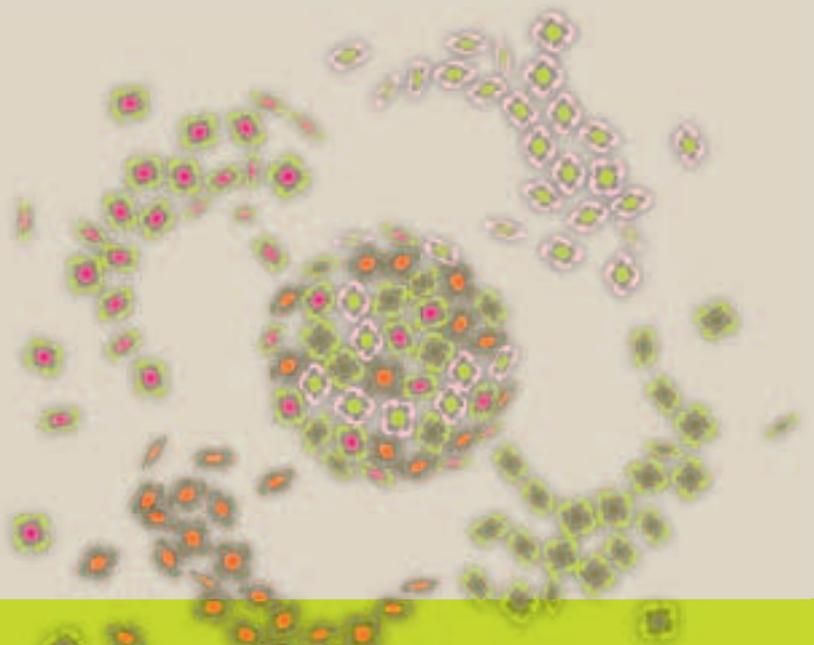




World Health
Organization

REGIONAL OFFICE FOR Europe

Evaluation of the Norwegian nutrition policy with a focus on the Action Plan on Nutrition 2007–2011





**World Health
Organization**

REGIONAL OFFICE FOR **Europe**

Evaluation of the Norwegian nutrition policy with a focus on the Action Plan on Nutrition 2007–2011

ABSTRACT

The WHO Regional Office for Europe conducted an evaluation of the Norwegian Action Plan on Nutrition (2007–2011) in 2012. The evaluation was commissioned by the Directorate of Health of the Norwegian Ministry of Health and Care Services under the terms of the framework agreement between the Regional Office and the Directorate of Health. The overall aim of the assignment was to provide an independent evaluation of the Action Plan on Nutrition and an assessment of the possible options for the future in terms of policy recommendations.

Keywords

DIET

FOOD

HEALTH POLICY

NUTRITION AND FOOD SAFETY

NUTRITION POLICY

SOCIOECONOMIC FACTORS

Address requests about publications of the WHO Regional Office for Europe to:

Publications

WHO Regional Office for Europe

UN City, Marmorvej 51

DK-2100 Copenhagen Ø, Denmark

Alternatively, complete an online request form for documentation, health information, or for permission to quote or translate, on the Regional Office web site (<http://www.euro.who.int/pubrequest>).

© World Health Organization 2013

All rights reserved. The Regional Office for Europe of the World Health Organization welcomes requests for permission to reproduce or translate its publications, in part or in full.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by the World Health Organization to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either express or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the World Health Organization be liable for damages arising from its use. The views expressed by authors, editors, or expert groups do not necessarily represent the decisions or the stated policy of the World Health Organization.

Contents

Acknowledgements	iv
1. Introduction	1
1.1 Why this evaluation and why now?	1
1.2 Nutrition and public health policy in Norway	1
1.3 Terms of reference	2
1.4 Process and conduct of the review	2
2. Nutrition in Norway: analysis of the situation	2
2.1 Nutrition policy	2
2.2 Broader policy context	7
3. Evaluation of the implementation of the Action Plan.	9
3.1 General comments	9
3.2 Evaluation of focus areas and measures in the Action Plan	13
3.3 Findings in relation to social inequalities in dietary intake	21
4. Overall recommendations of the evaluation.	25
4.1 General recommendations	25
4.2 Specific recommendations regarding the Action Plan	25
4.3 Key priorities in nutrition policy	27
5. Future policy priorities	30
References	31
Annex 1 List of experts on the evaluation panel	34
Annex 2 List of key informants	35
Annex 3 Internal government monitoring matrix	37

Acknowledgements

This report was commissioned by the Directorate of Health of the Norwegian Ministry of Health and Care Services. The WHO Regional Office for Europe would like to express its appreciation to the key national informants for the documentation and data they supplied relative to the objectives specified in the Norwegian Action Plan on Nutrition 2007–2011. Thanks are also due to the national and international experts on the evaluation panel for their valuable contribution to a consultative workshop with policy-makers and stakeholders, held in Oslo in April 2012, and to the preparation of this report. The Regional Office is most grateful to the Norwegian Directorate of Health for its support for the printing of this report.

1. Introduction

1.1 Why this evaluation and why now?

This report presents the findings of an evaluation of the Norwegian *Action Plan on Nutrition 2007–2011. Recipe for a healthier diet (1)* and recommendations for the future.

The evaluation was commissioned by the Directorate of Health of the Norwegian Ministry of Health and Care Services under the terms of the framework agreement between the WHO Regional Office for Europe and the Directorate of Health, and was carried out by the Nutrition, Physical Activity and Obesity Programme of the Regional Office. The overall aim of the assignment was to provide an independent evaluation of the Action Plan on Nutrition and an assessment of the possible options for the future in terms of policy recommendations. More specifically, the objectives of the evaluation were detailed in the terms of reference and mainly focused on:

- an analysis of the results of the policy and a comparison with its objectives;
- an assessment of the efficiency of the policy in meeting these objectives;
- consideration of whether changes are needed to the policy and suggestions for possible improvements to the scope, structure and working practices, with due consideration of different policy options; and
- recommendations for the design of future policy.

This report details the work undertaken and the answers to the points set out in the terms of reference. The analysis is based on the stakeholder consultation process that took place in an intensive evaluation workshop in Norway in April 2012, including interviews with stakeholders and policy-makers and a review of the existing documents and data.

The evaluation was planned as a two-stage process: quantitative and qualitative. The first stage was to gather relevant and available documentation and data related to the objectives specified in the Action Plan (a quantitative internal evaluation was carried out by the Directorate of Health).

The second stage was a qualitative evaluation, whereby the Regional Office supported the Directorate of Health in setting up a group of national and international experts to conduct an intensive workshop in Oslo from 16 to 20 April 2012, with the aims of interviewing key informants (policy-makers and stakeholders), analysing the available data and discussing suggestions and inputs for the future. The members of the evaluation panel are listed in Annex 1 and the key informants in Annex 2. This report, which has been written by the Regional Office together with the external expert group, is an output of the consultation process and provides a summary evaluation for the Directorate of Health.

1.2 Nutrition and public health policy in Norway

The Action Plan on Nutrition 2007–2011. Recipe for a healthier diet (1) set out the government's measures to promote health and prevent disease through a healthier diet. The emphasis of the Plan was on helping to make it easier for individuals to make healthy choices, to facilitate good meals in kindergartens, schools and among the elderly, and to increase knowledge about food, diet and nutrition. The aim of the Plan was to improve public health through a healthy diet, with two main goals:

- to change the diet in line with the recommendations of the health authorities, and
- to reduce social inequalities in diet.

These two goals were translated into five main strategies:

- to improve the availability of healthy food products
- to increase consumers' knowledge
- to improve the qualifications of key personnel
- to develop a local basis of nutrition-related work, and
- to strengthen the focus on nutrition in the health care services.

The evaluation focused on the overall goals and measures proposed and taken forward with the Action Plan.

1.3 Terms of reference

The review panel agreed on the following terms of reference:

- to review progress in the implementation of the Action Plan and to consider whether implementation locally and nationally had been appropriate and effective in addressing the Plan's action points;
- to review the impacts and outcomes of the implementation of the Plan, the extent to which the activities identified had been fulfilled and the targets achieved, and whether the changes identified were attributable to the Plan;
- to identify future challenges, and to recommend strategic areas of action required to strengthen the policy goals of improving the national diet and counteracting obesity and noncommunicable diseases by means of reducing inequalities related to access to and choice of food and diet, as well as access to care in the field of nutrition-related diseases.

1.4 Process and conduct of the review

At the start of the evaluation process, in April 2012, the Regional Office organized a consultative workshop involving international and national experts who selectively interviewed people responsible for implementing policy and other relevant staff. Their approach was based on the methodology used for the evaluation of Australia's National Mental Health Strategy (2), the methodology used for the Scottish Diet Action Plan review (1996–2005) (3) and other relevant country experiences in which the Regional Office was directly involved.

The review process aimed to detail what was proposed by the Action Plan and what had been achieved in terms of implementation, drawing from two main sources of evidence.

First, the Norwegian national dietary survey (4) (the Directorate of Health's monitoring and surveillance system) provided the baseline for the quantitative review. In addition, an internal governmental monitoring process had been set up consisting of intersectoral meetings several times a year to follow up the implementation of the Action Plan through assessment of all 73 measures proposed in the Plan. This work was summarized in a matrix which was made available for the expert panel in preparation for the workshop (Annex 3).

Second, the workshop in Oslo involved a series of interviews conducted by the external expert group (working largely in pairs or threes) with policy-makers and stakeholders who had had responsibility for, or been involved in, the implementation of different initiatives on the ground or had worked in relevant areas. These informants were identified and invited by the Directorate of Health. Some interviews were in English, some were in Norwegian, some in a mixture of both languages with informal translation. Most were conducted face to face or by telephone. Most were recorded for back-up purposes.

2. Nutrition in Norway: analysis of the situation

2.1 Nutrition policy

2.1.1 Overview of the Action Plan on Nutrition 2007–2011

The Action Plan on Nutrition served as a policy framework for decision-makers, professionals, experts and others in the public and private sectors who play a role in the population's diet. For good dietary habits to be achieved, many sectors need to work together. For this reason, 12 ministries collaborated in developing the Action Plan and taking forward intersectoral action during its implementation. The Plan contained 73 specific measures to promote health and prevent illness by changing eating habits in line with the nutrition recommendations of the health authorities. Reducing social inequalities in diet was one of the two overall goals. The measures emphasized contributions that made it easier for individuals to make healthier choices, to facilitate the provision of healthy meals in kindergartens, schools and among the elderly, and to increase people's knowledge about food, diet and nutrition. The Action Plan, which ended in 2011, was a follow-up to the *White Paper No. 16 (2002–2003). Recipe for a healthier Norway* (5). It was also underpinned by WHO's Global Strategy on Diet, Physical Activity and Health (2004) (6), the European Charter on Counteracting Obesity (7) and the WHO European Action Plan for Food and Nutrition Policy 2007–2012 (8).

The Action Plan on Nutrition must also be viewed in connection with the *Nordic Plan of Action for Better Health and Quality of Life through Diet and Physical Activity (9)*, adopted in July 2006, and the *Action Plan on Physical Activity (2005–2009)*. *Working together for physical activity (10)*. The launch of the Action Plan on Nutrition was followed by publication of the *White paper No. 20 (2006–2007)*. *National strategy to reduce social inequalities in health (11)*. There was a parallel working process between the Action Plan and the strategy to reduce social inequalities in health.

Section 2.1.2 below describes the historical perspective since 1963, as the Action Plan was built on several earlier political documents.

2.1.2 Overview of nutrition policy since 1975

In the 1970s, Norway moved substantially to promote world food security. It expanded its emergency grain reserve and in 1975 joined the World Food Programme, increasing its commitment by 300% within five years. It also increased its official development assistance from 0.65% of gross national product in 1975 to 1.0% in 1985 (compared with the Netherlands and Sweden at about 0.88% and the United States at 0.22% in 1983). The food supply and nutrition policy objectives set in 1975 were changed slightly in 1993 (12). The goals of the Ministry of Agriculture remained self-sufficiency with respect to certain foods and, with due regard to the environment, the maintenance and promotion of agricultural development in outlying rural areas. Nutrition is not explicitly mentioned in reports on agriculture at ministerial level, although it was the Ministry of Agriculture that presented the first nutrition policy white paper in 1975 (13) which encouraged healthy dietary habits and proposed a nutrition and food policy in line with the recommendations of the World Food Conference (14). Parliament endorsed two new white papers in 1993, one on the new agricultural policy and the other on health policy. The latter emphasized disease prevention and health promotion, and had a separate section on nutrition policy objectives and instruments for action (15). The most important measures to influence the core diet in the last 50 years have included improvements in the content of fatty acids in margarine (1960–1980), reduction of the content of trans-fatty acids to a low level (1995–2005), maintenance of a high degree of grinding of sifted wheat flour (1960s), improvements in the baking quality of whole wheat (1980s), blending of overseas wheat with a high content of selenium into flour, introduction of low-fat milk (1984) and consultations with the food industry on the level of salt in food products (1980s).

Beyond the food available nationally and the kinds of food that consumers buy, national dietary patterns must be assessed by what people actually eat. Such information was sparse in Norway until the mid-1980s. In that decade, the health-related components of the nutrition policy were implemented most extensively through information and education, to a far more limited extent in its economic, community service and regulatory aspects, and least of all in the field of integration with relevant government processes. Other ambitions at the time were to influence the composition of core foods and use of fiscal measures, as well as to have dialogues with the food industry and the food service sector. A specific research programme was established where one of the purposes was to stimulate research on nutrition-related issues within a broader range of academic disciplines such as anthropology, sociology and economics. By all accounts, the pace of implementation was too slow to meet some of the prognoses for 1990 set in the white paper on nutrition from 1975–1976 (13).

In the 1990s, nutrition policy was administered intersectorally by linking it with policies that touched on health, agriculture, fisheries, consumer affairs, education and research. The government stressed the need for cooperation between these sectors in order to achieve the goals and objectives of the food and nutrition policy. Three organizations had a role in coordinating nutrition policy: (i) the Interministerial Council, which only existed for a few years; (ii) the Nutrition Council, which together with the Interministerial Council came administratively under the then Ministry of Health and Social Affairs; and (iii) the Norwegian Food Authority. The last-named merged in 2004 with other institutions and is now called the Norwegian Food Safety Authority, with the task of enforcing food legislation emanating from the Ministry of Agriculture and Food, the Ministry of Fisheries and Coastal Affairs and the Ministry of Health and Social Affairs. The Authority coordinates all official control of foodstuffs, provides expertise and advice to municipal food control authorities, and gives information and advice to other relevant groups such as consumers and the food industry (12).

2.1.3 Overview of the Norwegian diet and diet-related problems

The Action Plan contained defined general goals (Table 1) and quantitative goals (Tables 2 and 3) for dietary changes. Dietary trends before and during the period of the Plan are described with the latest available statistics and compared with targets. Food balance sheets go up to 2010, but for several of the other statistics the most recent data are from 2008 or 2009. Thus it has not been possible to describe the trends for the entire period of the Plan. In essence, trends before and after 2005 are compared.

Table 1. General goals for the development of the Norwegian diet 2007–2011 and trends in food supply 2000, 2005 and 2010

Dietary factor	Goal	2000	2005	2010	Evaluation
Fat, E%	25–35	34	35	37	Negative trend
Saturated fat, E%	Approximately 10	15	15	16	Negative trend
Trans fat, E%	<1			<1	Goal reached
Polyunsaturated fat, E%	5–10	6	6	6	Within the target
Protein, E%	10–20	13	15	15	Within the target
Carbohydrates, E%	50–60	52	50	47	Below recommended level
Sugar, E%	<10	17	15	13	Beneficial, target not reached
Dietary fibre, g/day	Approximately 30	24	24	27	Beneficial, target not reached
Vegetables, kg/year	Promote	59	62.6	72.6	Significant increase in 20 years
Fruit and berries, kg/year	Promote	69.3	82.4	88	Significant increase in 10 years
Potatoes, fresh, kg/year	Promote	33	26.6	25.7	Significant decrease in 50 years
Potato products, kg/year	Decrease	27.3	33.5	31.4	Significant increase in 50 years
Whole grain cereals	Promote				No data
Fish and sea food, kg/year	Promote	35	35.5	35.9	Little change in the last 10 years
Fatty meat products	Decrease				Meat contributed the same amount of fat in 2005 and 2010
Meat, kg/year		63.9	71.3	73.8	Significant increase
Fatty dairy products	Decrease				Dairy products accounted for less fat in 2010
Whole milk, kg/year		30.3	31.2	19.7	Shift from fat to lean milk
Cheese, kg/year		14.5	17.0	17.9	Consumption of fatty cheese increased
Cream, kg/year		6.8	7.3	7.3	Small changes
Butter, kg/year	Decrease	3.3	3.0	3.0	Small changes
Margarine, kg/year	Decrease	11.1	9.3	8.6	Decreased
Shift to soft margarine and edible oils					Proportion of edible oils and light margarine increased
Salt	Decrease				No data
Sugar, kg/year	Decrease	43.4	35.5	31	Significant decrease
Soft drinks with sugar, litre/year	Decrease	90	60 ^a	63	Decreased over time, but increased since 2007
Sweets, kg/year	Decrease	12.7	13.2	14.3	Increase over 50 years
Good meal habits	Promote				Unclear due to lack of data

Note. Evaluation based on food supply statistics and household consumption surveys.

^a 2007, data missing for 2005–2006.

In the period 2005–2010, food supply statistics showed that the intake of dietary fat and saturated fat increased after having been relatively unchanged over the previous decade (Table 1).

The percentage of the population with an intake of saturated fatty acids above 10% of the total energy intake is now significantly high. Dietary content of saturated fat is now significantly higher than recommended. Dietary intake of protein, trans-fatty acids and polyunsaturated fatty acids has remained within the recommended limits during this period.

The importance of added sugars in the diet decreased after 2000 but is still greater than recommended. The average amount of fibre in the diet has increased but is still below the recommendations.

The consumption of vegetables, fruits and berries has increased over time and continued to increase in 2005–2010. During the period 2005–2009, the proportion of the population with an estimated daily intake of vegetables increased to about 20% and the proportion of people who eat fruit and berries daily increased to more than 20% (Table 2).

Table 2. Quantitative goals for the development of the diet 2007–2011 and evaluation of trends

	Goal	2001 (%)	2005 (%)	2009 (%)	Evaluation ^a
<i>20% change in the proportion of the population that eat or drink:</i>					
vegetables daily,%	Promote	39 ^b	36	42	Increased to 17% 2005–2009
fruit and berries daily,%	Promote	43 ^b	40	50	Increased to 25% 2005–2009
fish for dinner 3 times/week,%	Promote	23	22	22	Unchanged
fish spread (mackerel in tomato sauce) >once a week,%	Promote	17	20	26	Increased to 30% 2005–2009
tap water daily,%	Promote	73	83	87	Increased
<i>Children and young people who eat or drink:</i>					
sweets daily (aged 15 years),%	Decrease	19	13	9	Decreased to 31% 2005–2009
soft drinks and/or sugar-sweetened squash daily (aged 15 years),%	Decrease	27	18	15	Decreased to 17% 2005–2009
breakfast daily at home (aged 15–24 years),%	Promote	56	55	58	Small change
sugar intake above 10 E%	Decrease				Decreased for 2-year-olds from 11.7 E% to 6.7 E%
saturated fat intake above 10 E%	Decrease				Decreased for 2-year-olds from 14.2 E% to 13 E%

^a Evaluation based on data from Norkost 3 (4) and Currie C et al. (16).

^b 2003, data missing for 2001.

Table 3. Breastfeeding goals 2007–2011 and trends

Breastfeeding among infants	Goal (%)	1998–1999 (%)	2006–2007 (%)	Evaluation ^a
Exclusively breastfed at 4 months	44–70	44	46	Goal not reached
Exclusively breastfed at 6 months	7–20	7	9	Goal not reached
Breastfed at 12 months	36–50	36	46	Goal almost reached

^a Evaluation based on data from Spedkost – 6 måneder (17).

The consumption of fresh potatoes fell and the consumption of processed potatoes rose significantly in the period 1970–2000 and there has been little change since. Grain consumption increased in the same period but has since fallen somewhat. It is uncertain whether the proportion of whole grain cereals has risen. Fish consumption has changed little over the past decade. The proportion of the population who said they ate fish for dinner three times a week changed little in 2001–2009, while the proportion who ate fish spreads (mackerel in tomato sauce) at least once a week increased by 30% in 2005–2009. The consumption of meat increased for a long time up to 2007, but fell slightly in both 2009 and 2010. Consumption of red meat was about the same level in 2010 as in 2005, while consumption of white meat increased significantly in the period 2005–2009. It is still uncertain whether the rising trend in meat consumption over a long time has stopped.

There has long been a shift from fat to lean types of milk, which continued in the period 2005–2010. Consumption of cream changed little during this period; cheese consumption, on the other hand, has been increasing for a long time and continued to do so in this period.

The consumption of margarine, which had been falling for a long time, continued to decrease in the period 2005–2010, while butter consumption remained at about the same level. Sales of edible oils have increased over the last decade.

The total consumption of sugar has decreased significantly over the last decade. Sales of chocolate and sweets, which increased significantly in the period 1970–2008, fell slightly in 2009 and 2010. Sales of soft drinks with added sugar decreased significantly in the period 1997–2004 and then increased slightly again in the period 2007–2010.

The Action Plan defined some dietary goals for children and young people (Table 2). Two cross-sectional studies were conducted, one in 2001 and one in 2008, with the aim of analysing changes in: children's meal patterns; associations between meal pattern and gender, parental educational level and number of parents in the household; and association between intake of unhealthy snacks, meal pattern and the mentioned variables (18). The studies showed that there were no significant changes in children's meal patterns from 2001 to 2008: in both years more than 90% of the participants reported that they had eaten breakfast the previous day, while approximately 95% had eaten lunch, 94% had eaten dinner, 82% had eaten supper and about 70% had eaten all four meals. The results also showed, however, that in spite of children having a stable meal pattern between 2000 and 2008, some did skip meals. The characteristics associated with skipping meals were living in a one-parent family, having parents with low education and being a boy (18). Simultaneously, in 2008 children reported a less frequent intake of fruit juice, lemonade and regular soft drinks, and a more frequent intake of diet soft drinks, than in 2001.

The proportion of young people who said they drank soft drinks or ate sweets daily decreased significantly in the period 2001–2009 among both 15-year-olds and those aged 15–24 years. Dietary surveys show that the proportion of one-year-old children given sweet drinks fell from 64% to 20% between 1998 and 2006. The total intake of added sugars decreased from 10% to 4% of dietary energy among one-year-old children and from 12% to 7% of dietary energy among two-year-olds. During the same period the dietary content of saturated fat decreased among two-year-olds. There are no more recent surveys that might shed light on the dietary content of sugar and saturated fat among children and adolescents.

The Action Plan defined a separate objective to increase the proportion of adolescents who eat breakfast daily. Among schoolchildren aged 15 years, the proportion eating breakfast five days a week changed little among girls and decreased slightly among boys between 2001 and 2009. In the group aged 15–24 years, the proportion who said they ate breakfast at home daily or ate breakfast at school changed little in the same period. The proportion that only took drinks for breakfast or had failed to eat breakfast at least twice during the previous seven days decreased from 2003 to 2009. The proportion of infants who were exclusively breastfed at four and six months increased slightly from 1998 to 2006 but was far from the target for 2011 set in the Action Plan (Table 3). The proportion of infants breastfed at 12 months increased significantly from 1998 to 2006 and was close to the target in the Action Plan. There are no recent national data available on the proportion of infants who are breastfed.

A regional study using a relatively old dataset from participants in the adolescent part (Young-HUNT) of the Nord-Trøndelag Health Study during the period 1995–1997, numbering 8817 girls and boys aged 13–19 years (89% of all students in junior high schools and high schools in one county), found that higher levels of parental education, in particular the mother's education, was associated with healthier dietary habits among adolescents (19).

During the period 2010–2011, an assessment was made of the diet of 862 men and 925 women aged 18–70 years. The method used was two randomly distributed 24-hour recalls and a food propensity questionnaire. This study, Norkost 3, was conducted by the Department of Nutrition, University of Oslo, in collaboration with the Directorate of Health and the Food Safety Authority (4).

The results showed a mean energy intake of 10.9 MJ per day for men and 8.0 MJ per day for women. The energy intake decreased with increasing age for both men and women. On average, protein, fat and carbohydrates contributed 18%, 34% and 43–44%, respectively, of the energy intake for both genders. Added sugar contributed 7% and both fibre and alcohol approximately 2% of the energy intake in both groups. The energy percentages consumed from saturated fat, monounsaturated fat and polyunsaturated fat were 13%, 12% and 6%, respectively, for both men and women. The energy percentage consumed from protein, fat, monounsaturated fat, polyunsaturated fat and trans fat were in accordance with the Norwegian nutrition recommendations. The dietary content of added sugar decreased substantially, but is still higher than recommended.

The energy percentage consumed from saturated fat was, however, above the recommended level, whereas the energy percentage consumed from carbohydrates was below. The main sources of fat were butter, margarine, oil and meat. Bread and sugar-sweetened squash and soft drinks were the most important sources of carbohydrates and added sugar

in the diet. The survey demonstrated some social inequalities in food and nutrient intake. Participants with a higher education had a healthier diet than participants with a lower level of education, and non-smokers ate more fruit, berries and vegetables compared to daily smokers (4).

In 2010, there was an increase of three percentage points for third-graders (eight-year-olds) who were overweight or obese compared to 2008, on average from 16% to 19%. This was shown by figures from the Child Growth Study at the Norwegian Institute of Public Health (20). It is, however, too early to say whether this increase reflects a trend, but it is alarming and should be made a policy priority. The Child Growth Study is a nationwide study that started in 2008 to monitor growth trends among third-graders over time, and is the only study in Norway monitoring children's height, weight and waist circumference. It was conducted for the second time in 2010, and the next measurements are scheduled for 2013 at the same schools. Almost 9 out of 10 pupils participated in the study in both 2008 and 2010. A total of 127 schools are taking part in this study, yielding data which are fed into the WHO Childhood Obesity Surveillance Initiative. The results show that 19% of girls were defined as overweight and 3% were obese (total 22%), while 12% of boys were defined as overweight and 5% were obese (total 17%) (20).

Weight increased in all adult age groups between the mid-1970s and 2000. The proportion of those overweight and obese varies from county to county. The average body mass index and proportion of those overweight and obese are lower in Oslo than in the four other counties (Oppland, Hedmark, Troms and Finnmark) where health studies have been carried out. People aged 40 years with a high education level are less obese than those with a lower level of education. In Oslo, the adult population tends to be heavier in eastern than in western districts, particularly the women. Among immigrants in Oslo the prevalence of overweight and obesity varies with ethnic background. The proportion of obesity in the immigrant population is highest among women from Turkey and lowest among men from Vietnam. Women from Pakistan and Sri Lanka have the highest waist/hip ratio, as shown in a study among 3000 immigrants from non-western countries.

In the last 20–40 years an increasing proportion of adults were found to be obese. Adult men have increased evenly in weight since the 1960s, while women have increased evenly in weight since 1985. The proportion of obese people rose from 9–10% in 1985 to 13–22% around 2000, according to figures from health studies of adults. Approximately 8–14% of the group aged 15–16 years are overweight or obese (21).

In the Directorate of Health's study more boys than girls aged 15 years were obese. The Norwegian Institute of Public Health's youth studies among 15–16-year-olds show the link between overweight and socioeconomic factors. Among immigrants aged 15–16 years in Oslo, the proportion of those overweight varies from 4% to 12%. The highest prevalence of overweight was among young immigrants from other western countries, eastern Europe and the middle east/north Africa, according to the youth part of the Oslo Health Study, which registered weight and height with the help of self-reported questionnaires (22).

2.1.4 Actors and stakeholders in nutrition

As part of the development of the Action Plan, different stakeholders were invited to give their inputs in two public hearings. The interaction between the public sector, private sector and nongovernmental organizations provided a foundation for good programmes and measures. Experts, actors in the food industry and other private actors, nongovernmental organizations and trade unions, university colleges and county authorities showed great interest in the Action Plan and provided useful input. The dialogue was continued and the proposals, examples and experiences that have been accumulated by these actors during the implementation of the Action Plan have been taking into account during this evaluation.

2.2 Broader policy context

2.2.1 Public health policy context

Norway is a monarchy with a parliamentary form of government. There are three independent levels of government: the national government, the county councils and the municipal authorities. The state level is responsible for secondary care, which is delegated to four regional health authorities. The county authorities are responsible for, among other things, dental care, public health, secondary education, energy delivery and communication. The municipal authorities are responsible for health promotion, primary health care, care of the elderly, care of people with disabilities (including

mental disabilities), kindergarten and primary school education, social work (child protection and social protection), water, local culture, local planning and infrastructure (23).

Life expectancy is among the highest in the world. Diseases of the circulatory system are the primary cause of mortality, with cancer the second largest cause of death.

The health care system is organized on three levels, national, regional and local. Overall responsibility for the health care sector rests at the national level with the Ministry of Health and Care Services, which is responsible for administering primary health care, specialized health care, public health, mental health, medical rehabilitation, dental services, pharmacies and pharmaceuticals, emergency planning and coordination, policies on molecular biology and biotechnology, and nutrition and food safety. The Ministry of Education and Research is responsible for planning and partially subsidizing the education of health personnel.

The Ministry of Health and Care Services has administrative responsibility for the following agencies: the Directorate of Health, the Norwegian Board of Health Supervision, the Institute of Public Health, the Medicines Agency and the Norwegian Scientific Committee for Food Safety. The Ministry of Agriculture and Food is responsible for the institutional management of the Food Safety Authority.

The Directorate of Health is the central administration for the government, with legal authority, in the field of health and social affairs. The Directorate contributes to the implementation of national health and social policy (for example, the Nutrition Action Plan), and serves as an advisory body to central authorities, municipalities, regional health authorities, voluntary organizations, the media and the public in general. An essential task for the Directorate is to develop and strengthen preventive work and to widen the availability of services in the field of health and social affairs (for instance, for nutrition).

The four regional health authorities have responsibility for specialist health care. They are financed by basic grants, earmarked funds and activity-based funding.

The local level is represented by 429 municipalities which have responsibility for primary health care, including nursing care. The aim of primary care is to improve the general health of the population and to treat diseases and deal with health problems that do not require hospitalization and a high level of specialized care. Each municipality decides how best to serve its population with primary care, which is for the most part publicly provided.

The main purpose of the Municipal Health Services Act (1982) (24) was to improve the coordination of the health and social services at local level, to strengthen those services in relation to institutional care and preventive care, and to pave the way for better allocation of health care personnel. The Act provides the municipalities with a tool to deliver comprehensive health services in a coordinated way. In 1988, it was expanded and county nursing homes were transferred to the municipalities.

The health care sector has undergone several important reforms in recent decades and nutrition is mentioned several times in the Public Health Act (2012) and the *National health and care services plan (2011–2015)* (25).

2.2.2 Policy context for social inequalities

The evaluation includes a specific commitment to assess the achievement of the second goal of the Action Plan – to reduce social inequalities in diet – both as a cross-cutting issue within the focus areas of nutrition and overall as a public health goal. It is, therefore, important to have an overview of the policy context and situation with regard to social inequalities when the Action Plan started.

In 2007, the *National strategy to reduce social inequalities in health (2007–2017)* was adopted by Parliament, with the primary objective to “reduce social inequalities by levelling up” (11). The strategy, together with two others approved by the government, forms part of Norway’s comprehensive policy to reduce social inequalities, promote inclusion and combat poverty. The other two reports/strategies are concerned with: (i) employment, welfare and inclusion, and (ii) early intervention for lifelong learning. The national strategy set out the guidelines for the government and ministries to reduce social inequalities in health over the decade in question, although its measures are largely linked to the follow-up from

the other reports, for example, the *Report on work, welfare and inclusion (26)* and related action plans such as the Action Plan against Poverty (27).

The four priority areas are:

- to reduce social inequalities that contribute to inequalities in health
- to reduce health inequalities in health behaviour and use of the health services
- to introduce targeted initiatives to promote social inclusion, and
- to develop knowledge and cross-sectoral tools.

The national strategy emphasizes the development of public health policies that aim for a more equal distribution of the positive factors affecting health, with a balance across structural universal or selective measures to downstream universal or selective measures which seek to remedy or mediate the negative impacts of inequalities. Thus it is about making the existing universal system more responsive and effective with regard to equity.

The national strategy to tackle social inequalities was developed in response to evidence about systemic inequalities in health, as measured by large and growing differences in mortality among adults and at every stage of life. Education, income, childhood conditions and work and the working environment were identified as some of the most important mechanisms affecting the distribution of health in the population. In terms of nutrition, systematic inequalities in health behaviour and access to health services were identified as important contributors to, in particular, perpetuating or exacerbating inequalities in health.

An agreed conceptual framework is important for mapping the relationship between the broader social determinants of health and social inequalities in diet. As part of global work on social determinants and equity in relation to priority public health issues (such as harmful alcohol consumption, cardiovascular diseases and diabetes), inequalities in diet are seen as being the result of differential exposure (that is, limited disposable income for ensuring a healthy diet), differential vulnerability (poorer diet or less healthy food purchases due to limited income) and differential health outcomes (greater risk and/or greater obesity and overweight) (28). In terms of overall food availability and the changing exposure of different social groups to negative factors, however, it is also necessary to look outside the Action Plan on Nutrition to the wider policy context and interventions designed to ensure that everybody has at least a minimum wage (which in turn is found to be sufficient to meet minimal social and health needs), adequate social protection and/or lower rates of early school drop-out. More structural and upstream action to improve food availability and access may, however, sit at the level of socioeconomic context and position and changes to policies such as on taxation, subsidies and the pricing of healthy food. These always need to be considered in relation to levels of income as well as the costs of other necessities whose purchase may be prioritized over food (such as rent or fuel). The provision of education in nutrition and ensuring of healthy foods in kindergartens and schools are also examples of measures that are independent of socioeconomic status.

3. Evaluation of the implementation of the Action Plan

3.1 General comments

The purpose of the evaluation was to review the national nutrition policy as well as progress and achievements in nutrition, with a focus on evaluating the Action Plan. The evaluation was based on: (i) the quantitative review which provided an update on current achievements in relation to the Norwegian diet, and (ii) the thematic matrix provided by ministries with regard to their tasks defined in the Action Plan (see Annex 3), together with (iii) the extensive evaluation week by the expert group that took place in Norway in April 2012.

3.1.1 Governance: implementation of the Action Plan

The Action Plan was developed and written with the purpose of gathering together existing and planned nutrition-related activities in the various ministries. The structure of the Plan, with 2 goals, 5 strategies, 10 focus areas and 73 measures, reflects the fact that it is as much a collection of activities in different sectors as it is a logical line between the different levels.

The Action Plan was signed and involved activities by 12 different ministries. During the period of the Action Plan regular meetings took place between the ministries, although there was considerable variation in their involvement. The Ministry of Health and Care Services was involved in 59 of the 73 measures (Table 4) and was itself responsible for 33 of them. The Ministry of Education and Research, the Ministry of Fisheries and Coastal Affairs and the Ministry of Agriculture and Food were involved in 11–13 measures, while the other ministries were involved in 0–5 measures.

Table 4. Number of measures detailed in the Action Plan and assigned to different ministries

Ministry	No. of measures
Health and Care Services	59
Education and Research	13
Fisheries and Coastal Affairs	11
Agriculture and Food	11
Labour and Social Inclusion	5
Local Government and Regional Development	4
Children and Equality	3
Finance	3
Environment	3
Foreign Affairs	2
Trade and Industry	1

The Ministry of Health and Care Services designated the Directorate of Health to be the secretariat for the Action Plan, with the overall responsibility for overseeing its implementation. Besides carrying out the tasks presented in the national budget, the Ministry of Health and Care Services each year writes a general allocation letter to the Directorate of Health, describing all the prioritized activities in different fields (such as nutrition).

The Directorate of Health and Social Affairs (since 2008, the Directorate of Health) was established in 2002. The Nutrition Council continued as an independent advisory board to the Directorate. In 2009, the Directorate was reorganized and the responsibility for nutrition was shared between three different public health departments with the aim of it being included in a broader public health perspective.

From the interviews with the various informants, it seemed that the implementation of the Action Plan went well, particularly during the period 2007–2009. Several informants reported, however, that after 2009 there appeared to be a loss of momentum. This appears to be validated by the fact that many activities, such as the development of national dietary guidelines, were undertaken initially. One reason for the perception of loss of momentum could be explained by the major reorganization of the Directorate of Health. Several informants indicated that this reorganization was not so much to facilitate better implementation of the Action Plan as to improve coordination with public health in general. The evaluation group did not evaluate or discuss the relevance of different models for organizing nutrition work.

3.1.2 Mechanism for monitoring implementation

The Action Plan did not detail a specific timeline or earmarked budget for each activity. For the indicators and targets related to each activity for monitoring and evaluation purposes, it was found that there was not enough information on socioeconomic status or ethnicity, age group, education or gender, or on other social determinants linked to health such as: overweight and obesity, dietary intake (saturated fat and trans fat, fruit and vegetables, fish and salt); breastfeeding and complementary feeding; and the trends in prevalence/incidence of diabetes mellitus in, for example, women of childbearing age, or gestational weight gain or diabetes in pregnancy. The level of data disaggregation was, therefore, too weak to construct a health equity profile with regard to nutrition.

An association of the determinants of health with regard to dietary behaviour (such as dietary intake) and the outcome (prevalence of overweight/obesity, prevalence of diet-related noncommunicable diseases) is missing. Dietary surveys that have been conducted are in line with international standards but they could have been linked more strongly with the

duration, timeline and priorities of the Action Plan, as a surveillance and monitoring system should feed directly into the policy priorities defined in national policy.

Some informants reported that they had learned some lessons during the implementation process but they were not aware of a structured reporting mechanism, although the county authorities have to report annually to the Directorate of Health about their activities as a result of the letters they receive each year regarding their planning and implementation. They felt that a structured reporting and monitoring mechanism could facilitate adjustments during the implementation phase. With regard to monitoring the implementation of the Action Plan, a more robust mechanism for accountability and reporting between sectors could strengthen collaboration and the exchange and/or dissemination of information between various national authorities and at county level, supported by an appropriate integrated information system and a surveillance system aligned with the policy priorities with defined roles for each actor and stakeholder during the implementation. Another way of improving the monitoring of nutrition-related activities could be to improve the reporting mechanisms on allocations to counties and the offices of the county governors.

The Dialogue Forum was mentioned as a reporting mechanism and was welcomed especially by the private sector, although a more structured mechanism was sought by many to encourage ownership by the different sectors.

The Action Plan was perceived as a supportive tool for the informants, both by the authorities and by health professionals, the private sector and civil society representatives. Most private stakeholders agreed that many of their initiatives did not come about as a direct result of the Action Plan, as many of them had developed their own plans following the endorsement of the WHO Global Strategy on Diet and Physical Activity in 2004 or even the long history of nutrition policy in Norway (as described above).

3.1.3 Budget

As stated earlier, the Action Plan did not detail an earmarked budget for each of its activities. Such a budget is, however, important to facilitate their implementation. Earmarking the budget in the policy development phase will entail an assessment of the adequacy of the financial resources allocated to the policy for its implementation. If this shows that the financial resources are restricted, the activities can be adjusted. A key issue is the need to identify appropriate funding requirements for policy implementation in a detailed budget, together with a plan to manage the budget throughout this implementation, so as to support the optimization of resources for this purpose. Detailed and accurate expenditure reports are an essential tool for tracking the trends in expenditure that inform decision-making.

Several reasons were given for the non-availability of a detailed description of the budget allocation for the Action Plan, the main one being that the Plan included activities in various sectors which thus impinged on different budgets. It would be too simplistic to review the budget of the Ministry of Health and Care Services alone, as other ministries had designated roles and probably specific budget allocations for implementation of the Plan. For example, the Ministry of Education and Research is responsible for the free school fruit programme. Some informants stated that if funding for nutrition (linked directly with the Action Plan) had been earmarked, it would have been easier to take implementation forward. According to the Division of Public Health in the Directorate of Health, the resources spent on nutrition remained relatively constant during the period of the Action Plan.

3.1.4 Communication

From reports by different informants, it became clear that the joint communication platform was much appreciated. Although this platform had developed several communication strategies during the period of the Action Plan, it was felt that a jointly defined media strategy for the Nutrition Council and the Directorate of Health would have been useful. This was considered particularly important, as the current issues with communication by all the commercial actors to the general public can cause misunderstanding and biased messages. It was also recognized that a communication strategy in support of the Action Plan aimed at all target groups and local actors was necessary and should be considered for future improvement.

In 2009, the Regional Office commissioned the report *Health systems and health-related behaviour change: a review of primary and secondary evidence* from the Centre for Public Health Excellence at the National Institute for Health and Clinical Excellence in the United Kingdom (29). This report aimed at identifying the characteristics of national, regional and local health systems and services that produce and support changes in behaviour. It presented a review of the role

of policies and national programmes, including for the media (with evidence about mass media campaigns), as well as marketing tools. Mass media campaigns help to set the social context, establish health leadership and communicate health messages. There is evidence that such campaigns are not enough in themselves to promote changes in behaviour. If, however, they are developed in line with the policy or government programme being implemented, they can be effective in raising levels of awareness. With regard to nutrition, there is a body of evidence showing that promotional campaigns, including media interventions, can increase awareness of what constitutes a healthy diet, and may subsequently improve dietary intakes if they are reinforced by other measures that make healthier options more available (29).

The Directorate of Health has used campaigns together with other measures, but it was felt crucial to use a mix of communication tools and to ensure that the strategy is recognizable by means of an appropriate and consistent image, such as an attractive logo (linked to the Directorate of Health). This should be supported by a high quality web site which provides a clear point of contact for the general public.

Books, magazines and television programmes are an important source of information, and the active involvement of media providers may improve the effectiveness of the policy implementation. In 2011, the Directorate conducted a mass media campaign on keyhole labelling and collaborated with a smaller television channel (Utrop TV) on providing dietary inputs and recommendations to minority populations.

The Matportalen web site, which has been set up by the public authorities with information about food and health, was described by informants, specifically at local level, as a good source of information (30). It was renewed and relaunched in spring 2011. A total of approximately 220 articles/answers to frequently asked questions about nutrition were published during the period 2007–2011, an average of 44 published articles per year compared with only 10 per year in the period 2004–2006. The revised HelseNorge web site and the newly launched Helsedirektoratet web site (in December 2011) provide continuous updates of articles on nutrition targeted at health services and mediators (31,32).

The authorities are respected and trusted by the general public. The National Nutrition Survey indicated in 2011 that three out of four people (74%) have very great confidence in dietary advice from the Directorate of Health. The following agencies provided material for the web site: the Norwegian Food Safety Authority, the Directorate of Health, the National Institute of Public Health, the Scientific Committee for Food Safety, the National Veterinary Institute, the Bioforsk Norwegian Radiation Protection Authority and the National Institute of Nutrition and Seafood Research.

As far as a communication strategy for minorities is concerned, the Directorate of Health organized a workshop on diet and minorities in May 2011, with participants from different immigrant communities. The outcomes consisted of a set of concrete ideas to be developed in dialogue with various minority groups. An example was cooperation with the largest immigrant newspaper about a television programme featuring a local merchant cooking in consultation with a nutritionist, both of whom had immigrant backgrounds.

3.1.5 Norwegian Nutrition Council

The Norwegian Nutrition Council was established in 1946. After various changes in its administration over the years, in 2002 its staff became employees of the Directorate of Health and Social Affairs. The Council continued to exist as a professional, scientific and independent advisory board to, in particular, the health authorities. During the period of the Action Plan the Council consisted of 11 members who met, on average, four times a year. The Directorate served as the secretariat for the Council.

During the period of the Plan, the Nutrition Council was responsible for a systematic review of the literature. This resulted in the report *Dietary advice for promoting public health and preventing chronic diseases* (33), which provided an overview for the health authorities of the updated national dietary guidelines and thus served as the basis for the national dietary recommendations.

The external expert group heard from several current and former members of the Council. Many of them had strong opinions about the Council, although some held a nostalgic view. Some felt that the Council should be replaced and its functions taken over by the Directorate of Health. Others believed that the Council needed an even more independent role, reflecting its role as an independent body under the Ministry of Health and Care Services.

As a result of these interviews, the expert group identified several issues needing some reflection with regard to the future role of the Nutrition Council. These included: where the Council should be anchored organizationally (in the Directorate of Health or in the Ministry of Health and Care Services), the background of and criteria for selecting Council members, the mandate, the need for the Council to be kept updated, the provision of input by the Council on national and Nordic nutrition recommendations and the Council's role in communication.

3.2 Evaluation of focus areas and measures in the Action Plan

The Action Plan had 10 focus areas with 73 detailed measures and 5 main strategies to achieve them.

The five main strategies were:

- to improve the availability of healthy food products
- to increase consumers' knowledge
- to improve the qualifications of key personnel
- to ensure the local basis of nutrition-related work
- to strengthen the focus on nutrition in the health care services.

The expert group was asked to evaluate whether these five strategies had been achieved through the implementation of the proposed measures associated with the strategies. A preparatory meeting between the experts and members of the Directorate of Health and the Ministry of Health and Care Services took place in April 2012 in the Regional Office in Copenhagen. This meeting defined and prioritized the focus for the evaluation of the first four strategies, as described below.

3.2.1 Availability of healthy food products and improvement of consumers' knowledge

The Action Plan mentioned a number of measures that could improve the availability of healthy food products and discourage the availability of unhealthy food products. These included: the development and reformulation of products; the establishment of a forum for dialogue; increased access to healthy foods (such as vegetables and fruit from primary producers); increased availability of seafood through strengthened collaboration between the government and the private sector (fishing industry and retail); the provision of healthy ready-to-eat meals from fast food and kiosk outlets; the introduction of taxation on, for example, non-alcoholic beverages; support for economic incentives; the regulation of food marketing through the labelling of food and symbols and health claims; and various access issues, including product placement and display.

In addition, the Action Plan aimed to improve public knowledge about nutrition through information, communication and educational approaches reaching all subgroups in the population, including new methods and channels of communication. Measures included: to develop a comprehensive plan for information and communication on nutrition; to review and specify the official dietary guidelines; to campaign for the promotion of fish consumption; to publish a basic cookery book; to continue to develop the Matportalen web site; to award a nutrition prize; and to establish a dialogue forum for information and communication.

The overall evaluation aims of the external expert group regarding these two strategies were to discover:

- good examples of improved availability of healthy food products throughout the period of the Action Plan and important factors for success;
- good examples of measures that have been able to increase consumers' knowledge about nutrition;
- examples of important barriers in the way of improving the availability of healthy food products and consumers' competence regarding nutrition and diet;
- the potential for improving the availability of healthy food products and consumers' competence regarding nutrition.

Good examples of improved availability of healthy food products throughout the period of the Action Plan and important factors for success

The *keyhole labelling system*, which was introduced as a joint Nordic health labelling initiative in June 2009, was mentioned as a key tool in improving efforts to develop and reformulate products in some specific food groups (34).

Three consumer-oriented mass media campaigns were carried out during the period 2009–2011 to inform the population about the keyhole labelling system. A home page was created, along with materials for consumers (folders in 12 languages) and for the food industry and education sectors. In just two years, the keyhole logo has become the best known and most used logo in the grocery trade. By December 2011, approximately 1500 keyhole-labelled products were available, in addition to fruits, vegetables, berries and fresh fish that could also be labelled with the logo.

A population survey in January 2012 of awareness and knowledge about the keyhole among consumers aged over 18 years showed continued positive progress: 98% knew or had heard about the logo; 85% knew that the logo represented a healthier choice; many knew that the logo represented less fat, sugar and salt and more dietary fibre; 60% trusted the scheme; and 50% thought that it made it easier to choose healthier foods.

The private sector has also been involved in other initiatives for better food labelling, such as the bread scale (four categories based on the whole grain and whole grain flour content), improved declaration of the content of food and the introduction of guideline daily amounts. Independent of the Action Plan, the food industry has also developed and increased the number of healthier products available. But there is more to be done, for example developing new keyhole products and making bulk products (such as cheese) healthier. In addition, work is going on to develop a national salt reduction strategy, including a dialogue with food producers with the aim of reducing the amount of salt in their products.

The *free distribution of fruit in schools*, giving access to healthy foods such as vegetables and fruit from primary producers in lower secondary schools (grades 8–10) and combined primary and lower secondary schools (grades 1–10), was mentioned as a good example of improved availability of healthy food products, and suggestions were made as to how this could become universal for all schoolchildren in grades 1–10. In 2007, the Ministry of Health and Care Services and the Ministry of Education and Research jointly decided to make free fruit and vegetables available to all pupils in lower secondary schools, thus increasing the availability of healthy food in schools. At 57% of the primary schools, pupils can subscribe to a subsidized fruit and vegetables scheme but in 2011 only 18% of the pupils at these schools did so. Informants also suggested that consideration should be given to the economic incentive of removing the value added tax from sales of fruit and vegetables.

In conclusion, there appear to be examples of success regarding the increased availability of and access to healthy food. Little progress has, however, been made regarding action on securing healthy ready-to-eat meals from fast food and kiosk outlets, except perhaps for a few initiatives developed for people such as long-distance lorry drivers.

Good examples of measures that have been able to increase consumers' knowledge about nutrition

During the period of the Action Plan, dialogue forums were used to communicate and consult with stakeholders. There were two forums: one at national level between the authorities, nongovernmental organizations and relevant private actors, and the other for cooperation between the food industry, the authorities, researchers and consumers.

It was seen as important for nutrition-related programmes to facilitate opportunities for information exchange, expert discussion, consensus on challenges and effective measures, and coordination of measures and various subsidization schemes. Nongovernmental organizations, the agricultural sector information offices and the Norwegian Seafood Export Council actively provided information, courses, dietary advice and educational programmes devoted to diet and health. Many of these organizations were committed to work with schools and kindergartens. There was a need for greater clarity in regional and local public health efforts as regards certain aspects of partnering with private sector actors over issues such as commercial interests and advertising.

Informants also considered it important to maintain a forum in which the authorities, the food industry, researchers and consumers met to discuss topical issues concerning food, nutrition and health. The main objective of the forum was to achieve a common platform and understanding of the efforts to achieve a healthier diet in the population. A seminar was organized annually with the food industry and consumer organizations to discuss trends, disseminate new knowledge and exchange information. Approximately 40–50 participants attended the meetings and different themes were discussed at each meeting. Positive feedback was received from the participants in 2012 with regard to these hearings.

These dialogue forums were referred to many times by informants, especially those from the private sector. The food industry's information offices continued to carry out information campaigns and other communication activities during the period of the Action Plan.

The results of the interviews showed that all informants thought these forums were important in improving collaboration with the Ministry of Health and Care Services and the Directorate of Health. All private sector informants agreed that they should be continued and could be even more useful if smaller and more frequent meetings were held on specific topics and based more on a real dialogue. This could help to strengthen synergies between different initiatives at different levels.

As a direct communication tool to increase knowledge and skills for consumers, the *Cookbook for all* was published in September 2007 (35). The book was given free to all pupils in lower secondary schools and to student teachers. Municipalities could buy the book at cost of production for training purposes (for example, language courses for immigrants or Good Food courses). The book was updated with the keyhole labelling scheme and new dietary advice and was made available in bookshops for the general public. It was mentioned by the informants as a success story for staff working in schools. In 2008, it received a prize for the most beautiful book used in primary and secondary education. The recipes and cooking tips in the book are based on the national dietary guidelines. Table 5 presents an overview of the number of books printed and distributed free to pupils, sold to municipalities at cost of production and sold in bookshops during the period 2007–2011.

Table 5. Cookbook for all: numbers distributed or sold 2007–2011

Distributed or sold	2007	2008	2009	2010	2011	Total
To pupils, free	73 413	76 850	76 729	77 142	74 493	378 627
To municipalities, at cost of production	5 470	4 060	6 520	5 360	5 800	27 210
Through bookshops, at normal cost	8 381	337	2 031	1 445	949	13 143

An expert group appointed by the Nutrition Council to update the current dietary advice went through all the relevant available research literature as the basis for their report *Dietary advice to promote public health and prevent chronic diseases* (33). This report, which was developed using a robust systematic review methodology, is available online and will be translated into English. Its launch in January 2011 gave rise to a broad debate and wide media coverage, as well as considerable international interest and recognition. Informants mentioned the book as a good source for increasing competence in nutrition. The Directorate of Health has translated the scientific dietary recommendations into more accessible information using brochures, posters, online articles and lectures which have been disseminated to the county authorities, clinics, doctors' surgeries and other mediators. However, since the book was published it appears that not enough tools have been developed to make the information accessible to the general population. For example, no food models such as food pyramids or a food plate or other pictorial aids appear to have been developed to aid the widespread dissemination and uptake of the guidelines (36). The health authorities have apparently chosen not to develop this kind of model.

Another tool to communicate good dietary practices, particularly targeting children, was the fish project Fiskesprell. This was considered a good initiative for kindergartens to increase the availability of seafood through collaboration between the government and the private sector (fishing industry and retail). The aim of the project was to increase knowledge among kindergarten staff regarding the nutritional benefits of fish and other seafood. It also aimed to develop children's cooking skills by encouraging them to help with preparing the fish, and make them more positive towards eating fish by enjoying the experience of a good taste. As part of the Action Plan, the Fiskesprell project was offered to all the counties from autumn 2008, based in the Partnership for Public Health. Several informants raised the question of financing during their interviews with the expert panel: two of the counties had decided not to participate, giving budgetary concerns as the reason. This was not, however, an issue for other counties which had found the necessary funds.

A survey carried out to assess meals, physical activity and environmental health in kindergartens in the spring of 2011 showed that 37% of the administrators (n=1375) and 29% of the head teachers (n=1100) responded that at least one

member of their staff had participated in a Fiskesprell course.¹ Among the head teachers who reported participation, 48% said that knowledge and experience from the course had been used to a large, or very large, extent. The survey also showed that among the kindergartens in which staff had participated, a higher proportion served fish or fish products as part of the warm meal at least once a month or more often, as compared with kindergartens that had not participated or where participation was not known.

The Directorate of Health carried out several communication activities during the period of the Action Plan to improve consumers' awareness and the consumption of healthier products. These activities include the above-mentioned mass media campaigns, collaboration with the Norwegian magazine *Se og Hør* [*See and Hear*] (with approximately one million weekly readers) in the form of a 14-page report on healthy eating and recipes involving celebrities, and a workshop with participants from different immigrant groups with the purpose of identifying specific ideas for communicating advice to such groups.

Although an evaluation of the impact of these initiatives is not available, some of the successful initiatives show that progress has been made towards increasing knowledge about and competence in nutrition among consumers. It is, however, difficult to infer causality between increased consumer awareness and the Action Plan. This can only be verified by carrying out specific consumer research, including among different subgroups of consumers.

Examples of important barriers to improving the availability of healthy food products and consumers' competence regarding nutrition and diet

Economic determinants such as the price of food and the cost of an affordable healthy food basket are key factors in improving the availability of healthy food products, as shown in the WHO publication *The challenge of obesity in the WHO European Region and the strategies for response* (37). From interviews with the expert panel, it appears that the authorities have not developed an example of a minimum healthy food basket or what this would cost in, for example, urban as opposed to rural areas. The National Institute for Consumer Research has, however, developed a reference budget that includes a food basket in line with the dietary recommendations (38). This was first developed in 1987 and revised in 2003 and 2007. For example, women aged 18–30 years would receive 9.4 MJ/day (protein 18 E%, fat 33 E%, carbohydrates 49 E%) which would cost approximately NKr 1835 per month. It has also been calculated that a food basket for a diet aimed at people with hypercholesterolemia (fat 25 E%, saturated fat 7 E%, carbohydrates 55%, protein 20 E%) would cost 40% more (NKr 2569 per month).

Certain products eligible to meet the keyhole criteria may cost more than the usual alternatives owing to the greater expense of producing some of the healthier varieties of these products, although some keyhole-labelled products, such as milk, yoghurt and skyr (a form of strained yoghurt), may cost the same. Added costs may create a barrier to easier availability, particularly for those on low incomes. There is a need for more information as to which groups in the population buy the keyhole-branded products. A consumers study or market surveys already available could provide a more detailed picture of consumers' behaviour, particularly if stratified by income groups.

Further, the overwhelming attention and focus in the media on diets from various self-designated experts can create confusion and pose a particular challenge to promulgating the official dietary guidelines.

Price policies and regulations such as taxation (on, for example, non-alcoholic beverages), economic incentives and food marketing regulations are difficult to implement owing to the natural conflict of interest between different stakeholders and the political difficulties of adopting and implementing them. Informants from the private sector recognized that the authorities believe that voluntary marketing regulations are not working, so the industry is anticipating mandatory regulations from the state. While the food industry is not enthusiastic, it seems to accept that regulations are inevitable. For many years, the health authorities have been proposing the use of price policies. Some reports and papers concerning taxation have been published (by, for example, the Norwegian Agricultural Economics Research Institute) and constitute a basis for the implementation of such initiatives. The strengthening of the regulatory framework to achieve healthier diets, particularly for children, seems to be coming about with the proposal on the regulation of marketing of food to children, which is currently under public discussion.

¹ Participation in the course during 2010/2011: 4565 kindergarten staff (from 1991 kindergartens) and 401 others. During 2009/2010, 912 student teachers and 616 preschool teachers participated.

Potential for improving the availability of healthy food products and consumers' competence regarding nutrition: multisectoral collaboration

Norway has participated in an international dialogue, through the WHO Action Network on Marketing Food and Beverages to Children, with other organizations and countries that had the same agenda or wished to have an exchange about the measures related to regulation of food marketing proposed in the Action Plan. Through its chairmanship of this Network, Norway has been instrumental in exchanging information with other Member States and facilitating implementation of policies with regard to the marketing of food and beverages to children. Norway has also participated in the EU High Level Group on Nutrition and Physical Activity and the European Food Safety Authority meetings. In addition, the Nordic Council of Ministers is an important forum for dialogue between the Nordic countries. The evaluation process showed that in Norway, more collaboration at national level between different authorities would help to ensure that each sector develops a sense of ownership for the implementation of the Action Plan.

3.2.2 Competence in nutrition – key personnel

Measures related to improving and securing nutrition-related knowledge, skills and competence in various key health professional groups are linked to improving work in this area aimed at the prevention and early identification of overweight and obesity and other nutrition-related noncommunicable diseases, as well as improving awareness at the local level and in primary health care. Improving competence is also linked to the integration of nutrition in the curricula for professional training and education.

The overall evaluation aims of the external expert group in assessing competence in nutrition efforts at local level were to discover:

- good examples of measures to increase nutrition competence among key health personnel and other relevant occupational groups;
- good examples of adequate standards and routines for nutrition in the health care sector;
- examples of barriers in the way of improving competence in nutrition and for establishing adequate routines for nutrition in the health care sector;
- the potential for improving competence in nutrition and for establishing adequate routines for nutrition in the health care sector.

Good examples of measures to increase nutrition competence among key health personnel and other relevant occupational groups

Informants involved with clinical nutrition presented evidence that a well-established nutritional structure in a hospital went together with better nutritional care. A well-defined structure in a hospital was defined as the presence of a multidisciplinary nutrition team, a resource person in the area of nutrition, guidelines for identifying patients at risk of under-nutrition, assignment of responsibilities, and education for nursing staff.

Good examples of adequate standards and routines for nutrition in the health care sector

In 2006, the Norwegian Society of Clinical Nutrition and Metabolism asked the authorities for guidelines for the prevention and treatment of under-nutrition. This resulted in the publication of guidelines in 2009 (39). Although there is no regulatory framework requiring the full implementation of all action points in the guidelines, it has been suggested that audits of the implementation of the guidelines carried out by health authorities could improve practice in the Norwegian context.

The Directorate of Health is responsible for providing guidelines to the various medical disciplines. These are included in the annual letter from the Ministry of Health and Care Services to the regional health authorities, which forms a central management tool in the hospital sector. The regional health authorities are responsible for the implementation of these guidelines. Since 2009, the Directorate of Health has instructed the regional health authorities to ensure that: (i) nutrition is included in overall specialist health care services; (ii) hospitals have routines and the competence to integrate nutrition into medical treatment; and (iii) hospitals can support the municipalities on nutrition-related issues.

Examples of barriers in the way of improving competence in nutrition and for establishing adequate routines for nutrition in the health care sector

A national survey of food and diet among leaders and health personnel in nursing homes was published in 2008 by Østfold University College (40). This study showed that only 16% had written procedures to be used in the assessment of patients' nutritional status. There was, however, no national survey of nutritional status in nursing and care services. In 2010, a nationwide audit run by the Norwegian Board of Health Supervision identified major deficiencies in the daily work to prevent and treat malnutrition in older people who received health and social services (41). There is still a significant need for improvement in the health care services with regard to the formal procedures for assessing nutritional status, night fasting, and knowledge about nutrition and about the daily practice of prevention, identification and treatment of malnutrition.

It seems that more work is needed to integrate greater attention to nutritional issues in the education and training curricula of health professionals and other related actors. University courses on human nutrition and clinical nutrition are well standardized, but colleges and other institutions offering training up to bachelor level do not have a standard core curriculum. Key issues for improvement are the lack of targeted nutritional education in training courses for health care professionals and issues regarding the number of nutritionists being trained. The differences in academic knowledge and skills between professional groups such as dietitians, nutritionists, clinical nutritionists and public health nutritionists are unclear in terms of their training and certification.

There are not many opportunities for individual consultations about nutrition, and in primary care they seem to be carried out predominantly by a handful of self-employed nutritionists working in the private sector. They are thus far too expensive for people on low incomes.

There do not seem to be sufficient data to provide a picture of the dietary behaviour of certain population groups coherent enough to be used by health professionals for response to and in dialogue with vulnerable groups such as pregnant women and infants. Neonatal records, for example, could be included more often in routine data collection. Data on antenatal health care (for example, maternal weight, height and weight gain) could be collected to ensure that this group is covered. This could also allow sufficient disaggregation to provide useful data on inequalities and other issues, such as infant feeding (including breastfeeding and complementary feeding) and monitoring tools for the diet and growth of children aged 0–5 years.

Potential for improvement with regard to education and training

Only broad and inclusive multisectoral planning at the national level, including ensuring an appropriate geographical distribution, will allow for effective coordination in scaling up the numbers of students and aligning professional education in nutrition with national nutritional needs.

Overarching reforms must be undertaken at all levels in interventions aimed at increasing the number of health professionals. Evidence demonstrates that simply increasing the student quota is not enough to address the shortage of health professionals. Although it is important to increase the number of graduates, this must be done in tandem with interventions targeted at multiple levels (42). Educational institutions need to increase their capacity and reform their recruitment practices, teaching methods and curricula in order to improve the quality and social accountability of graduates. Country-led efforts should be linked to international activities as a way of building on lessons learned and successful examples of implementation. The inclusion of nutrition training in the curricula for undergraduate and continuing education, especially for nurses and medical doctors, would probably significantly increase the capacity of the health system to respond to nutrition-related health problems. There also appears to be a need for mapping current nutritional competence among the health personnel in nursing care.

Self-perceived skills in nutritional knowledge among Scandinavian doctors and nurses have shown that insufficient knowledge is the main barrier to good nutritional management in various clinical settings in Norway (43). This lack of knowledge is evident in three main areas relating to good clinical nutrition practice: screening of patients on admission, assessment of undernourished patients and initiation of nutrition treatment.

Key areas that could be addressed to increase competence in nutrition include:

- the authorized scopes of practice for various categories of nutritionist;
- preservice education tied to health needs (adding a social inequalities component to nutrition education);
- in-service training (such as distance or blended² learning);
- the capacity of training institutions;
- performance management (appraisal, supervision, productivity);
- training of community health workers (in, for example, centres for learning and coping) and educational providers (in kindergartens, and primary- and secondary-school teachers);
- identification and selection of and support for champions and advocates in the health workforce;
- leadership development for managers in the area of nutrition at all levels.

3.2.3 Nutrition efforts at local level

This area includes nutrition-related work at county and municipal level, including measures in schools and kindergartens. The Action Plan aimed to establish a stronger basis for nutrition and dietary work at local level through ensuring local bases for policy and making public health efforts more systematic. Locally-based nutrition-related work also involves the promotion of healthy eating habits among children and young people in schools and preschools, since the responsibility for these activities is largely devolved to the local level.

Following the increased emphasis on municipalities' responsibilities for health promotion and disease prevention under the new Public Health Act (44), which was developed after the end of the Action Plan, greater attention will be given to this area in national public health activities.

The overall evaluation aims of the external expert group in assessing nutrition efforts at local level were to discover:

- good examples of locally-based nutrition-related work throughout the period of the Action Plan and important factors for success;
- examples of barriers to locally-based nutrition-related work;
- the potential for improvement.

Good examples of locally-based nutrition-related work throughout the period of the Action Plan and important factors for success

A new section on planning in the Planning and Building Act (45) came into force on 1 July 2009. This incorporated public health considerations: according to § 3–1 of the Act on duties and considerations in planning, plans should “promote population health and counteract social inequalities in health, as well as help to prevent crime”.

The new Public Health Act of 2012 included provisions whereby the promotion of public health became a statutory responsibility for counties. In 2006, the Health in Master Plans project was initiated by the Directorate of Health, with the aim of improving the integration of public health considerations into the social components of municipal plans. By 2010, all the 30 project municipalities had developed Health in Master Plans, and the experiences from this project played an important role in the development of the 2010 and 2012 Public Health Acts. The development work for the Health in Master Plans project, with an emphasis on nutrition, was initiated in four pilot municipalities in three counties. All these took steps to ensure that there was a political and organizational basis for nutrition-related work in their areas. Examples of action included the adoption of nutrition programmes into the plan for a safe and healthy childhood and inclusion of the Good Food training course in municipal and financial planning. In 2010, an evaluation of the Health in Master Plans project referred to a survey conducted in all municipalities of their public health activities and how the work was organized during the second year of the Action Plan (2008). The results showed that at the time, only a quarter of the municipalities reported that nutrition-related work was an integral thematic area in their municipal plans. Some activities related to the Action Plan were found to be taking place in several counties and municipalities; others in only one or two counties. Some activities were widespread partly because they were the result of national regulations (such as free fruit and vegetable distribution in schools) or because the programmes were linked to national action supported by the

² Education that combines face-to-face classroom methods with computer-mediated activities.

government and/or a commercial body. Even so, it seemed that the Action Plan was a driver for intersectoral collaboration at the local level.

Other initiatives or activities seemed to arise because of the creativity or engagement of one or two key individuals in a position to initiate nutrition activities who had drawn on the Action Plan as a key tool to enable them to carry out their plans (for example, running a healthy living centre or a school food programme, or projects initiated at county level by a public health adviser). All those interviewed who worked at the local level displayed great enthusiasm for the Action Plan (and for being interviewed about it – all were very keen to engage with the evaluation) and specifically for its physical manifestation as a written document that they could present and use in negotiation and advocacy. All those interviewed wanted the Action Plan to be revised and the possibilities it offered to be strengthened and continued: none wanted it to stop. It was, however, clear that at local level nutritional work was often driven by one or more local activists. In other words, local nutrition activities appear to need a local champion, which at the same time make them vulnerable because of their dependence on key individuals. Little evidence was found that nutrition activities had been started or continued simply because the Action Plan had stated that this should happen. There needed to be someone with the skills, interest and initiative. With some notable exceptions, informants working in nutrition said that they had felt that their status was not high, and that the Action Plan had helped to raise their status and make their knowledge and skills more visible and valued.

Particular barriers were also encountered in the education sector at local level through a lack of tools, expertise or financial resources. The expert group repeatedly heard that there was a lack of teaching staff with appropriate training in nutrition and food, insufficient nutrition-related content in the curriculum and not enough good, healthy food options in schools. All those interviewed said it was important that all those involved in teaching and in the school food environment should work together to promote and enable good understanding and practice related to healthy food.

The Action Plan was used to enable local professionals to advocate the monitoring of food and meals provided in kindergartens so as to ensure that they complied with regulations referring to the guidelines for food and meals in kindergartens (46) (revised as a result of the Action Plan). The informants were also clear that if the guidelines had been stronger in their wording, by stating, for example, that food served in schools “must” instead of “should” be based on the guidelines, greater compliance could be achieved at local level.

Other informants, who were not working directly in nutrition but, for instance, on child poverty, said that the Action Plan had enabled them to include nutrition in their work programmes where previously this might not have been accepted either by their line managers or those with whom they were working. These more unexpected spin-offs included examples such as the Living Healthily courses for unemployed people, as well as the inclusion of ways to bring about and manage healthy food and living among new immigrants in the New in Norway programme.

The informants highlighted the importance of a formal national policy document that works as a tool to drive action at local level.

Action Plan generated/strengthened success stories

From 2009 to 2012, the Ministry of Education and Research carried out a project (Helhetlig Skoledag [Comprehensive School Day]) testing various models in schools aimed at improving the coherence between school and the before- and after-school programmes. Components of the programme included food in school, physical activity, help with homework and various cultural activities. Provision of breakfast was one of several models for school food tested in a project coordinated by the Directorate of Education. One of the informants interviewed had experience of breakfast provision, while other schools tested lunch schemes although these were not discussed during the evaluation. The provision of breakfast at primary schools was reported as being a successful example of a project looking at options for food provision in the school setting, especially where teachers identified the children who needed it most (such as those who came without eating first, or who brought unhealthy food). One school described making a contract agreement with the parents that the children would eat it, thus engaging them too.

The findings from the Health Behaviour in School-Aged Children (HBSC) study (16) indicated that young people who are overweight are more likely to skip breakfast, are less physically active and watch more television. Eating breakfast

regularly is associated with higher intakes of micronutrients, a better diet that includes fruit and vegetables and less frequent use of soft drinks. Body mass index and the prevalence of overweight are, in general, lower in young people who eat breakfast, which is also advocated as a way of improving cognitive function and academic performance. Eating breakfast daily is less common among girls and in families with lower socioeconomic status and decreases with age. The latest data from the HBSC 2009/2010 study (16) show that this is also the case among Norwegian girls. In Norway, 76% of girls and 79% of boys aged 11 years reported that they ate breakfast every school day, which is higher than the HBSC average of 71% but lowest among the Nordic countries (Sweden 86%, Denmark 82%, Iceland 81%, Finland 79%).

The informants indicated why they regarded school breakfasts as a success (even though very few schools offer breakfast): the children could eat together, with adults (teachers) who knew them in a different way to their parents, sometimes in classrooms so that they were in small groups. The teachers said that children were calmer and studied better when they had breakfast at school. However, in the political debate concerning the provision of breakfast and lunch in schools, breakfast is currently considered a family responsibility. Those working in education (teachers and trainers) or nutrition promotion at county or municipal levels, as well as those leading national civil society alliances, all expressed a wish to see meals provided in schools, in accordance with national guidelines, rather than food brought from home. A 2006 report mapping the situation and modelling five options for the costs of and potential for providing lunch in schools noted that, owing to the principle of free education in Norway, it would be very difficult to implement a lunch model based on out-of-pocket payments (47).

Potential for improvement

Public procurement guidelines are needed to ensure that food provided in school settings, as well as in other public institutions such as care homes and hospitals, is in line with the Norwegian food-based dietary guidelines (48).

3.3 Findings in relation to social inequalities in dietary intake

Social inequalities in health persist in Norway. Examples of health problems that are unevenly distributed in the population are cardiovascular diseases, overweight and obesity and type 2 diabetes. These conditions are linked to lifestyle and behavioural factors such as diet, physical activity, harmful use of alcohol and tobacco use. There is consequently much to indicate that social differences in lifestyle are a contributory factor in social inequalities in health.

The overall evaluation aims of the external expert group in relation to social inequalities in dietary intake were to discover:

- examples in the Action Plan of structural measures that have particularly focused on reducing social inequalities in diet;
- examples of important barriers to reducing social inequality in nutrition and diet;
- the potential for improvement.

3.3.1 What the available data show

In terms of trends in social inequalities in diet, the available disaggregated data for adults were limited to sex and age cross-linked with level of education (basic compared to university).

Among schoolchildren there does seem to have been a levelling-up of the social gradient in the consumption of fruit in the period 2005–2009 when cross-linked with their parents' socioeconomic status. Among girls, the greatest increase was in families with a middle socioeconomic status (approximately 12%), whereas among boys the greatest increase was in those from families with a lower socioeconomic status (approximately 19%, compared to 11% for those with a middle socioeconomic status and 9% for those with the highest socioeconomic status). There are, however, limited data regarding food availability and more upstream social determinants that affect health behaviour, such as food choices and dietary intake.

3.3.2 Findings from interviews with key informants and related documentation

In sections 3.1–3.3, informants mentioned both universal and selective interventions, largely at the upstream/structural and midstream/risk reduction levels, that can be understood as contributing to a reduction in social inequalities in diet. These included the following measures.

- The free fruit scheme and other projects have been introduced in schools to increase the availability of healthy food in school settings.
- The keyhole labelling initiative has been introduced, including pre-testing with a wide range of stakeholders to see how they responded to the key messages as well as annual follow-up surveys which include information about level of income, education and number of children living at home. The 2012 survey included a question on ethnicity derived from the Statistics Norway surveys.
- The proposed regulations on restricting the marketing of unhealthy foods to children and young people will, as a universal measure, have a potential impact on social inequalities in diet by reaching all children without regard to their socioeconomic background.
- Healthy living centres, particularly the Good Food low threshold diet-related scheme and the Active in the Daytime project, have a selective focus on the level of risk reduction and/or effect mediation. A report from Modum municipality showed that approximately 60% of those attending the centres were unemployed or outside the labour market, which is consistent with figures from 2010. Specific projects (particularly those with ethnic minorities and/or migrants) included Romsås in Motion (which was in place before the Action Plan commenced), the cohort study of pregnant women looking at ethnic diversity in response to the huge prevalence of gestational diabetes in ethnic communities, and the materials about nutrition and diabetes produced by the Diabetes Association of Norway using fruit, vegetables and foods consumed by different ethnic groups to communicate messages about healthy eating.
- Targeted communication initiatives have been undertaken, including the translation of key nutrition information into several languages (the keyhole labelling brochure was translated into 14 languages) and/or the use of oral as well as print media. Key examples include the workshop on diet and minorities, the 2008 nutrition prize focusing on promoting healthy diets among immigrants and cooperation with the largest immigrant newspaper about nutrition.

There is enough information to show that in principle there seems to be a good balance between social reform, risk reduction and mediation at universal and selective levels. More information is, however, needed to say with certainty whether the balance between upstream, midstream and downstream universal and selective interventions is right and/or whether it is making a contribution to tackling social inequalities in diet. There has been a strong emphasis on the implementation of upstream/structural interventions that are largely universal in focus. From the interviews with key informants, it does, however, seem that the balance and coordination across each category (that is, improvements in making universal interventions more responsive to the specific needs of some population groups, such as ethnic minorities) could be strengthened.

Some initiatives could be improved. For example, some key informants called for the free fruit scheme to be available in all schools instead of only some, "to move from being halfway there to being universal in coverage". The scheme was intended to be universal, but implementation seems to have been selective. In a research project offering free fruit in schools, the impact on health inequalities was measured using data disaggregated by sex and parents' education. The offer of free fruit and vegetables at school increased fruit intake among pupils aged 10–12 years between 2001 and 2008, but vegetable intake did not increase significantly. The effect was the same for boys and girls, and for children of parents with higher or lower education. The programme clearly had an effect both on boys and on children of parents without a higher education. Related to this, some of the key informants, particularly those who worked with ethnic groups or on selective initiatives, indicated that there needed to be greater mainstreaming of inequalities-sensitive practice and/or systematization of initiatives, as there are many different specific and short-term projects. Some of the key informants indicated the need for increased, or more sustained, funding to enable longer-term action and impact, noting that funding is critical to avoid workers "burning out". Nearly all those working with ethnic groups noted the need for greater integration and linkage of inequalities-sensitive practice into the mainstream and universal system.

The keyhole labelling initiative is being monitored in different social groups by level of education, marketing legislation and targeted materials. This monitoring exercise seems to be promising in terms of the potential health impact of tackling social inequalities in diet.

In contrast, most of the key informants working with people who have lower levels of income and/or education and/or belong to ethnic minorities, considered that there needs to be more deliberate and focused action to close gaps in diet and/or in social inequalities that affect food choices.

The universal services are seen as fundamental to such action but some extra effort is required to make them responsive. One informant noted that most immigrants have no idea how to use the health services – understanding what is available, why it is important to use them and so on. On the other hand, immigrants have been identified as using services four times as much as native Norwegians, although this also relates to the responsiveness and quality of the system. Such frequent use is often the result of problems with communication, such as the unavailability of a translator or the complexity of symptoms and/or co-morbidities.

The feedback from informants was that good intentions (as reflected in the second main goal of the Action Plan) are not in question, but there seems to be a challenge in putting them into practice in terms of understanding what needs to be done differently, doing it systematically and following up to see if there has been a reduction in social inequalities as a result. Those working in the field of social inequalities do not necessarily see some of the key changes needed to make a difference, or whether any changes that have been made appear to be closing the gaps. This last issue may also be linked to whether programmes are being evaluated for their impact on inequalities and/or whether the right data are available to make such an assessment.

Some projects and initiatives do focus on social inequalities in diet (in relation to socioeconomic characteristics such as level of education, ethnicity and minority), although some of the key informants indicated that these are not necessarily systematic, coordinated or documented, nor monitored for distribution of impact or effect.

An important consideration is the need to build up the competences of public health and clinical professionals who work with migrants and different ethnic groups rather than focusing on culture. This needs to be done through elements in undergraduate, postgraduate and continuing professional education courses.

Settings-based approaches, which are largely at the midstream and risk reduction level, are considered important in tackling social inequalities in diet. They include health centres, health visitors, kindergartens (particularly because they are cost-effective and have a wide reach), school health services and healthy living centres.

The evaluation of interventions with the purpose of assessing the distribution of impact, change and/or outcomes seems to be a challenge as regards the impact of interventions on social inequalities, and also in the more systematic use of disaggregated data on socioeconomic status and ethnicity. This is particularly the case with data for monitoring the impact of various initiatives on different ethnic or minority groups as part of an overall mainstream and regular monitoring effort.

There seem to be better data on different socioeconomic groups than on minority groups or by ethnicity. Data on ethnic minority groups seem to be strong from the early part of this century, when some major studies provided the basis for the Oslo Immigrant Health Profile. It is not clear what other national data are available or being collected. There is a need to collect data on migrants and ethnic minority groups throughout the country.

Examples of barriers to reducing inequalities in nutrition and diet

The question of attribution is a challenge. Nutrition is part of a broader effort to strengthen public health overall, and the Action Plan was introduced at the same time as a whole-government approach to tackling social inequalities. The linkages and connections need to be analysed, to see what other macro-level policies in relation to, among other areas, education and social protection that were put in place in the period 2007–2012 may also have contributed to a levelling-up of inequalities across different social groups.

Potential for improvement

Table 6 provides an overview of examples of social reform identified during the interviews and in a review of key documents that have either had a particular focus on reducing social inequalities in diet and/or generally or that aimed to create a more enabling environment for supporting positive health behaviour.

Table 6. Examples of social reform focusing on reducing social inequalities in diet and/or generally or aiming to support positive health behaviour

Measure	Social reform (upstream or structural)	Risk reduction (midstream)	Effect mediation (downstream)
Universal	Marketing legislation.	Health information and education campaigns such as a cookbook and school health promotion activities.	Changes to primary care practice among general practitioners regarding nutrition and lifestyle advice. For example, enabling doctors to charge an hourly rate for situations where they are giving lifestyle advice (such as on diet), particularly for people with type 2 diabetes or high blood pressure not being treated with medicine.
	Keyhole labelling system for food.		
	Fiskesprell in kindergartens.		
	Free fruit in schools programme. Legislation for the policy has to be in place but it is delivered using a settings-based approach. This is categorized as universal (as with Fiskesprell) because it is available to all children in the relevant school settings but not selective in its focus from an inequalities perspective.		
	Reduction in costs to families associated with secondary education (such as paper and books) by gradually providing this equipment free, and efforts to increase attendance in secondary schools, with the aim of creating equal opportunities in later life.		
Selective	Action to reduce the upper limit on kindergarten fees by 18% in 2006 and introduction of pilot projects allowing attendance at kindergarten free at specified times during the week for children living in multiethnic or disadvantaged areas.		Antenatal cohort study among women from ethnic minorities to generate information in relation to gestational diabetes and including a targeted post-natal physical activity and weight loss initiative.
	Testing of keyhole labelling with selected groups (those with low levels of education or low language skills, migrant and ethnic groups) so that a structural measure is responsive to all groups.	Targeted communication initiatives, including translation of key nutrition information into several languages (the keyhole labelling brochure was translated into 14 languages) and/or use of both oral and print media.	
		Tailored health information for different ethnic and/or minority groups such as that produced by the Diabetes Association.	
		Healthy living centres, particularly the Bra Mat low threshold diet-related scheme and Active in the Daytime in Oslo and Nordland county. These programmes are aimed at people who are unemployed, on sick leave and/or from different ethnic minorities.	

These interviews and documents indicated that monitoring of whether these interventions are making a difference to social inequalities in diet remains a challenge. Key issues include the following.

- The collection, measurement and monitoring of sex- and age-disaggregated data, cross-linked with two or three key and agreed socioeconomic determinants as well as ethnicity, need to be strengthened and perhaps a minimum set of equity criteria developed.
- Some of those administering and implementing the universal measures, particularly at the social reform level, need to recognize that equity issues should be considered as part of the regular monitoring and assessment of effective programme implementation. This is linked to the first issue, and it became apparent in discussions about health services at all levels, both general and nutrition-related. There seems to be an implicit assumption that if a service or intervention is intended to be universally available, then it is actually universally available and accessible in practice. This assumption needs to be tested as part of good practice in ensuring that universal and/or effective coverage is actually happening.
- Can any differences (such as changes in rates or prevalence) be attributed to the intervention (social reform, risk reduction, effect mediation) and whether it is universal or selective? The further downstream and more selective an intervention, the easier it is to measure and assess attribution.
- Is the rate of change faster in more disadvantaged groups? That is one of the ideas behind levelling-up across the social gradient so as to improve health faster among the population groups considered to have poorer health outcomes. There is not enough information to answer this question, nor is there a quantitative target that would enable measurement of whether the hoped-for change is being realized. Change does, however, seem to be in the right direction in some instances: for example, more schoolchildren are consuming fruit, berries and vegetables at least once a day.

4. Overall recommendations of the evaluation

4.1 General recommendations

The Norwegian nutrition policy has increased knowledge on nutrition and health in the population. The main changes in the diet have been as seen in other WHO European Member States: a reduction in the consumption of fat (mainly saturated fat) and an increase in the consumption of vegetables, fruit and cereals. Diet and meal patterns are changing rapidly, especially among the younger generation, and public health campaigns are losing ground to aggressive marketing of foods high in fat, sugar and salt. Even though heart disease has almost halved during the past three decades, the proportion of adult obesity in Norway is now as high as in the rest of Scandinavia: about 10%.

There are several challenges as well as positive trends in the current developments in diet. The content of saturated fat is now significantly higher than recommended. The consumption of added sugars has decreased since 2000 but is still higher than recommended. The content of dietary fibre has increased but is still lower than recommended. On the positive side, the dietary content of protein, trans fat and polyunsaturated fat has remained at the recommended level during the period of the Action Plan. Furthermore, the consumption of vegetables, fruit and berries has increased over time, including during the period 2005–2010. Current dietary habits must be seen not only in relation to the period of the Action Plan but also to work over several decades.

4.2 Specific recommendations regarding the Action Plan

The authorities, health professionals, private sector and civil society alike perceived the Action Plan with enthusiasm as a supportive tool at local level for initiating and implementing nutrition-related activities. In particular, local professionals used it to advocate the monitoring of food and meals provided in kindergartens for compliance with regulations referring to the Directorate of Health's guidelines for kindergartens, which were revised as a result of the Plan.

The allocation of measures between the various ministries showed that the Plan was primarily rooted in the context of health. There are many good reasons why this is the case, but it could also be a challenge with regard to distributing ownership and commitments to the other ministries involved. Ideally, sectors other than health should see how health-related work contributes to achieving their objectives.

There were, however, no clear timeline, budgets, earmarked funding or targets/milestones for the different measures in the Plan. Furthermore, the preciseness of the language describing the different measures varied from the specific, for example: "1.4 Publish a basic cookery book for everyday use in the population" to the vaguer "4.8 Encourage school owners to strengthen food and meal programmes in before- and after-school programmes for schoolchildren". The content of the measures also differs between those that were a continuation of previous activities, such as "7.5 Continue nutrition and diet initiatives together with physical activity and anti-tobacco programmes as a priority focus in partnerships for public health", and others that were new activities, for example: "1.3 Implement a campaign to promote consumption of fish and other seafood".

There is a need to strengthen the steering mechanism with regard to funding and financing mechanisms.

4.2.1 Core activities

According to the findings from interviews and other available material, many activities should be considered for continued support. The observations of the expert group are based on the experience of the people, institutions and health professionals involved and the likelihood of positive effects. These activities include the following:

- the distribution of *free school fruit* in lower secondary schools (grades 8–10) and combined primary and lower secondary schools (grades 1–10), which should be extended to include primary schools;
- the common Nordic *keyhole labelling system*, mentioned by various informants as one of the supportive tools for the Action Plan;
- the Fiskesprell fish project, implemented by most counties in kindergartens to improve the nutrition skills and competence of kindergarten staff, which had positive effects on kindergarten children in terms of preparation skills and taste preferences with regard to the consumption of fish.

Communication. The Dialogue Forum was acknowledged by all informants as an important step towards improving collaboration with the Ministry of Health and Care Services and, especially, the private sector. All private sector informants agreed that the Forum should continue, and that it could be even more useful if smaller and more frequent meetings were held on specific topics and based more closely on a real dialogue. Other measures such as the development of the Matportalen, Helsedirektoratet and HelseNorge web sites and the publication of the *Cookbook for all*, were also popular.

Targeted communication initiatives, including the translation of key nutrition information into several languages and/or the use of oral as well as print media, should be continued. Key examples include the workshop on diet and minorities, the 2008 nutrition prize focused on promoting healthy diets among immigrants, and cooperation with the largest immigrant newspaper about nutrition.

Activities at local level. In the education sector, barriers were encountered in the form of a lack of available tools, expertise or financial resources. It was repeatedly reported that there is a need for more teaching staff to receive appropriate training about food and nutrition, the nutrition content in the curriculum could be improved, and the provision of good, healthy food options in schools could be scaled up. Examples of nutrition programmes being adopted into the plan for a safe and healthy childhood and the incorporation of the Good Food training course into municipal and financial planning should be repeated more widely.

Key personnel and competence in nutrition. The range of domestic approaches that should be implemented or proposed to address the projected shortage of nutritionists, especially in primary health care, could include both short- and longer-term initiatives, legislative as well as programme development activities, and national as well as municipal or local efforts. It was considered essential that those involved should represent a broad range of stakeholders.

Focus on social inequalities in diet. Although the Action Plan has two overarching policy priorities (social inequalities and cross-cutting issues), informants felt that it was unclear how these priorities should be translated into action. This led to the recommendation that policy action needs to be strengthened and reoriented from mainly universal coverage towards a focus on the specific needs of low income groups and ethnic minorities.

Many of the other measures, such as the above-mentioned Good Food low threshold diet-related scheme at healthy living centres, Fiskesprell in kindergartens, the free fruit scheme at schools and the keyhole labelling system, are important and relevant measures for reducing inequalities in health.

4.2.2 Monitoring challenges

There appeared to be several challenges associated with the monitoring of nutrition-related issues, including a lack of disaggregated data and of specific consumer investigations into changes in consumers' knowledge and into the status of nutrition in nursing and care services. There were also insufficient data to provide a coherent picture of dietary behaviour among certain population groups that could be used by health professionals to respond to and in dialogue with vulnerable groups such as pregnant women and infants. For example, neonatal records could be included more frequently in routine data collection. Data on antenatal health care (such as maternal weight, height and weight gain) could be collected to ensure that this group is covered and to allow for sufficient disaggregation so as to provide useful data on inequalities and other issues, such as infant feeding. In terms of trends in social inequalities in diet, the available disaggregated data for adults were limited to sex and age cross-linked with level of education (basic compared to university).

4.3 Key priorities in nutrition policy

The Action Plan should be seen as an example of good practice in the application of the WHO Health 2020 policy framework. The implementation of the Action Plan does, however, require a whole-government and whole-society approach, and the emphasis on decentralization is creating some difficulties for the implementation of action plans at local level. While the question of local autonomy is important in addressing multilevel governance, it is recognized that empowerment and ownership both top-down and bottom-up may improve implementation.

In future policy-making related to nutrition, such as a new action plan, consideration should be given to the number of action points, targets for action points and milestones, a time-line for implementation, a detailed budget and a more structured reporting mechanism.

There is room for improvement with regard to ownership by the various ministries involved. One suggestion is to establish a steering group for the Action Plan. The role and responsibility of the Nutrition Council should also be clarified. The Directorate of Health is a key leader for public health policy at both national and European levels, so re-investment in it would be crucial. As an example, the nutrition surveillance system allows for the monitoring of key challenges with regard to nutrition. These priorities, for example the focus on vulnerable groups in data collection, need to be followed up closely to ensure that they are indeed integrated within the nutrition surveillance system.

4.3.1 Increasing nutrition competence among consumers

It is important to garner more information about consumer behaviour and the role of incentives. For example, research would be useful to validate how well the keyhole labelling system is able to affect various determinants of behaviour.

The Directorate of Health could consider incentives for local policy-makers and organizations working with low opportunity and/or ethnic and cultural minorities to encourage a balanced diet among social risk groups. An example might be a booklet for local authorities offering examples of good practice in providing healthy nutrition in low opportunity groups. The Directorate of Health could encourage this approach by rewarding good practice by local authorities.

Further development of work on communication could include the production of pictorial aids, such as food pyramids or food plates, for dissemination in support of the national guidelines. Training sessions for media professionals working regularly with nutrition could also be considered.

More emphasis should be given to making healthier ready-to-eat meals available from fast food and kiosk outlets.

4.3.2 Visibility of nutrition activities at local level

The Action Plan was used by various actors at local levels, working in different contexts to achieve a number of outcomes. This applied both to the written document, which could be used in negotiation with other local partners, and to its existence as legislation enabling it to be used for advocacy and in education. As stated above, the Action Plan was an important policy instrument at local level as wherever it needed implementation, it was crucial to train key staff to increase their competence in nutrition.

There might be potential in increasing the number of individual nutrition consultations in primary care and making them available in institutions. The healthy living centres could be one arena, but other parts of the health system could also provide this service.

Healthy living centres, particularly the Good Food low threshold diet-related scheme and the Active in the Daytime project, have a selective focus on the level of risk reduction and/or effect mediation. A report from Modum municipality showed that approximately 60% of those attending the centres were unemployed or outside the labour market, which is consistent with figures from 2010.

There were also examples of specific projects, particularly with ethnic minorities and/or migrants, such as Romsås in Motion (which was in place before the Action Plan commenced), or the cohort study of pregnant women being undertaken to look at ethnic diversity and in response to the huge prevalence of gestational diabetes. The Diabetes Association of Norway has done important work in producing materials about nutrition and diabetes, using fruit, vegetables and foods consumed by different ethnic groups to communicate messages about healthy eating.

The continuous implementation of projects such as these should be considered to ensure the sustainability and visibility of nutrition activities at local level.

4.3.3 Increasing nutrition competence – health professionals

There is a need for improvement in the health care services with regard to formal written procedures for assessing nutritional status, night fasting, and knowledge about nutrition and about daily practice in preventing, identifying and treating malnutrition.

Nutrition-related work should be well-integrated in institutions at local level to ensure that the skills and status of practitioners are more visible and valued, and to reduce the dependence on non-expert nutrition enthusiasts, which to some extent appears to be the case today.

There is a lack of targeted nutritional education in training courses for health care professionals.

More emphasis needs to be placed on building up the competences of public health and clinical professionals working with migrants and various ethnic groups and less on the present focus on culture. This needs to be done as part of undergraduate, postgraduate and continuing professional education courses.

Only broad and inclusive multisectoral planning at the national level, including ensuring an appropriate geographical distribution, will allow for effective coordination in scaling up the numbers of students and aligning professional education in nutrition with national nutritional needs.

Competence regarding nutrition should be built up among schoolteachers through appropriate training in nutrition and food. In addition, the nutrition content in curricula needs to be looked into, as well as the provision of good, healthy food options in schools.

4.3.4 Strengthening action on social inequalities in diet

The following are recommendations in relation to both universal and selective interventions that could be extended and or enhanced to make a greater impact on social inequalities in diet.

The overarching recommendation is that disaggregated data (at least sex and age) cross-linked to at least two or three socioeconomic determinants (level of education, income, occupational status, ethnicity, etc.) should be collected more systematically and routine analysis undertaken. Rather than seeking to have a massive data set for a possible new nutrition action plan, it could be useful to develop a minimum indicator set (no more than three to five indicators) for making assessments.

Further recommendations include the following.

- The fruit scheme should be expanded to make it universal and available in all schools.

Rationale/evidence is found in work by Bere et al. (49) about the impact on health behaviour and parents not being willing to take up the subsidized scheme, together with evidence about early child development showing that increased exposure in kindergartens and primary schools should mean that good eating habits are developed earlier, are more entrenched and are better for learning.

- Work should be undertaken on costing a healthy food basket to identify the relative costs for all groups in the population of a diet that is in accordance with the recommended guidelines.

Rationale/evidence: other interventions are important, particularly in relation to the effective adoption of healthy behaviour. If it costs too much to eat healthily out of a lower family income, there will be less change and potentially widening social inequalities with the higher income groups who can afford the cost.

- Existing structural measures should continue to be implemented, including keyhole labelling and price policies (including taxes and subsidies) as well as other types of incentive.

Rationale/evidence: such measures seem to be having the desired effect but more evidence is needed about the impact of taxes on unhealthy foods and the lowering or removal of taxes on healthier foods as well as about other incentives and measures affecting price. This is important from a social inequalities perspective and relates to being able to afford to live in a healthy way and to the healthy food basket (50).

- An inventory of nutrition projects and/or initiatives (current and past five years) should be developed focusing on social inequalities and specific groups in the population defined by socioeconomic status, place of residence, ethnicity, etc.

Rationale/evidence: it would be useful to get an overview of the nutrition initiatives that could be classified as aiming to reduce social inequalities in diet. This could be used to find out whether more selective initiatives are needed for action on social inequalities in diet and nutrition, and whether more effort needs to be put into capturing the learning from these initiatives in guidance and integrating it into mainstream practice and universal services for nutrition and diet. Such an overview should also enable peer learning and exchange between different stakeholders looking to do similar work. Examples of similar inventories or catalogues are *A better life for children and adolescents through diet and exercise. Nordic catalogue of initiatives and best practice for improved health and quality of life via diet and physical activity* (51).

- An equity-focused assessment should be undertaken of the clinical and public health nutrition services offered as part of the health system (at all levels) to identify whether there are gaps in relation to specific groups in the population, including those with lower levels of education, migrants and ethnic minority groups.

Rationale/evidence: it was not clear from interviews with the key informants or from the available information whether there is a focus on social inequalities in the nutrition services at the downstream/individual intervention level. The obligation to provide equal health services to all, regardless of gender, economic circumstances, etc., is set out to some extent directly in the health laws as well as in the general duty of the equal carrying out of public service in the anti-discrimination legislation. According to the Patients' Rights Act, patients can complain to the supervision authorities, who work independently of political management dealing with complaints from the public and carrying out systematic surveys of the health services.

- An agreed set of minimum criteria should be developed for evaluating the social inequalities impact of interventions implemented in the existing Action Plan and a possible new nutrition action plan.

Rationale/evidence: there is already a good set of data in the system and the generation of infinite data collection or a call for a whole new set is not desirable.

- A system or process should be put in place to ensure the collection of relevant disaggregated data (socioeconomic status, ethnicity, etc.). A minimum set can be collected and accessed and used for monitoring and evaluation.

Rationale/evidence: from interviews with the key informants it is clear that a better use of existing data could help.

There seems to be a need for a greater mainstreaming of inequalities-sensitive practice and/or systematization of initiatives in view of the many specific and short-term projects.

The proposed regulations restricting the marketing of unhealthy foods aimed at children and young people could have an impact on social inequalities in diet by reducing the likelihood of some groups of children and young people being more exposed, because of their socioeconomic background, to such marketing and therefore more differentially vulnerable.

5. Future policy priorities

Several issues relating to monitoring should be considered. The current surveillance system does not allow for stratified distribution between different social groups. In addition to the need for disaggregated data on diet, further consideration should be given to monitoring and assessing the distribution of impact, change and outcome of the various measures (such as keyhole-labelled products, communication efforts and fruit and vegetable schemes in schools) for the social groups differentiated by socioeconomic status.

Regular consumer studies would provide a more detailed picture of consumers' behaviour, including whether the keyhole labelling system reaches all levels of the population.

There is also a need for an analysis of the linkages and connections with other macro-level policies in relation to education, social protection and so on, and how they influence inequalities between different social groups.

Initiatives and projects aimed at reducing social inequalities in nutrition and diet should have a particular focus on monitoring and documenting the distribution of impacts and effects.

Monitoring that measures process indicators should be carried out at district as well as provincial, national, regional and global levels. Apart from ensuring that activities are being implemented in the agreed manner, it allows decision-makers to stay aware of all the problems and constraints that may slow down progress and provides them with the information they may need to refine their planning.

References

1. Smedshaug GB. *Action Plan on Nutrition 2007–2011. Recipe for a healthier diet*. Oslo, Ministry of Health and Care Services, 2007.
2. *Evaluation of the National Mental Health Strategy. Final report*. Canberra, National Mental Health Strategy Evaluation Steering Committee for the Australian Health Ministers Advisory Council, Mental Health Branch, Commonwealth Department of Health and Family Services, 1997 ([http://www.health.gov.au/internet/main/publishing.nsf/Content/98BA5A3989D716B3CA2571F800144A61/\\$File/strateval.pdf](http://www.health.gov.au/internet/main/publishing.nsf/Content/98BA5A3989D716B3CA2571F800144A61/$File/strateval.pdf), accessed 1 June 2013).
3. *Review of the Scottish Diet Action Plan: progress and impacts 1996–2005*. Glasgow, NHS Health Scotland, 2006.
4. Norkost 3. *En landsomfattende kostholdsundersøkelse blant menn og kvinner i Norge i alderen 18–70 år, 2010–11 [Norkost 3. A nationwide nutrition survey among men and women in Norway aged 18–70 years, 2010–11]*. Oslo, Directorate of Health, 2012.
5. *White paper No. 16 (2002–2003). Recipe for a healthier Norway*. Oslo, Ministry of Health and Care Services, 2003.
6. *Global Strategy on Diet, Physical Activity and Health*. Geneva, World Health Organization, 2004.
7. *European Charter on Counteracting Obesity*. Copenhagen, WHO Regional Office for Europe, 2006.
8. *WHO European Action Plan for Food and Nutrition Policy 2007–2012*. Copenhagen, WHO Regional Office for Europe, 2008 (http://www.euro.who.int/__data/assets/pdf_file/0017/74402/E91153.pdf, accessed 21 June 2013).
9. *Nordic Plan of Action for Better Health and Quality of Life through Diet and Physical Activity*. Copenhagen, Nordic Council of Ministers, 2006.
10. *The Action Plan on Physical Activity 2005–2009. Working together for physical activity*. Oslo, Ministry of Health and Care Services, 2005 (<http://helsedirektoratet.no/publikasjoner/the-action-plan-on-physical-activity-2005-2009/Publikasjoner/the-action-plan-on-physical-activity-2005-2009.pdf>, accessed 22 May 2013).
11. *Report No. 20 (2006–2007) to the Storting. National strategy to reduce social inequalities in health*. Oslo, Norwegian Ministry of Health and Care Services, 2007 (http://www.regjeringen.no/pages/1975150/PDFS/STM200620070020000EN_PDFS.pdf, accessed 14 January 2013).
12. *European food and nutrition policies*. Copenhagen, WHO Regional Office for Europe, 1998.
13. *St. meld. nr. 32 (1975–76). Om norsk mat forsyningsog ernæringspolitikk [Report No. 32 to Parliament (1975–76) on Norwegian nutrition and food policy]*. Oslo, Ministry of Agriculture, 1976.
14. Norum KR et al. Nutrition and food policy in Norway: effects on reduction of coronary heart disease. *Nutrition Reviews*, 1997, 55(11): s32–s39.
15. *St. meld. nr. 37 (1992–93). Utfordringer i helsefremmende og forebyggende arbeid [Report to Parliament No. 37 (1992–93). Challenges in health promotion and disease prevention]*. Oslo, Department of Social Affairs, 1993.
16. Currie C et al. eds. *Social determinants of health and well-being among young people. Health Behaviour in School-aged Children (HBSC) study: international report from the 2009/2010 survey*. Copenhagen, WHO Regional Office for Europe, 2012 (Health Policy for Children and Adolescents, No. 6).
17. *Spedkost – 6 måneder. Landsomfattende kostholdsundersøkelse blant 6 måneder gamle barn [Infant diet – 6 months. Nationwide food consumption survey among 6 month old children]*. Oslo, Directorate of Health, 2008 (http://www.matportalen.no/kosthold_og_helse/article3345.ece/BINARY/Helsedirektoratet++Landsomfattende+kostholdsunders%C3%B8kelse+blant+6+m%C3%A5neder+gamle+barn, accessed 20 May 2013)
18. Øverby N et al. Changes in meal pattern among Norwegian children from 2001 to 2008. *Public Health Nutrition*, 2011, 14(9):1549–1554.
19. Nilsen SM et al. Adolescents' health-related dietary patterns by parental socio-economic position. The Nord-Trøndelag Health Study (HUNT). *European Journal of Public Health*, 20(3): 299–305.
20. The Child Growth Study [web site]. Oslo, Norwegian Institute of Public Health, 2013 (http://www.fhi.no/eway/default.aspx?pid=240&trg=Main_6664&Main_6664=6898:0:25,7688:1:0:0:::0:0, accessed 20 May 2013).

21. Facts about overweight and obesity [web site]. Oslo, Norwegian Institute of Public Health, 2013 (http://www.fhi.no/eway/default.aspx?pid=240&trg=List_6673&Main_6664=6894:0:25,7585:1:0:0:::0:0&MainContent_6894=6671:0:25,7612:1:0:0:::0:0&List_6673=6674:0:25,7616:1:0:0:::0:0, accessed 23 May 2013).
22. Kumar BN et al. Ethnic differences in obesity among immigrants from developing countries in Oslo, Norway. *International Journal of Obesity*, 2006, 30:684–690.
23. Johnsen JR. *Health systems in transition, Norway*. Copenhagen, WHO Regional Office for Europe, 2006 (http://www.euro.who.int/__data/assets/pdf_file/0005/95144/E88821.pdf, accessed 1 June 2013).
24. Kommunehelsetjenesteloven. Lov av 19. november 1982 nr. 66 om helsetjenesten i kommunene [Act No. 66 of 19 November 1982 relating to Municipal Health Services] [web site]. Oslo, Lovdata, 2013 (<http://www.lovdata.no/oll/hl-19821119-066.html>, accessed 20 May 2013).
25. *Meld. St. 16 (2010–2011). Report to the Storting (white paper). Summary. National Health and Care Services Plan (2011–2015)*. Oslo, Ministry of Health and Care Services, 2012 (http://www.regjeringen.no/pages/36952393/PDFS/STM201020110016000EN_PDFS.pdf, accessed 21 May 2013).
26. *Report to the Storting No. 9 (2006–2007). Work, welfare and inclusion. Chapter 1. Main contents of a Governmental White Paper*. Oslo, Ministry of Labour, 2006 (http://www.regjeringen.no/Upload/AID/vedlegg/stmeld_9_2006_english.pdf, accessed 14 January 2013).
27. Action Plan against Poverty [web site]. Oslo, Ministry of Labour, 2007 (<http://www.regjeringen.no/en/dep/ad/tema/velferdspolitik/fattigdom/handlingsplan-mot-fattigdom.html?id=458365>, accessed 14 January 2013).
28. Whiting D, Unwin N, Roglic G. Diabetes: equity and social determinants. In: Blas E & Sivasankara Kurup A, eds. *Equity, social determinants and public health programmes*. Geneva, World Health Organization, 2010:77–94.
29. Swann C et al. *Health systems and health-related behaviour change: a review of primary and secondary evidence*. London, National Institute for Health and Clinical Excellence, 2010 (<http://www.nice.org.uk/media/0E6/62/SpecialReportHealthSystemsAndHealthRelatedBehaviourChange.pdf>, accessed 24 January 2013).
30. Matportalen.no. Informasjon om mat og helse fra offentlige myndigheter [Information on food and health from the public authorities] [web site]. Oslo, Mattilsynet [Food Safety Authority], 2013 (<http://www.matportalen.no/>, accessed 20 May 2013).
31. Helsenorge.no – den offentlige helseportalen [HealthNorway.no – the public health portal] [web site]. Oslo, Directorate of Health, 2013 (<http://helsenorge.no/Sider/default.aspx>, accessed 20 May 2013).
32. Helsedirektoratet. God helse – gode liv [The Health Directorate. Good health, good life] [web site]. Oslo, Directorate of Health, 2013 (<http://www.helsedirektoratet.no/Sider/default.aspx?>, accessed 23 May 2013).
33. Kostråd for å fremme folkehelsen og forebygge kroniske sykdommer [Dietary advice to promote public health and prevent chronic diseases] [web site]. Oslo, Directorate of Health, 2011 (<http://helsedirektoratet.no/publikasjoner/kostrad-for-a-fremme-folkehelsen-og-forebygge-kroniske-sykdommer/Sider/default.aspx>, accessed 14 January 2013).
34. The Nordic keyhole: healthy choices made easy [web site] (http://www.noeglehullet.dk/NR/rdonlyres/80DDF0AA-4E00-4691-A499-079DE3B7C63B/0/Abstract_Island_2012.pdf, accessed 14 January 2013).
35. *Kokebok for alle [Cookbook for all]*. Oslo, Directorate of Health, 2007.
36. *Food-based dietary guidelines. Summary report of a workshop held on 18–20 May 2009 in Budapest, Hungary*. European Food Information Council in conjunction with the Food and Agriculture Organization Regional Office for Europe and Central Asia and the EU-funded EURRECA project (European micronutrient recommendations across Europe) (<http://www.fao.org/ag/humannutrition/18894-0f5791b5218038c61824252703117b8b4.pdf>, accessed 14 January 2013).
37. Branca F, Nikogosian H, Lobstein T, eds. *The challenge of obesity in the WHO European Region and the strategies for response*. Copenhagen, WHO Regional Office for Europe, 2007 (http://www.euro.who.int/__data/assets/pdf_file/0010/74746/E90711.pdf, accessed 26 January 2013).
38. Standard budget for consumer expenditures 2011 [web site]. Oslo, National Institute for Consumer Research, 2011 (<http://sifo.no/files/standardbudsjett2011-eng-print.pdf>, accessed 20 May 2013).

39. *Nasjonale faglige retningslinjer for forebygging og behandling av underernæring [National professional guidelines for the prevention and treatment of undernutrition]*. Oslo, Directorate of Health, 2009 (<http://helsedirektoratet.no/publikasjoner/nasjonal-faglig-retningslinje-for-forebygging-og-behandling-av-underernering/Publikasjoner/nasjonal-faglig-retningslinje-for-forebygging-og-behandling-av-underernering.PDF>, accessed 21 May 2013).
40. Eldre [Older people] [web site]. Oslo, Directorate of Health, 2013 (<http://helsedirektoratet.no/folkehelse/ernering/tall-og-undersokelser/eldre/Sider/default.aspx>, accessed 20 May 2013).
41. *Krevende oppgaver med svak styring. Samlerapport fra tilsyn i 2010 med kommunenes sosial- og helsetjenester til eldre [Complex tasks and services require stronger governance. Summary report of countrywide supervision in 2010 of municipal health and social services for elderly people]*. Oslo, Helsetilsynet [Board of Health Supervision], 2011 (http://helsetilsynet.no/upload/Publikasjoner/rapporter2011/helsetilsynetrapport5_2011.pdf, accessed 20 May 2013) (English summary p. 60).
42. Takata H. The current shortage and future surplus of doctors: a projection of the future growth of the Japanese medical workforce. *Human Resources for Health*, 2011.9:14.
43. Mowe M et al. Insufficient nutritional knowledge among health care workers? *Clinical Nutrition*, 2008, 27:196–202.
44. The Norwegian Public Health Act [web site]. Oslo, Ministry of Health and Care Services, 2012 (http://www.regjeringen.no/upload/HOD/Hoeringer%20FHA_FOS/123.pdf, accessed 20 May 2013).
45. Act of 27 June 2008 No. 71 relating to Planning and the Processing of Building Applications (the Planning and Building Act) (the Planning part) [web site]. Oslo, Government Administration Services, 2013 (<http://www.regjeringen.no/en/doc/laws/Acts/planning-building-act.html?id=570450>, accessed 20 May 2013).
46. *Retningslinjer for mat og måltider i barnehagen [Guidelines for food and mealtimes in kindergartens]*. Oslo, Directorate of Health and Social Affairs, 2007 (<http://www.helsedirektoratet.no/publikasjoner/retningslinjer-for-mat-og-maltider-i-barnehagen/Publikasjoner/retningslinjer-for-mat-og-maltider-i-barnehagen.pdf>, accessed 21 May 2013).
47. *Skolemåltidet i grunnskolen – kunnskapsgrunnlag, nytte- og kostnadsvirkninger og vurderinger av ulike skolemåltidsmodeller [School mealtimes in primary schools – knowledge base, cost–benefit effects and reviews of various school feeding models]*. Oslo, Ministry of Education, 2006 (<http://www.helsedirektoratet.no/folkehelse/ernering/skole/Documents/skolemaltid-rapport-2006.pdf>, accessed 21 May 2013).
48. Retningslinjer for skolemåltidet [Guidelines for school meals] [web site]. Oslo, Directorate of Health, 2011 (<http://www.helsedirektoratet.no/folkehelse/ernering/skole/Sider/retningslinjer-for-skolemaltidet.aspx>, accessed 20 May, 2013).
49. Bere E, Veierød MB, Klepp KI. The Norwegian School Fruit Programme: evaluating paid vs. no-cost subscriptions. *Preventive Medicine*, 2005, 41(2):463–470.
50. Morris JN et al. A minimum income for healthy living. *Journal of Epidemiology and Community Health*, 2000, 54:885–889.
51. A better life for children and adolescents through diet and exercise [web site]. Oslo, The Nordic Council, 2013 (<http://www.norden.org/en/publications/publikationer/2009-501>, accessed 20 May 2013).

Annex 1

LIST OF EXPERTS ON THE EVALUATION PANEL

WHO Regional Office for Europe

Caroline Bollars, Technical Officer, Nutrition, Physical Activity and Obesity Programme, Division of Noncommunicable Diseases and Life-Course

João Breda, Programme Manager, Nutrition, Physical Activity and Obesity Programme, Division of Noncommunicable Diseases and Life-Course

Sarah Simpson, Project Manager, European Office for Investment for Health and Development

Rodrigo Rodriguez-Fernandez, Nutrition, Physical Activity and Obesity Programme, Division of Noncommunicable Diseases and Life-Course

International and national experts

Elizabeth Dowler, University of Warwick, Coventry, United Kingdom

Charli Eriksson, Örebro University, Örebro, Sweden

Hanna Hånes, Norwegian Institute of Public Health, Oslo, Norway

Aileen Robertson, Metropolitan University College, Copenhagen, Denmark

Gun Roos, National Institute for Consumer Research, Oslo, Norway

Harry Rutter, London School of Hygiene and Tropical Medicine, London, United Kingdom

Grethe S Tell, Department of Public Health and Primary Health Care, University of Bergen, Bergen, Norway

Dag Thelle, Research Centre for Epidemiology, University of Oslo, Oslo, Norway

Suvi Virtanen, National Institute for Health and Welfare, Helsinki, Finland and University of Tampere, Tampere, Finland

Annex 2

LIST OF KEY INFORMANTS

Heidi Aagaard, Nurse and lecturer, nursing and care sector

Anne Kathrine Owren Aarum, Senior adviser, Directorate of Health

Tore Angelsen, Project leader, Information Office for Fruit and Vegetables

Helga Arianson, County Medical Officer, Hordaland County Governor's office

Jon Olav Aspås, Director-General, Department of Public Health, Ministry of Health and Care Services

Pernille Baardseth, Technological nutritionist, Norwegian Institute of Food, Fisheries and Aquaculture Research, Nofima AS

Sissel Lyberg Beckman, Head, Department of Public Health, Ministry of Health and Care Services

Knut Berdal, Senior adviser, Ministry of Agriculture and Food

Elling Bere, Professor, University of Agder

Ingunn Bergstad, Head, Nutrition and Dietetics Section, Oslo University Hospital

Bodil Blaker, Senior adviser, Department of Public Health, Ministry of Health and Care Services

Rune Blomhoff, Professor, University of Oslo, Member of Nutrition Council

Geir Sverre Braut, Deputy Director-General, Norwegian Board of Health Supervision

Magritt Brustad, Professor, Centre for Sami Health Research, University of Tromsø

Kristi Wettre Brønner, Clinical nutritionist/dietitian, Network of Nutritionists in Food Industry

Annechen Bahr Bugge, Researcher, National Institute for Consumer Research

Vibeke Bugge, Nutritionist, Information Office for Eggs and Meat

Anne Bærug, Head, Norwegian Resource Centre for Breastfeeding

Lisbeth Dahl, Researcher, National Institute of Nutrition and Seafood Research

Jorunn Vormedal Dalen, Academic Director, Food and Environment, Confederation of Norwegian Enterprise, Food and Agriculture

Cathrine Dammen, Head, Specialist Health Care Department, Ministry of Health and Care Services

Astri Grydeland Ersvik, Nurse, Norwegian Nurses Association and Association for Public Health Nurses/Health Visitors

Øyvind Gievær, Senior adviser, Directorate of Health

Elin Glomnes, Leader, Norwegian Association for Nutritionists

Anne Hafstad, Head, Healthy Public Policies Department, Directorate of Health

Rut Harildstad, Senior adviser, Ministry of Fisheries and Coastal Affairs

Helge Hasselgård, Managing Director, Grocery Manufacturers of Norway

Brita Haugum, Leader, Dietitians' Association

Paal Haavorsen, Academic Director, Rehabilitation Enterprises Union

Ida Berg Hauge, Director, Information Office for Dairy Products

Maren Hegna, Senior adviser, Ministry of Education and Research

Tore Henriksen, Professor, University of Tromsø

Aase-Berit Hoffart, Adviser, Secretariat of the Parents' Association for Children in Preschool, also representing the Parents' Association for Schoolchildren

Steinar Høie, Head, Food Policy, NHO Mat og Drikke [NHO Food and Drink]

Gunstein Instefjord, Academic Director, Food and Trade, Consumer Council

Øyvind Irtun, Professor, Norwegian Society of Clinical Nutrition and Metabolism

Inger-Lise Fevang Jensen, Association for Teachers of Food and Health in Schools

Anne Karen Jenum, Researcher and general practitioner, University of Oslo

Geir Mo Johansen, Senior adviser, Ministry of Finance

Lars Johansson, Senior adviser, Directorate of Health

Jorunn Killingstad, Leader, Healthy Life Central (Frisklivsentral)

Knut-Inge Klepp, Acting Deputy Director-General of Health, Directorate of Health

Kathrine Kleveland, Leader of the Board, Farming Women's Association (NorgesBygdekvinnelag)

Gunn Harriet Knutsen, Adviser, Health and Quality, Norwegian Seafood Federation

Berit Koen, Public health adviser, Municipality of Volda

Bernadette Kumar, Director, Norwegian Centre for Minority Health Research

Geir Kvam, Secretary, Norwegian Transport Workers' Union

Karen Lassen, Lecturer, Vestfold University College

Jorunn Lervik, Public health adviser, County Governor's Office of Sør-Trøndelag

Fedon Lindberg, Head, Dr Lindberg's Clinic

Kaja Lund-Iversen, Nutritionist, Kostforum

Tove Løken, Senior adviser, Department of Specialist Health Care, Ministry of Health and Care Services

Haakon Meyer, Professor, Head of Nutrition Council, National Institute of Public Health and University of Oslo

Mette Helvik Morken, Associate Professor, University of Bergen

Kari Hege Mortensen, Public health adviser (clinical nutritionist), County authorities of Nordland

Mari Nes, Head of Department, Norwegian Research Council

Joachim Nilsen, Senior adviser, Department of Public Health, Ministry of Health and Care Services

Torunn Nordbø, Director, Information Office for Bread and Grains

Kaare R Norum, Professor Emeritus, Former Head of Nutrition Council, University of Oslo

Berit Nygaard, Special adviser, Norwegian Research Council

Trond Nygard, Senior adviser, Department of Specialist Health Care, Ministry of Health and Care Services

Arne Oshaug, Associate Professor, Oslo and Akershus University College

Manuela Osmundsen, Head of Department, Akershus University Hospital

Irene Teigen Paulsen, Nutritionist, Inter-municipal Environmental Health

Guttorm Rebnes, Director, Information Office for Fruit and Vegetables

Arnhild Haga Rimestad, Senior adviser, Ministry of Health and Care Services

Gro Samdal, Head, Learning and Coping Centre

Unni Silkoset, Senior adviser, Norwegian Agency for Development Cooperation

Vigdis Britt Skulberg, Clinical nutritionist, Health and Welfare Administration, Municipality of Oslo

Merethe Steen, Head, Consumer Interests Section, Norwegian Food Safety Authority

Eli Strande, Senior adviser, Department of Public Health, Ministry of Health and Care Services

Janne Strømme, Clinical nutritionist, private clinic

Birger Svihus, Professor, Norwegian University of Life Sciences

Britt Sørø, Leader, Institutional Catering, Norwegian Association for Nutrition and Dietetics

Lasse Tenden, Head of analyses, Confederation of Norwegian Enterprise, Food Service

Kjersti Toppe, Member of Parliament, First Vice-Chairperson, Standing Committee on Health and Care Services

Tone Torgersen, Senior adviser, Directorate of Health

Elisabeth Varland, Senior adviser, Ministry of Children, Equality and Social Inclusion

Jorunn Borge Westhrin, Nutritionist, Public health adviser, County authorities, Telemark County

Annex 3

INTERNAL GOVERNMENT MONITORING MATRIX

Focus area and goals	Ministry responsible	Measures	Comments
<p>1. Communication about food and diet</p> <p><i>Goals:</i> Strengthen knowledge about food and diet and skills in preparation of healthy food in all population groups</p> <p>Encourage enjoyment of food and motivate healthy changes in diet</p> <p>Adapt public information and communication to minority language and at-risk groups</p>			
<p>1.1 Develop and implement a comprehensive plan for information and communication activities in the nutrition area</p>	Health & Care Services; Agriculture & Food; Fisheries & Coastal Affairs; Children, Equality & Social Inclusion; Education & Research	<p>A comprehensive plan was developed, but a lack of funding for the specified activities meant that sub-plans and a communication platform for the affected parties were developed and implemented instead. Many measures in the Action Plan also include communication, and these activities are presented as part of those measures. The Directorate of Health has developed communication strategies and plans for dietary advice (see 1.2) and the keyhole labelling system (see 2.9) and used focus groups in the design of communications activities.</p> <p>In the summer of 2011 the expert group worked editorially with the popular magazine <i>Se og Hør</i> (1 million readers a week), producing 14 double-sided reports with tips for healthy eating and recipes. Norway's "cookery mum", Ingrid Espelid Hovig, and two other celebrities (one with an immigrant background) gave their support.</p> <p>In May 2011, a workshop was held on diet and minorities with participants from different immigrant communities. This yielded many ideas to be developed in dialogue with minority groups, for example, cooperation with the largest immigrant newspaper</p>	<p>Participating ministries have shared responsibility for implementing the communication platform.</p> <p>The Directorate of Health gave the highest priority to implementation of the keyhole labelling scheme and new dietary advice (see 1.2 and 2.9). Many projects have been published on the web.</p> <p>The Media Profile Analysis (Retriever) covering nutrition shows the following numbers of hits: 2009: 10 911; 2010: 23 324; 2011 (up to 4 July): 22 417.</p> <p>The Ministry of Agriculture & Food publishes food and diet information on its web site linked to keyhole labelling, dietary advice, etc.</p> <p>The Directorate of Health continuously updates nutritional articles on the Helseidrektoratet, Matportalen and HelseNorge web sites. There</p>

Focus area and goals

Ministry responsible

Measures

Comments

about a TV programme where the local merchants cook in consultation with a nutritionist, all with immigrant backgrounds.

The Ministry of Agriculture & Food marked World Bread Day, the Week of Taste, Gane Fart [Palate Ride – a play on the word for sleigh-ride] (a competition to find the best restaurant focusing on local food traditions), the Year of the Potato and other media initiatives. The Directorate of Health participated in 2008 in the six-programme TV series *Lyst & last* [Pleasure and burden], focusing on nutrition- and diet-related topics.

Since 2010, the Norwegian Seafood Council has increasingly focused on the domestic market. For the first time it has run commercials for salmon on TV.

were 56 articles on the Helsedirektoratet web site in 2003–2006; 56 in 2007; 49 in 2008; 30 in 2009 and 30 in 2010. The Helsedirektoratet web site was relaunched in December 2011 targeted at health services and mediators (see 1.2 and 2.9).

1.2 Communicate official dietary guidelines in specific terms

Health & Care Services

A working group appointed by the National Nutrition Council went through all the relevant available research literature as the basis for the report *Dietary advice for promoting public health and preventing chronic diseases*. The report has a thorough scientific basis. It was developed through an open and transparent process and network consultation and was launched at a large meeting in January 2011.

The Directorate of Health publicized the specific dietary recommendations from the report in brochures, posters, online articles and lectures so as to disseminate advice and information to county authorities, clinics, doctors' surgeries and other mediators. The launch of the report and dietary guidelines created a broad debate and wide media coverage. The report also drew broad international attention and recognition.

The media have focused strongly on low carbohydrate/high fat diets since the summer of 2011. The continuing debate on the merits of such diets is challenging due to the variety of opinion on low carbohydrates/high fats as opposed to normal diets.

In February 2012, the Directorate of Health invited selected executives, experts and professionals to discuss and help with dietary advice in future. A seminar on dietary advice for journalists and workshops will be organized with these people and with critics of dietary advice.

Focus area and goals

Ministry responsible

Measures

Comments

Communication of dietary advice has been closely linked to the keyhole labelling scheme, with the main focus on the scheme. An unpublished population survey in January 2012 showed that consumers know what is good for health in line with dietary recommendations, but they do not know that these are the government's recommendations.

A Norstat survey in 2011 showed that three out of four people (74%) have "very great confidence" in the Directorate of Health's dietary advice.

The food industry's information offices offer generic information and were busy with communications activities during the period of the Plan.

The Ministry of Agriculture & Food participated in the debate, particularly in relation to advice relevant to agricultural and food policy, with feature articles among other things. The Ministry of Finance supported the MeetEat conference in 2011. The goal of this conference was to improve the dialogue between the human and veterinary medicine and food technological environments on diet and nutrition.

1.3 Carry out a campaign to promote the consumption of fish and other seafood

Fisheries & Coastal Affairs; Health & Care Services

The Fiskesprell project was started in autumn 2008, with the goal of increasing awareness of the nutritional benefits of fish and other seafood and giving young people good taste experiences. Through the project, staff in kindergartens and schools are given advice on how to prepare and present seafood, all with a youthful twist.

Fiskesprell is a collaborative project between the Ministries of Fisheries & Coastal Affairs and Health & Care Services and the Seafood Council, which together fund it with contributions from the fish sales organizations. The Directorate of Health and the National Institute of Nutrition and Seafood Research are partners in the project.

The project was evaluated thoroughly in 2012.

Kindergarten staff have been asked to evaluate the project along the way and an evaluation survey is sent to all participating lower secondary schools.

In a mapping of meals, physical activity and environmental health in kindergartens in spring 2011, 37% of the administrators (n=1375) and 29% of the head teachers (n=1100) responded that at least one member of staff in their kindergarten had participated in a Fiskesprell course.

The project builds on positive experience with an earlier, similar project funded by the Seafood Council. Under the Action Plan, the counties were invited to participate in the Fiskesprell project from autumn 2008, basing it in the Partnership for Public Health. As the project is related to public health efforts in each county, its basis and long-term perspective are ensured.

All counties participating in the project receive financial support to organize courses for staff in primary schools, after-schools and kindergartens, nurses and parents. The Directorate of Health announces the funding for the counties each year.

Participation in Fiskesprell courses:

4565 kindergarten staff (1991 kindergartens) during 2010/2011, and 912 student teachers + 616 pre-school teachers during 2009/2010.

Financial support to buy fresh produce and material given to:

2940 schools with 223 469 lower secondary school pupils (since 2008);

1480 schools with 48 507 primary school pupils during 2009/2010.

Registered for the school year 2010/2011:

1231 kindergarten staff (557 kindergartens);

543 student teachers + 377 pre-school teachers + 70 students in public health;

68 233 lower secondary school pupils (from 900 schools);

31 733 primary school pupils (from 970 schools).

Among the head teachers who reported participation, 48% said that knowledge and experiences from the course had been used to a large, or very large, extent.

The survey also showed that among the kindergartens where staff had participated in a course, a higher proportion served fish or fish products as part of the warm meal once a month or more often, compared with kindergartens that had not participated or where participation was not known.

Focus area and goals

Ministry responsible

Measures

Comments

1.4 Publish a basic cookery book for everyday use

Health & Care Services

The Cookbook for all was published in September 2007. It is given free to all pupils in lower secondary schools and to student teachers. Municipalities can buy it at production cost for training purposes (language, Good Food courses, etc.). The book is updated with the keyhole labelling and new dietary advice. It can also be bought in bookshops.

The precursor of this book was positively evaluated and is used by pupils even after they have left school.

In 2008, the book received a prize for the most beautiful book used in primary and secondary education.

In the cookbook, dietary advice from the Directorate of Health is translated into recipes and practical cooking.

Cookbook for all: numbers distributed or sold 2007–2011

	Distributed or sold	2007	2008	2009	2010	2011	Total
To pupils, free		73 413	76 850	76 729	77 142	74 493	378 627
To municipalities, at cost of production		5 470	4 060	6 520	5 360	5 800	27 210
Through bookshops, at normal cost		8 381	337	2 031	1 445	949	13 143

1.5 Further develop the Matportalen web site with respect to nutrition and diet

Health & Care Services;
Agriculture & Food; Fisheries & Coastal Affairs

Matportalen is a web site with information about food and health from public authorities. The following food administration agencies provide material for the web site: Food Safety Authority, Directorate of Health, National Institute of Public Health, Scientific Committee for Food Safety, National Veterinary Institute, Norwegian Radiation Protection Authority, National Institute of Nutrition and Seafood Research and government food authorities in other countries. The Matportalen web site was relaunched in spring 2011.

The Food Safety Authority is a national body, whose aim is to ensure that food and drinking-water are as safe and healthy as possible for consumers.

Focus area and goals	Ministry responsible	Measures	Comments
<p>1.6 Award of the Nutrition Prize</p>	<p>Health & Care Services</p>	<p>A total of approximately 220 articles/answers to frequently asked questions about nutrition were published during the period of the Plan, an average of 44 articles a year, as against approximately 10 a year for 2004–2006.</p> <p>The prize is awarded, after the announcement of the chosen subject, by the Directorate of Health in cooperation with the National Nutrition Council. It was awarded in 2007, 2008, 2010 and 2011 and attracted positive press coverage. Annual issues for the awards were:</p> <p>2007: promoting healthy diets and a healthy environment for children and young people locally, nationally and internationally</p> <p>2008: promoting healthy diets among immigrants</p> <p>2010: better food for the sick and elderly</p> <p>2011: local nutrition – a healthy diet for children and young people.</p>	<p>The prize creates a good opportunity to highlight important nutrition work. It was not awarded in 2009 due to scarce human resources.</p> <p>The National Nutrition Council is behind the award, which was first awarded in 1984.</p>
<p>1.7 Establish a forum for dialogue at national level between authorities, nongovernmental organizations and relevant private actors</p>	<p>Health & Care Services; Agriculture & Food; Fisheries & Coastal Affairs; Children, Equality & Social Inclusion; Education & Research</p>	<p>The purpose is to gather participants to exchange information, discuss subjects, challenges and effective measures, and possibly coordinate measures. Forums were held in autumn 2008 on the theme Low Threshold Services on Diet, and in 2010 on the theme Plan of Action for Nutrition: the final stage, new guidelines, local nutrition programmes, etc.</p>	<p>Other important arenas for interaction are through projects, conferences, meetings, etc.</p> <p>Kost Forum is a consultative body consisting of the National Association of Public Health, The Norwegian Cancer Society, The Norwegian Heart and Lung Patient Organization, The Norwegian Diabetes Association and the Norwegian Asthma and Allergy Association. Kostforum is working to make it easier for adults and children to make healthy food choices. The Directorate of Health and the</p>

agricultural and seafood information offices are observers.

The Ministry of Agriculture & Food was present as an observer in 2010, and there was good feedback on the content and form.

2. Healthy food in a diverse market

Goals: Make it easier for consumers to choose foods with good nutritional composition in order to put together a healthy diet
 Improve access to and promotion of healthy food products

Reduce the promotion of foods that contribute to an unhealthy diet, especially among children and younger people

2.1 Encourage the development of healthy food products and meals

Agriculture & Food; Fisheries & Coastal Affairs

See also sections 2.9 and 9.2.

Initiatives took place in various sectors.

In 2009, the Ministry of Fisheries & Coastal Affairs set up the Marine Wealth Creation Programme: Business Cooperation for Greater Adjustment of the Value Chains to the Market.

In 2006, a north Norwegian pilot project conducted by the Foundation Norwegian Food Culture was set up to promote and improve the use of local food in restaurants. It was intended to spread the experience gained from the project.

Recirculation and Utilization of Organic By-products (RUBIN) funds projects to increase the utilization of products from fisheries and aquaculture as ingredients in consumer products (feed, food, health food).

Nofima is Europe's largest institute for applied research in the fields of fisheries, aquaculture and food.

In 2011, the National Nutrition Council submitted a strategy proposal for reducing salt intake in the population, the key elements being negotiations with the food industry to reduce salt in their products, combined with information to consumers. The Ministry of Health & Care Services has asked the Directorate of Health to prepare an action plan for reducing salt intake in the population based on the Council's strategy.

Focus area and goals	Ministry responsible	Measures	Comments
2.2 Establish a dialogue forum for cooperation between the food industry, authorities, researchers and consumers	Health & Care Services; Agriculture & Food; Fisheries & Coastal Affairs; Children, Equality & Social Inclusion	<p>The Ministries of Fisheries & Coastal Affairs and Agriculture & Food have been given support for a national centre for food with 14 food-related businesses outside Stavanger.</p> <p>The Norwegian food industry is involved in the European Technology Platform Food for Life. The Research Council's Food Programme is increasingly focusing on the development of healthy and safe foods.</p> <p>The Norwegian Institute of Food, Fishery and Aquaculture (Nofima) is working on new research on healthy ingredients and meals.</p>	Participants in the forum also meet through cooperative projects such as the design and implementation of the keyhole labelling system, marketing, etc.
		<p>The purpose of the dialogue forum was to create a common platform and understanding for promotion of a healthier diet. The forum was established as a permanent series of meetings during the period of the Plan and continued up to 2012. There has been positive feedback. Approximately 40–50 participants met each time. The themes have been as follows:</p> <p>2007: expectations, form and content of the forum; 2008: bread, labelling, communication and expertise in food and nutrition; 2008: separate additional meetings on healthier foods in the fast food market with selected participants; 2009: advertising in schools, salt, palm oil, etc. 2010: status and challenges with regard to food and health in general and in following up the Action Plan diet in particular; the keyhole labelling system in the fast food and catering market; 2011: new policy documents, reform of coordination, development in the diet, plans, summary dialogue arena.</p>	

Focus area and goals	Ministry responsible	Measures	Comments
<p>2.3 Promote the consumption of fruit and vegetables by stimulating better access to high-quality products from primary producers</p>	<p>Agriculture & Food</p>	<p>In 2007, the Ministry of Agriculture & Food allocated funds to local and regional initiatives through the counties.</p> <p>Every year the Norwegian Farmers' Union and the Norwegian Farmers and Smallholders Union negotiate with the state on the framework conditions for agriculture. In 2008, the Ministries of Health and Agriculture & Food had a meeting in advance of these yearly negotiations.</p>	<p>The report to parliament <i>Agriculture and food policy. Welcome to the table</i> signals an increased focus on fruits and vegetables.</p>
<p>2.4 Strengthen collaboration between the authorities, fisheries industry and retailers to increase the availability of good quality fish and seafood</p>	<p>Fisheries & Coastal Affairs</p>	<p>The Geitmyra food culture centre for children has been set up in Oslo with funds from the Ministry of Agriculture & Food to promote knowledge and use of fruit and vegetables, among other things. In 2012, educational materials and programmes were developed. The Ministries of Fisheries & Coastal Affairs and Education & Research also support the centre.</p> <p>Fruits and vegetables also have their place in the Nordic Council of Ministers' programme New Nordic Food II (2010–2014). The vision is that the Nordic cuisine will inspire enjoyment, innovation, taste and diversity, both at home and abroad.</p> <p>See also 4.3.</p>	
<p>2.4 Strengthen collaboration between the authorities, fisheries industry and retailers to increase the availability of good quality fish and seafood</p>	<p>Fisheries & Coastal Affairs</p>	<p>On 1 January 2010, a regulation was introduced requiring the labelling of fish products with consumer information (such as for fresh fish, the catch and/or slaughter date). Work has been started to determine the appropriate method for assessing the quality of fresh fish, and to decide a standard for labelling fish boxes and pallets so as to improve logistics and the flow of information.</p>	

Focus area and goals	Ministry responsible	Measures	Comments
<p>2.5 Survey and follow up from ready-made food and meals from restaurants and the convenience store market</p>	<p>Health & Care Services; Agriculture & Food</p>	<p>To be considered in relation to measures in section 2.2.</p> <p>The National Institute for Consumer Research report <i>Food on the go – opportunities and limitations for new and healthier eating concepts in the fast food market, 2007</i> was supported financially by the Directorate of Health.</p> <p>There has been extensive interaction with industry and the authorities in Denmark and Sweden on keyhole labelling in general, and concerning the kiosk, petrol station and service market.</p>	<p>Any introduction of a keyhole-labelled product in the kiosk, petrol station and service market and other food service industry premises or restaurants is complex. Some of these products (ready packed) are suitable for this market.</p> <p>Since 2008, the transport company DHL has been collaborating with nutrition students and Everyday Cook to publish an overview of nutrition-rated food services and restaurants along the main trunk roads.</p>
<p>2.6 Restructuring of the tax on non-alcoholic beverages</p>	<p>Finance; Health & Care Services</p>	<p>Work is in progress on a report by the Food Safety Authority and the Directorate of Health with suggestions for further work on the keyhole labelling system in the kiosk, petrol station and service market.</p> <p>The Week of Taste has been held annually since 2005 to increase awareness of the quality and joy of food, with a focus on basic flavours. The Ministries of Agriculture & Food and Fisheries & Coastal Affairs cooperate with the information offices for agriculture and seafood, Nofima and the Norwegian National Association of Chefs. In 2011, 26 cafeterias participated.</p>	<p>The project Nordic Young Health 2009–2010 focused on young consumers and the fast food sector. The National Institute for Consumer Research, Nofima and other Nordic research institutions cooperated in the project. Main results: the obstacles to healthy choices are said to be structural barriers, the ease of accessing unhealthy rather than healthy food, and aggressive marketing with unhealthy foods deliberately placed within easy reach. Many of the respondents were open to healthier alternatives.</p>

Focus area and goals	Ministry responsible	Measures	Comments
		<p>The consumer price index for soft drinks increased from Nkr 130 in 2008 to Nkr 166 in February 2012.</p> <p>Sales of soft drinks containing added sugar in 2007 were 60 litres per capita per year. In 2011 they were 61 litres per capita per year. There has been a small decrease in soda with artificial sweeteners (2007: 44 litres per capita per year, 2011: 39 litres per capita per year) and bottled water (2007: 24 litres per capita per year, 2011: 17 litres per capita per year).</p>	
<p>2.7 Study the possibilities of using economic incentives to promote a healthy diet</p>	<p>Health & Care Services; Finance</p>	<p>The Excise Committee submitted a report in 2007 mainly focusing on how to use excise duties to tax products containing sugar/sweeteners. A new tax would raise several questions needing further consideration. The Ministry of Health & Care Services continued this work, in consultation with the Ministry of Finance, in 2012.</p>	
<p>2.8 Work to improve the labelling of food products, including better nutrient declarations</p>	<p>Health & Care Services</p>	<p>At the European level, the Norwegian government worked to influence EU Regulation No. 1169/2011 on the provision of food information to consumers. The Regulation introduced new rules on mandatory declaration of nutrition, including energy, saturated fat, sugar and salt. The declaration can take the form of graphics or symbols. On the global level, Norway has worked to influence Codex standards on food labelling to include added sugars.</p>	<p>To be followed up by the Directorate of Health and internationally.</p>
<p>2.9 Aim to introduce symbol labelling to make it easier to put together a healthier diet</p>	<p>Health & Care Services; Children, Equality & Social</p>	<p>The keyhole labelling system was introduced in June 2009 as a joint Nordic system for health labelling of food products. It is a broad-based process encompassing industry, consumers, etc.</p>	<p>Initiatives taken by retailers and nongovernmental organizations to the Minister of Health accelerated the process that led to the decision. Nordic cooperation on the revision of the criteria started in the autumn of 2011.</p>

Focus area and goals	Ministry responsible	Measures	Comments
Inclusion; Agriculture & Food; Fisheries & Coastal Affairs		<p>Three consumer-oriented mass media campaigns were run during the period 2009–2011. A home page was created and materials developed for consumers (folders in 12 languages), the food industry and the education sector. Annual surveys of consumer awareness, knowledge and attitudes to the brand since before it was launched as well as market analyses were undertaken in 2009, 2010, 2011 and January 2012.</p> <p>In August 2011, TNS Gallup found that in just two years, the keyhole has become the best known and most used brand in the grocery trade. A population survey on awareness and knowledge of the keyhole symbol among all consumers aged over 18 years (in January 2012) showed continued positive progress: 98% knew or had heard of the brand, and 85% knew that the label represented a healthier choice. Many also knew that the mark represented less fat, sugar and salt and more dietary fibre. The labelling system was trusted by 6 out of 10 people and 50% thought the brand made it easier to make healthier choices.</p> <p>As a result of a good dialogue with suppliers and traders on the implementation of the scheme, industry and retailers have contributed significantly to marketing. Communication is linked to dietary advice.</p> <p>A Nordic inspection campaign in 2011 showed that the keyhole label is used properly.</p> <p>Approximately 550 keyhole-labelled products (other than fruit or vegetables) were on sale in 2010, and about 1500 in December 2011.</p>	<p>More knowledge is needed about the brand and a broader selection of products. Nordic cooperation is continuing. See also section 2.5.</p>

Focus area and goals	Ministry responsible	Measures	Comments
<p>2.10 Follow up and continue to develop rules for the use of nutrition and health claims, fortification of foods and food supplements</p>	<p>Health & Care Services</p>	<p>The EU Commission's work on developing nutrition profiles has come to a stop. In meetings between (among others) the Norwegian Minister of Health and the European Health Commissioner, the Norwegian Government has tried to convince the Commission to restart this work.</p>	<p>The regulations are being implemented according to plan. Work on the nutrition profiles is awaited in the EU.</p>
<p>2.11 Consider introduction of restrictions on advertising of unhealthy food aimed at children and young people</p>	<p>Health & Care Services</p>	<p>The Norwegian food and beverage industry adopted voluntary guidelines for the marketing of foods and beverages to children in 2007.</p> <p>As a follow-up of the Action Plan, the National Health Care Plan (2011–2015) and WHO's recommendations on the marketing of unhealthy foods to children, the Ministries of Health and Children, Equality & Social Inclusion have established a working group to consider the possible introduction of new restrictions on the marketing of food and drink to children and young people, including whether there is a need for specific new legal measures. The work involves a description of the extent of marketing of unhealthy foods to young people and the development of a model for nutrition profiling.</p>	<p>Assessment work was completed in 2012.</p> <p>The network will run through 2012, with the possibility of an extension.</p> <p>The network has contributed with knowledge and experience to support efforts to develop the WHO recommendations on the marketing of food and beverages to children, and has developed a code as an example of how such marketing can be regulated. The network is also working to develop a protocol for monitoring the marketing of food to children.</p>
<p>In 2007, Norway was the initiator and driving force for WHO to prepare recommendations on the marketing of food and beverages to children. These recommendations were adopted by a resolution proposed by Norway, with the support of many countries, at the World Health Assembly in May 2010.</p>			
<p>In 2008, the European network on reducing the marketing of unhealthy foods and beverages towards children was set up. These countries are working together to protect children's health by reducing the marketing of nutrient-poor and energy-dense</p>			

Focus area and goals	Ministry responsible	Measures	Comments
<p>foods and beverages to children. Currently, 20 WHO European Member States are members. Norway (through the Directorate of Health) chairs and is the secretariat for the network, which is a collaborative activity with the Regional Office. See also 10.1.</p>	<p>Health & Care Services; Children, Equality & Social Inclusion</p>	<p>Not initiated.</p>	<p>See 2.5.</p>
<p>3. Nutrition in the early stages of life</p>	<p>Health & Care Services</p>	<p><i>Goal/s:</i> improve dietary guidance for women of childbearing age and pregnant women Facilitate exclusive breastfeeding for a higher percentage of infants for the first six months of life and continued breastfeeding until at least 12 months Facilitate a good diet for infants and young children Strengthen guidance on breastfeeding, diet, food and meals for parents of infants and young children Contribute to ensuring that marketing of breast-milk substitutes is strictly in line with international recommendations Emphasize efforts towards women and children with a non-western background</p>	<p>The brochures <i>Food for infants</i> and <i>How to breastfeed your baby</i> will be completely revised when new recommendations on infant nutrition are published.</p>
<p>3.1 Offer updated information material on breastfeeding, infant and young child nutrition</p>	<p>Health & Care Services</p>	<p>The Directorate of Health distributes annually 60 000 copies of the brochures <i>Food for infants</i> and <i>How to breastfeed your baby</i>. These brochures are revised when needed, most recently in 2011. A newsletter was regularly distributed to child health centres in the period 2007–2010. A new web site for pregnant women (encouraging a healthy lifestyle) was launched in 2010.</p>	<p>A simple questionnaire distributed in 2006 resulted in few but positive answers to the newsletter. The brochures <i>Food for infants</i> and <i>How to breastfeed your baby</i> will be completely revised when new recommendations on infant nutrition are published.</p>

Focus area and goals	Ministry responsible	Measures	Comments
		<p>Articles about infant and young child nutrition are continuously developed and updated on the Directorate of Health, Matportalen and HelseNorge web sites.</p>	
<p>3.2 Continue and further develop the Baby-Friendly Initiative in Norway</p>	<p>Health & Care Services</p>	<p>Courses were arranged for nurses working in child health centres and midwives in all counties from autumn 2007 to spring 2009 by the Resource Centre for Breastfeeding and the Directorate of Health, in collaboration with the Norwegian Nurses Organization. The main subject was an action plan for a better diet, with emphasis on guidelines for skilled nursing clinics.</p> <p>National guidelines for perinatal care are being developed by the Directorate of Health.</p>	<p>Follow-up and evaluation is done through a continuing randomized controlled study.</p> <p>By the end of 2011, 109 out of 430 municipalities had introduced the project Ammekyndige Helsestasjoner (certification of breastfeeding practices at child health centres) and 15 municipalities or urban districts had been approved.</p>
<p>3.3 Facilitate the incorporation of the entire WHO Code of Marketing of Breast-milk Substitutes into Norwegian legislation and ensure compliance with the Code</p>	<p>Health & Care Services</p>		<p>It is somewhat unclear.</p>
<p>3.4 Maintain established maternity leave schemes for women, and consider the possibility of paid breastfeeding breaks so that all women who wish to may breastfeed in accordance with the health authorities'</p>	<p>Labour; Children, Equality & Social Inclusion^a</p>	<p>The government is considering offering paid breastfeeding breaks for breastfeeding women. It is not clear when this will be decided.</p> <p>The Ministries of Labour, Health & Care Services and Children, Equality & Social Inclusion have established an internal work group considering breastfeeding breaks and distribution of parenting leave between the parents.</p>	

Focus area and goals	Ministry responsible	Measures	Comments
recommendations during working hours			
3.5 Revise and develop national recommendations and guidelines on infant and young child nutrition and nutrition for premature babies	Health & Care Services	<p>In 2011, the Directorate of Health established a working group to revise the recommendations on infant nutrition. This is a comprehensive task. It is planned to complete new guidelines for infant nutrition in 2013.</p> <p>As soon as these guidelines are finished, guidelines for the nutrition of premature babies will be started.</p>	
3.6 Strengthen guidance on nutrition for pregnant women by implementing professional guidelines for maternity care and publishing information materials	Health & Care Services	A new brochure about nutrition and physical activity in pregnancy was published in 2009. The Directorate of Health, the Food Safety Authority and the Institute of Public Health have revised and updated information for pregnant women on the Matportalen web site, in addition to their own web sites.	
3.7 Continue the measures relating to the implementation of the EC directives on infant food in Norway	Health & Care Services; Agriculture & Food	The Directorate of Health has had regular meetings with the Food Safety Authority, distributed the newsletter <i>Facts on food for infants</i> and monitored the baby food on the market.	<p>In 2007, the Food Safety Authority and the Directorate of Health published the report <i>Development in the baby food market – status for 2007</i>.</p> <p>In 2007 and 2008, the Food Safety Authority published Parts I and II of the report <i>Analyses of nutrients in baby food products 2006/2008</i>.</p>
3.8 Work to establish a system for national breastfeeding statistics	Health & Care Services	Several registration systems have been considered and a choice has been suggested but no system has yet established.	

Focus area and goals	Ministry responsible	Measures	Comments
<p>3.9 Consider introducing a nationwide programme of free vitamin D supplements for infants with non-western backgrounds</p>	<p>Health & Care Services</p>	<p>A nationwide offer has been made since 2009 after testing in eight well-baby clinics. This is based on a PhD thesis showing that free vitamin D drops improve the vitamin D status for infants of non-western immigrants.</p>	<p>It has been suggested that the Institute of Public Health should take over responsibility for this project, but no decision has been taken. Information is available in English, Norwegian, Somali, Turkish and Urdu.</p>
<p>4. Healthy meals in kindergartens and schools</p>			
<p><i>Goal/s:</i> To help kindergartens, schools and before- and after-school programmes to promote healthy eating habits among children and adolescents through meals in line with the health authorities' recommendations Help to ensure that children and adolescents acquire healthy eating habits Emphasize efforts towards women and children with a non-western background</p>			
<p>4.1 Revise guidelines for food in kindergartens.</p>	<p>Health & Care Services; Education & Research</p>	<p>The <i>Guidelines for food in kindergartens</i> were revised in 2007 and sent to all kindergartens and municipalities. Implementation of the guidelines with supporting information was supported by training and meetings at county level. The guidelines have been described in central documents such as the <i>National curriculum regulations on the content and duties of kindergartens</i> (Chapter 3.2, Body, movement and health). In addition, the guidelines are an integral part of ongoing work and information efforts and are part of the Fiskesprell seafood project (see 1.3).</p>	<p>A mapping of meals, physical activity and environmental health in kindergartens in spring 2011 showed that 90% of administrators and 70% of head teachers were aware of the guidelines. This is far more than in 2005 when 36% and 21%, respectively, were aware of them. Those directors who were aware of them were asked how they had made use of the guidelines: 71% said the guidelines had been used during internal meetings with staff, 61% said they were used for measures to increase staff competence and 57% said they were used for planning educational activities. Among kindergartens where the head teacher was aware of the guidelines, more healthy foods were offered compared with kindergartens without such awareness.</p>

Focus area and goals

Ministry responsible

Measures

Comments

<p>4.2 Prepare and offer educational tools and information materials relating to the revised guidelines for food and meals in kindergartens</p>	<p>Health & Care Services; Education & Research</p>	<p>Material was developed and sent to all kindergartens nationwide in 2008. The package of material entitled <i>Good food in the kindergarten</i> includes a 61-page instruction booklet with advice on diet, food and meals, celebrations, allergies and hygiene as well as recipes, and two posters and two postcards. There is great demand for the material.</p> <p>The booklet has been printed in the following quantities: 18 000 in 2008, 10 000 in 2009 and 12 000 in 2011, totalling 40 000.</p>	<p>The mapping of meals, physical activity and environmental health in kindergartens in spring 2011 showed that 60% of the administrators and 46% of the head teachers had received the booklet. Among the head teachers who had received it, 80% felt that it had been useful or very useful. In the kindergartens where the head teachers had received the booklet, some more healthy food products were served compared with kindergartens where the head teachers had not received the booklet.</p>
--	---	--	---

4.3 Introduce a programme for fruit and vegetables for all pupils in primary and secondary schools

Education & Research;
Health & Care Services

Since autumn 2007, Parliament has given grants to municipalities to enable them to provide pupils in secondary schools (steps 8–10) and combined schools (steps 1–10) with free fruit and vegetables. This has been established in law since 2008.

Pupils in primary schools (steps 1–7) can subscribe to the school fruit scheme, whereby the government subsidizes each fruit or vegetable by Nkr 1 so that the subscription costs Nkr 2.50 per school day. Registration, information and activities can be found on the Skolefrugt.no web site, which has information about the scheme in five languages other than Norwegian.

User surveys of the two schemes are carried out every semester. A new web site has been developed together with simplified registration, information in several languages, motivational items such as t-shirts, book bindings and competitions, and funding for model development and films to broaden the subscription base and focus on fruits and vegetables. The work

Primary school (steps 1–7) participation in the school fruit scheme, 2007–2011

Year	Pupils with a fruit/vegetable scheme at reduced cost, steps 1–7 ^a %	Schools with a scheme (reduced or normal rate) in steps 1–7 %
2007	25.6	57.2
2008	27.4	55.2
2009	19.6	59.3
2010	18.3	56.8
2011	18.4	57.1

^a Percentage of total number of primary school children each year who have access to fruit/vegetables, either through subscription or with full or partial local sponsorship. The proportion subscribing has always been larger than the proportion with full or partial local sponsorship. The proportion of local or municipal sponsorship has fallen each year, affecting participation.

Focus area and goals	Ministry responsible	Measures	Comments
		<p>is connected to the Directorate of Health's guidelines for school meals in primary and secondary schools.</p> <p>Little opportunity to choose the fruit or vegetable is one of the reasons given for low participation. It is difficult to get schools to put work into a paid parental scheme in which only some of the pupils participate, for example, by giving them a choice between at least two fruits or vegetables. The response is greatest in the first class and falls off as the pupils move up the school. Price only seems to be significant for parents on the lowest household incomes (reference: aspect of social inequality in health). Some school staff and parents also gave the unfairness of the scheme not being free in schools with steps 1–7 as a reason not to participate.</p> <p>It will be important to establish a fruit and vegetable programme that reaches all pupils.</p>	<p>Approximately 280 000 pupils attend schools covered by the free scheme.</p>
<p>4.4 Promote increased participation in the school milk programme in primary and secondary school</p>	<p>Health & Care Services; Agriculture & Food; Education & Research</p>	<p>Meetings with representatives of the independent agricultural sector Information Office for milk and the TINE dairy cooperative are organized annually to discuss topical issues. Meetings are also held with the relevant ministries (of Health & Care Services, Education & Research and Agriculture & Food). The guidelines for meals in primary and secondary schools, developed by the Directorate of Health, form the basis of work and information about the school milk scheme.</p> <p>A new variety of milk with added flavour and a new online registration form were launched in 2010. Work is continuing, and planning has begun for a greater focus on milk in kindergartens.</p>	<p>The TINE dairy cooperative and the Dairy Products Information Office plan to increase efforts in upper secondary schools with a separate product portfolio.</p> <p>Enrolment in the school milk scheme covers 99% of all primary schools (steps 1–7) and combined primary- and lower secondary schools (steps 1–10). In total, 50.7% of the pupils in these schools participated in 2011, a slight decrease on the previous years when participation was 51.1% and 51.7% in 2010 and 2009, respectively. Semi-skimmed milk</p>

(1.5% fat) is the most popular of the milk variants, chosen by 61% of the pupils.

Participation is greatest among the youngest children. In lower secondary schools (steps 8–10), only 8% of the pupils enrolled in the scheme in 2011.

4.5 Disseminate experiences from models developed in the Physical Activity and Meals in School project and collect and spread know-how about school breakfast programmes in lower and upper secondary schools

Education & Research;
Health & Care Services

A total of 400 primary and lower secondary schools and 18 upper secondary schools received grants between 2004 and 2007 to participate in the Physical Activity and Meals in School project. Experience from the project was shared through presentations and distribution of a guidance booklet and a DVD with examples of best practice to all primary and lower secondary schools and municipalities. A national conference was organized in 2007 and the county governors organized regional conferences in the spring of 2008 to spread experience from the project.

A web site for sharing ideas and resources in the area of physical activity was launched in 2009. This does not, however, include measures relating to diet.

In the period 2009–2012, the Ministry of Education & Research carried out a project testing various models in schools with the purpose of improving the coherence between school and the before- and after-school programmes (Helhetlig Skoledag). Components of the programme include food in school, physical activity, help with homework and various cultural activities.

A research group at the University of Bergen (HEMIL-sentreet) has evaluated the Physical Activity and Meals at School project (available in Norwegian upon request).

Part one of the evaluation of the project about coherence between school and the before- and after-school programmes (Helhetlig Skoledag) is available in Norwegian upon request.

Health-promoting schools have been a topic at various meetings for public health advisers at county level. It is also mentioned in the White Paper on the National Health and Care Plan for Norway (2011–2015).

Focus area and goals	Ministry responsible	Measures	Comments
		<p>Local experiences with school breakfasts have not been compiled and distributed, but some counties have tested models for breakfast at school.</p> <p>In 2007/2008, the Directorate of Education and Training carried out a project with prolonged school days (Utvidet Skoledag) in 11 municipalities and 34 schools. Models for school meals were included.</p>	
<p>4.6 Continue the work of spreading information about the health authorities' guidelines for meals in primary and secondary schools</p>	<p>Health & Care Services; Education & Research</p>	<p>The guidelines for meals in school are part of the project with prolonged school days in 2007/2008. Information about the guidelines is available through ongoing work and various projects (see 4.3 and 4.5), in relevant material and on relevant web sites, including the Directorate of Health and Skolefrugt. It was also available on an earlier web site (skolenettet.no), but this web site was shut down and the material was not moved to the web site of the Directorate of Education and Training.</p> <p>Several high-level meetings have been held (between the Ministry of Health & Care Services and the Ministry of Education & Research), focusing inter alia on the guidelines.</p>	<p>The need to revise the guidelines has been discussed.</p>
<p>4.7 Encourage school owners to prevent access to soft drinks and promote good access to cold drinking-water</p>	<p>Education & Research; Health & Care Services</p>	<p>In 2008, a joint letter from the Ministers of Health & Care Services, Education & Research and Local Government & Regional Development was sent to all county authorities encouraging them to ensure that healthy foods and drinks were made available in upper secondary schools. A competition was used as a follow-up and a mapping exercise was carried out (68% participation rate).</p>	<p>The evaluation of the Physical Activity and Meals in School project showed that no schools offered soft drinks during the project period 2003–2006, and that access to cold drinking-water improved.</p> <p>The mapping exercise in 2008 on fruit, vegetables, drinking-water and meals was linked to a competition.</p>

Focus area and goals	Ministry responsible	Measures	Comments
		<p>The same message has also been communicated through work being carried out by the Directorate of Health, the Directorate of Education & Training, county authorities and others.</p> <p>Through the development and trial phases of the Health in Master Plans (Helse i Plan) project, several counties have carried out health promotion efforts in upper secondary schools. These have emphasized the importance of the availability of food and drinks. Some counties have developed networks for employees in school canteens to share experiences.</p> <p>The county of Oppland has a certification scheme for health-promoting schools, who can apply for funds.</p>	<p>In 2011, the Directorate of Health carried out a simple mapping (via e-mail) about the follow-up to the initiative to ban soft drinks by various county authorities. This showed that six counties had taken the political decision to offer healthy canteens, and three of these had also taken the political decision not to allow the sale of soft drinks (Rogaland, Vestfold and Østfold).</p>
<p>4.8 Encourage school owners to strengthen food and meal programmes in before- and after- school programmes for schoolchildren</p>	<p>Education & Research; Health & Care Services</p>	<p>The Directorate of Education and Training is developing models for better coherence between schools and the before- and after-school programmes (Helhetlig Skoledag) (see 4.5). The Directorate of Health's guidelines for meals in schools is included in this project.</p> <p>This measure is part of the ongoing information and communications work of the Directorate of Health.</p> <p>The Directorate of Health has participated in a group planning the project on coherence between schools and the before- and after-school programmes (Helhetlig Skoledag) (see 4.5).</p>	
<p>4.9 Strengthen and coordinate inspection of food and meals in kindergartens, schools and before- and after-school</p>	<p>Health & Care Services; Agriculture & Food; Fisheries</p>	<p>The Directorate of Health works with the Ministry of Health & Care Services to inform municipal departments of environmental health about the approval scheme in the regulations on environmental health protection in kindergartens and schools so</p>	<p>The mapping of meals, physical activity and environmental health in kindergartens in the spring of 2011 showed that (according to the administrators) 83% of the kindergartens</p>

Focus area and goals	Ministry responsible	Measures	Comments
programmes	& Coastal Affairs	<p>as to strengthen the supervision of kindergartens and schools, including as concerns meals.</p> <p>The Ministry of Agriculture and Food reports that a New Nordic Food project highlights good systems for serving food and information about children's food and health.</p>	<p>were approved according to the regulations on environmental health protection in kindergartens and schools. However, about one third of the kindergartens had not been subject to supervision in the previous three years.</p>
5. Food and health in the workplace			
<p><i>Goals:</i> Contribute to availability of healthy food and beverages in the workplace Stimulate the motivation of employees to adopt healthy habits and make good food choices Help employers to integrate dietary considerations in personnel policy</p>			
<p>5.1 Establish a dialogue between employers and unions and the health authorities to promote healthy dietary habits</p>	Health & Care Services	<p>The Directorate of Health has initiated and participated in several meetings with representatives of working life. Some of the organizations have agreed to act as information channels for the overall message from the Directorate.</p> <p>Through the Workplace Health Promotion programme, the Directorate of Health has established cooperation with the Labour Inspectorate in Inner Østland, seven county councils and the Nordic Academy for Public Health. In working with the kiosk, petrol station and service market, contacts have been established with the Confederation of Norwegian Enterprise and other key players in working life, such as the Transport Workers Union.</p>	<p>See also 2.5.</p> <p>Evaluation of the Workplace Health Promotion programme shows that it is effective; 60% of the respondents feel that employees' diets are related to their jobs, and that available food services are important to job satisfaction, the work environment and productivity.</p> <p>A follow-up of the programme is required, preferably in the selected sectors.</p>
<p>5.2 Assess how dietary considerations can be addressed at workplaces</p>	Health & Care Services; Labour & Social Inclusion ^a	<p>Included in 5.1 and 5.3.</p> <p>The recommendations for food in cafeterias and restaurants given by the Directorate of Health are the basis for food</p>	<p>There is a need to look at the relationship between work, the Norwegian Labour and Welfare Service, healthy living centres, health services, etc.</p>

Focus area and goals	Ministry responsible	Measures	Comments
		<p>provision. They are revised or developed according to new dietary advice. Articles and advice are available on the web sites and through lectures, etc. The Norwegian Labour and Welfare Service Working Centre in Vest-Agder and Vest-Agder County Council ran a Healthy Workplaces pilot project in 2007. The future challenge is to encourage employees to be healthy.</p>	<p>All initiatives regarding public health should be made available on the Directorate of Health's web site.</p> <p>Arrangements for a training workshop (or workshops) for canteen staff should be updated and possibly connected to the Good Food training workshop in the long term.</p>
<p>5.3 Build competence and ensure access to tools on diet and health for groups such as canteen employees, trade union representatives, managers and company health service staff</p>	<p>Health & Care Services; Agriculture & Food; Fisheries & Coastal Affairs</p>	<p>To be considered in relation to measures 2.2 and 5.1.</p> <p>Articles and materials have been published on web sites and spread through ongoing work and lectures.</p> <p>The Ministry of Agriculture & Food ran a canteen project during The Week of Taste with menu suggestions and exhibitions focusing on basic flavours and food quality (also in 2011).</p> <p>The Information Office for Fruit and Vegetables have a commitment called MORE (more fruit and vegetables), following up initiatives and measures previously given to all counties in collaboration with the Directorate of Health. MORE includes advice and canteen courses (in collaboration with partner companies) and information and programmes on the web site.</p> <p>The Directorate of Health and the Information Office for Fruit and Vegetables held a national training workshop on workplace canteen meals in 2006 and another on high school canteens in the counties of Telemark and Nord-Trøndelag in 2007. Both the workshops were followed up in the counties afterwards with, for example, local courses. Several counties have established</p>	<p>An updated leaflet on food and health at work will be presented.</p>

experience forums for canteen staff in businesses and high schools as a result of courses held by the Directorate of Health and the Information Office for Fruit and Vegetables in the counties during the period 1997–2006.

<p>5.4 Motivate vocational rehabilitation enterprises to include diet and physical activity in vocational rehabilitation</p>	<p>Labour & Social Inclusion,^a Health & Care Services</p>	<p>In 2007, the Ministry of Labour and Social Inclusion officially requested the Directorate of Labour and Welfare to take the initiative to motivate vocational rehabilitation enterprises to include diet and physical activity in vocational rehabilitation (see text, 5.4). Nutrition work in rehabilitation companies was a sub-topic at a national conference for public health advisers in 2010.</p> <p>The Directorate of Health has a continuing dialogue with the Association of Vocational Rehabilitation Enterprises. The Association, together with the weight loss and nutrition courses firm Libra, has developed its own nutrition plan as part of its internal training. The Association has increased the focus on diet in its work as a result of the collaboration with the Directorate, and has much information on its web site. The Directorate has held exhibitions and lectures at the vocational rehabilitation exhibition in 2010 and at relevant meetings of this group.</p> <p>Regulations on work-related measures (in force since 1 January 2009), Chapter 3.1, make it possible to provide lifestyle counselling as part of vocational rehabilitation. Together with the high school in Akershus and the Association of Vocational Rehabilitation Enterprises, the Directorate of Health has developed a course in diet and living habits: 110 students, primarily employees of the rehabilitation company with one person from the Norwegian Labour and Welfare Service, have completed their studies. The courses have been funded by the Directorate of Health.</p>	<p>The Association of Vocational Rehabilitation Enterprises is an employer and interest organization for approximately 100 enterprises spread across Norway.</p> <p>The Association of Vocational Rehabilitation Enterprises provides services to more than 35 000 people annually.</p>
---	--	--	---

Focus area and goals	Ministry responsible	Measures	Comments
<p>5.5 Develop and test low threshold dietary schemes for people on long-term sick leave and others who are periodically unemployed</p>	<p>Health & Care Services</p>	<p>See 5.4 and 6.8.</p> <p>The low threshold dietary-related scheme Bra Mat for Bedre Helse (Good Food for Better Health) was launched in 2008. In the period of the Action Plan (2008–2011), the Directorate of Health held training workshops in 16 of the 19 counties.</p> <p>By December 2011, 135 healthy living centres had been registered. Of these, 50 either had or planned to start Good Food for Better Health courses. Guidelines for healthy living centres were published in February 2011.</p> <p>Cooperation and support have been given to Active in the Daytime activities in Oslo and the county of Nordland. These are locally organized activities for people who are wholly or partly outside the workplace.</p>	<p>The Good Food for Better Health scheme is continuing. The evaluation of the first four training courses showed that almost one quarter of the people trained in the workshops had implemented the programme in their own municipalities. Almost everyone who attended the workshops found the seminars valuable, especially the material they were given.</p> <p>Modum municipality has reported that approximately 60% of the participants in the courses are unemployed or outside the labour market, which is consistent with figures from 2010.</p>
<p>6. Nutrition in health and social care services</p>			
<p><i>Goal/s:</i> Contribute to strengthening nutrition-related work in child health clinics and the school health service</p> <p>Help patients in the primary health service and specialist health service receive individual dietary guidance and treatment</p> <p>Contribute to strengthening nutrition-related programmes in nursing and care services</p> <p>Find out about patients' or service recipients' food and meals, diet and nutritional status and the qualifications of health workers</p>	<p>Health & Care Services</p>	<p>The Directorate of Health has allocated funds to start the testing of models for organizing and strengthening work in both general and clinical nutrition. During the period of the Action Plan it provided funding for five different models of how municipalities can, in the long term, provide a satisfactory service. A meeting was held in August 2011 with grant recipients. A preliminary</p>	<p>There is a need for better access to qualified personnel in municipalities to assure the quality of nutrition services. As an example, only 8 of the 135 healthy living centres have employed anyone with expertise in nutrition. The Directorate of Health has recommended</p>
<p>6.1 Consider how the municipalities can provide satisfactory services in general and clinical nutrition in the longer term</p>	<p>Health & Care Services</p>	<p>The Directorate of Health has allocated funds to start the testing of models for organizing and strengthening work in both general and clinical nutrition. During the period of the Action Plan it provided funding for five different models of how municipalities can, in the long term, provide a satisfactory service. A meeting was held in August 2011 with grant recipients. A preliminary</p>	<p>There is a need for better access to qualified personnel in municipalities to assure the quality of nutrition services. As an example, only 8 of the 135 healthy living centres have employed anyone with expertise in nutrition. The Directorate of Health has recommended</p>

Focus area and goals	Ministry responsible	Measures	Comments
		<p>report was sent to the Ministry of Health & Care Services in December 2011, and a final report will be made available to the Ministry when all the sub-reports are finalized.</p>	<p>that nutrition programmes should be anchored in cross-sectoral planning. People with a bachelor's degree in nutrition can have key skills in general and preventive nutrition. One experienced clinical nutritionist employed at a senior level in a municipality or county might provide a model to ensure quality and improve nutrition services in both general and clinical nutrition. Expertise in food economics is also a key competence for quality control of food services in institutions.</p>
<p>6.2 A focus on nutrition should be included in the overall services offered in the specialist health service</p>	<p>Health & Care Services</p>	<p>Nutrition has been included as a specific theme in the contract documents sent by the Ministry of Health & Care Services to the regional health authorities annually since 2008.</p>	<p>The annual reports from the regional health authorities in 2010 show that a continued focus is needed. The instruction letter from the Ministry of Health & Care Services to the health authorities in 2012 states that they should improve the nutritional status of patients at risk of poor nutrition. Documentation relating to nutritional status must follow patients as they move between treatment units or to another health service.</p>
<p>6.3 Prepare and implement professional guidelines and instructions for nutrition therapy</p>	<p>Health & Care Services</p>		
<p>6.3.1 Develop and implement professional guidelines for</p>	<p>Health & Care Services</p>	<p>Professional guidelines were published in February 2011 for adults and for children and young people.</p>	<p>The Directorate of Health has prepared a plan for implementation of the guidelines and is working on a strategy on overweight.</p>

Focus area and goals	Ministry responsible	Measures	Comments
prevention and treatment of overweight/obesity			
6.3.2 Develop and implement professional guidelines for weighing and measuring at child health clinics and in the school health service.	Health & Care Services	Professional guidelines were published in February 2011.	As for 6.3.1.
6.3.3 Develop and implement professional guidelines on prevention and treatment of patients with nutritional deficiency and patients at nutritional risk.	Health & Care Services	Professional guidelines were published in June 2009.	<p>The Directorate of Health has presented these guidelines at a number of conferences and courses organized either by the regional health authorities (for hospitals) or by county governors (for nursing homes).</p> <p>The university hospital in Bergen has made the most progress in implementing the guidelines. They conduct four point-prevalence surveys of malnutrition and treatment annually.</p>
6.3.4 Revise and issue guidelines for dietary management in health care institutions	Health & Care Services	The revision was started in 2009, based on the national professional guidelines for the prevention and treatment of nutritional deficiency, the Nordic nutrition recommendations and the new national guidelines on nutrition. It will cover institutions, youth health services, school health services, healthy living centres, domiciliary health and care services, and rehabilitation.	<p>The <i>Nutrition and diet manual – guidance for nutrition in health and care services</i> was published in spring 2012. The Directorate of Health has prepared a plan for implementation.</p>
6.3.5 Prepare instructions for nutrition-related programmes	Health & Care Services	As for 6.3.4.	As for 6.3.4.

Focus area and goals**Ministry responsible****Measures****Comments**

in the nursing and care services

6.3.6 Include diet in developing a guide for health personnel on communication about health with speakers of minority languages

Health & Care Services

The nutrition and diet manual includes a chapter on nutritional issues in various religions and cultures.

In 2011, the Directorate of Health held a seminar on diet and minorities.

6.4 Prepare suitable diet- and nutrition-related quality indicators in the health institutions and domiciliary services

Health & Care Services

National professional guidelines for the prevention of nutritional deficiency have proposed several quality indicators: for example, the proportion of patients weighed, the proportion of patients at nutritional risk and nutritional deficiency, and the proportion of patients treated for nutritional risk or malnutrition.

These indicators are not currently being implemented in the specialist health services except at Haukeland University Hospital. They are not yet included in national statistics.

6.5 Survey the food services available to, and diet and nutritional status of users of nursing and care services

Health & Care Services

A national survey of food and diet in nursing-homes was taken among leaders and health personnel and published in 2008 by Østfold University College. This study showed that only 16% had written procedures for nutritional status, the night fast was too long at two out of three nursing-homes, and the nursing-home staff needed more knowledge about nutrition.

A survey of food and meals among residents of nursing homes in Østfold County was published in 2010. This study showed that most of the patients were satisfied with the food itself, but there is a need for improvement regarding minimizing the night fast, the content of servings and meals, and user involvement in meal-related activities.

A national survey among employers in home care service was published in 2012.

Focus area and goals	Ministry responsible	Measures	Comments
		No national survey of nutritional status in nursing and care services has been started.	
6.6 Ensure that food services and facilitation of meals are included in inspections of the health services and nursing care services	Health & Care Services	In a nationwide audit in 2010, the Board of Health Supervision identified: (i) major deficiencies in the daily work to prevent and treat nutritional deficiency in older people who received health and social services; and (ii) insufficient information about the nutritional status of patient medical records of elderly hip fracture patients.	There is still a significant need for improvement in the health and care services with respect to written procedures on nutritional status, night fasting, knowledge about nutrition and knowledge about daily practice in the prevention, identification and treatment of nutritional deficiency.
6.7 Develop further patient training programmes through centres for learning and coping and by other means.	Health & Care Services	As for 6.8. The Directorate of Health has made study visits to the National Centre for Learning and Coping at Aker University Hospital and the Centre for Learning and Coping in Bergen. Measures to facilitate the uptake of the Good Food concept for learning and coping have been introduced.	
6.8 Continue to develop low threshold diet-related schemes	Health & Care Services	As for 5.5. The low threshold diet-related scheme Good Food for Better Health was launched in 2008. In the period 2008–2011 the Directorate of Health held training workshops in 16 of 19 counties. Several healthy living centres are now offering Good Food for Better Health courses. See also Guidelines for healthy living centres.	See 5.5 and 6.1. A healthy living centre is defined as a low threshold group or individual structured programme working on improving physical activity, nutrition and antismoking. The number of healthy living centres has doubled since 2009 to 135 in 2011. About 50 of these are offering or planning Good Food courses, but only 8 have staff with expertise in nutrition.

Focus area and goals	Ministry responsible	Measures	Comments
<p>6.9 Develop information materials and tools aimed at changing habits, including diet, for use by the health service, patients and users and relatives.</p>	<p>Health & Care Services</p>	<p>See 5.3, 6.3 and 6.8.</p> <p>Good Food for Better Health material was developed in 2008 and revised in 2011.</p> <p>The <i>Cookbook for all</i> can be purchased at production cost by municipalities.</p>	
<p>7. Diet in public health efforts at the local level</p>			
<p>7.1 Emphasize the need to take nutrition into account as part of public health work in county and municipal planning</p>	<p>Health & Care Services; Environment</p>	<p>A new planning section of the Planning and Building Act came into force on 1 July 2009. Public health considerations were then incorporated into the Planning and Building Act. According to § 3-1 of the Act on Duties and considerations in planning under the Act, plans should "(f) promote population health and counteract social inequalities in health, as well as helping to prevent crime." A new public health law for counties came into force in 2010. The content of that law was included in the new law for municipalities, county governors and the state from 1 January 2012. By law, counties have a statutory responsibility to promote public health.</p> <p>All 30 municipalities in the development and trial project Health in Master Plans have included public health considerations in the municipal plan's social component. Development work for Health in Master Plans, with an emphasis on nutrition, was initiated in four pilot municipalities in three counties. In the autumn of 2009,</p>	<p>This is followed up in the new public health law and the national health and care plan (2011–2015).</p> <p>An evaluation of the Health in Master Plans project (2010) refers to a survey conducted among all municipalities in 2008 of their public health efforts and how the work was organized. The results showed that at the time only one quarter of the municipalities reported that nutrition-related work was integrated as a thematic area in their municipal plans.</p>

Focus area and goals	Ministry responsible	Measures	Comments
		<p>the municipality of Eidsberg adopted the inclusion of nutrition programmes in the plan for a safe and healthy childhood. The municipality of Volda has incorporated the Good Food training course into municipal and financial planning. Final reports are still to be received from the municipalities of Fauske and Vestvågøy.</p> <p>In its annual official letter to county governors, the Ministry of Agriculture & Food has included a sentence to the effect that the governors should undertake work related to food and children.</p>	
<p>7.2 Include examples of how nutrition can be addressed in guidelines for regulations and environmental impact studies pursuant to the Planning and Building Act</p>	<p>Health & Care Services</p>	<p>The guidelines were updated in conjunction with the new section on planning in the Act and were implemented at the same time. Public health was included as a consideration in the Act but not nutrition in particular. According to § 4 of the Act on criteria for the assessment of significant impacts on the environment and society, the plans and measures should be assessed under the Regulation if they “i) may have consequences for the population health or the distribution of health in the population.”</p> <p>The Ministry of the Environment planned to prepare a guide to the criteria in § 4, but the Directorate of Health is not aware that this work has been completed.</p>	<p>The Directorate of Health has not implemented this measure because the assumptions were changed.</p> <p>According to information received by the Directorate, the Regulation will be revised again. The Directorate will monitor developments.</p>
<p>7.3 Facilitate competence-building in vocational college programmes for public health workers on how the Planning and Building Act can serve as a key instrument for laying a</p>	<p>Health & Care Services; Education & Research</p>	<p>The Directorate of Health is working to build competence in nutrition and has organized meetings with public health workers at local and regional level to discuss this issue.</p> <p>The Ministry of Education & Research commented that facilitating competence-building, as requested in this measure, is the responsibility of institutions in higher education.</p>	<p>Several universities and vocational colleges offer programmes in public health. In 2011, five of these institutions offered courses about the Health in Master Plans project.</p>

local foundation for nutrition initiatives

7.4 Develop effective indicators for nutrition and public health for inclusion in municipal health profiles

Health & Care Services

Until 2010 there was a national internet portal for municipal health profiles which included health indicators as a tool in municipal planning (*kommunehelsetrøffler*). Birth weight and the participation rate of schools in the fruit and vegetable subscription scheme were included as nutrition-related indicators available from existing data collections. Further nutrition indicators were warranted.

No additional nutrition-related indicators have been developed as a tool for municipal planning, but this work is in progress.

With the new public health law of January 2012, a new web portal for health indicators for each municipality has been developed (*folkehelseprofilen*). According to the new law, the Directorate of Health and the Norwegian Institute of Public Health shall support local authorities in obtaining an overview of the public health situation in the community.

7.5 Continue nutrition and diet initiatives together with physical activity and anti-tobacco programmes as a priority focus in partnerships for public health

Health & Care Services

In 2009, 18 out of 19 counties had resource groups in nutrition. These groups were established in order to advocate and constitute a resource network in relation to integrating nutrition in partnerships for public health at county and municipal level. The Directorate of Health organized annual meetings for the resource groups from 2007 to 2010.

Since 2009, some counties have merged their resource groups in nutrition with other groups (tobacco, physical activity, mental health, substance abuse).

The assigned roles and responsibilities for public health efforts at regional level, shared between the county authorities and county governors, have changed since 2010 with implications for the organization and funding of public health work, including the work of the resource groups.

Focus area and goals	Ministry responsible	Measures	Comments
<p>7.6 Collect, communicate and, if necessary, develop tools and models for nutrition activities</p>	<p>Health & Care Services; Agriculture & Food; Fisheries & Coastal Affairs; Children, Equality & Social Inclusion; Labour; Environment</p>	<p>Annual reports from the county governors, county authorities and the Board of Health Supervision are reviewed and summarized by the Directorate of Health with respect to nutrition programmes. In addition, county and municipal meetings and conferences are organized for the purpose of exchanging knowledge, ideas, experience and models. The Directorate of Health also contributes to the exchanges through its regular work. In addition, there is Nordic cooperation in this field.</p>	<p>A report about the Partnerships for Public Health initiative is available in Norwegian from the Directorate of Health.</p> <p>Some reports are available as a result of Nordic collaboration.</p>
<p>7.7 Coordinate and channel incentive funds from various national food, diet, physical activity and health programmes to local measures</p>	<p>Health & Care Services; Agriculture & Food; Labour; Fisheries & Coastal Affairs; Children, Equality & Social Inclusion; Environment</p>	<p>See 7.5.</p>	<p>The ministries have been encouraged to incorporate nutrition-related measures into their work, where relevant.</p>

8. Capacity-building in nutrition-related issues

Goal/s: Contribute to consistent knowledge and skills in food, food preparation, diet and health among young people
 Contribute to good qualifications in food, diet and health among teachers in food and health
 Contribute to adequate knowledge about nutrition and social inequalities in diet and health among relevant health personnel groups, and empower them to use this knowledge in their daily work
 Contribute to more knowledge about the need for nutrition qualifications and how any needs can be covered

8.1 Offer a basic cookery book free to pupils at the lower secondary level and to teacher-training students

Health & Care Services

See 1.4.

See 1.4.

The *Cookery book for all* was published in September 2007. It is distributed free to pupils at the lower secondary level and to teacher-training students. Municipalities can buy the book at production cost for training purposes and it is also available in bookshops. It is updated with information about keyhole labelling and new dietary advice.

8.2 Develop and offer web-based educational programmes for use in primary schools

Health & Care Services;
 Agriculture & Food;
 Fisheries & Coastal Affairs;
 Education & Research

Teaching materials have been developed by the Directorate of Health, in collaboration with the Directorate of Education and Norwegian Food Safety Authority, for various grades on nutrition, labelling, hygiene and keyhole labelling.

There is no evaluation of or documentation on use of the material, nor whether schools and teachers are aware of its existence.

Other relevant material is available online, such as guidance on the subject of food and health (home economics) at the Directorate of Education.

Teaching material is available as part of the annual Week of Taste project initiated by the Ministries of Fisheries & Coastal Affairs and Finance.

The project Den naturlige skolesekken [The Natural Schoolbag], by the Ministries of

Focus area and goals	Ministry responsible	Measures	Comments
8.3 Encourage the allocation of resources for practical training in food and health	Health & Care Services; Education & Research; Local Government & Regional Development	Collaboration between the Directorate of Health and the Directorate of Education and Training has highlighted the need to strengthen the position of the subject Home Economics, Food and Health. Concerns about this subject have been raised in several political arenas. It is estimated that around 70% of the teachers in food and health in primary and lower secondary education do not have subject-specific training.	<p>Education & Research and the Environment, has integrated the learning objectives for the subject of food and health. The focus area of the project is primarily on the environment and sustainability in general.</p> <p>Teaching material is also available from all of the information offices for fruit and vegetables, eggs and meat, dairy products, seafood and breads and cereals. This teaching material is being used extensively.</p>
8.4 Stimulate the establishment of continuing and further education programmes in nutrition, diet and food and health and disseminate information about them	Health & Care Services; Education & Research; Local Government & Regional Development	<p>In 2007 and 2008, the Directorate of Health organized seminars for student teachers in vocational colleges and universities.</p> <p>A meeting was held in 2009 between the Directorate of Health and the Directorate of Education and Training and representatives from the Buskerud and Vestfold vocational colleges as well as the Association of Teachers in Home Economics, who are responsible for food and health in primary and lower secondary schools, to discuss the challenges with the subject.</p>	<p>Several ministries have received a letter from the Association of Teachers in Food and Health expressing their concern regarding the future of the subject, its status and the possibilities of reaching the learning objectives. For example, there is no textbook for this subject in primary schools.</p>

Focus area and goals	Ministry responsible	Measures	Comments
		<p>An additional meeting was held in the autumn of 2010 between the Directorate of Health and the Association of Teachers of Home Economics, who are responsible for food and health in primary and lower secondary schools.</p>	
		<p>Following publication of the report <i>Kompetanse for kvalitet – strategi for videreutdanning av lærere (2008–2012) [Competence for quality – strategy for the further education of teachers (2008–2012)]</i>, the government gave financial support for further education programmes for teachers, including teachers of food and health (home economics). Not all the student places in this subject have been filled. The municipal authorities and school heads decide which teachers and/or disciplines should get further education.</p>	
<p>8.5 Assess needs and possibilities for strengthening nutrition in relevant national curricula</p>	<p>Education & Research; Health & Care Services</p>	<p>The university sector in all six educational regions is supposed to offer classes for student teachers enabling them to teach all subjects in primary and lower secondary school.</p> <p>In the development of the new regulation for teacher training, the Ministry of Health & Care Services submitted input on the need for better competence in health promotion among teachers. This was not taken into account in the subsequent regulations.</p>	<p>An evaluation report on the education of pre-school teachers is available from NOKUT (the National Organization for Quality in Education).</p> <p>A new national curriculum regulation for pre-school education is under development.</p>
<p>8.6 Ensure adequate qualifications in diet and nutrition in the nursing and care sector</p>		<p>There is a need for more nutrition education for health care professionals, especially doctors, nurses and social workers. This is referred to in the white paper from the Ministry of Education <i>Education for the welfare state</i> (Report No. 13 (2011–2012) to parliament).</p>	<p>See 8.4.</p> <p>See the Ministry of Health & Care Services publication <i>Long-term care – future challenges</i>.</p>

Focus area and goals	Ministry responsible	Measures	Comments
	Health & Care Services	From 2010, a special effort was made to strengthen nutrition competence in the nursing and care sector. In 2011, the Directorate of Health announced funding opportunities for municipalities to strengthen their competences in nutrition in this sector as part of the Competence Lift 2015 project.	The report from the Directorate of Health estimates that 700 clinical nutritionists are needed in the health and care services by 2020. In 2011, about 140 nutritionists were employed, most of them in hospitals. Only 3% were employed in municipal health and care services.
8.7 Consider future needs for nutrition specialists in the health service	Health & Care Services	<p>See also 6.1 and 6.5.</p> <p>The survey on food and meals in nursing homes (6.5) showed that the staff need increased access to nutrition expertise.</p> <p>Reports were delivered to the Ministry of Health & Care Services in 2009, 2010 and 2011 on the future needs for clinical nutritionists. The reports describe how different groups of personnel may be qualified to engage in various forms of nutrition work and present different models for strengthening competence in nutrition.</p> <p>Feedback from the Ministry of Health & Care Services is needed to follow up the measures in the ongoing work in the Directorate of Health.</p>	<p>In the budget for 2011–2012, the government allowed for the number of students in clinical nutrition to be increased by 20 (15 at the University of Oslo and 5 at the University of Bergen). In 2012, the University of Oslo planned to admit 35 students and the University of Bergen 15 to do Master's degrees in clinical nutrition. At the University of Bergen, however, not all of the projected 13 students started in 2010, and in 2011 only 7 new Master's students started.</p> <p>The Ministry of Education's report <i>Education for the welfare state</i> confirms that the government will work to ensure that there is access to clinical nutritionists in the whole country.</p>

9. Research, monitoring and documentation

Goal/s: Provide increased knowledge about the links between diet and health

Provide knowledge about the status of and trends in diet and meal habits in Norway

Provide knowledge about factors that affect the food choices and dietary habits of the general population and various population groups

Provide knowledge about the effects of dietary measures to improve the national diet and reduce social inequalities in diet

Provide knowledge about the cultural and social significance of meals for health

Provide the basis for Norwegian food production that respects health concerns

9.1 Strengthen research on the relationship between diet and health

The Ministry of Health & Care Services allocated a budget for 2007–2010 to the research programme on public health at the Research Council. Research on healthier diets was one of four prioritized research areas, and 15 research projects received funding. The Action Plan was also referred to in the general allocation letter to the Research Council. A report for the programme period is available.

The Ministry of Education & Research initiated a systematic review of the effects of providing meals in schools and kindergartens on health and learning, a description of existing meal arrangements in schools and kindergartens in the different Nordic countries, and an analysis of current knowledge about the effect on health and learning by providing food in these institutions, as well as identifying research gaps within this field.

Fifteen research projects are being carried out in the programme related to nutrition. Some examples are listed below (a complete list has been requested from the Research Council).

- The health effects of a diet rich in plant-based foods and fish. Focus on Nordic foods.
- Fruits and Vegetables Make the Marks III: How to improve adolescents' eating habits?
- Food and eating among young Norwegians. A sociological analysis of teenagers' food ideologies and practices in an everyday context.

The Research Council is coordinating the Norwegian inputs to the planned EU programme A Healthy Diet for a Healthy Life. A workshop has been held where Norwegian researchers drew up a letter with inputs to the programme.

The Research Council and the Ministry of Health & Care Services are members of

the Management Board. The Directorate of Health has one representative on the Strategy Advisory Board.

9.2 Promote research to stimulate development of better and healthier products

Agriculture & Food; Fisheries & Coastal Affairs; Health & Care Services; Trade & Industry

The Nordic Centre of Excellence programme (2007–2011) on food products, nutrition and health is co-financed by NordForsk and the Nordic research funding agencies.

The Ministry of Agriculture & Food allocated funds to the Research Council's Food Programme in 2007–2010.

The Ministry of Fisheries & Coastal Affairs allocated funds to the Research Council's Food Programme in 2007–2010. The Ministry has raised its concern with the Council for the need for more research on seafood and health. The Ministry also supports food research through allocations to Nofima and the National Institute of Nutrition and Seafood Research.

Seven projects received funding on food and health from the Food Programme during the period of the Action Plan.

Two projects have been initiated by the Programme: (i) HealthMeal: Possibilities and Barriers for Increased Consumption of Fish and Vegetables in Meals Eaten at Home and Outside Home, by the Statens Institutt for Forbruksforskning [National Institute for Consumer Research], and (ii) Healthy Meals and Prevention of Lifestyle Diseases, by Nofima.

A Research Council report in 2010 drew attention to the status of and needs within Norwegian research on food and health. The report was written by NIFU-STEP and is available (in Norwegian).

Nofima is working on new research on healthy ingredients and meals. The Norwegian food industry is involved in the research platform Food for Life.

9.3 Continue and further develop monitoring of the population's diet

The following data have been collected:

- infant food (spedkost) (n=3000 parents invited): data on infants aged 6 and 12 months collected in 2006–2007;
- small children's food (småbarnskost): data on children collected in 2009;
- nationwide survey (norkost) of approximately 5000 people aged 18–70 years: pilot collection in 2009, main data collection in 2010; report published in 2012.

Data are also available from other national surveys such as Statistics Norway's Health Interview Survey. In 2008, 6500 people took part. The most recent survey was in 2012.

Methods for a pan-Nordic monitoring of trends in diet, physical activity and overweight have been developed and validated. Baseline data were collected in 2011. The overall focus for the project is health promotion and prevention, where diet and physical activity is one of five areas (74).

The most recent findings are presented in a separate document.

In 2000, data were collected about young people's food from approximately 2000 schoolchildren from grades 4 and 8, as well as 400 children aged 4 years. The next data collection is planned for 2013.

There is an ongoing process headed by the Institute for Public Health to develop tools for health indicators for municipalities (see 7.4).

9.4 Ensure expert studies and updated official recommendations

Health & Care Services;
Agriculture & Food; Fisheries & Coastal Affairs

In early 2011, the National Council on Nutrition presented its recommendations for revised national dietary guidelines and recommendations (see 1.2).

Work is continuing on the development of pan-Nordic dietary recommendations. The Directorate of Health is represented on the steering committee, the reference group and one of the expert groups (see 10.3).

The Scientific Committee for Food Safety published the report *Impact on health when sugar is replaced with intense sweeteners in soft drinks, 'saft' and nectar* in 2007.

The Scientific Committee for Food Safety has appointed a working group who assess the benefits and risks of breast-milk. Their report should be published in 2013.

10. Nutrition in an international perspective

Goal/s: Contribute actively in cooperation with other countries and international organizations on nutrition issues
Strengthen the focus on nutrition in aid and development cooperation

Raise awareness that breastfeeding and nutrition are important components in priority areas, such as action to improve child health and reduce child mortality

10.1 Participate actively in WHO's work on nutrition, globally and regionally

Health & Care Services

Norway has participated actively in World Health Assemblies, both in preparatory work and during the meetings.

The Directorate of Health has given its input to WHO's Maternal, infant and young child nutrition: draft comprehensive implementation plan.

Norway has been represented in the EU's High-Level Group on Nutrition and Physical Activity and in the European Salt Action Network since 2008.

The Directorate of Health is the secretariat for and chairs the European network on reducing the marketing of unhealthy foods and beverages towards children, in collaboration with the WHO Regional Office for Europe. Twenty European countries are involved.

The Directorate of Health was technically responsible for the WHO Regional High-Level Consultation in the European Region on the Prevention and Control of Noncommunicable Diseases, held in Oslo on 25 and 26 November 2010, in preparation for the high-level meeting on noncommunicable diseases held during the United Nations General Assembly in September 2011. Civil societies organized their own meetings and prepared their own suggestions for resolutions on the day before the conference. A resolution proposed by Norway on reducing the marketing of

Focus area and goals	Ministry responsible	Measures	Comments
		<p>unhealthy foods and non-alcoholic beverages towards children at the World Health Assembly in 2010 was approved.</p> <p>At the first WHO Global Ministerial Conference on Healthy Lifestyles and Noncommunicable Disease Control, held in Moscow on 28 and 29 April 2011, the Regional Office consulted Member States and other key stakeholders on the report and presented the final version at the same conference. The Norwegian Minister of Health chaired the round-table discussion on nutrition.</p>	
<p>10.2 Contribute actively to the work of the United Nations Standing Committee on Nutrition</p>	<p>Foreign Affairs; Health & Care Services</p>	<p>Norway chaired the bilateral group within the Standing Committee on Nutrition for 10 years up to 2010.</p> <p>The Ministry of Agriculture & Food was observer during a meeting with the World Cancer Research Fund in London where the associations between cancer and intake of meat were debated. Representatives of Norwegian meat producers also participated.</p>	
<p>10.3 Contribute actively to Nordic and Nordic-Baltic cooperation</p>	<p>Health & Care Services</p>	<p>A Nordic working group (linked to the Nordic Council of Ministers for Fisheries and Aquaculture, Agriculture, Food and Forestry and the Nordic Working Group for Diet, Food & Toxicology) has initiated project collaboration on monitoring, communication and evaluation of the keyhole labelling system, communication measures towards children, examples of best practice and training of teachers in food and health. This initiative is a follow-up to the Nordic Action Plan for Better Health and Quality of Life.</p>	

Focus area and goals	Ministry responsible	Measures	Comments
<p>10.4 Ensure that nutrition measures and assessment of nutritional consequences are included as an element in aid and development cooperation</p>	<p>Health & Care Services; Foreign Affairs</p>	<p>The Ministry of Agriculture & Food participated in the survey of food and children initiated by the Nordic Council of Ministers (New Nordic Food).</p> <p>The Directorate of Health participates in a Nordic network on physical activity, nutrition and obesity with the Danish Board of Health (Sundhedsstyrelsen) and Swedish National Public Health Institute (Statens Folkhälsoinstitut). The Nordic School of Public Health is the administrator.</p>	
		<p>A project group appointed by the Minister of Development Aid has submitted a report on food security and hunger.</p>	
		<p>In 2008, the Norwegian Agency for Development Cooperation and the Directorate of Health arranged a seminar on nutrition and development.</p>	
		<p>The United Nations Department of the Ministry of Foreign Affairs has been active in writing a new strategy for the World Food Programme, and has participated in the high-level meeting on the food supply crisis. Norway is a board member of the World Food Programme.</p>	
		<p>An internal status report with suggestions for measures to strengthen nutrition-related programmes in development aid was drawn up in 2009.</p>	
		<p>The white papers on Environment and Development and Global Health include points on food security, environment, health and nutrition. Nutrition in development aid will be anchored in white papers and focus areas.</p>	

Focus area and goals	Ministry responsible	Measures	Comments
----------------------	----------------------	----------	----------

The Ministry of Foreign Affairs and the Norwegian Agency for Development Cooperation were active in the development of the United Nations Secretary-General's Global Strategy on Maternal and Child Health (including nutrition-related issues).

The Ministry of Foreign Affairs and the Norwegian Agency for Development Cooperation contributed to the World Food Programme's new HIV/AIDS policy, which includes support for the provision of nutritional products to HIV-infected persons.

Norway is involved in the international initiative on increasing the focus on nutrition in developing countries – Scaling Up Nutrition (SUN) – which was launched in April 2010.

^a Social inclusion was transferred from the Ministry of Labour to the Ministry of Children & Equality in 2008.

The WHO Regional Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

Member States

Albania
Andorra
Armenia
Austria
Azerbaijan
Belarus
Belgium
Bosnia and Herzegovina
Bulgaria
Croatia
Cyprus
Czech Republic
Denmark
Estonia
Finland
France
Georgia
Germany
Greece
Hungary
Iceland
Ireland
Israel
Italy
Kazakhstan
Kyrgyzstan
Latvia
Lithuania
Luxembourg
Malta
Monaco
Montenegro
Netherlands
Norway
Poland
Portugal
Republic of Moldova
Romania
Russian Federation
San Marino
Serbia
Slovakia
Slovenia
Spain
Sweden
Switzerland
Tajikistan
The former Yugoslav
 Republic of Macedonia
Turkey
Turkmenistan
Ukraine
United Kingdom
Uzbekistan

World Health Organization Regional Office for Europe

UN City, Marmorvej 51, DK-2100 Copenhagen Ø, Denmark
Tel.: +45 45 33 70 00. Fax: +45 33 70 01. Email: contact@euro.who.int
Web site: www.euro.who.int