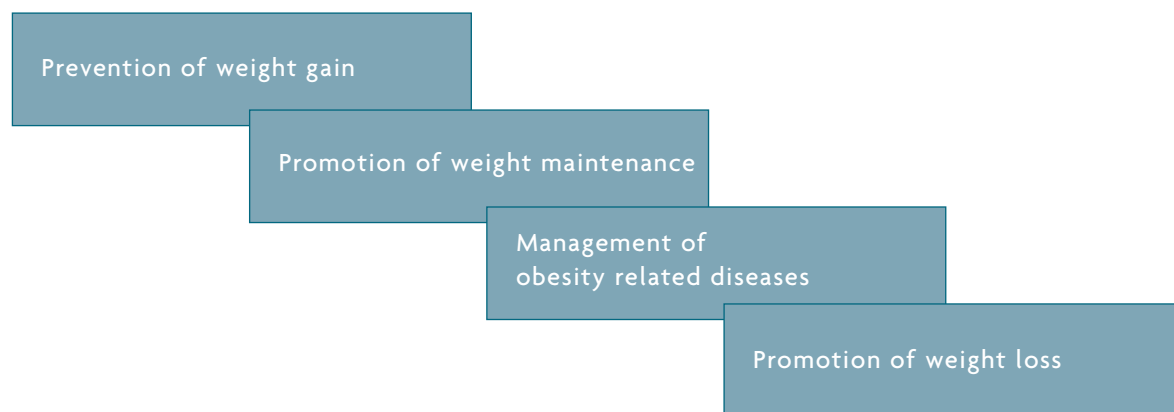


Figure 3 is based on a WHO model and shows the broad range of overlapping activities that are involved in prevention and treatment of obesity

# Proposal for action

## 3.2 Target groups

The various strategies comprise the following target groups:

- Children and adolescents in general with the objective of health promotion and obesity prevention
- Children and adolescents with overweight and/or special risk of developing overweight or overweight related complications with the objective of loss of weight or weight stabilisation
- Adults in general with the objective of promoting lifestyles that prevent overweight
- Adults who are moderately overweight (BMI=25–29.9) and/or with special risk of developing obesity or obesity related diseases (e.g. persons with a hereditary disposition to obesity or to obesity related complications, persons who stop smoking, pregnant women or persons who take drugs with weight gain as an adverse effect) with the objective of weight maintenance or weight loss

- Adults with obesity (BMI≥30) with the objective of weight loss/weight maintenance as a way of preventing obesity related complications.

## 3.3 Documentation

Overweight indicates that energy intake has exceeded energy expenditure over a certain period of time which means that there is a positive energy balance. There is scientific evidence that high energy foods together with lack of physical activity promote a positive energy balance and this may increase the risk of overweight and obesity – especially among sedentary persons and persons with a disposition to overweight.

Physical activity enhances energy metabolism and may prevent fat from being deposited in the body through creating a negative energy balance. At the same time physical activity has a positive effect on appetite and sensitivity to insulin. Thus physical activity may contribute to main-

**TABLE 2**

Factors with possible influence on weight gain and overweight. Degree of evidence.

The table is based partly on the Danish Nutrition Council report on obesity 2003 and partly on the WHO report 'Diet, nutrition and the prevention of chronic diseases', 2002

	Increases risk	No correlation	Decreases risk
Convincing evidence	High intake of dietary fibre (e.g. from wholemeal products, potatoes, fruit and vegetables) Regular physical activity		High intake of energy dense food Sedentary lifestyle
Probable evidence	Home and school environments that support children's choice of healthy food and reduce sedentary activity		Heavy marketing of energy dense foods and fast food outlets. Sugar sweetened soft drinks and fruit juices Children spending much time watching television
Possible evidence	Low glycaemic index foods Breast feeding High frequency of food intake	Protein content of the diet	Large portion sizes Alcohol

**Comments: Energy-dense foods have a high fat and/or sugar content**

**Low energy foods have a high content of fibre and/or water (e.g. wholemeal products, potatoes, fruit and vegetables)**



# Proposal for action

taining body weight whereas physical activity in connection with a change of dietary habits may possibly contribute to a more pronounced loss of body weight.

Based on a review of available scientific literature Table 2 shows the factors for which there are convincing, probable or possible evidence of their relation to the global development of obesity.

Thus available documentation supports special focus on nutrition and physical activity in the following areas:

## *Specific targets for initiatives*

- To reduce intake of food with high fat and sugar content and increase intake of food with high fibre content for persons who need this
- To stimulate a more physically active lifestyle and increased participation in organized and non-organized physical exercise

## *Factors that are significant*

- Availability, e.g. access to healthy food, opportunities for physical activity
- Physical environments, e.g. school canteens, safe transport routes to schools, access to leisure areas, stairs rather than lifts
- Prevailing norms, e.g. common norms for healthy food and meals, tradition for physical activity
- Personal resources, e.g. knowledge, attitudes, views, competence to act
- Conditions that motivate and support the individual, e.g. that family and friends support a healthy lifestyle, that resource persons are available if one has a need for assistance to change habits, freedom from television advertisements for sweets, snacks and soft drinks

# IV. Recommendations

## 4.1 Recommendations

The National Board of Health recommendations aim to inhibit and promote factors that influence energy balance in negative and positive directions respectively and which may thus influence body weight. The concrete recommendations are based on a professional assessment that the initiative in question has a beneficial effect on a given problem. There is little research with regard to psychosocial issues and therefore few concrete initiatives are proposed in this area. New research is needed in this field.

A multi-dimensional approach is suggested involving both the individual and a wide range of bodies and agencies, e.g. the state, the counties, the municipalities, NGOs, workplaces, trade and industry. It is important to maintain and build upon good existing initiatives but it is also important to take new initiatives that provide new forms of cooperation and new frameworks. And new initiatives should be organized in such a way that the effect of the method used can be evaluated.

In the debate on prevention of obesity proposals are always put forward that suggest economic regulation of the population's lifestyle through subsidies or tax regulation. The most common proposals are the following:

- Higher excise duties on soft drinks
- Subsidies for food with low fat and sugar content and high fibre content e.g. through differentiating VAT rates
- Economic incentives in connection with physical activity – as for instance transportation of bicycles free of charge in public transport, tax relief for access to health clubs paid for by employers

But documentation in support of these proposals is very limited. There is a need for a closer analysis of to what extent such measures may influence people's habits and in which areas economic regulation will have the desired effect.

## 4.2 Types of initiatives

The National Board of Health recommends the following types of initiatives:

- Structural initiatives, e.g. legislation, labelling and establishing of treatment services
- Normative initiatives, e.g. policies, guidelines, instructions
- Information initiatives, e.g. education, motivation, communication of knowledge
- Research and development of methods

## 4.3 Levels

The National Board of Health recommends that action is taken at three levels:

- Private level
- Community level
- Public sector level

### *Private level*

The individual, the family, the home and other settings of everyday life constitute the framework for lifestyle and thus the opportunities for developing and maintaining personal habits that prevent overweight. It is important to remember that a great part of the population live on their own, and that there are socially vulnerable groups. Therefore there is a need for differentiated strategies.

### *Community level*

The community level is constituted by the settings and relations that are part of everyday life apart from home and family. For children and adolescents this is day care, schools, out-of school care, educational institutions, various associations and voluntary organizations that constitute an important framework for daily life and activity. Moreover trade and industry play an important role. The food industry and the retail sector very much influence what products are available and how they are presented to the citizens not least through product information and marketing.

### *The public sector*

The state, the counties and the municipalities are responsible for establishing the framework for public health. This is done through legislation, planning and services, and it is done through the communication of knowledge on health and disease, through monitoring public health, through contributing to the development of new methods

# Recommendations



and through the formulation of common goals and strategies for prevention and treatment initiatives.

### *Interplay between levels*

A number of the recommendations are so general that initiatives naturally would involve more than one level. Information initiatives with regard to good eating habits are often taken care of by the food industry, by public interest organizations and by the public sector and through collaboration by several bodies. Initiatives that promote cycling for instance might in the same way be launched in collaboration between public and private organizations. And health promotion initiatives at the workplace would involve both the public sector and the social partners.



# V. Target groups

In what follows the recommendations are presented in a so-called target group perspective. For each target group (cf. the list page 16) a number of recommendations are presented for the private level, for the community level and for the public sector. Readers who would like to adopt a so-called actors' perspective are requested to consult the unabbreviated edition of the plan and/or the National Board of Health website [www.sst.dk/forebyggelse/overvaegt](http://www.sst.dk/forebyggelse/overvaegt) (only a Danish version is available)

## 5.1 Children and adolescents (in general)

Children and adolescents are an important target group. On the one hand children's lifestyle is formed at an early stage and is carried on into adult life, and on the other hand overweight children and especially overweight adolescents have an increased risk of overweight in adult life. Another important reason to intervene against overweight in children is that overweight children more often than other children suffer social exclusion and mobbing.

It is mainly the responsibility of parents to pass on healthy habits and norms to their children. But most children spend a large part of the day outside their home and the habits and norms passed on in the environment where they spend their time acquire great significance. It is important that all the people that constitute a child's social environment take part in the passing on of the competencies that the children will need in their adult lives. This complies to concrete competencies such as shopping and cooking, the pleasure of physical exercise and attitudes towards health.

Adolescents who have entered puberty are especially attentive to their bodies, their body weight and their looks. They undergo a process of natural growth and development which involves major body changes. Adults who are in contact with these young people should avoid one-sided focus on body weight. Instead attention should be paid to these young people's well-being and possibly irregular eating habits, dissatisfaction with one's own body and dieting in order to be able to offer attention, guidance and care. Adolescents should be assisted in acquiring an understanding of biological development and the value of maintaining regular and healthy eating habits. The aim is to avoid overweight and to reduce the risk of eating disorders.

## Nutrition

The aim in relation to children's diet is to reduce the number of children who consume more energy from fat and sugar, e.g. through sweets, snacks and soft drinks, than is recommended (from the age of three a maximum of 10% of energy should stem from sugar and a maximum of 30% from fat). At the same time the number of children who meet the recommended intake of fibre should be increased, e.g. through eating wholemeal products and 300 to 500 grams of fruit and vegetables per day depending on age.

### *What can be done at the private level?*

It is important that parents themselves have healthy habits and thus can act as positive role models for their children. When children are involved in shopping and cooking, they get to know various types of food and they learn to cook. Parents are also responsible for securing that healthy food is available in the home rather than temptations in the form of snacks, soft drinks and sweets. Parents can support the provision of proper food in connection with school and out-of-school activities. In this way children acquire competence to act in the field of cooking and taking decisions on healthy eating habits.

### *What can be done at community level?*

The attitudes, norms and physical settings that children meet in everyday life outside their homes very much influence their eating habits. Therefore it is important to increase the provision of healthy food and meal services in day care, in schools, in out-of-school-care, in secondary schools and in sports and leisure associations. And norms prevailing in the individual institutions should stimulate children and adolescents to develop healthy eating habits. Municipalities with a healthy food strategy for day care and schools have a good basis for dialogue with parents about children's health. Also at this level efforts should be made to enhance children's and adolescents' active competence with regard to cooking and choice of healthy food.

### *The communities can:*

1. Implement food policies for day care, out-of-school care and secondary schools
  - secure healthy food services in school, canteens and other places that children frequent during leisure time

# Target groups

- make it difficult to get unhealthy food, sweets and soft drinks
  - provide a good framework for healthy meal and eating habits
  - meet the learning objectives laid down for the subject home economics
  - be good role models for children and adolescents
2. Secure access to fresh drinking water in schools, educational institutions and other places frequented by children and adolescents
  3. Secure that vending machines with sweets and soft drinks are not placed in schools and educational institutions for adolescents.
  4. Secure healthy food services in connection with sports facilities and other places frequented by children and adolescents in their spare time

## *What can the public sector do?*

It is a public sector task to influence the norms and frameworks that may underpin the choice of healthy food by children and adolescents as well as their parents. In order to promote the choice of healthy food it is important that children and adolescents are protected against the widespread availability of and massive marketing of sweets and soft drinks. At the same time action may be taken to enhance competence to act among children and parents to withstand the pressure of the food industry towards increased consumption of sweets, snacks and soft drinks.

## *The public sector can:*

5. Establish guidelines/standards for nutritional content of food offered in schools and educational institutions for young people (state)
6. Adopt and secure the implementation of nutrition policies for day care, schools, out-of-school care, and secondary schools (municipalities)
  - access to healthy food
  - social norms and physical environment
  - teaching
  - adults as role models
7. Establish new and strengthened guidelines for the school subject home economics (state)

- increase or set minimum standards with regard to the mandatory number of lessons allocated for home economics
- strengthen requirements with regard to teacher competence in home economics
- develop new proposals for the content of teaching in the field of nutrition and cooking

8. Develop courses in nutrition and cooking for the training of teachers and educators (counties and municipalities)
9. Develop parents' competence to act with regard to "proper lunch" and packed lunch (state, counties and municipalities)
10. Carry out information campaigns focusing on limiting daily intake of sweets and soft drinks among children and adolescents. Enhance attention to good alternatives in the form of wholemeal products, potatoes, fruit and vegetables (state, counties and municipalities)
11. Introduce stricter rules for TV advertising and marketing that target children (state)

## *Physical activity*

It is generally recommended that children and adolescents are physically active at least one hour every day. The aim is to increase the number of children and adolescents who are physically active and increase the amount of time spent on physical activity by stimulating children and parents to make physical activity part of everyday routines.

## *What can be done at the private level?*

Parents have a great responsibility for securing that their children lead physically active lives. It is important that parents themselves are physically active during their spare time and that their children get opportunities for physical development in school and during leisure. At the same time parents may set limits to children's inactivity, e.g. in connection with television and computer games as well as transport to and from school and spare time activities.

# Target groups

## *What can be done at community level?*

Day care, out-of-school care and secondary schools should stimulate children's physical activity both during lessons and during breaks. This comprises transport conditions – that children can walk and cycle safely to and from school – the design of playgrounds, indoor facilities and prescribed number of staff that give children the opportunity to develop physically. It is also important that adults are good role models and support children's physical activity.

## *The communities can:*

12. Implement policies for physical activity in day care, schools and out-of-school care
  - stimulate the use of playgrounds
  - stimulate physical activity during lessons and otherwise
  - organise excursions
13. Establish easily available and inspiring exercise activities for children and adolescents (also for overweight children and adolescents who are not motivated for competitive sports) in collaboration with health promoting organizations and sports associations.

## *What can the public sector do?*

In several areas the public authorities have the opportunity to influence the frameworks that can limit but also motivate the adoption of a more active lifestyle by children and adolescents. The public authorities set norms for out-of-school services and can make efforts to secure that sports facilities and leisure areas are adapted to children's needs. Children's safety on their way to and from school is one of the main reasons that parents transport their children by car. If the number of physically active children is to be increased, it is important that society provide safe foot and cycle paths that can motivate children and parents to physically active transport to and from school and out-of-school activities.

Staff in schools, day care etc. should have the qualifications needed to make play and movement a central element of children's everyday lives.

## *The public sector can:*

14. Adopt policies for physical activity in day care, out-of-school care and secondary schools (municipalities)

- provide suitable playgrounds
  - establish indoor areas with enough space for physical activity
  - secure staff ratios that among other things make excursions possible
  - enhance the attention given to physical activity within all relevant school subjects
15. Adopt traffic policies which secure that children and adolescents have the opportunity of active transport to and from day care, school, out-of-school care, secondary schools and sports and leisure associations (municipalities)
    - establish car free zones near schools
    - establish safe foot and cycle paths separated from car traffic near schools
  16. Establish new and stricter guidelines for physical education (state)
    - increase/set minimum standards with regard to the mandatory number of lessons allocated for physical education
    - strengthen requirements for the competence of teachers and educators within physical education so as to appeal to the varying needs of children and adolescents
    - develop new initiatives for differentiated curricula within physical education
  17. Develop training courses within physical education for teachers and educators (counties and municipalities)
  18. Carry out information campaigns addressing parents and other adults with a view to limiting the time spent by children and adolescents on television and computer games. Enhance the attention given to other areas of activity than television and computer games (state, counties and municipalities)
  19. Carry out information campaigns that motivate parents and children to use physically active modes of transport to and from school and during leisure (state, counties and municipalities)

# Target groups

## 5.2 Children and adolescents with obesity and or special risk of developing obesity or obesity related conditions

Initiatives aimed at children and adolescents with obesity or special risk of developing obesity or obesity related conditions/diseases are considered to be part of the general prevention of obesity in adulthood. It is important to strike the right balance between paying attention to unfortunate weight development and the singling out of children as being “different” and thus expose them to mobbing. Moreover it is important to target a broad range of both psychosocial and purely biological aspects and to involve families when change of lifestyle is concerned.

The general prevention strategies with regard to children and adolescents of course also target obese children and adolescents and children who have special risk of developing obesity or obesity related complications. For instance children and adolescents who are overweight and who have overweight parents and/or siblings and when hereditary disposition enhances the risk of developing overweight and the environment further enhances this risk. In addition to general prevention initiatives with regard to these groups there is a need for specially targeted prevention initiatives to secure that body weight problems are dealt with in time.

### *What can be done at the private level?*

It is the responsibility of parents to react if their child shows unfortunate weight development. Therefore it is important that parents have the skills needed in this situation. Children who lack parental support have a greater risk of overweight than children who get adequate support at home. But this does not mean that overweight children generally lack parental support. It is important that initiatives also focus on well-functioning families.

### *What can be done at community level?*

Educators and teachers are also responsible for reacting when faced with unfortunate body weight development in children and adolescents. This requires of course that they get the proper qualifications for taking care of this task. It is important to avoid stigmatising the children and adolescents who are offered assistance in connection with outreach activity and protect overweight children against mobbing.

### *The communities can:*

20. Carry out early detection initiatives on the basis of guidelines for the professional groups who are in contact with children and adolescents
21. Adopt and implement policies against mobbing of overweight children and adolescents in day care, schools, out-of-school care and secondary education as well as in associations

### *What can the public sector do?*

The most important task with regard to this group of children and adolescents is to develop services in the health care sector which can detect children and adolescents with unfortunate body weight development and which can offer relevant assistance to children who are overweight or who have a special risk of developing overweight related diseases. For this to be possible it is necessary that these services are offered as close as possible to the everyday environment of the children and adolescents in question (e.g. by general practitioners or municipal health services). Initiatives that involve the family are most effective in the long term. And educators and teachers may be trained to react when faced with unfortunate weight development.

### *The public sector can:*

22. Establish guidelines for municipal health services with a view to the monitoring of children's height and weight (establishing of child examination programmes involving regular reporting and central registration of height and weight measures) (state)
23. Develop clinical guidelines for general practitioners with a view to detecting and counselling of individuals at risk (e.g. as part of the child examination programmes) and guidelines for the municipal health services with regard to these individuals. In the case of young girls this might for instance be done in connection with contacts with the general practitioner on contraception and for young men in connection with medical board examinations (state)
24. Develop guidelines for professional groups who are in contact with children and adolescents on the detection of children and adolescents with a risk of developing overweight and counselling of these (state)



# Target groups

25. Develop treatment and prevention services by carrying out model projects that evaluate the effect of integrated family oriented initiatives that comprise psychosocial aspects (state)
26. Establish integrated services that involve the child and close relations by establishing family oriented support in the local municipality (county and state)
27. Establish referral procedures for referral to integrated services that involve the child and close relations by establishing family oriented support in the local municipality (county and state)
28. Carry out information campaigns targeting children, adolescents, parents, educators and teachers with a view to taking action when detecting unfortunate body weight development – including prevention of discrimination and mobbing (state, county and municipality)

## 5.3 Adults (in general)

Obesity is developed over time, and when it is fully developed treatment is very difficult. Therefore it is important to avoid weight gain after reaching adulthood. Prevention of obesity in adults is a matter of creating an awareness in the population of the fact that it is important to maintain stable body weight in order to prevent overweight related conditions and diseases.

### Nutrition

The aim of initiatives in relation to nutrition are 1) to reduce the number of adults who eat and drink more fat and sugar than recommended, 2) to increase the number of adults who eat the recommended amount of food rich in fibre (e.g. wholemeal products, potatoes, fruit and vegetables).

#### *What can be done at the private level?*

It is important that adults have both the will and the ability to establish and maintain healthy eating habits. Therefore it is important to create and maintain the ability to cook and to choose healthy food.

#### *What can be done at community level?*

Most adults spend a great part of their time at work, and the physical environment and the norms that relate to food in the workplace very much influence their opportunities for establishing and maintaining healthy eating habits. Therefore it is important that it is possible to make healthy choices both in workplaces and in connection with leisure activity.

#### *The communities can:*

29. Adopt and implement health policies that establish physical and mental conditions that may prevent overweight
30. Secure collective agreements in the labour market that involve health perspectives.
34. Establish food policies at workplaces and in connection with leisure activities
  - accessibility of healthy food
  - proper physical and mental conditions for healthy eating habits
29. Strengthen the subject of nutrition in basic and further training of catering and retail staff.

#### *What can the public sector do?*

It is public responsibility to secure that the population's food choices are made on the basis of as much information as possible. The information level is influenced not only through general campaigns for healthy food but also through e.g. statutory labelling requirements. The supply of food may be influenced through extended cooperation with the food industry. At the same time it is public responsibility to secure that the population can get into contact with health care staff who have knowledge on nutrition.

#### *The public sector can:*

33. Establish indicative standards for the range of food offered in public catering services and canteens, e.g. minimum requirements with regard to availability of fruit and vegetables (state)
34. Strengthen the subject of nutrition in basic and further training of health care staff (state)

# Target groups

35. Introduce legislation concerning easily understood and clear nutritional labelling (state)
36. Secure that clear documentation requirements are met in connection with the marketing of foods that lead to alleged weight loss (state)
37. Continue and develop cooperation between the authorities, the retail sector, the food industry and the catering and restaurant sector (state)
38. Carry out general information campaigns on psychosocial and health related consequences of obesity with the aim of promoting social acceptance and prevent discrimination – including mobbing and exclusion from the labour market (state)
40. Introduce exercise breaks/training facilities paid by the employer
41. Make staircases inside buildings more attractive and use conspicuous signs to promote use of the stairs
42. Take physical activity into consideration when planning work routines
43. Provide company bicycles
44. Establish easily accessible and attractive exercise activities in collaboration with health promoting organizations and sports associations

## Physical activity

The aim of initiatives in relation to the physical activity of adults is to reduce the number of adults with a sedentary lifestyle and to reduce the amount of time spent without physical activity. Thus the purpose could also be formulated the other way round: To increase the number of adults who take exercise and increase the amount of time spent on physical activity.

### What can be done at the private level?

It is important that ordinary people are aware of the health benefits of physical activity and that they are motivated to make habits involving physical activity part of their lifestyle and to make increased use of sports facilities and leisure areas.

### What can be done at community level?

In a number of areas workplaces can contribute to the creation of norms and frameworks that stimulate increased physical activity. Health promoting organizations and sports associations may collaborate on the establishing of easily accessible exercise opportunities.

### The communities can:

39. Secure the establishing of bathrooms and changing rooms in the workplace in order to motivate and support staff who walk or cycle to work

### What can the public sector do?

It is a public task to motivate the population to a physically active lifestyle, among other things through securing sufficient knowledge about the relation between physical activity and health. In order to increase the number of adults that walk or cycle it is important to secure conditions that diminish existing barriers. The greatest potential is the possibility of making people walk or cycle for short trips rather than use their car.

### The public sector can:

45. Implement a traffic policy that enhances opportunities for physical activity in everyday life (state, county and municipality)
  - Establish car free pedestrian and cycle areas in cities and where people go in connection with shopping or work
  - Establish cycle paths along the roads or cross-cutting cycle paths in the countryside.
  - Plan new housing areas with easy access on foot or by bike to service areas
  - Secure opportunities for cycle parking in connection with public transport and workplaces
46. Integrate opportunities for promoting physical activity in connection with building projects and urban renewal projects – including the planning of leisure areas (county and municipality)

# Target groups

47. Carry out information and motivation campaigns with a view to motivating people to choose physically active modes of transport to and from work and in connection with various everyday activities. One of the purposes would be to reduce the number of short trips by car (less than 3 kilometres) (state, county and municipality)
48. Secure that knowledge on the significance of physical activity for health is integrated in the training of architects and urban planners (state)
49. Carry out general information campaigns on the relation between health and physical activity (state and county)

## 5.4 Adults who are moderately overweight (BMI=25–29.9) and/or have special risk of developing obesity or obesity related diseases

Initiatives targeting the general population of course also target the adults who have a special risk of developing obesity or obesity related diseases. For instance persons who are trying to stop smoking, persons who take drugs which increases the risk of weight gain, pregnant women, inactive and/or overweight adults or adults of normal weight who have family relations that are obese.

In addition to general prevention initiatives these groups need special initiatives in order to secure that body weight problems are dealt with in time. The important thing is to prevent further weight gain through weight management (weight loss or weight stabilisation).

### *What can be done at the private level?*

Many people consider moderate overweight as a cosmetic problem. Knowledge of the serious health consequences is less widespread. Therefore it is of central importance to enhance the population's awareness of the health consequences of obesity and to increase the number of adults that react appropriately to unfortunate weight gain. At the same time it is important to strike a balance with regard to the risk of developing eating disorders.

### *What can be done at community level?*

It is decisive that norms at the workplace support the individuals who want to change their lifestyle towards healthier eating habits and more physical activity. The labour and management can support this development through establishing health policies at the workplace and by adopting collective agreements that comprise health aspects.

### *The communities can*

50. Adopt health policies that establishes norms with regard to support of individuals with special needs.

### *What can the public sector do?*

The task of the public sector is primarily to secure that there are systems in the health care sector that can meet the special needs of these groups, both in relation to detection and counselling.

### *The public sector can*

51. Establish clinical guidelines for doctors, midwives and other health care staff with objective to detect and intervene against patients with special risk of developing obesity or obesity related complications. This concerns hereditary disposition to overweight or overweight related complications, pregnant women, mothers after giving birth, people who have stopped smoking, people who take drugs that may lead to weight gain (possibly information campaign with a view to self-monitoring of weight and waist measurement so as to detect deviations) (state)
52. Implement strict requirements for the training of health care staff with regard to the handling of overweight and related complications (state)
53. Develop prevention and treatment services by carrying out model projects that evaluate the effect of integrated initiatives that comprise psychosocial aspects (state and county)
54. Establish prevention and treatment services and follow-up on treatment (county)
55. Establish a referral system for prevention and treatment and follow-up on treatment (state, county and municipality)

# Target groups

- dietary advice
- physical activity (e.g. “prescription for exercise”)
- integrated initiatives (e.g. lifestyle centres)

56. Secure the availability of professional staff who can take care of those that have a special risk and thus need counselling in connection with management of weight problems (county and municipality)

57. Assure quality of weight loss services (state)

- requirements for training of “weight loss therapists”
- stricter guidelines for the marketing of weight loss products and services

58. Propose mandatory follow-up on overweight established in connection with medical board examinations, e.g. information from the medical board to overweight young men (state)

## 5.5 Adults with obesity (BMI≥30)

Obesity is a chronic condition which requires lifelong efforts and control. In order to achieve lasting results continuing efforts are required. Obesity is a condition that constitutes a threat to health and therefore it is not just a question of considering the cosmetic advantages of weight loss.

Initiatives aimed at this group concern weight loss. And at the same time it is a question of maintaining weight loss through weight management.

### *What can be done at the private level?*

There is a need to create awareness among overweight persons and in their social environment of the fact that obesity is a condition that involves serious health consequences and which requires lasting efforts. This means that it is important to enhance the competence of the overweight persons with regard to appropriate weight loss and weight management. At the same time family and relations should get an understanding of the need to support weight loss and to support lifelong maintenance of achieved weight loss.

### *What can be done at community level?*

Many overweight persons experience discrimination on the labour market and are therefore especially exposed to

social exclusion. This requires special attention from the workplace.

### *The communities can:*

59. Adopt policies that

- prevent mobbing and exclusion from the labour market because of weight related problems
- provide the necessary opportunity to consult a doctor or a dietician or get a “prescription for exercise”

### *What can the public sector do?*

It is a public task to secure that overweight persons can get into contact with health care institutions with qualified staff and qualified services. Studies of attitudes to overweight among health care staff have shown widespread uncertainty with regard to tackling the problem – both in relation to medical and psychological aspects.

### *The public sector can:*

60. Establish clinical guidelines for screening and intervention with respect to patients with obesity. These guidelines should target specific training programmes, professional groups and levels (state)

61. Develop tools for classification and steering of initiatives relating to obesity, e.g. through definition/classification of obesity in the diagnosis register (state and county)

62. Implement new requirements for training programmes with a view to enhancing the professional level of treatment services (state)

63. Establish centres at hospitals as part of securing expertise and development of treatment and follow-up services (county)

64. Strengthen basic and further training of the staff who work with and are in contact with overweight persons (e.g. health care staff, nursing and care staff in special institutions etc) including possibly establishing of special training for these groups with regard to overweight management in a holistic perspective (state, county/municipality)

## Target groups

65. Secure access to treatment aimed at weight management (state)
  - clinical dietitians
  - health care staff and other relevant staff groups with special training in management of overweight in a holistic perspective
  - psychologists
  - psychiatrists
66. Establish treatment services for persons with Binge Eating Disorder (BED). Most cases should be treated in general practice in collaboration with clinical dietitians. For complicated cases it is recommended that a team of psychiatric treatment staff is established at county level and with a highly specialized psychiatric regional level function.



# VI. Training programmes

## 6. Basic and further training

It is important for the implementation of the plan that overweight is part of curricula for relevant training programmes and that further training is offered to those staff groups who through their work get into contact with overweight persons and obesity related problems. This is not only health care staff but also staff in other areas, e.g. schools, day care and residential institutions, the social sector, the labour exchange, urban planning, adult education and voluntary workers in the area of leisure activities.

In the process of working with the plan it has become clear that there is a need for wider efforts within prevention and treatment of obesity. Part of the work with the implementation of the plan will require an integrated and cross-sectoral effort. Some health care staff may have to give up confronted with regard to the psychosocial conditions that influence overweight. There might be a need for specialization both within health care training programmes and in other relevant training programmes concerning relations between health, nutrition and exercise. Also a need for psychological insight and practical knowledge about methods to achieve changes in body weight and lifestyle will be in demand.



# VII. Need for further documentation

The existing knowledge base should be strengthened through strengthened and targeted research efforts. In this connection it is vital that continued efforts to build up scientific documentation are undertaken where this is possible in close coordination with the practical implementation of the plan.

**It is recommended that research is strengthened within the following areas:**

1. Documentation and monitoring of initiatives.
2. Updated and improved monitoring systems to measure development trends in the population with regard to body weight, nutritional conditions, physical activity and underlying environmental determinants.
3. Special prevention initiatives targeting children.
4. Model projects that evaluate the effect of initiatives addressing the general framework and lifestyle in a range of settings (schools, day care, workplaces, restaurants, canteens, fast-food outlets and the catering sector in general)
5. Clarification of health consequences of obesity (mortality as well as morbidity)
6. Continued studies to further clarify the links between body composition and morbidity/mortality
7. Improved indicators for classification of obesity and body composition and improved measures for food intake and physical activity in the population
8. Development and validation of indicators for biological and genetic determinants of weight gain and overweight
9. Development of tools for the identification of persons of normal body weight with special risk of weight gain
10. Development of tools for the identification and motivation of overweight persons with special risk of developing overweight related complications
11. The effect of labelling of food with regard to product development, consumer choice and eating habits
12. The effect of economic regulation through subsidies and excise duties on the population's health behaviour
13. Development and validation of indicators for psychosocial and environmental determinants of weight gain and overweight
14. Studies to throw further light on psychosocial and environmental determinants of overweight and obesity
15. Studies to evaluate the effect of integrated prevention and treatment initiatives that comprise psychosocial aspects
16. Quality assurance of current activity
17. The effect of new medical and surgical treatment methods for weight loss

The above proposals are not listed in order of priority and the list is not exhaustive.

It is important to initiate basic as well as applied research that cover a wide range of issues. There is an urgent need to provide new knowledge so that future prevention and treatment of obesity can rest on a sound scientific basis.

# VIII. Members of the working group

Ole Kopp Christensen, Director of Centre, National Centre for Health Promotion and Prevention, National Board of Health (Chairman)

Susanne Anthony, Psychotherapist, Chairman of the Obesity Society (appointed by the National Board of Health)

Arne Astrup, Professor, MD, dr.med., Research Department of Human Nutrition, former president of The Council on Nutrition (appointed by the National Board of Health)

Vibeke Graff, Head of Department, National Centre for Health Promotion and Prevention, National Board of Health

Susanne Hansen, Nutrition Specialist, Department of Health, City of Copenhagen (representative of Frederiksberg and Copenhagen Municipalities)

Berit L. Heitmann, Adjunct professor of Nutritional Epidemiology, Ph.D., Research leader and Head of Research Unit for Dietary Studies, Institute of Preventive Medicine (appointed by the National Board of Health)

Ulla Hølund, Head of Section, DDS, Ph.D., dr.odont., National Centre for Health Promotion and Prevention, National Board of Health (coordinator)

Michael Kjær, Professor, MD, dr.med., Sports Medicine Research Unit, Bispebjerg Hospital (appointed by the National Board of Health)

Inge Lissau, Senior Researcher, Ph.D. (representative of the National Institute of Public Health – maternity leave as from December 2002, replaced by Mette Kjølner Psychologist, MA)

Sten Madsbad, MD, dr.med., Hvidovre Hospital (Representative of H:S)

Svend Aage Madsen, Ph.D., Head of Department of Psychology, Play Therapy & Social Work, The Juliane Marie Centre, Copenhagen University Hospital, Rigshospitalet (appointed by the National Board of Health)

Pia Müller, General Practitioner (representative of the Danish Society of General Medicine)

Benthe Nygaard, Paediatrician, Municipality of Holbæk (representative of the Danish Society for Child Health)

Lars Ovesen, Head of Department, Danish Veterinary and Food Administration (appointed by the National Board of Health)

Tove Petersen, Medical Assistant, National Board of Health

Bjørn Richelsen, Professor, MD, dr.med., Aarhus University Hospital, Chairman of the Council on Nutrition obesity task force (appointed by the National Board of Health, member since august 2002)

Regitze Siggaard, Head of Section, MSc in Nutrition, National Centre for Health Promotion and Prevention, National Board of Health (maternity leave from June 2002)

Representative of the Association of Danish Municipalities (invited but no one appointed)

Ole Lander Svendsen, Consultant Doctor, dr.med., Bispebjerg Hospital (appointed by the National Board of Health)

Thorkild I.A. Sørensen, Professor MD, dr.med.sci., Institute of Preventive Medicine, President of the Danish Society for the Study of Obesity (appointed by the National Board of Health)

Bjarke Thorsteinsson, Head of Department, Ministry of the Interior and Health (appointed by the National Board of Health)

Mette Waadegaard, MD, Ph.D., Stolpegaarden, Center for Psychotherapy, Gentofte (appointed by the National Board of Health)

Miriam Wilmont, Head of Section, Danish Regions (representative of the Association of Danish Counties)

The working group has held eight meetings and work was finalised in February 2003.