

# Prevention

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## Nutrition policy problems in an economy of plenty

Norway is trying to reduce the incidence of certain diseases by encouraging people to modify their dietary intake. Thus some attention is being given to the high fat content of the Norwegian diet, since this is a significant risk factor in cardiovascular illness. Over the past decade it has become clear that greater efforts will have to be made to resolve conflicts of interest between, for instance, the health and agricultural sectors. Careful integration of the country's food and nutrition policies is necessary, together with specific programmes of preventive action.

After the Second World War it was gradually recognized in Norway that not only shortages but also surpluses of food could lead to the deterioration of health. Cardiovascular disease caused an increasing proportion of deaths in the population under 65 years of age and was linked epidemiologically to the high fat content of the Norwegian diet, among other risk factors. In the 1960s, nutritionists therefore began to formulate guidelines for healthier diets, and in 1976, as a result of cooperation between the Directorate of Health and the Ministry of Agriculture, an integrated food and nutrition policy was presented to Parliament, with the following goals (1–3).

- Encouragement of healthy dietary habits. The specific objectives included a reduction in fat consumption from 40% to 35% of calorie intake, together with a decrease in the ratio of saturated to polyunsaturated fats in the diet from 3.5:1 to 2:1. This was to be accomplished mainly by reducing consumption of whole milk and margarine (which in Norway includes a substantial proportion of hydrogenated marine and vegetable fats). The decline in energy from fat was to be compensated by an increase in consumption of carbohydrates from whole grains and potatoes, and of vegetables, fruits, fish and skimmed milk.
- Promotion of the consumption of domestically produced food, and raising of the level of national self-sufficiency.
- Strengthening of the rural economy and stabilization of settlements in outlying areas. It was hoped to stop the decline in

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the number of small farms by making farming more profitable and attractive.

- Helping to stabilize the world food supply. Norway was to contribute to

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emergency food reserves and diminish reliance on imported food so that it could be diverted to developing countries.

The policy concentrated on structural modifications that would favour the desired dietary changes, and was only secondarily concerned with individual responsibility for change.

The Interministerial Coordinating Committee on Nutrition is responsible for the implementation of policy in this field, while the Norwegian Nutrition Council advises the country's authorities, industries and institutions on policy and educates consumer groups about food and nutrition. Unfortunately, staff shortages have prevented the secretariats of these bodies from functioning as intended.

## Diet and health

The nutritional goals of the policy derive from a recognition that diet has an important influence on several of the dominating health problems in Norway, among them cardiovascular diseases and certain cancers. In 1984 about 7000 people under 65 years of age suffered a heart attack, resulting in 2130 deaths. Calculations have

shown that by reducing the intake of fat by 10% the number of infarcts among people below 65 years of age could be cut by 9%, and that a 22% reduction of fat intake could diminish the incidence of infarcts by 34% (4).

Although there has been a slight fall in the mortality rate from cardiovascular diseases during the last decade, it is difficult to link this to nutritional risk factors, as total fat consumption seems to have been reduced by less than 3% (5). However, increased consumption of protein and carbohydrates

## Food consumption in Norway <sup>a</sup>

	kg per person per year					
	1953-55	1970	1975	1980	1984	1985
Cereals						
including rice	98.0	71.0	74.9	81.7	74.6	74.9
Potatoes (not processed)	92.0	81.0	71.4	60.4	62.0	61.0
Processed potatoes	—	7.0	7.5	11.9	15.2	17.1
Vegetables	35.2	40.1	37.5	50.7	50.2	44.3
Fruits	41.0	66.7	73.6	74.9	78.5	81.2
Meat and offal	35.4	43.3	52.2	55.3	51.0	53.1
Eggs	7.3	9.6	9.4	11.0	11.8	11.9
Fish	39.6	39.5	26.3	33.7	39.0	37.3
Whole milk	193.4	172.0	169.2	162.5	146.1	124.0
Low-fat milk	—	—	—	—	3.6	28.3
Skimmed milk	10.0	14.2	25.7	27.7	35.0	29.6
Cream	5.0	6.8	6.7	7.1	7.3	7.3
Cheese	8.0	9.0	10.3	12.4	12.3	12.7
Butter	3.8	5.5	4.6	5.6	4.7	4.8
Margarine	24.0	18.7	17.6	16.1	13.8	13.7
Oil and other fats <sup>b</sup>	3.8	4.3	4.1	4.7	3.8	4.0
Sugar, syrup, honey and sugar products	39.9	41.9	32.4	43.2	41.3	42.6

<sup>a</sup> Figures for the 1950s are not fully comparable with later data. Data are based on the wholesale level.

<sup>b</sup> Includes cooking oils, cooking fats, and fat used in mayonnaise, chocolate, biscuits, etc.

Source: National Nutrition Council, Oslo, *Annual report for 1985*.

has meant that the percentage of energy obtained from fats (calculated at the wholesale level) has fallen from 40% to 37%. At this level the ratio of polyunsaturated to saturated fat remains nearly unchanged at 0.36.

Margarine consumption has fallen steadily: in 1975 it was 18 kg per person and in 1985 it was 14 kg (see table); there was also a move towards margarines containing more polyunsaturated fats. This decline, however, has been compensated by a 5% increase in meat consumption, which, at 53 kg per person annually, is not high compared with that in many Western countries. On the other hand, the Norwegian diet traditionally contains relatively large amounts of fish and dairy products. Nearly two-thirds of the meat consumed is sold as prepared products, usually of high fat content. The total consumption of fat from milk products has changed very little, since the increased use of low-fat milk has been compensated by a higher intake of other dairy products with a greater fat content (6).

### Social inequalities

There are considerable variations in consumption patterns and nutrition-related health problems between population groups. Thus in one study the mortality rate attributable to cardiovascular diseases among men of low educational level and low income was three to four times higher than that in groups of higher social status (7). In another, serum cholesterol and blood pressure levels were found to be related to educational level (8). The subjects who had had the longest education possessed eating habits assumed to be less atherogenic than those of people with only a few years of schooling. The well educated drank less coffee, used more soft margarine, drank more low-fat milk, and ate more fruit and

vegetables than did the poorly educated. At all educational levels, women had more healthy dietary habits than did men.

Occupation, like education, may be regarded as an indicator of social status; certain work situations are also less favourable for having healthy dietary habits, e.g., among fishermen and workers on oil-drilling platforms. Many fishermen, when at work, eat food with a very high fat content, drink large amounts of strong coffee, and seldom eat vegetables (9), and the cardiovascular mortality rate is high in this occupational group. The food served on oil-drilling platforms contains much fat and less fish and cereal products than occur in the average Norwegian diet (10).

On the whole, the existence of considerable social differences in nutrition-related health problems has been confirmed. However, it is not yet possible to draw any conclusions as

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to patterns of change in the diets of different population groups.

### Intersectoral action

Substantial reductions in consumer prices of certain essential food products were introduced through the 1970s (11). From 1973 to 1980 the total subsidies on foods increased more than fourfold. The price policy was then changed and the subsidies have gradually been cut so that now they are reserved mainly for milk, cheese and meat.

Among the products no longer subsidized are butter and margarine as well as flour and fish. Subsidies play an instrumental part in the government's negotiations with farmers, and there is little to indicate support for "essential foods" for the consumers (2).

In 1984 the dairy industry introduced low-fat milk which is now consumed to a substantial degree. For the agricultural sector, however, it was important to avoid a surplus of milk fat created by this change. Negotiations, partly in the Interministerial Coordinating Committee on Nutrition, led to the introduction of two relatively cheap butter-margarine mixtures—one introduced by the dairies and one by the margarine industry.

In general, the possibilities of influencing the policy of other sectors are limited. Food supply responds to agricultural prices and other forms of income support, both of which are determined in negotiations between the government and the farmers' organizations. The institutions created to coordinate the nutrition policy, i.e., the Interministerial Coordinating Committee on Nutrition, have not been given the authority to directly control food supply or to

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influence the consequences of agricultural policy measures.

Considering that Norway is a fishing nation, its fish consumption is relatively low. Among the explanations for this are the increasing consumption of meat and the

traditional bias of the fishing industry towards exportation. In addition the organization of the fresh fish distribution system in many parts of the country results in low availability, poor quality, and high prices for many consumers. This has led the Ministry of Fisheries to prepare an action plan for increasing fish consumption by better marketing. However, less emphasis was put on the well-known problems in the distribution system.

## Education and information

The National Nutrition Council has launched comprehensive, centrally directed nutrition campaigns that have increased awareness of diet and health. In general, the information strategies apply more to the better-educated, resourceful members of the population. Others are therefore more likely to fall victim to advertisements for high-fat products and to accept low-price offers of meat, butter, and so on. Regulation of misleading and undesirable information, through legislation, is another aspect of the strategy for implementation. Attention has recently been focused on the misleading marketing of slimming products and vitamin/mineral preparations.

## Research

The lack of a proper and efficient nutrition policy, owing to the difficulty of taking into consideration conflicting interests, has led to a situation in which nutritional interests are the weak component. In particular, there is a need for the new organizational bodies to identify the obstacles to and possibilities for the implementation of a nutrition policy through other public sectors. In an attempt to provide the authorities with relevant knowledge for planning and implementation a five-year research programme was set up with a view to gathering information on:

- the frequency and distribution of diet-related diseases and the connections between living conditions and diet;
- measures needed to obtain balance between food supply and more healthy consumption patterns, and the adjustment of agricultural policy to nutritional recommendations;
- the quality and composition of food products, the extent to which the food legislation and control measures take nutritional qualities into account, and the role of the food control system in the implementation of nutrition policy goals;
- the impact of the food distribution system on the availability of foods, with emphasis on those that are nutritionally desirable;
- the effect of pricing and trading measures on food consumption and diet;
- consumer preferences and market communication as part of the whole information system concerning food and nutrition;
- the development and organization of a nutrition policy at local level, relating to primary health care, food control, educational institutions, consumer groups, and the local authorities;
- the development of a nutrition surveillance programme that could contribute to the identification of risk groups.

It is hoped that the research programme will help towards formulating more specific goals of use in intersectoral strategy, and towards identifying more effective ways of integrating nutritional objectives with those of other sectors. Of course, when health goals are in conflict with those of other sectors, efforts must be made to find solutions that do not have adverse effects on health. In all circumstances it is important

that decisions are taken with full knowledge of the trade-offs between health and other goals and that any requirement for compensatory action is clearly stated.

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An important first step in forming a successful nutrition policy in Norway has been made: the ratification of nutrition policy goals. However, data on food consumption indicate that only fairly minor changes have been achieved so far. A decrease in the consumption of fat from margarine and whole milk has been compensated by an increase in that of meat, cheese and certain other products. There is considerable variation in food consumption patterns between different groups in the population. Many people have not been reached effectively by the measures taken.

The policy is evidently fraught with problems related to:

- inadequate knowledge, especially of the development and evaluation of measures for the implementation of nutrition policy goals;
- inadequate resources, especially in respect of secretariat functions;
- conflicts of interest between the health sector and other sectors;
- lack of implementation of the measures by the bodies concerned with nutrition.

The Norwegian food and nutrition policy is a general social, health and economic plan, outlining aims that should be pursued by intersectoral action and conciliation. It was formulated without an overall goal or specific programmes of action. There have been no plans for extensive data collection related to the application of certain measures. For these reasons the evaluation of the policy is difficult.

These factors will be seriously considered when the next report on nutrition policy is presented to the Norwegian Parliament. □

### References

1. **Milio, N.** Promoting health through structural change: analysis of the origins and implementation of Norway's farm-food nutrition policy. *Social Science and Medicine*, **15A**: 721–734 (1981).
2. **Ziglio, E.** *Uncertainty and innovation in health policy: the Canadian and Norwegian approaches to health promotion*. Edinburgh, 1985 (dissertation, Edinburgh University).
3. **Royal Norwegian Ministry of Agriculture.** *Report No. 32 to the Parliament (1975–76) on Norwegian food and nutrition policy*. Oslo, Ministry of Agriculture, 1975.
4. **Thelle, D. S.** [Prevalence of heart attacks among persons below 65 years of age]. Tromsø, University of Tromsø, 1987 (unpublished report) (in Norwegian).
5. *The Norwegian diet and nutrition and food policy*. Oslo, National Nutrition Council, 1986.
6. **National Nutrition Council.** *Annual report*. Oslo, 1985 (in Norwegian).
7. **Holme, I. et al.** Coronary risk factors and socioeconomic status. *Lancet*, **2**: 1396–1398 (1976).
8. **Jacobsen, B. K. & Thelle, D. S.** The Tromsø heart study: risk factors for coronary heart disease and length of education. Personal communication (1987).
9. **Fugelli, P. et al.** [Diet and consumption of foodstuffs among 128 Nordkapp fishermen]. *Tidsskrift for den norske legeforening*, **107** (1987) (in press) (in Norwegian).
10. **Oshaug, A. & Ostgård, L.** [Diet on oil drilling platforms]. Oslo, Statoil/Institute for Nutrition Research, University of Oslo, 1985 (in Norwegian).
11. **Klepp, K.-I. & Forster, J. L.** The Norwegian nutrition and food policy: an integrated policy approach to a public health problem. *Journal of public health policy*, **6**: 447–463 (1985).

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## Putting alcohol on the agenda

*The Royal College of General Practitioners [in London]... recommends that general practitioners inquire about patients' consumption of alcohol and record the information obtained. The College suggests that actual consumption over one week is recorded, that the patient is given the chance to voice concern or ask questions about consumption, and that questions by the doctor about alcohol form part of a more general inquiry regarding diet, exercise, and smoking. The main objective is to find out how much people are drinking and correlate information about consumption with details about their vulnerability in health and social terms. This information will allow general practitioners to identify patients at risk of harm from alcohol misuse, along the lines developed for hypertension, cervical smears, and smoking.*

—*Lancet*, **2**: 1230 (1986).