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Report on Food Consumption and Nutrition

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REPORT ON FOOD CONSUMPTION AND
NUTRITION

Consumer and Corporate Affairs
Canada

January 20, 1978

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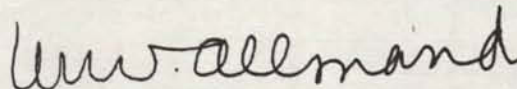
A CONSULTER SUR PLACE

The health and well-being of Canadians is a major national concern. Better nutrition is a key factor in promoting this goal.

The Canadian Consumer Council, which advises me on consumer issues, held its first meeting on food policy in December 1976. At that time, the Council decided to base its discussion on the premise that "every Canadian should have the right to an adequate, safe and nutritious diet." It established a Subcommittee on Food Consumption and Nutrition to review current nutrition issues and to make recommendations. The Subcommittee presented its report to the Council on January 20, 1978 and the Council unanimously adopted it.

This report expresses the serious concern of the Canadian Consumer Council that the overall place of human nutrition in all facets of food policy developed by the private and public sectors must be raised to a higher level. It recognizes that the nutrition issues in Canada today are directly related to current food choices and patterns of eating in spite of the availability of an adequate and nutritious food supply. The report includes a set of recommendations designed to indicate some necessary steps in policy, research, information and co-ordination so as to ensure that nutrition becomes a significant component of food policy.

I share the concerns of the Council and I urge all participants in the food system - consumers, retailers, restaurateurs, distributors, processors, farmers, fishermen, and governments - to examine this report and its recommendations. I believe this report will enhance the ongoing dialogue on the Government's "Food Strategy for Canada".



Warren Allmand
Minister of Consumer and Corporate Affairs

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SUMMARY, CONCLUSIONS AND
RECOMMENDATIONS



In December 1976 the Canadian Consumer Council established a Subcommittee on Food Consumption and Nutrition. The task of the Subcommittee was to study the role of food consumption and nutrition in the formulation of a national food policy and to make recommendations to the Minister of Consumer and Corporate Affairs. The Subcommittee has based its report on the view of the Canadian Consumer Council "that every Canadian should have the right to an adequate, wholesome and nutritious diet". The Subcommittee defines adequate as sufficient and varied, wholesome as safe, and nutritious as health-ensuring.

1.1. Food Policy

The Subcommittee welcomes the explicit recognition given to nutrition in the government's food strategy. The Subcommittee perceives its role as helping the government in general, and the Minister of Consumer and Corporate Affairs in particular, to translate the principles outlined in the food strategy into a set of concrete policies and action programs as they may relate to nutrition.

1.2. Nutritional Recommendations and Dietary Guidance

Nutritional requirements for the Canadian population are expressed in terms of the Dietary Standard for Canada.⁽¹⁾ The Dietary Standard indicates the daily amounts of energy and essential nutrients considered adequate, on the basis of scientific data, to meet the physiological needs of practically all healthy persons in the population.

Factual information on human nutrient requirements for various age groups is limited and out-of-date. There is a need for basic research programs to establish the extent of biological variability in nutritional needs based upon differences in age, sex and genetic background. The nutritional requirements of farm animals and pets have been more thoroughly researched and documented than those of humans and are more regularly monitored and brought up-to-date.

Use of the Canada Food Guide⁽²⁾ is intended to provide reliable dietary guidance to meet the stated nutrient requirements by adopting a simple daily food plan based on four food groups. This guide assumes that sufficient consumption of foods from all four groups, whatever the form of processing, will provide an individual with the more than 50 nutrients needed every day. Little work is being done to validate this assumption.

The Committee on Diet and Cardiovascular Disease⁽³⁾ has presented some recent dietary recommendations which could apply to the general population. These modified recommendations are:⁽⁴⁾

"The consumption of a nutritionally adequate diet, as outlined in Canada's Food Guide;

A reduction in calories from fat to 35 per cent of total calories, with emphasis on an increase in the intake of linoleic acid;

The consumption of a diet which emphasizes whole grain products and fruits and vegetables and minimizes alcohol, salt and refined sugar;

The prevention and control of obesity through reducing excess calories and increasing physical activity.

Precautions should be taken that no deficiency of vitamins and minerals occurs when total calories are reduced."

1.3. Nutritional Levels and Food Consumption

The main trends in food statistics as shown in "per capita food disappearance statistics" between 1950 and 1975 were as follows:(5)

- 1 A relatively large increase in disappearance of red meats and poultry as sources of protein and invisible fat.
- 2 An increase in the disappearance of visible fats and oils (such as margarine and salad oil), only slightly offset by a small decline in that of butter.
- 3 An overall decline in disappearance of complex carbohydrates (e.g. cereal grains and fresh potatoes), but an increase in disappearance of refined carbohydrates (e.g. in soft drinks and some breakfast cereals).
- 4 A decline in disappearance of total milk equivalent.

These changes may not be compatible with good health and nutrition. It should be noted that food disappearance data do not provide an accurate measure of food actually eaten.

The quantity of various foods actually eaten by Canadians was measured for the first time in 1970-72 by the Nutrition Canada survey.(6) However questions are being raised today concerning the limitations in the value of this one-time effort.

- 1 Does the Food Consumption Pattern Report, (7) based on data collected six to eight years ago, reflect present national eating patterns, or have patterns changed significantly since 1972? Food prices have risen rapidly since that year.
- 2 Are the calculated values of the nutrients in raw, processed and prepared foods, based on tables of food composition compiled in 1963, valid for foods offered for sale in 1977?
- 3 Was the controversial 24-hour dietary recall method sufficient to establish more than a approximation of foods actually eaten?

This Nutrition Canada survey indicates that, for individual food consumption patterns, the type of food consumed was influenced little by region or season. This appears to reflect the ability of the Canadian food distribution system to provide a continual supply of most types of food to most parts of the country. The quantity of the various food groups consumed was influenced by age and sex, which is to be expected.

The adequacy of the food consumption patterns of particular age and sex groups was measured against the revised Dietary Standard for Canada. The dietary intakes reported for energy and most of the nine nutrients evaluated generally exceeded the recommendations. Neither data nor standards are available to evaluate the adequacy of intakes of the other 41 nutrients. Information on consumption of food additives was collected but has not been published.

1.4. Nutrition Problems

From the data thus presented, it has been concluded that no "classical" nutritional-deficiency disease exists in the general population. On the other hand, when dietary intakes are shown to fall below the recommended allowances, while this does not necessarily result in a deficiency disease, the risk of a nutritional deficiency is increased in proportion to the extent for which nutrients are consumed below the recommendations. The Nutrition Canada survey showed that some Canadians were nutritionally at risk with respect to iron (adolescent and adult women), calcium (women over 40 and men over 65), and thiamine (men and women over 40).

The Nutrition Canada survey noted small excesses in energy intake for most age groups. While daily surpluses appeared to be slight, the cumulative effect of such excess consumption is weight gain. This pattern is aggravated by the effects of an increasingly sedentary lifestyle, reducing energy needs for most individuals. Almost one-half of all Canadian adults are overweight. Overweight leads to obesity. The health implications of obesity, relating to major causes of illness and death, are significant. The Subcommittee emphasizes that both energy intake and lifestyles must be considered in dealing with the problems of overweight and obesity.

1.5. Food Policy in other Countries

Food and nutrition policy is beginning to receive more attention in other countries around the world. Norway has established a national food and nutrition policy with the primary objective of encouraging healthy dietary habits. Several countries have developed national dietary goals and are using public information programs to encourage the public to alter its diets and exercise more. Norway is proposing to use subsidy programs to encourage the production and consumption of "desirable" foodstuffs.

In the United States, the Department of Agriculture has recently created the position of Assistant Secretary for Food and Nutrition Services. This official is charged with recommending policies and implementing

programs to promote good nutrition. Responsibilities of this new office include an expanded human nutrition research program and a study of the nutritional consequences of government policy for the food industry. The President has directed the Office of Management and Budget to review the organization and structure of federal food and nutrition programs in order to improve the government's capability to develop a coherent national food and nutrition policy.

1.6. Federal Food and Nutrition Programs

Hitherto, the main emphasis of government food policy in Canada has been on the safety and aesthetic quality of food. Inspection programs are administered by the Departments of Health and Welfare, Agriculture, Fisheries and Environment, and Consumer and Corporate Affairs. Legislation underlying these programs include the Food and Drug Act, Canadian Agricultural Product Standards Act, Canada Meat Inspection Act and Fish Inspection Act. In addition, Health and Welfare, Agriculture and Fisheries provide information materials on food and nutrition. These materials are partly designed to promote the sale of Canadian products and generally do not serve as adequate learning materials.

Diseases caused directly by nutritional deficiencies -- such as scurvy -- are almost non-existent in Canada. Perhaps this is the reason that nutrition-related programs do not receive priority in government funding. There is an apparent assumption in government that if the food supply is safe and abundant, the choices made by consumers are immaterial to their health. The long-term consequences of these choices, for example in higher health costs, are only beginning to be recognized.

Nutrition, therefore, generally has a low profile and a poor image. For example, the only visible activities of Health and Welfare Canada subsequent to the Nutrition Canada survey have been the mandatory fortification of certain foods and some efforts to improve nutrition information. There is a tendency by agriculturalists to play down the place of human nutrition considerations in their policy and production planning. Agricultural grading standards emphasize the aesthetic value of food products and their strict enforcement may lead to the destruction of otherwise nutritious and lower-cost food. It appears that many consumers mistakenly correlate grading standards with nutritive value. In fact, little or no progress has been made on providing consumers with a clear indication of the nutritional value of food products.

1.7. Provincial and Other Programs

Nutrition is usually regarded strictly as a health matter. Little attention is paid to its economic implications. Because health and education are generally under provincial jurisdiction, most nutrition programs are administered by the provinces. Various provincial institutions are involved in the nutrition counselling field and are

responsible for curriculum development in nutrition education programs at all levels. Québec is the only province which has stated its intention to implement a nutrition policy.

Industry and voluntary organizations also operate food and nutrition education programs. While some outstanding achievements have been observed in a number of Canadian communities, in other instances efforts fall short of the objective of translating awareness and knowledge into better food purchasing, preparing and eating practices. Feeding programs are not common in Canada. The most widespread program is "Meals-on-Wheels" and it is underfunded.

1.8. Nutrition and National Food Policy

One of the primary objectives of a food policy must be to ensure to all consumers an adequate supply of food that will satisfy their nutritional requirements. The supply of nutritionally adequate food should therefore be a starting point for a national food policy. Given the values of Canadian society, it would be difficult for the government to intervene directly to change consumer choices concerning food selection. The government's primary role, in the interests of the long-term quality of life and health of the population, should be to create the environment which will enable consumers to make better food choices.

Food choices can be influenced by a variety of programs, including advertising, nutrition knowledge and a system of financial incentives and disincentives. There is in industry a considerable knowledge about the factors that influence consumers' food selection. This knowledge must be used to develop programs that would have a positive impact on food choices.

Any significant changes in Canadian food consumption patterns, for example along the lines of the dietary recommendations released recently by Health and Welfare Canada, would have major implications for food producers, processors and distributors and could require substantial adjustments within the industry. With growing awareness of good nutrition, it is perhaps unwise for the food and agricultural industry to continue to base its projections of future food demands solely on changes in population size and consumer incomes.

2. Conclusions

The food supply, processing and distribution chain appears to provide an adequate quantity and variety of food products to the Canadian consumer. This does not automatically imply that all Canadians have equal access to this supply. The food available in Canada is usually considered to be of a wholesome quality. It is, however, difficult to ascertain whether the food supply is nutritious, because of a dearth of current scientific and statistical data.

In the view of the Subcommittee, the "right" of every Canadian to an adequate, wholesome and nutritious diet can be established through

income support or supplementation programs. All Canadians should have the knowledge and motivation they need to purchase, prepare and consume an adequate diet.

Because the nutritive value of foods has little or no relation to their perceived value or quality, mass media promotion of certain food products (stressing prestige, convenience and "happy lifestyles") has shifted demand to higher cost foods at the expense of lower cost, often more nutritious, products. Such promotion encourages eating habits which favour invisible fat and refined sugar. This appears to be contrary to the long-term economic and social interest of Canadian consumers. In particular, current food consumption trends run counter to dietary recommendations designed to decrease nutritionally-related diseases. Unless these trends are modified, we could face the prospect of rising direct health costs both to individuals and the economy at large, as well as losses in productivity and higher social costs to families due to disease and early death.

One-half of the adults in Canada are overweight. One-fifth are obese. Overweight and obesity contribute to a number of diseases, particularly heart disease, and increase likelihood of such diseases at an earlier age. This is a long-term problem and there are no easy or quick solutions. Mere reduction of total food intake is insufficient. The lesser amounts of the foods chosen will have to still provide the required nutrients. Furthermore, energy expenditures must be increased through physical exercise. Linking more exercise with improved diet is a practice already in other developed countries.

The Subcommittee is disturbed about the low profile accorded to nutrition in government and industry policies and programs concerning food. This low profile is evident in many ways. Some indications are: the absence of recent research on human nutrition requirements, the unresponsiveness of government to current concerns about food consumption patterns and practices, the lack of attention to nutrition in food grading and inspection programs, and the unavailability of nutrition information to consumers at large. To a considerable extent, this reflects a serious lack of concern and of leadership.

It is sometimes claimed that this lack of leadership is due to a lack of scientific evidence on which to base policies and programs. But the lack of full and comprehensive data should not be used as the excuse for inaction and inertia. As the Honourable Marc Lalonde, when Minister of National Health and Welfare, pointed out in A New Perspective on the Health of Canadians, "Many of Canada's health problems are sufficiently pressing that action has to be taken even if all scientific evidence is not in".(8)

3. Recommendations

The main conclusion of the Canadian Consumer Council is that there is a compelling need to raise the overall place of nutrition in all facets of food policy and programs including research, in all departments, in all

levels of government and in all parts of the food system from the farm to the family dining table and the restaurant. This conclusion provides the context for the Council's recommendations. These recommendations are:

3.1. Policy

- 1 That the Federal Government adopt a firm long-term approach (within, at a minimum, a ten-year time frame) to nutrition and nutrition policy.
- 2 That in the short-term the Federal Government exercise its leadership role to strengthen the place of nutrition in its food strategy by incorporating into all relevant programs arising out of the strategy the modified dietary recommendations of the Mustard Committee on Diet and Cardiovascular Disease. This will affect not only the nutrition information initiatives of Health and Welfare Canada, but also the government's strategies for agricultural development and for the processing, distribution and retailing sectors. In addition, it will require a more positive approach to the administration of the government's food regulations.
- 3 That agricultural grading and inspection programs be reviewed so that over time a nutrition component will be included in the standards.
- 4 That the Federal Government make a detailed review of its use of financial incentives and disincentives which modify food choices and the future role of these practices to encourage the provision of nutritious food in accordance with the needs of the dietary recommendations. This review would include agricultural and industrial food grants and subsidies, tax exemptions and deductions for all parts of the food system, as well as actions impacting directly on consumers.

3.2. Research

- 5 That the basic knowledge of human nutrient requirements and food selection motivation be considerably improved in the following ways:
 - a More funds be allocated to basic research programs in human nutrition, and in this regard the Ministry of State for Science and Technology give a very high priority to nutrition research in formulating its comprehensive approach to food research and developments;
 - b Health and Welfare Canada review and update the Dietary Standard for Canada on a more regular basis;
 - c Health and Welfare Canada provide, in the context of these standards, guidance on controversial issues in nutrition (such as the acceptable ratios of complex and refined carbohydrates as a proportion of the total energy intake), even though the scientific evidence may not be available to resolve these issues completely;

-
- d Consumer and Corporate Affairs Canada initiate a program, in cooperation with all parts of the food system, to determine the factors motivating consumer food selection and to propose measures to improve consumer behavior relating to food selection.
- 6 That the nutrition and health status of the Canadian population be monitored on a continual basis in order to ensure that future changes in the nutrition and health status will be quickly known. In this regard, the forthcoming Canada Health Survey should, by adequate epidemiological techniques, correlate dietary habits and nutritionally-related diseases. Furthermore, a full investigation should be made to determine the current association between income and nutrition with particular emphasis on the problems of low income groups.

3.3. Information, Education and Promotion

- 7 That increased awareness and knowledge of nutrition be promoted and that steps be taken that will result in better eating habits by closing the gap between knowledge and actual behavior. This will require, for example:
- a Immediate encouragement of changes in certain eating practices through a joint effort by nutritionists, the food industry and government agencies, wherever a consensus exists;
 - b Attention by the food industry and government agencies to the need by all persons involved directly or indirectly with nutrition education, for tools and technology that will communicate nutrition concepts and practices effectively;
 - c Recognition of the needs and interests of specific users by government agencies in future planning of information kits -- food and nutrition materials should be planned, packaged and distributed in a variety of ways to meet the needs of different users;
 - d That the long term approach to making good nutrition socially acceptable and desirable will require some form of mass media social marketing programs, and in the short run "Participaction" should link dietary goals to its fitness programs;
 - e An expansion of present local, provincial and territorial programs which offer nutrition counselling and by other informal programs such as the "Food Talk" concept and the Newfoundland cassette program;
 - f That a nutritional labelling program be delayed until such time as consumers in general are able to understand and interpret the information;

3.4. Coordination

- g Provision of information on nutrient losses in food processing and preparation in the factory, home and restaurant, using data from the developing computerized Nutrient Data Bank.
- 8 That this report be published and brought to the attention of other levels of government and to the private sector. In particular, the Minister of Consumer and Corporate Affairs should send a copy of the report to his provincial counterparts, as well as to other interested Federal Ministers. The report should also be sent to the participants in the National Food Conference planned for February 1978.
- 9 That an interdepartmental committee be established with responsibility for monitoring the progress of these recommendations. The committee would be made up of senior officials from the Departments of Health and Welfare Canada, Fisheries and the Environment, Consumer and Corporate Affairs Canada, and Agriculture Canada, and would have the following mandate:
 - a To review the progress made by departments to give greater emphasis to human nutrition in their policies and programs;
 - b To monitor and evaluate ongoing and new programs for their impact on nutrition;
 - c To monitor liaison between the federal government and the provinces on matters pertaining to food and nutrition;
 - d To initiate consultations with the private sector on the timing and means of implementing the Council's recommendations in an orderly manner.

References

- (1) Health and Welfare Canada, Dietary Standard for Canada, Ottawa, 1975.
- (2) Health and Welfare Canada, Canada's Food Guide Handbook, Ottawa, 1977.
- (3) Report of the Committee on Diet and Cardiovascular Disease, Health and Welfare Canada, Dec. 1976.
- (4) Memorandum from Bureau of Nutritional Sciences to Food Policy Group, Consumer and Corporate Affairs Canada, Aug. 1977.
- (5) T.A. Watts, E.A. Gullett, J.H. Sabry and J.P. Liefeld, Assessment of Food Consumption Patterns and Trends in Nutrition in Canada. (To be published in 1978/16 by Consumer and Corporate Affairs Canada.)
- (6) Nutrition Canada. National Survey. Nutrition: A National Priority. Health and Welfare Canada, 1973. Reprinted 1975.

(7) Nutrition Canada. Food Consumption Pattern Report. Health and Welfare Canada, 1977.

(8) Lalonde, Hon. Marc. A New Perspective on the Health of Canadians. Health and Welfare Canada, 1975.

INTRODUCTION



1. Establishment of the Subcommittee

At the December 1976 meeting of the Canadian Consumer Council, the major topic of discussion was food policy. Mrs. Beryl Plumptre, former Chairman of the Food Prices Review Board, Mr. David Kirk, Executive Secretary of the Canadian Federation of Agriculture and a former Council member, and Mr. Arnold Steinberg, Vice-President of Steinberg's Limited and at that time Member of the Council, presented their views on a national food policy. A paper by Mr. Arthur Child, President of Burns Foods Limited of Calgary, was also presented, although Mr. Child himself was unable to attend the meeting as scheduled.

The general consensus emerging from the Council's discussions was that the formulation of a national food policy is a matter of very high priority and that the approach to food policy should emphasize food consumption and nutrition. A Subcommittee was therefore established to study this important issue and to make recommendations to the Minister of Consumer and Corporate Affairs Canada at an early date.

2. Membership

The following members of the Canadian Consumer Council were nominated to serve on the Subcommittee on Food Consumption and Nutrition: R.D. Fremes, M.A. Hartling, C.M. Kennedy, P.M. MacKinnon, T.S. MacNeil, and J.M. Peskett.

Ms. Fremes resigned her membership of the Subcommittee in June 1977 and Mr. J.R. Conrad was co-opted to serve in her place. Although Mrs. Hartling's and Dr. MacNeil's terms on the Council ended during the life of the Subcommittee, special arrangements were made for them to remain members of the Subcommittee until the completion of its work. Secretarial services to the Subcommittee were provided by the Food Policy Group, Consumer and Corporate Affairs Canada.

The Subcommittee met five times during 1977. At its first meeting, held in Toronto in January, Mrs. Kennedy was chosen to chair the Subcommittee. Subsequent meetings were held in Ottawa in March, June, September and October.

3. Terms of Reference

The terms of reference adopted by the Subcommittee at its first meeting in January 1977 are as follows:

- 1 To review the nutrient requirements and recommendations for Canada.
- 2 To assemble the current available information on the level of and trends in nutrition in Canada among various groups (socio-economic, age, ethnic/cultural, isolated/non-isolated, and regional) across the country; the impact of the level of nutrition on the various groups; and

the direct and indirect costs and problems for other programs such as health care.

- 3 To present the current trends in food consumption by commodity and nutrient composition and by socio-economic group.
- 4 To review the nutritional implications of food consumption trends and of various foods (including such things as the use of additives) regularly purchased and available in Canada, as well as current eating patterns.
- 5 To collect, review and assess details of educational, nutritional and feeding programs currently provided to people in Canada: in clinics, schools, nurseries, etc.; local, provincial, federal; voluntary, grant aided, subsidized; and to review nutrition policies and programs in other countries.
- 6 To consider the implications of its findings on the need for a national food policy and outline in some detail their implications for other components of the policy.
- 7 To consider the problems (moral, philosophical, legal) and the constraints in integrating a nutrition policy into a national food policy and to report on possible solutions to them; and to consider the ways in which the basic goal of a wholesome, nutritious diet for every Canadian might be achieved.
- 8 In light of the above information and in view of the basic goal of the Subcommittee, to report through the Canadian Consumer Council to the Minister of Consumer and Corporate Affairs with short and long term recommendations for action at all levels of government and possibly elsewhere in society.

These terms of reference are a clarification of the draft terms of reference discussed by the Council in December 1976. They were approved by Council at its meeting in March 1977.

4. The Right to an Adequate, Wholesome and Nutritious Diet

The work of the Subcommittee arises out of the Canadian Consumer Council's view that every Canadian should have the right to an adequate, wholesome and nutritious diet. This statement is the basic premise underpinning the work of the Subcommittee and is reflected throughout the report. It is important, therefore, that the way in which the statement is interpreted be fully understood.

An "adequate" diet refers to the quantity and variety of food products available to Canadian consumers. A "wholesome" diet is related to the safety of the food supply. A "nutritious" diet is one which satisfies the nutrient requirements for human growth and development.

In the view of the Subcommittee, the "right" of every Canadian to an adequate, wholesome and nutritious diet can be established through income support or supplementation programs and by education. Through the medium of appropriate education programs, all Canadian should have the knowledge they need to spend their incomes wisely. In regard to food consumption and nutrition, Canadian should know how to make the correct choices for the effective utilization of their food budget.

FOOD POLICY



Food policies in Canada are a combination of federal and provincial policies and programs. They go beyond the primary producing sectors of agriculture and fisheries to encompass the food processing, distribution and retailing (PDR) sector. They also cover consumer concerns, including consumer protection policies and programs to counter the impact on consumers of increases in food prices. These policies have a dual purpose of assistance and/or control.

1. Food Policy Objectives

The Federal Government's food policy objectives were outlined succinctly in the February 1974 Speech from the Throne (1) in the following terms:

"an adequate and dependable supply of quality food for a growing population in Canada enjoying a rising standard of living;
reasonable food prices: - for the consumer, in not requiring an undue proportion of income for Canadians to secure a sufficient and balanced diet; - for the producer, in providing a return adequate to encourage production of food items which can be economically and efficiently produced in Canada;
a continuing supply and increasing production of those food products in which Canada has a competitive advantage for export to commercial markets and also for a contribution to international food aid programs."

It is perhaps noteworthy that these objectives make no explicit reference to good nutrition, except insofar as this is implied in the phrase, "a sufficient and balanced diet".

2. Food Policy and Nutrition

Current policies and programs for food consumption and nutrition will be reviewed in some detail in Chapter VI. However, it may be appropriate at this stage to comment briefly on two aspects of Federal nutrition policy, namely food fortification and nutrition education.

For a number of years, Canadian policy on food fortification was entirely voluntary. Nutrients might be added to food to correct a demonstrated deficiency, to replace nutrients lost in processing, and to enhance the nutrient value of substitute foods. However, following the Nutrition Canada survey in 1970-72, fortification of certain foods has become mandatory. Government regulations now require the addition of vitamin D to all milk, vitamin A to skim and partially skimmed milk, vitamin C to evaporated milk, and B-complex vitamins and iron to white flour.

In regard to nutrition education, the role of the Federal government is primarily to provide information and materials for dissemination by provincial agencies. The basic tool is the Canada Food Guide prepared by National Health and Welfare Canada. The Guide has recently been revised in the light of the Nutrition Canada data.

There is some concern, however, that despite these initiatives, food consumption and nutrition have been neglected in food policy. There would seem to be a leadership vacuum since Health and Welfare Canada appears to play a relatively minor role in the development of Canada's food policy. In addition, nutrition does not have a place in the formulation of many government programs affecting the food system. In particular, nutrition is not sufficiently emphasized in grading standards for primary agricultural products or in agricultural production research. There appears to be a vacuum in research on human nutritional requirements. The Subcommittee is concerned about these matters and will return to them later in its report.

3. A Food Strategy for Canada

On June 10, 1977, the Federal government released its Green Paper on A Food Strategy for Canada.⁽²⁾ This paper set out the basic principles of a national food strategy to assure that the government's policies and programs will ensure adequate supplies of safe and nutritious food for all Canadians at prices which are reasonable to both producers and consumers. The government stated that its approach to food policy encompasses not only a range of well-established and emerging agriculture and fisheries programs, but also more effective policies to cover food trade, processing, distribution and retailing, nutrition and other consumer interests.

In setting out the principles it intends to follow in responding to consumer concerns, the government indicated that it will:

"give increased emphasis to the importance of food safety and good nutrition, including an effort to ensure that agricultural production policies take into account nutritional and safety implications; and, in collaboration with the provinces, reinforce present approaches to food safety and quality, public information and education."

The government also stated that the follow-up program arising out of the strategy will include negotiations and consultations with the provinces on dietary and nutritional guidance.

The Subcommittee welcomes the explicit recognition of nutrition in the food strategy. It takes its cue from the statement that the approach to food policy "encompasses...more effective policies to cover...nutrition". The Subcommittee perceives its role as helping the government in general, and the Minister of Consumer and Corporate Affairs Canada, in particular, to translate the principles outlined in the food strategy into a set of concrete proposals to encourage the food system to provide nutritious food to meet the needs of consumers.

References

- (1) Extract from Speech from the Throne, Feb. 1974.
- (2) A Food Strategy For Canada, Government of Canada, June 1977.

NUTRITIONAL RECOMMENDATIONS AND
DIETARY GUIDANCE



All persons throughout life need differing amounts of nutrients. These amounts vary according to age, sex, body size, activity level, growth, state of health, and other individual differences. The term "nutrient" refers to the chemical substances in food which work together and interact with body chemicals to meet the needs of the body for energy, growth and health. Each nutrient has a specific use in the body. Its absence cannot be compensated by another substance. No single food contains adequate amounts of the more than 50 nutrients known to be required on a daily basis. Therefore, nutrients must be obtained from choices made from a large variety of foods.

Enough is known today about nutrition to identify the kinds and quantities of nutrients needed to prevent or cure "classical" diseases directly related to malnutrition, like scurvy or rickets, which are caused by near or total absence of certain specific nutrients in the diet. Scientific knowledge of other equally important aspects of nutrition and dietary needs is far from adequate.

We do not know enough about the kinds and amounts of all nutrients required not merely to prevent specific diseases but to maintain optimal health and development. Consequently, we cannot fully ascertain the long-term effects of a diet containing less than optimal amounts of various nutrients.

Very little is known about the health effects of lifetime deficits of some trace nutrients. These nutrients are thought to be present in sufficient quantity in any varied diet of fresh and lightly processed foods. In recent years, Canadian diets have increasingly come to contain larger quantities of highly processed foods fortified with some but not all known nutrients. Consequently, the lack of knowledge about the effects of such dietary inadequacies has come to present serious health implications.

These and other unknown consequences of changes in dietary patterns, and other nutrition-related changes in lifestyle and the environment, require far more research. Neglect of these questions today may mean tragic consequences in the future.

The formal nutritional recommendations for the Canadian population are stated in terms of nutrients and caloric values in the Dietary Standard for Canada. The Canada Food Guide deals not with nutrients per se but with the foods containing them, through a daily food plan. Most healthy individuals are assumed to be able to satisfy their nutritional needs by following this guide. Neither the Dietary Standard for Canada nor the Canada Food Guide comments on poor eating patterns that, if followed for several years, are thought to result in nutrition-related diseases. However, to delay the onset of these health problems, subsequent to the presentation of the Mustard Committee on Diet and Cardiovascular Disease, modified dietary recommendations were accepted and may be proposed to Canadians in the spring of 1978.

1. The Dietary Standard for Canada

A dietary standard is a statement listing the daily amounts of energy and essential nutrients considered adequate to meet the physiological needs of practically all healthy persons in a population on the basis of accepted scientific data. The Dietary Standard for Canada was revised following the 1975 report of the Ad Hoc Committee for the Revision of the Canadian Dietary Standard, which substantially modified the basis for daily energy requirements for adults and stated recommendations for 12 additional nutrients. This revised dietary standard contains recommended daily intakes for energy and 27 nutrients. (See Appendix 1, p. 71.)

While the Dietary Standard states that nutrient recommendations are made "on the basis of scientific data," it is rarely noted that substantial scientific data concerning human nutritional requirements exist for only protein, calcium, iron, zinc, thiamine, riboflavin and ascorbic acid. Knowledge concerning energy is also well documented.

There are little or only fragmentary scientific data to establish the extent of biological variability for nutrients in individuals differing in age, sex and genetic background. "Many of these population groups have never been studied to quantitate their requirements for a particular nutrient," as stated in the staff report of the McGovern Committee on Nutrition and Human Needs to the U.S. Senate. (1)(State of knowledge on nutritional requirements as summarized by the McGovern Committee is given in Appendix 1, p. 78.)

The Dietary Standard does not include recommendations on maximum safe amounts of food additives that may be consumed on a daily, weekly or annual basis, nor does it state recommendations on safe levels of hazardous substances occurring naturally in food.

Furthermore, it must be emphasized that the Dietary Standard for Canada does not offer guidance on current controversial nutrition issues. This is unfortunate because in general only nutritional requirements stated in the Dietary Standard are referred to in justifying new government policies regarding the production, distribution and consumption of food. Nutrition problems not recognized in the Dietary Standard may arise indicating need for new government regulation of nutrient fortification, fabricated foods, advertising, etc., as new processes are developed for the production, processing, distribution, storage and marketing of food.

In the Subcommittee's view, the recommended daily nutrient intake of the Dietary Standard is only a beginning step to a comprehensive nutrition program. It does not offer sufficient guidance on many nutritional issues.

Much more basic human nutrition research is therefore essential, but research in this area is neglected. More recent and comprehensive data are available concerning the nutrient requirements of meat-producing animals than of meat-eating humans. The nutrient requirements of animals were established many years ago in the United States. Nutrition is regarded as a selling point for animal food but not for food for humans.

2. The Canada Food Guide

The Canada Food Guide (Appendix 1, p. 75) was updated in the spring of 1977 to reflect revisions in the Dietary Standard in 1975. This guide is intended to enable individuals to meet their daily nutrient needs by eating the recommended quantities of foods from four basic food groups.

The interlocking pattern of key nutrients in the four food groups developed by Health and Welfare Canada is presented below. These nutrients are only 12 of the more than 50 known nutrients recognized as necessary on a daily basis.

Interlocking Pattern of Key Nutrients in the Food Groups

<u>Milk and Milk Products</u>	<u>Bread and Cereals</u>	<u>Fruits and Vegetables</u>	<u>Meat and Alternatives</u>	=	<u>Canada's Food Guide</u>
Vitamin A		Vitamin A	Vitamin A		1. Vitamin A
	Thiamine		Thiamine		2. Thiamine
Riboflavin	Riboflavin		Riboflavin		3. Riboflavin
	Niacin		Niacin		4. Niacin
		Folic Acid	Folic Acid		5. Folic Acid
		Vitamin C			6. Vitamin C
Vitamin D					7. Vitamin D
Calcium					8. Calcium
	Iron	Iron	Iron		9. Iron
Protein	Protein		Protein		10. Protein
Fat			Fat		11. Fat
	Carbohydrate	Carbohydrate			12. Carbohydrate

The Food Guide does not offer information on differences in nutritional value of food selections within each food group due to method of processing, preparing and storing food. For example, whole grain products are recommended in the "bread and cereals" category, but sugar-coated ready-to-eat cereal may also be used. Sugar-coated cereals are generally enriched with thiamine, riboflavin, niacin and iron, and these four nutrients are stipulated in the Dietary Standard for Canada. Other nutritional losses taking place in cereal processing, and the modified ratio of complex/refined carbohydrates that occurs in servings of comparative size are matters which the Dietary Standard does not consider. The effects of food technology processes on all nutrients is not a current scientific concern. (2)

Caloric needs or energy intake requirements vary with an individual's age, sex and activity or energy output. The Food Guide proposes a pattern that could furnish between 1000 and 1400 calories per day. The daily range of calories needed varies between 1400 for a 3 kg. child age 1-3 years to a maximum of 3200 for a 64 kg. youth age 16-18 years. Other foods would therefore be chosen in addition to the required servings indicated from the four basic food groups to provide the necessary calories. The Food Guide does not suggest food choices for these supplementary energy needs. The Guide also does not explain the

relationship between caloric needs and activity levels, an unfortunate omission since even small excesses in caloric intake over levels of physical activity, in time, lead to overweight.

Even when adopting the Food Guide, the assumption that most of human nutrient and caloric needs will be met most of the time is an assumption that is not currently being validated by published research data.

3. Dietary Recommendations of the Mustard Committee on Diet and Cardiovascular Disease

Some significant new steps dealing with controversial nutrition issues have recently been considered by the Mustard Committee on Diet and Cardiovascular Disease.

At a meeting held at Health and Welfare Canada in March 1977, the members of the Subcommittee were briefed on the report of this committee, submitted in December 1976 to the Honourable Marc Lalonde. The recommendations of this committee were amended and adopted by Health and Welfare Canada in 1977. The dietary recommendations are as follows:

"The consumption of a nutritionally adequate diet, as outlined in Canada's Food Guide;
A reduction in calories from fat to 35% of total calories, with emphasis on an increase in the intake of linoleic acid;
The consumption of a diet which emphasizes whole grain products and fruits and vegetables and minimizes alcohol, salt and refined sugars;
The prevention and control of obesity through reducing excess calories and increasing physical activity;
Precautions should be taken that no deficiency of vitamins and minerals occurs when total calories are reduced."

While these dietary guidelines do not carry the same weight as a dietary standard as a point of reference in governmental and scientific endeavors, they go a long way in filling gaps in such documents as the Dietary Standard for Canada and the Canada Food Guide and in defining national dietary goals. The Subcommittee feels that the Federal Government should incorporate these recommendations into all relevant programs arising out of its Food Strategy.

References

- (1) Select Committee on Nutrition and Human Needs, U.S. Senate. Dietary Goals for the United States. Washington: U.S. Government Printing Office, 1977.
- (2) Robert S. Harris and Endel Karmas. Nutritional Evaluation of Food Processing. Westport, Conn.: Avi Publishing Co., Inc. 1975.

NUTRITION LEVELS AND FOOD
CONSUMPTION

Three reference points are needed to forecast the amounts and types of foods needed to satisfy the nutritional requirements of a population. These are: a dietary standard defining nutrient needs according to age and sex, statistical information and projections on the current and future age/sex composition of the population, and food composition tables stating the nutritive values of foods. In Canada at present these three types of information are not being co-ordinated and consequently projections concerning total food demand are not related to the nutritional needs of the population.

1. Apparent Per Capita Domestic Disappearance of Food

Measures of the food supply apparently available to the population are based upon production figures, allowing for imports and exports, ending stocks, seed requirements, manufacturing inputs, livestock feed and waste before food reaches the retail outlet. No allowance is made for losses or wastage in retail stores, homes and restaurants. These data in turn are divided by total population figures to arrive at apparent per capita food disappearance data for Canada.

Using these estimates, increases and decreases in the use of certain foods are observed over a period of years. These changes constitute trends in apparent per capita food disappearance.

These trends in Canada have recently been reviewed for the Subcommittee by Watts et al. of Guelph University. (1) This report will be published later this year by Consumer and Corporate Affairs Canada.

The main trends in per capita food disappearance observed over the period 1950-75 were as follows:

- 1 A relatively large increase in disappearance of red meats and poultry as sources of protein and invisible fats.
- 2 An increase in the disappearance of visible fats and oils (such as margarine and salad oil), only slightly offset by a small decline in that of butter.
- 3 Within an overall decline in disappearance of complex carbohydrates (e.g. cereal grains and fresh potatoes), an increase in disappearance of refined carbohydrates (e.g. in soft drinks and sugared breakfast cereals).
- 4 A decline in disappearance of total milk equivalent.

Food disappearance data do not provide a measure of food actually eaten, or ultimate food consumption. Furthermore, since these per capita data are averages of the differing quantities of food used by infants, growing teenagers, and older people, wherever they are living in Canada and whatever their income, the applicability of such data has limitations.

It should also be emphasized that food disappearance data are generally unavailable for processed and manufactured foods. This is a serious omission because in the past 10 to 15 years an increasing number of more highly processed and manufactured products such as cake mixes, ready-to-serve meals and fruit-drink crystals have been available on the Canadian market.

Watts arrived at estimates of food trends for some of these products by comparing percent increases in shipment and tonnage figures for specified periods with percent increases in population over the same time. These calculations revealed that the use of cake mixes increased by a factor of 4, ready-to-serve meals by a factor of 10 and fruit-drink crystals by a factor of 9.

It should also be noted that statistical data concerning apparent food disappearance do not distinguish between food consumed at home or away from home. While statistics exist on total restaurant receipts and on the number of franchises associated with food serving outlets, they do not indicate which foods were sold. Some indications are available concerning vending machine sales, revealing expansion in the categories of hot foods and soups, hot and cold beverages including milk, and confectionery items.

2. Apparent Nutrient Availability

In order to estimate the nutrient composition of various foods, a product must be analyzed or compared to food composition tables. These tables should reflect the effects on the nutrients originally present in a food of agricultural practices and all subsequent handling, food processing and cooking. Virtually no up-to-date information is available in an easily accessible format.

U.S. Department of Agriculture Handbook Number 8(2), published in 1963, is still the principal reference document used to estimate the composition of foods. It has been the basis for evaluating the apparent nutrition availability of foods in the course of most dietary surveys. However, since 1963 thousands of new food items have been introduced, other products have been discontinued, and changes in processing of familiar items have possibly altered their nutritional content.

A computerized National Data Bank is being developed in conjunction with this revision, for storage, retention and summary of current and future nutrient data. Officials of the Canadian government and members of the U.S. and Canadian food industries are supplying input to the Nutrient Data Bank. Chapters of the revised Handbook Number 8 are being made available to users as they appear. But since the total revision will not be completed for several years, the Subcommittee hopes there will be access to the data bank for the Canadian food industry, professionals in the health care field, and researchers estimating nutrient availability.,

Until we have obtained current information on nutrients in food products the apparent nutrient availability in our food supply cannot be determined. Existing nutrition programs cannot be regarded as comprehensive.

In addition to nutrients, our processed food supply now contains many food additives. Information on the quantity of food additives in use is not and will not be available from tables of food consumption. Some information concerning the kinds of additives used in non-standardized food products is partially available on the package labels.

Until a consensus appears on a definition of "junk foods", possibly in legislation, such a category of food cannot be identified statistically, nor can the actual consumption of these foods be measured. Therefore, while the Subcommittee acknowledges concern about their prevalence, it cannot make a statement on this issue.

3. Actual Food Consumption Patterns in Canada

Actual Canadian dietary patterns were assessed from data collected during the national survey carried out by Nutrition Canada from 1970 to 1972. The reports on the nutritional status of the population (2) were published in 1977. This survey was the only comprehensive study of dietary patterns ever conducted in Canada, and no plans have been announced to update it. This is unfortunate as food selection patterns are related to prices and incomes, and consumers have experienced a great change in food prices in the years that followed the national survey.

A representative sample of Canadians of various ages in all provinces and territories were interviewed and asked to recall the kinds and quantities of foods and beverages they had eaten on the previous day. The dietary records for the 24-hour periods were assessed to determine nutrient intakes. The USDA Handbook No. 8 was used to compute the kinds and quantities of nutrients present in the foods eaten. Modifications to the data contained in Handbook No. 8 were made to reflect enrichment regulations of certain foods in compliance with Canadian legislation. Other data where lacking were supplied from analyses and other published values.

To characterize and to compare eating patterns, foods were classified into nine groups of nutritionally equivalent foods. These groups were:

- 1 dairy products (milk, milk products and cheese),
- 2 meat, poultry, fish and eggs,
- 3 cereal products,
- 4 fruit and fruit products,
- 5 vegetables (including potatoes),
- 6 fats (butter, margarine, oils and other fats),
- 7 foods primarily sugar, beverages and soft drinks,
- 8 nuts and dried legumes,
- 9 miscellaneous (including mixed dishes and soups).

It was reported for individual food consumption patterns that the type of food consumed was not significantly different in the summer than in the winter season and that differences were not great between provinces. This appeared to reflect the ability of the Canadian food distribution system to provide a continuous supply of most types of food to most parts of the country. On the other hand, the survey revealed that the quantities of the various food groups consumed was influenced by age and sex, as anticipated.

To determine whether the observed dietary patterns were providing nutritious diets or not, the dietary intakes for various age/sex groups were measured against the Dietary Standard for Canada.

This comparison indicated that the dietary intakes reported for energy and for most of the nine nutrients evaluated generally exceeded the recommendations of the Dietary Standard. The report is silent with respect to the other nutrients known to be required on a daily basis.

The Nutrition Canada Survey data which have been published to date generally show what types and how much food Canadians eat during various time intervals in the day. The reasons why food choices are made are not stated. It seems that the survey was not structured to determine the elements that influence food selection patterns or nutritional behaviour.

Current research on the complex factors which motivate consumers in their food selection are described by Kronl and Lau (3). They identify these factors as: satiety, intolerance, taste, familiarity, health belief, price, convenience, prestige and nutrition knowledge. This research suggests that improved knowledge about nutrition, alone, will not necessarily motivate individuals to modify their dietary patterns.

4. Nutrition Problems in Canada

To solve problems, they must first be identified. As governments do not recognize the fundamental importance of proper nutrition to the health and well-being of all Canadians, nutrition is given lip service as a peripheral concern of public policy. A Food Strategy for Canada omits all reference to the Dietary Standard for Canada and to the nutrition priorities set forth in the National Survey of 1973. Those priorities have not been implemented. To identify some issues the following questions are raised and an attempt is made to answer them:

- Question 1. Is the general Canadian population in a state of optimal nutrition?

Insufficient data are available to affirm or deny this.

Question 2. Is the general Canadian population in a state of malnutrition, defined as presenting biochemical and clinical signs of classical nutritional-deficiencies diseases directly related to the absence of certain nutrients?

No, the general Canadian population cannot be regarded as being in a state of malnutrition, according to the results of the Nutrition Canada survey. While the dietary intakes of some persons in certain age groups were reported to be below recommended levels for certain nutrients, such observations are only indicators of potential nutritional problems. These persons may be described as being "at risk". Significant observations relating either to dietary intake, biochemical or clinical findings concerned iron, calcium and vitamin D, thiamine, and vitamin C.

Iron is short in the diets of adolescent girls and adult women, but a large proportion of Canadians showed depleted body stores of iron. Our food supply provides many foods in which iron is present in a form not readily utilized by the body. Calcium is short in the diets of pregnant women. While infants and children under age 4 receive adequate amounts of calcium, there was concern that their dietary intakes appeared insufficient in vitamin D, which is required to utilize calcium. However, no incidences of rickets were observed. Thiamine deficiency is suggested by clinical evidence in many adults over 40. Vitamin C deficiency is a minor occurrence in the general population but is a moderate problem among Indians and a serious one among Eskimos. Of much greater importance than these observations about specific nutrients was the high incidence of overweight as a precursor of many other problems.

Question 3. Can the general population be overfed yet undernourished?

Yes, this is observed in all adult population groups. Overweight affects over 50 per cent of the adult population, particularly senior adult women. Small excesses in intake are not balanced by adequate physical activity, so that in time a fat cushion grows. Whenever weight reducing is attempted, the risk of a lack of balance in nutrients may occur, particularly for iron and thiamine.

Question 4. Was the Nutrition Canada survey sufficiently exhaustive to describe the nutritional status of the general population?

Definitely not. It made a great start with respect to the classical deficiency diseases. Unfortunately, the published data have not created any benchmark with respect to the incidence of nutrition-related diseases which are so prevalent and costly today.

Question 5. What is the meaning of nutrition-related diseases?

They are diseases in which nutrition has been implicated as an etiological factor. They are among the major causes of death in Canada. Ischemic heart disease due to arteriosclerosis is the leading killer. It results from interaction of multiple causative factors which can be traced to heredity on one hand and to past and present lifestyle and environmental factors on the other. Among some of the known indirectly causative factors that are preventable are overeating and wrong eating habits. The process of developing these conditions is slow and insidious. Preventive measures aim to delay their outset.

Question 6. What unsound eating practices exist in Canada?

Some unsound eating practices are over-consumption of food, consumption of excess fat, saturated fat, sugar and alcohol, and under-consumption of nutritious food. A typical pattern in affluent countries such as Canada is a diet rich in meat, other sources of saturated fat and cholesterol, and sugar.

Question 7. What are the health implications of these unsound eating practices?

The dietary pattern described above is associated with a typical disease pattern of high rates of ischemic heart disease, certain forms of cancer, diabetes and obesity. Obesity increases the work of breathing and the metabolic cost of physical activity and may aggravate pulmonary conditions such as emphysema. High consumption of sugars, especially sucrose, encourages dental caries which affect 96 per cent of Canadians. There is increasing evidence that certain types of cancer may be associated with diet factors.

Question 8. Are there income-related nutritional problems in Canada?

The Report on the Relationship between Income and Nutrition, published in 1975, shows that nutritional status and income are related and that often the risk of nutritional disease is highest in the lowest income categories. Persons on low incomes that were found to be most vulnerable to malnutrition were in the following groups, women aged 40-64 and men over 65. Children aged 10-19 and men aged 40-64 were also shown to be at greater than average risk. No correlation was established, (possibly because of the size of the sample) between nutritional status and household income for infants, children under 4 or pregnant women. More information is badly needed since the effects of malnutrition for these groups are critical. As it is essential that a sound national food policy be based on accurate up-to-date assessment of the nutritional well being of the population, adequate monitoring of eating habits in Canada appears to be deficient. (For additional data see Appendix 1, p. 77.)

References

- (1) Watts, op. cit.
- (2) Nutrition Canada. National Survey. Nutrition: A National Priority.
Health and Welfare Canada, 1973, reprinted 1975.
- (3) M. Krondl and D. Lau. "Food Selection Motives as Determinants of
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AN EXAMINATION OF THE NUTRITION
COMPONENT OF GOVERNMENT PROGRAMS
AND POLICIES IN CANADA AND ABROAD



1. Policies and Programs in other Countries

National policies concerned with the production, processing, distribution and retailing of food and food products vary considerably from country to country. The Subcommittee has examined the food-related policies of selected countries whose dietary patterns closely resemble that of Canada. These are countries in which, as in Canada, nutritional problems are largely related to over-consumption of food rather than to nutritional deficiencies. Our interest has been in determining the extent to which nutrition plays a role in shaping government food policy.

A number of questions were submitted through External Affairs Canada to the Canadian posts in certain capital cities. The replies that were received from abroad form the basis of Appendix 2. Summarized here are some illustrations of how food policies can have a nutritional component and some dietary goals.

In the United States studies are underway to determine a food policy that would be based on human nutritional requirements rather than only on the food production capacity of the agricultural sector. The President has directed the Office of Management and Budget to review the organization and structure of federal food and nutrition programs in order to improve the government's capability to develop a coherent national food and nutrition policy.

The West German government considers food policy to be equal in importance to agricultural policy. Food policy includes measures aimed at establishing a well-functioning food market enabling consumers to obtain high-quality goods at reasonable prices. The consumer is to be protected against risks to health and against fraud and deception. In addition, the consumer's position in the market is to be strengthened. Food policy is not related to agricultural production policy, which is a European Economic Community matter.

Norway has a comprehensive national food and nutrition policy, as outlined in a White Paper presented by the Minister of Agriculture in December 1975. The proposals put forward in the White Paper were co-operatively developed by agriculture and public health experts and represent the culmination of a long development of policy in the health and agricultural sectors which makes the intent of the proposal politically acceptable and its implementation likely.

Food policy in the United Kingdom is designed to encourage domestic producers to produce as much food as possible, as economically as possible, in the belief that, given adequate supplies and freedom of choice, consumers will see that they are well fed. Some attention is given to nutrition and health factors. For example there is legislation to ensure that food is of good quality and to prevent the use of certain food additives. However, the impact of those considerations on the government's overall food policy is minimal.

Finland does not have a national food policy encompassing a nutrition and health component at the present time. Concerns have been expressed about the lack of a national food policy, for example by the Finnish State Nutrition Council which is drafting a plan for a national food and nutrition policy. In 1975, the Finnish Food Industries Federation put forward the aims of national food policy, stressing the importance of nutrition in policy and in the functioning of the food industry. Health authorities, for example the National Board of Medicine, are also contributing to the development of national nutrition policy.

Currently, the question of stating national dietary goals is very topical. In many countries, these goals are similar to the recommendations of the Canadian Committee on Diet and Cardiovascular Disease. Such recommendations have not always become part of a national policy. In the United States the dietary goals proposed by the McGovern staff report are the subject of great controversy.

The first objective of Norway's new policy is that healthy dietary habits should be encouraged. The government has stated it will formulate policy with the aim that:

- 1 By means of a gradual readjustment of the diet, the proportion of fat in the total energy intake should be reduced to 35 per cent.
- 2 The energy intake from fat should be replaced by increased consumption of starchy foods, primary cereals and potatoes. Sugar as a source of energy ought to be reduced.
- 3 In terms of total fat consumption it is the aim to increase the proportion of polyunsaturated fats and decrease the proportion of saturated fats.

National dietary goals in West Germany are reflected in instructions to the public to "eat correctly". Ten rules have been formulated covering:

- 1 The functions of various foods,
- 2 The need to eat varied foods,
- 3 The purposes and sources of protein,
- 4 The need for moderation in fat consumption,
- 5 An explanation of carbohydrates including a recommendation to eat less sugar,
- 6 The function of vitamins and minerals,
- 7 The dangers of excess weight,
- 8 The need for smaller meals and more frequent mealtimes,
- 9 The need to enhance enjoyment of basic food,
- 10 Information showing that "correct" food is inexpensive,

These rules reflect goals to discourage fat and sugar consumption, to encourage vegetable and fruit consumption, to increase public awareness concerning nutritionally superior food, to encourage proper food storage and preparation, and to cut down on overeating. Another goal, reflected in the campaign "fit instead of fat", is to relate exercise to good eating habits.

Proposals of the Finnish health authority for a national nutrition policy include a modified version of the 1968 Nordic resolution on the standard and development of the national diet. The proposals mention as worth-while changes a reduction of fat consumption by 35 per cent and that of sugar by 10 per cent of the total energy intake. They also stress the concept of nutrition density as a way of expressing nutritive value in nutritional information.

The National Board of Health and Welfare of Sweden was motivated in 1969 by "the decidedly negative results of the changed food habits in Sweden during the last 30-40 years and the enormous costs of medical care of disease related to these changes" to begin a ten-year campaign to encourage the public to exercise more and alter their diets. The recommended dietary changes included more vegetables, fruit, milk and cereals and less fats and oils, sugar, syrup and sweets. While the impact of the program has not been completely measured, an interview survey conducted in 1974 found the consumption of fats, sugar, potatoes and some fruits had declined while consumption of fresh vegetables and poultry had increased.

2. Review of Federal Food Legislation and Programs Relating to Food Consumption and Nutrition in Canada

Some Federal statutes and programs relating to food quality may be perceived as directly affecting the consumer interest. Other statutes and programs in which the nutrition component or the consumer interest is not seen as significant by the legislator or by the administrator have been omitted here although they may affect the availability and the price of food. These would include, for example, agricultural research funding for new genetic strains of plants or meat animals, the enlarged fishery boundaries, the energy policy, welfare and employment policies, food supply management policies, permits for import and export of food. Some of these considerations are found in the Consumer Interest in Canadian Food Policy, by John Morris, prepared for and published by the Consumer Research Council in 1976.(1)

The preceeding chapters on nutritional requirements and food consumption trends in Canada have noted the existence of a Dietary Standard for Canada and of statistics relating to food disappearance trends in Canada which are data for many programs relating to food and nutrition.

The key statute with respect to food quality control in Canada is the Food and Drug Act and Regulations. Because this Act is set forth in the framework of the Criminal Code it is generally stated in terms of prohibitions rather than in positive terms to encourage and promote higher food quality.

This Act generally prohibits the sale of a food which:
1 contains any poisonous or harmful substance,

- 2 is unfit for human consumption,
- 3 consists in whole or in part of any filthy, rotten, putrid or decomposed substance,
- 4 is adulterated,
- 5 was manufactured under unsanitary conditions.

Regulations under the Food and Drug Act state standards of identity for several foods and deal with other aspects of food processing, packaging, weighing and labelling at the plant and at retail levels to protect the consumer against fraud, misrepresentation and poor quality.

The Canada Agricultural Products Standards Act establishes national standards for agricultural products (such as grades and grade names) and regulates international and interprovincial trade. Grading deals primarily with aesthetic considerations such as size, color, flavor, aroma, and uniformity of texture. This creates the problem that consumers may assume the food of the highest grade to be the most nutritious.

Within the above framework, it can be observed that while food safety and appearance play an essential role in Federal legislation, human nutrition is not a significant consideration. It has not yet been the view that a correlation should exist between the nutritional value of a food and its price or grade.

Regulations prohibit food advertising in a manner that is misleading or deceptive in regard to its value, quantity, composition or safety, or its use as a treatment or cure of a number of specified medical conditions.

The incentive for positive nutritional claims by industry is lacking. Since a variety of foods are required to follow the Canada Food Guide, the advertising of an individual food could mention the needed complementary foods to fulfill average dietary needs. As nutritional labelling is not available in Canada, nutrition information is scarce.

The federal departments most directly concerned with food production and consumption--Agriculture Canada, Health and Welfare Canada, Fisheries and the Environment Canada, and Consumer and Corporate Affairs Canada - have prepared abundant information relating to food. However, some of these materials are partly designed to promote the sale of Canadian food products and are not intended to serve as learning materials to develop good eating habits. In order to offset incomplete nutrition information messages which are available through TV advertising, it has been estimated that one-tenth of the promotional budget would be required.(2) Therefore only a co-ordinated nutrition information program can be expected to succeed.

Coordinated efforts may be required because nutrition-related programs do not receive high priority in government funding. There is little or no evidence of government effort to provide consumers with a clear

indication of the nutritious value of food. There is an apparent assumption in government circles that if the food supply is safe and abundant, the choices made by consumers are immaterial to their health. The long-term consequences of these choices, for example in higher health costs, are only beginning to be recognized.

3. Provincial and other Programs

A number of food and nutrition programs are administered by the provinces, which have primary jurisdiction for health and education in Canada. However, as of December 1977 only the Province of Québec had stated a policy on nutrition. The ultimate goal of this policy is to improve health through the acquisition and practice of proper eating habits.

One task of the Subcommittee was to identify the kinds of food and nutrition programs that are available in Canada. A survey was undertaken in the summer of 1977 to provide some information. The survey was a modest one, conducted by 29 young people acting as leaders of "Food Talk" programs. They were provided with a questionnaire to be used in interviewing directors or managers of organizations offering a food or nutrition program in their community. Each interview lasted about one hour. Questions were concerned with establishing the nature, type, cost and sponsorship of each program. Answers were tabulated by a student working for the summer with the Food Policy Group in Ottawa.

The 30 Canadian cities in which the survey was conducted had to be selected according to criteria of the Canada Works Summer Program. Choice was confined to cities, and areas within large cities, where unemployment was high. Consequently, findings could not be regarded as characteristic of Canada as a whole or applied to comparisons between provinces and territories. Furthermore while some typical programs exist, it must not be concluded that they are universal or that they meet all needs.

The organizations selected for study fall into five categories: government services not concerned with health care, community services, commercial enterprises, teaching institutions and hospitals and health care services. Conclusions drawn from the survey were concerned with identifying characteristics of food and nutrition programs within these categories.

3.1. Health Care Services

Health care institutions in which interviews were conducted were provincially funded. These institutions included hospitals, clinics and community health centres. Therapeutic nutrition services were most frequently available and were directed to patients with existing health problems. Budgetary constraints appeared to limit follow-up sessions to evaluate if the learning process had progressed to a change in eating patterns. Where follow-up sessions were feasible, group teaching methods were used for obese and diabetic patients. Prenatal counselling was the

only preventive program that was observed and the interviewees did not report the provision of either food allowances or food supplements such as milk, fruit and eggs in these programs. The role of nutritionists in the health centres was not to counsel patients directly but to act as consultants to other professionals and to institutions. The limits of this survey did not reveal the preventive work in nutrition which is done by public health nurses throughout Canada.

3.2. Educational Services

The survey was not designed to evaluate the nutrition education programs offered by the provincial public education systems. It did reveal many interesting classroom experiences. On the other hand, it was observed that education in nutrition was an incidental and optional subject matter. There was no evidence of consistent implementation of a provincial policy in the local primary and secondary schools which were visited.

Eating in a school cafeteria may be a good learning experience. The survey raised questions with respect to school cafeterias, canteens and vending machines. The interviews disclosed a significant awareness of this issue by administrators and some action taken to encourage good eating habits. But if children do not eat right, it is seen as a reflection of their family values and not the responsibility of the education system. Where food vending machines were available, in addition to very sweet and very salty snack foods, milk, fruit juice, fruit, soups and prepared foods were offered for sale. Some institutions limited the access to soft drinks to professors' lounges.

3.3. Other Governmental Services

The interviewers reported that government services not providing health care, such as those administered by departments of agriculture, were primarily directed to the assistance of large groups, rather than to individuals. Services characteristically included media interviews, the provision of brochures concerning food and of resource staff to local groups.

3.4. Community Services

Volunteer organizations and community programs included in the study generally offered direct services to senior citizens. The most frequently observed project was "Meals-on-Wheels" which was available in 17 cities. Present funding patterns limit distribution to two meals per week in certain areas. When inquiries were made as to how the shut-ins could cope for other meals, the reply was that each meal was divided into four parts and that eight meals were provided. The sports and fitness groups interviewed did not have a food or nutrition component.

3.5. Commercial Services

The survey indicated that commercial organizations -- food stores and food consulting services -- did not usually allocate time to consumer information about new products, food preparation and nutrition. Very little consumer food information was found to be available at the point of purchase. Those food and nutrition information programs which commercial enterprises did provide were continued only when public interest and attendance were high, and discontinued when they did not prove popular.

3.6. Other Programs Not Included in the Summer 1977 Survey

A free distribution of school milk to underprivileged children throughout a province was identified only in Québec. This program began in September 1977. Various provincial governments have considered such a program but have not seen fit to implement one.

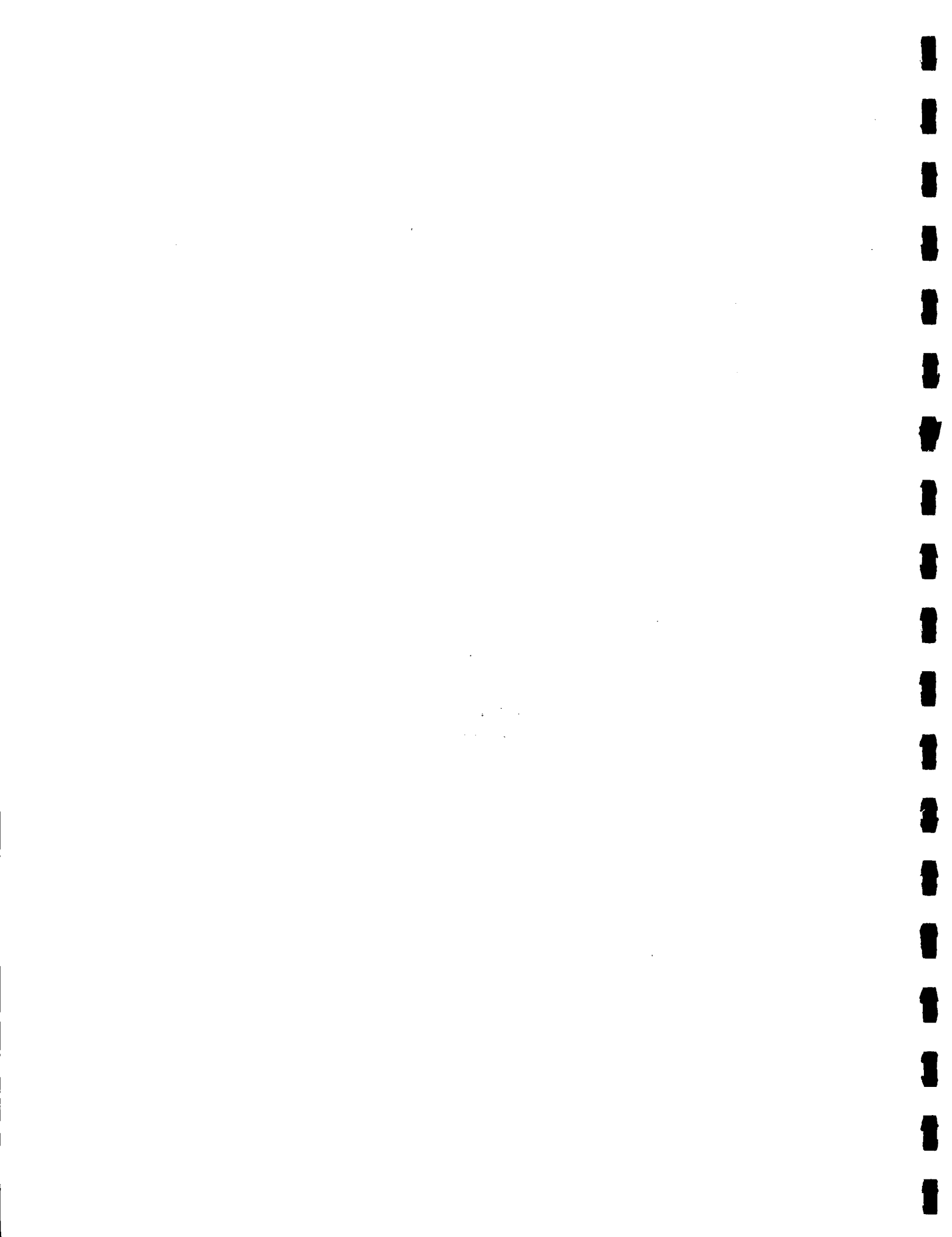
The provision of food supplements and nutrition education to pregnant women who may be nutritionally at risk has been an ongoing program in two Canadian centers for many years. These programs are directed from the Montreal Diet Dispensary in Montréal and from the Mount Carmel Clinic in Winnipeg.

It appears very difficult for average consumers to gain access to sound learning materials that might improve or up-date their notions on good eating practices. The most original program in this regard was sponsored by libraries in Newfoundland which make health and nutrition cassettes available on loan to users.

TV seems to be the most effective vehicle for information on nutrition today. It does not seem that this potential is being well used. For instance it is difficult to explain why the fitness messages of "Participation" are never related to eating habits. As a future TV program of the "Sesame Street" format may be directed to pre-schoolers next year, eating patterns of Canadians may improve in years to come.

References

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NUTRITION WITHIN A NATIONAL FOOD
POLICY

A Food Strategy for Canada is the document which outlines the basic principles of a national food strategy. References to nutrition or to a nutritious food supply are made in this paper, but these references appear to be incidental to other concerns. No firm commitment is mentioned to make nutrition a starting point for a national food policy.

Although the strategy alludes to "consumer needs and demand" for nutritious food, it would seem that economic needs are being considered and not physiological needs. Therefore, while the "importance of good nutrition to the health of Canadians" is acknowledged, there is no clear indication that a nutrition criterion will be applied by the government to the many economic decisions involving food.

For nutrition to be a starting point or at least an identifiable component of a national food policy, it is essential that the nutritional requirements of the population be recognized and serve as a basis for determining the types of food production, importation and processing to be encouraged.

The government's primary role, in the interests of the long-term quality of life and health of the population, should be to create the environment which will provide a nutritious food supply and will also enable consumers to make better food choices. Food choices could be influenced by a variety of programs, including advertising, nutrition knowledge and a system of financial incentives and disincentives.

1. Consumer Responsibility and
Limitations of Government
Responsibility

Consumers make all sorts of lifestyles choices which affect their health and general well-being. Clearly, the choice of eating patterns is among the most important. While some individuals make dietary choices which maximize health, energy and growth, others consume diets which impose health risks. The immediate consequences of some poor food choices may be pleasurable, but the effect over time may be a hastening of the onset of some nutrition-related degenerative diseases.

It is difficult to define the role of governments in confronting the health consequences of poor dietary choices. Given the values of the Canadian society, it would be difficult for the government to intervene directly to change consumer choices concerning food selection. However, it would seem that governments could encourage provision of more information on the nutritive value of the food supply. Nutrition knowledge alone would not necessarily modify food selection patterns, but it could help to ensure that whatever the nature of consumer choices, these choices are made with awareness of their health implications.

2. Means of Achieving Food Policy Objectives

The Subcommittee has observed that all Canadians should have the knowledge and motivation needed to purchase, prepare and consume an adequate diet. A number of barriers prevent achievement of this objective.

2.1. Lack of Consumer Information

In order to make healthful food selections, consumers must have comprehensible information about the nutritional content of food products available in the marketplace and how to use them in daily meal plans. Information from advertising, labelling and at the point of sale is scant and seldom helpful. Consideration could be given to developing a comprehensive system of nutritional labelling of food products in food stores, restaurants, and in most advertising. There is in industry a considerable knowledge about the factors that influence consumers' food selection. This knowledge must be used to develop programs that would have a positive impact on food choices.

2.2. The Prevalence of Empty Calorie Foods

A definition of a class of accessory foods may be required. Identification would provide a means of acknowledging that some foods have very low nutritive value. The criterion that might be used for this category could be determined after consultation. A starting point for the definition might be the caloric/nutrient density or ratio. Such foods might be recognized as useful in adding interest to meals or snacks. Should such a definition be incorporated in regulations to the Food and Drug Act, the process of determining eligibility for government subsidies for production could be influenced.

2.3. Changing Patterns of Food Purchasing and Preparation

As more and more women work outside the home, they devote less time to meal planning and preparation. The traditional pattern of frequent shopping for fresh produce and lengthy food preparation at home is disappearing in many families, except for weekend gourmets. Responsibility for planning, buying and cooking the meals is increasingly shared. But what is more important from the point of view of nutrition, is that in many families less attention is being given to the overall nutritional balance of the family diet. Families are relying increasingly on the convenience of highly processed foods which are easily stored and easy to prepare, and on meals prepared away from home. These foods may be lacking in some of the nutrients of the traditional foods, and may provide unnecessary amounts of other ingredients such as refined sugar, saturated fats or chemical additives.

This changing pattern suggests a number of problems. Highly processed foods comprise a growing proportion of the total diet. These foods are fortified with some but not all of the nutrients which are destroyed in processing, and we do not know the long-term effects of deprivation of these trace nutrients. Simulated foods, which resemble other foods in appearance and taste but not in actual content, are increasingly used in supermarkets, fast-food outlets and restaurants. We do not know enough about the changes in nutrient intake as such products are substituted for more traditional foods.

Should tax incentives be offered to firms in the food industry for the costs incurred in evaluating and in monitoring the total nutritional value of their products? Should incentives be offered to promote the sale of more natural and lightly processed foods, particularly in institutional environments?

2.4. Lack of Income and Food Accessibility

Hunger has been associated with a poverty cycle wherein a lack of energy due to food deprivation prevents adequate work patterns; non-work limits the family income to subsistence levels; lack of income limits the accessibility of various foods and knowledge to choose well. The Nutrition Canada survey data have not yet reported on the food consumption patterns of the lowest income families in Canada, although it was established that a greater nutritional risk existed for citizens below the line of low income.

In poorer urban areas, the foods that are available for purchase are frequently those which are high in calories. Sweets and snack foods rapidly allay hunger.

A food selection pattern favouring filling foods, which are highly promoted on TV, may be seen in local food outlets as the consumer demand. Because restocking is consistent with this limited demand, certain nutritious foods may not be available in certain areas at certain times. As an illustration of this problem, "filling" foods that have gained acceptance in isolated northern communities are not as nutritious as those of the traditional diet. The high incidence of decayed and missing teeth at an early age in certain areas limits the choice of foods that may be chewed. This lack of variety in textures also limits the ability to choose foods according to Canada's Food Guide. Consideration should perhaps be given to establishing supplementary feeding programs, associated with health and dental clinics, in some isolated areas.

3. Implications of Nutrition Policy and Changes in Dietary Habits for Food Production, Processing, Distribution, Research and Development

Any significant changes in Canadian food consumption patterns, for example along the lines of the dietary recommendations recently released by Health and Welfare Canada, could have major implications for Canadian food producers, processors and distributors, and would require substantial adjustments within the industry. Some of these implications are outlined in this section.

A general indication of what the future may hold was provided by two sets of unpublished demand projections made by Agriculture Canada in 1975. These projections examined the likely range of demands for Canadian agricultural products that could emerge by the year 2000. The "commercial" estimate, based on the assumption that income is the most important determinant of food demand, sets an upper limit on the amounts of various commodities that might be demanded by consumers. The "nutritional" estimate, on the other hand, is based on minimal nutritional requirements and establishes a lower limit on the amounts of various commodities required by Canada's expected population.

If consumers become more aware of nutritional considerations and modify their diets accordingly, there could be a tendency for future food consumption patterns to move more towards the nutritional estimate. Thus, by the year 2000 Canadians could be consuming substantially less meat per capita than they do now, if income were no longer the major factor influencing food demand. On the other hand, they could be consuming more eggs, cereals, dairy products, potatoes, fruits and vegetables than they do now.

If such changes were to come about, they would probably occur gradually over the longer-term without any sudden and abrupt shift. Nevertheless, any changes from current food consumption patterns would clearly have an impact on the food industry. Farming patterns would change, with less emphasis on animal agriculture and feed grain production, and more emphasis on food grains and horticulture. Land use in agriculture would be affected. Growth in the meat packing industry could be below present expectations, while fruit and vegetable processors could face expanded market opportunities.

The industry will be changing anyway over the next 10 or 20 years. The point is, however, that it may not change in the way industry leaders currently expect if nutrition receives a higher profile. With growing awareness of the importance of good nutrition, it is, perhaps, rather unwise for industry to base its projections and plans for expansion and development solely on changes in population and in consumer incomes.

Research programs for food and agriculture may also be affected. Any change in the pattern of Canadian agricultural production points to a change in research priorities and in the allocation of resources for research, in particular as between crops and livestock. Increased research on specific nutrition-related issues would also be necessary. One example will illustrate this point. As noted recently in the Report

of the Committee on Diet and Cardiovascular Disease, if nutrition demanded more linoleic acid, careful agricultural research would be needed to determine which crops could be produced in the Canadian climate to supply needed quantities.

There would also be ramifications for public policy. Agricultural development strategy would have to become more responsive to nutritional factors as they affect the demand for Canadian agricultural products. Adjustment assistance programs might be needed for those sectors of the food system forced to contract their operations. On the other hand, programs to encourage expansion and modernisation of such sectors as horticulture and fruit and vegetable processing might be justified, but on a selective basis in accordance with Canada's competitive position. One can even envisage nutrition becoming a factor in trade policy, for example in tariffs on imported foodstuffs.



FUTURE TRENDS AFFECTING THE
DEVELOPMENT OF FOOD AND NUTRITION
POLICY

A number of factors will affect the future development of food and nutrition policy in Canada. These factors, which include the age structure of the population, urbanization, income distribution, the world food situation, climatic change and the energy crisis, are reviewed briefly in this section. It will be noted that they are not all consistent with one another, although some are mutually reinforcing.

1. Demographic Factors

Changes in the age structure and geographical distribution of the Canadian population could have a major impact on both food policy and the food industry. According to Statistics Canada projections, more than 55 per cent of the Canadian population in 2001 will be over 30 compared with only 44 per cent in 1975. There will be fewer children ages 0-14 and young people 15-24 years and more older people in the 45-64 and 65-plus age groups. With the aging population, sales of breakfast cereals, hot dogs, hamburgers, cookies, sweets and soft drinks will decline while sales of food products favoured by older people will increase. The demand for smaller portions of packaged food will also increase as the proportion of older people in the population rises, as well as the proportion of people living alone.

Turning to the geographical distribution of the population, the projected growth in the Canadian population from 22.8 million in 1975 to 30.7 million in 2001 will be concentrated in four provinces: Ontario, Québec, Alberta and British Columbia. More people will live in cities and fewer in rural areas. Canada's population will become more urbanized and by 2001 the urban population is expected to reach 80 per cent of the national total. This could have important implications for food policy if urbanite consumer concerns come to receive a higher weight in food policy decisions.

2. Income Distribution

Higher family incomes in the future, reflecting, at least in part, more women in the labour force, will affect food expenditures and eating patterns. For example, spending on the more exotic, delicatessen-type foods may increase. Canadians will tend to eat more meals away from home in future. Further growth in the number of fast-food outlets can be expected, reflecting the relative cheapness of the meals served in these establishments and their popularity among working women and others who may not have the time or the inclination to prepare meals themselves.

As more and more meals are consumed in restaurants and fast-food outlets, there could be a growing pressure on the food service industry to provide nutritious meals. Similarly, if working people rely more heavily on processed food products with built-in conveniences for quick and easy preparation in the home, food processors may be expected to ensure

that the nutritional value of "raw" food is retained in the products they produce.

Not all Canadians will share in any future growth in real incomes. The current high level of unemployment in Canada is expected to persist into the 1980's. There will be increasing numbers of people living on retirement incomes. For these and other low-income people, expenditures on the basic necessities of food, shelter and clothing account for the bulk of income. Nutritional problems of these groups could persist in the future unless they are countered by positive policy action.

3. Energy

In light of the current and anticipated energy situation, the Canadian government has adopted an energy strategy with a number of features including the following: moving domestic oil prices to international levels, competitive pricing for natural gas vis-a-vis other energy sources and energy conservation measures. All this has a number of implications for food policy.

Energy costs are an important component of the cost of producing food. Approximately 12 per cent of all the energy supplied in Canada is used directly or indirectly in the production, processing, distribution and consumption of food. Just over half of this is used in agricultural production, about one-quarter in food processing and the rest in food distribution and preparation in the home. According to the Food Prices Review Board, energy accounts for about 11 per cent of total operating costs in agriculture, varying from 4 per cent for chicken production units to 15 or 16 per cent for beef and grain production. However, total energy costs are about 5 per cent of the value of farm production, regardless of product. In food processing, energy accounts for 1.2 per cent of total operating costs, ranging from 0.5 per cent for meat processors to 2.5 per cent for bakeries. Fuel expenditures probably account for about 5 per cent of the costs of transporting food. No estimate is available regarding energy costs of food wholesaling and retailing, but they are not thought to be particularly large in relation to sales.

The Food Prices Review Board has concluded that direct energy costs account for no more than 5 per cent of total food costs. Thus an increase of 20 per cent in the prices of fuel and electricity could result at most in a 1 per cent increase in food prices. This suggests that energy prices will not contribute substantially to increase food costs in the years ahead, although prices of particular food products will not be affected equally, reflecting the different proportions of total cost represented by energy. With higher absolute prices and changing relative prices, consumer food consumption practices could be affected with possible ramifications for nutritional well-being.

4. Land Use

Despite popular impressions to the contrary, Canada has limited food land resources. There are about 170 million acres in farms of which only 55 million are prime land suitable for a wide range of crops. Another 120 million acres of agricultural land are "in reserve", 55 to 60 million acres of which are suitable for crop production and the remainder for forage. Over the last 10 or 15 years, farmland has been lost to food production as cities have expanded and as farms have been sold to developers, with the land often held out of production for several years before development actually occurs.

This loss of agricultural land is a major concern for some people. Many others, however, believe that current fears that the loss of farmland to urban development will reduce the ability of Canadians to feed themselves are exaggerated. There have been repeated calls for agricultural land to be designated and preserved for agricultural use, and some provinces have already acted. One must recognize, however, that over half of Canada's best farmland is situated within 50 miles of the major metropolitan centres. In particular, many of the acres especially suited to the production of specialty crops such as fruits and vegetables are located in southern Ontario and British Columbia where urban development is spreading. These are significant agricultural resources whose loss could have repercussions for the food supply of future generations of Canadians. In addition, as agricultural production moves to less suitable or less productive land, costs increase and these higher costs are eventually reflected in food prices.

Land use is therefore an integral part of food policy and has been recognized as such in the government's food strategy. The government has indicated its intention to work to conserve, and restore where necessary, scarce resources essential to food production. In this regard, it has said it is prepared to join the provinces in any initiatives to formulate a national land use policy.

5. The World Food Situation

Some progress has been made in tackling the world food problem in recent years. On a global basis, food production per capita has kept pace with the increase in population. There has been some recovery from the critical situation faced in 1973 and we may now be said to be in a period of cautious optimism. Even so, efforts to deal with the world food problem on a consistent basis have not been too successful. While mass famine has been avoided, there is still a great deal of malnutrition and starvation in the world. According to UNFAO data, 500 million people, mostly in the developing countries, are suffering from protein-energy malnutrition. There are acute food shortages in many countries and most of the 115 developing countries will continue to be confronted by food shortages over the next decade. By 1985, there will be an extra billion people to feed.

This situation imposes a particular responsibility for food exporting countries such as Canada and the United States. Canada is one of the few agricultural exporting countries left in the world. People in other countries may sometimes depend on us for their food. It is incumbent on Canada, therefore, to increase its agricultural productivity through better management and fuller use of current technology on farms and through research. This is needed to meet not only domestic requirements but also international demand for our food exports on both a commercial and concessionary basis. In addition, there may be an increasing moral obligation in the future for countries like Canada to reduce waste throughout the food system, for example in energy use or by feeding less food to livestock that is fit for human consumption.

It must be emphasized, however, that it is not possible for countries like Canada to feed the world. The best way for Canada to help solve the world food problem is not by maximizing her own food production, but rather by helping the developing countries over the medium to long term to develop their own food production and distribution capacity. Unless this happens, developing countries will continue to face food shortages and balance-of-payments problems and there will be no improvement in the nutritional status of their populations. Canada will be expected also to provide food aid, mainly grain, on a concessionary basis to meet emergency short-term problems.

6. Climatic Changes

The question of climatic change is by no means unrelated to the world food situation. In the recent years, increasing attention has been paid to changes in the world's climate and irregularities in the weather. Examples of these irregularities include drought in the U.S.S.R. in 1972 and 1975 (which led to huge Russian grain purchases from North America to make good shortfalls in domestic production), the drought and southerly shift of the Sahara desert into the Sahelian region of West Africa, frosts in Brazil and the southern United States. The result has been short crops, higher food prices and even starvation.

According to some climatologists, we may have been experiencing a particularly favourable warm period in recent years. The climate is now cooling off and there is also more variability in the weather from week to week and year to year. Europe and North America have been having cooler winters, and the concomitant shorter growing season has major implications for agriculture and food production, particularly in a northern country like Canada. The cooling trend poses problems for temperate zone agriculture in terms of shorter growing seasons, less summer warmth and unreliable rainfall. Our crop varieties have been developed for so-called "normal" weather. When the weather is abnormal, yields fall, production declines and prices rise. If Canada is to continue to make its full contribution to food supplies, it would seem that a food policy should give some priority to the development of new crop varieties more suited to a cooler climate and to meeting the future nutritional needs of Canadians.

SELECTED TABLES



TABLE 1

Recommended Daily Nutrient Intake, Dietary
Standard for Canada

Age	Sex	Weight (kg)	Height (cm)	Energy ^a (kcal) (MJ) ^b		Protein (g)	Water-Soluble Vitamins			
							Thiamin (mg)	Niacin (NE) ^f	Riboflavin (mg)	Vitamin B ₆ ^g (mg)
0-6 mo	both	6	-	kgx117	kgx0.49	kgx2.2(2.0) ^e	0.3	5	0.4	0.3
7-11 mo	both	9	-	kgx108	kgx0.45	kgx1.4	0.5	6	0.6	0.4
1-3 yrs	both	13	90	1400	5.9	22	0.7	9	0.8	0.8
4-6 yrs	both	19	110	1800	7.5	27	0.9	12	1.1	1.3
7-9 yrs	M	27	129	2200	9.2	33	1.1	14	1.3	1.6
	F	27	128	2000	8.4	33	1.0	13	1.2	1.4
10-12 yrs	M	36	144	2500	10.5	41	1.2	17	1.5	1.8
	F	38	145	2300	9.6	40	1.1	15	1.4	1.5
13-15 yrs	M	51	162	2800	11.7	52	1.4	19	1.7	2.0
	F	49	159	2200	9.2	43	1.1	15	1.4	1.5
16-18 yrs	M	64	172	3200	13.4	54	1.6	21	2.0	2.0
	F	54	161	2100	8.8	43	1.1	14	1.3	1.5
19-35 yrs	M	70	176	3000	12.6	56	1.5	20	1.8	2.0
	F	56	161	2100	8.8	41	1.1	14	1.3	1.5
36-50 yrs	M	70	176	2700	11.3	56	1.4	18	1.7	2.0
	F	56	161	1900	7.9	41	1.0	13	1.2	1.5
51+ yrs	M	70	176	2300 ^c	9.6 ^c	56	1.4	18	1.7	2.0
	F	56	161	1800 ^c	7.5 ^c	41	1.0	13	1.2	1.5
Pregnancy				+300 ^d	1.3 ^d	+20	+0.2	+2	+0.3	+0.5
Lactation				+500	2.1	+24	+0.4	+7	+0.6	+0.6

a Recommendations assume characteristic activity pattern for each age group.

b Megajoules (10⁶ joules). Calculated from the relation 1 kilocalorie = 4.184 kilojoules and rounded to 1 decimal place.

c Recommended energy intake for age 66+ years reduced to 2000 kcal (8.4 MJ) for men and 1500 kcal (6.3 MJ) for women.

d Increased energy intake recommended during 2nd and 3rd trimesters. An increase of 100 kcal (418.4 kJ) per day is recommended during the 1st trimester.

e Recommended protein intake of 2.2 g/kg body wt. for infants age 0-2 mo and 2.0 g/kg body wt. for those age 3-5 mo. Protein recommendation for infants 0-11 mo assumes consumption of breast-milk or protein of equivalent quality.

f 1NE (niacin equivalent) is equal to 1 mg of niacin or 60 mg of tryptophan.

g Recommendations are based on estimated average daily protein intake of Canadians.

TABLE 1, Cont'd.

Age	Sex	Water-Soluble Vitamins			Fat-Soluble Vitamins		
		Folate ^h (μ g)	Vitamin B12 (μ g)	Vitamin C (mg)	Vitamin A (RE) ^j	Vitamin D (μ g cholecalciferol) ^k	Vitamin E (mg d- α -tocopherol)
0-6 mo	both	40	0.3	20 ⁱ	400	10	3
7-11 mo	both	60	0.3	20	400	10	3
1-3 yrs	both	100	0.9	20	400	10	4
4-6 yrs	both	100	1.5	20	500	5	5
7-9 yrs	M	100	1.5	30	700	2.5 ^l	6
	F	100	1.5	30	700	2.5 ^l	6
10-12 yrs	M	100	3.0	30	800	2.5 ^l	7
	F	100	3.0	30	800	2.5 ^l	7
13-15 yrs	M	200	3.0	30	1000	2.5 ^l	9
	F	200	3.0	30	800	2.5 ^l	7
16-18 yrs	M	200	3.0	30	1000	2.5 ^l	10
	F	200	3.0	30	800	2.5 ^l	6
19-35 yrs	M	200	3.0	30	1000	2.5 ^l	9
	F	200	3.0	30	800	2.5 ^l	6
36-50 yrs	M	200	3.0	30	1000	2.5 ^l	8
	F	200	3.0	30	800	2.5 ^l	6
51+ yrs	M	200	3.0	30	1000	2.5 ^l	8
	F	200	3.0	30	800	2.5 ^l	6
Pregnancy		+50	+1.0	+20	+100	+2.5 ^l	+1
Lactation		+50	+0.5	+30	+400	+2.5 ^l	+2

^h Recommendation given in terms of free folate.

ⁱ Considerably higher levels may be prudent for infants during the first week of life to guard against neonatal tyrosinemia.

^j 1 RE (retinol equivalent) corresponds to a biological activity in humans equal to 1 μ g retinol (3.33 IU) or 6 μ g β -carotene (10 IU).

^k One μ g cholecalciferol is equivalent to 1 μ g ergocalciferol (40 IU vitamin D activity).

^l Most older children and adults receive vitamin D from irradiation but 2.5 μ g daily is recommended. This intake should be increased to 5.0 μ g daily during pregnancy and lactation and for those confined indoors or otherwise deprived of sunlight for extended periods.

TABLE 1, Cont'd.

Age	Sex	Minerals					
		Calcium (mg)	Phosphorus (mg)	Magnesium (mg)	Iodine (µg)	Iron (mg)	Zinc (mg)
0-6 mo	both	500 ^m	250 ^m	50 ^m	35 ^m	7 ^m	4 ^m
7-11 mo	both	500	400	50	50	7	5
1-3 yrs	both	500	500	75	70	8	5
4-6 yrs	both	500	500	100	90	9	6
7-9 yrs	M	700	700	150	110	10	7
	F	700	700	150	100	10	7
10-12 yrs	M	900	900	175	130	11	8
	F	1000	1000	200	120	11	9
13-15 yrs	M	1200	1200	250	140	13	10
	F	800	800	250	110	14	10
16-18 yrs	M	1000	1000	300	160	14	12
	F	700	700	250	110	14	11
19-35 yrs	M	800	800	300	150	10	10
	F	700	700	250	110	14	9
36-50 yrs	M	800	800	300	140	10	10
	F	700	700	250	100	14	9
51+ yrs	M	800	800	300	140	10	10
	F	700	700	250	100	9	9
Pregnancy		+500	+500	+25	+15	+1 ⁿ	+3
Lactation		+500	+500	+75	+25	+1 ⁿ	+7

^m The intake of breast-fed infants may be less than the recommendation but is considered to be adequate.

ⁿ A recommended total intake of 15 mg daily during pregnancy and lactation assumes the presence of adequate stores of iron. If stores are suspected of being inadequate, additional iron as a supplement is recommended.

Source: Dietary Standard for Canada, Health Protection Branch, Health and Welfare Canada, 1975.

Eat a variety of foods from each group every day

milk and milk products

Children up to
11 years 2-3 servings
Adolescents 3-4 servings
Pregnant and nursing
women 3-4 servings
Adults 2 servings

meat and alternates 2 servings



bread and cereals 3-5 servings

whole grain or enriched

fruits and vegetables 4-5 servings

Include at least two vegetables.



Health
and Welfare
Canada

Santé et
Bien-être social
Canada

Operation
Lifestyle

Eat a variety of foods from each group every day

Energy needs vary with age, sex and activity. Foods selected according to the guide can supply 1000-1400 calories. For additional energy, increase the number and size of servings from the various food groups or add other foods.

milk and milk products

Children up to 11 years	2-3 servings
Adolescents	3-4 servings
Pregnant and nursing women	3-4 servings
Adults	2 servings

Skim, 2%, whole, buttermilk, reconstituted dry or evaporated milk may be used as a beverage or as the main ingredient in other foods. Cheese may also be chosen.

Examples of one serving

250 ml (1 cup) milk, yoghurt or cottage cheese

45 g (1½ ounces) cheddar or process cheese

In addition, a supplement of vitamin D is recommended when milk is consumed which does not contain added vitamin D.



meat and alternates

2 servings

Examples of one serving

60 to 90 g (2-3 ounces) cooked lean meat, poultry, liver or fish

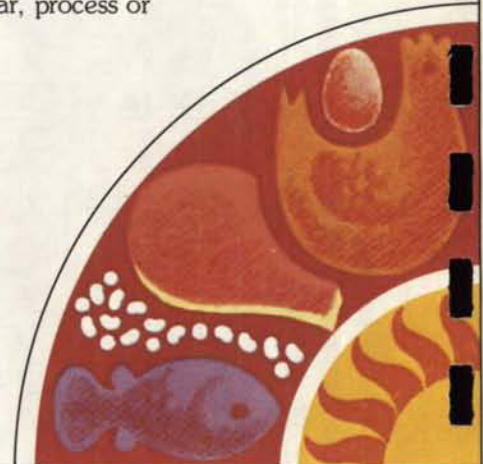
60 ml (4 tablespoons) peanut butter

250 ml (1 cup) cooked dried peas, beans or lentils

80 to 250 ml (⅓-1 cup) nuts or seeds

60 g (2 ounces) cheddar, process or cottage cheese

2 eggs



bread and cereals

3-5 servings

whole grain or enriched. Whole grain products are recommended.

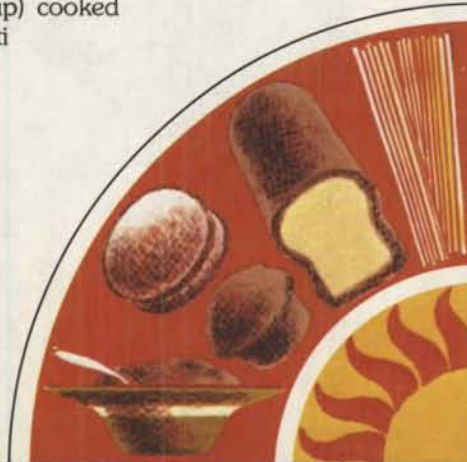
Examples of one serving

1 slice bread

125 to 250 ml (½-1 cup) cooked or ready-to-eat cereal

1 roll or muffin

125 to 200 ml (½-¾ cup) cooked rice, macaroni, spaghetti



fruits and vegetables

4-5 servings

Include at least two vegetables.

Choose a variety of both vegetables and fruits — cooked, raw or their juices. Include yellow or green or green leafy vegetables.

Examples of one serving

125 ml (½ cup) vegetables or fruits

125 ml (½ cup) juice

1 medium potato, carrot, tomato, peach, apple, orange or banana

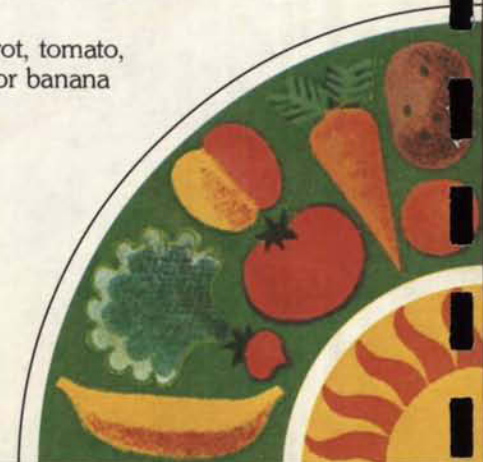


TABLE 3

COMPARISON OF PREVALENCE OF RISK (BIOCHEMICAL
AND ANTHROPOMETRIC TESTS) ACCORDING TO
INCOME CATEGORY

Physiological Group	Vitamin C	Serum Folate	Hemoglobin	Serum Transferrin	Thiamin	Ponderal Index	Serum Cholesterol	M.C.H.C.
0-4 M&F	◐	○	◐	◐		N/A	N/A	
5-9 M&F	○			◐	◐	N/A	N/A	■
10-19 M	●		○	◐	◐	N/A	N/A	○
10-19 F	◐	○		◐	◐	N/A	N/A	
20-39 M		○		◐		◐		
20-39 F	○	◐	◐				◐	
40-64 M	◐	○	○		○	◐		●
40-64 F	○	●	◐		●	●		
Over 65 M	●	◐	●			○		
Over 65 F	◐	◐						
Expectant	◐	○	N/A	○		N/A	N/A	

◐ Prevalence of risk greater in "lowest" income category than in "other" income category. *

● Prevalence of risk greater in "lowest" and "low" income categories than in "other" income category. *

◐ Prevalence of risk greater in "low" income category than in "other" income category. *

○ Some trend with greatest prevalence of risk in "lowest" income category.

◐ Prevalence of risk greater in "other" income category than in "low" income category. *

◐ Prevalence of risk greater in "other" income category than in "lowest" income category. *

■ Prevalence of risk greater in "other" income category than in "low" and "lowest" income categories

N/A Not applicable

* Based on approximate statistical tests

Source:
Report on the Relationship Between
Income and Nutrition. Health and Welfare
Canada, 1975.

TABLE 4

STATE OF KNOWLEDGE ON NUTRITIONAL REQUIREMENTS

	INFANTS			CHILDREN			ADULTS			
	Pre-mature	0-6 Months	6-23 Months	Pre-school	School Age	Adolescent	Young	Aged	Pregnant	Lactating
Total Energy										
Carbohydrates:										
Starch										
Sugars										
Fibers										
Total Fat										
Fatty Acids (EFA)										
Protein										
Amino Acids:										
Arginine										
Histidine										
Isoleucine										
Leucine										
Lysine										
Methionine										
Phenylalanine										
Threonine										
Tryptophane										
Valine										
Minerals:										
Calcium										
Magnesium										
Iron										
Phosphorous										
Sulfur										
Sodium										
Potassium										
Copper										
Molybdenum										
Manganese										
Zinc										
Chromium										
Selenium										
Nickel										
Vanadium										
Chlorine										
Fluorine										
Iodine										
Vitamins:										
Vitamin A										
Vitamin D										
Vitamin E										
Vitamin K										
Thiamin										
Riboflavin										
Niacin										
Pyridoxine										
Pantothenate										
Cobalamin										
Folic Acid										
Biotin										
Choline										
Ascorbic Acid										

As of 1976

Little or no data

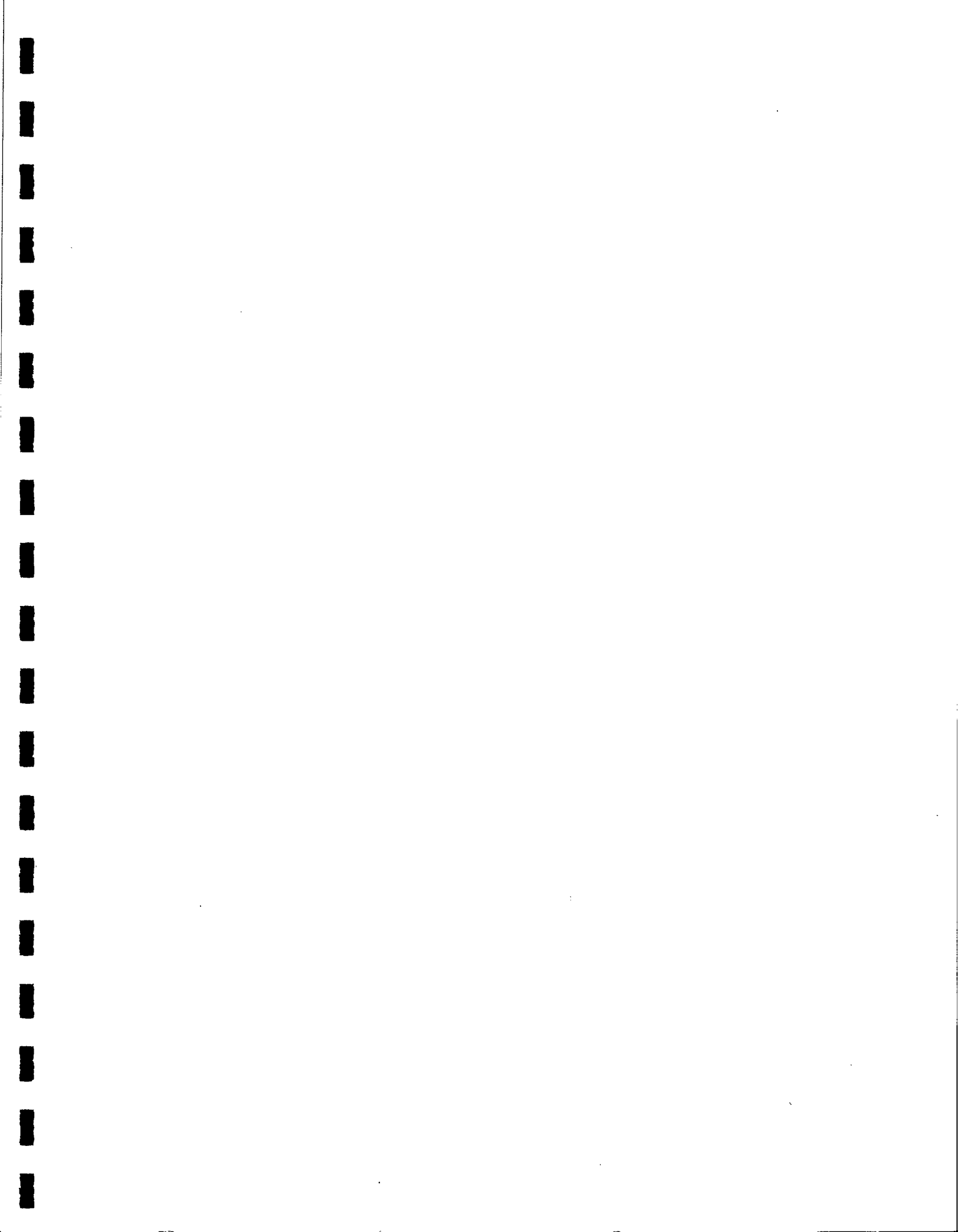
Fragmentary data

Substantial progress made

Source:

Dietary Goals for the United States. Select Committee on Nutrition and Human Needs, U.S. Senate, Feb. 1977.

FOOD CONSUMPTION AND NUTRITION
POLICY IN SELECTED COUNTRIES



Food Consumption and Nutrition
Policy in Selected Countries

This section reports on food consumption and nutrition policy in six selected overseas countries, Sweden, West Germany, Norway, France, Finland, and the United Kingdom. The information was obtained primarily through the Department of External Affairs and the Canadian posts in each capital city. The information is presented in the form of "answers" to a series of questions that were posed in respect of each country. The information for Norway is based on a Commentary by Knut Ringen in the American Journal of Public Health.

Question 1. Does a national food policy exist? If so, is it principally an agricultural production policy or does it also link food, nutrition and health?

1 Sweden

According to information received through External Affairs from the Canadian Embassy in Stockholm, there is no national food and nutrition policy in Sweden per se. The National Board of Health and Welfare, the Food Administration Board of the Department of Agriculture and the Department of Agriculture all have some input into questions concerning the Swedish diet. For example, the Department of Agriculture hopes that Swedes will consume more home-grown foods. It supports subsidies on certain products, i.e. dairy products, to protect the Swedish farm industry rather than to provide a balanced nutritious diet. The Food Administration Board is mostly concerned with various matters related to food including legislation on food labelling, packaging, false advertising and dangerous ingredients. Some sort of direction in food policy is provided by the National Board of Health and Welfare.

2 West Germany

The West German government considers food policy to be of equal importance to agricultural policy. Food policy includes measures aimed at establishing a well-functioning food market enabling consumers to obtain high-quality goods at reasonable prices. The consumer is to be protected against risks to his or her health and against fraud and deception. In addition, the consumer's position in the market is to be strengthened. Food policy is not related to agricultural production policy which is a European Economic Community matter.

3 Norway

Norway has a comprehensive national food and nutrition policy, as outlined in a White Paper presented by the Minister of Agriculture in December 1975. The proposals put forward in the White Paper were developed in cooperation by agriculture and public health experts and represent the culmination of a long development of policy in the health and agricultural sectors which makes the intent of the proposal politically acceptable and its implementation likely.

4 United Kingdom

Food policy is designed to encourage domestic producers to produce as much food as possible, as economically as possible in the belief that, given adequate supplies and freedom of choice, consumers will see that they are well fed. Some attention is given to nutrition and health factors, for example there is a legislation to ensure that food is of good quality and to prevent the use of certain food additives. However, the impact of those considerations on the government's overall food policy is minimal.

5 France

A national food policy does not exist in France.

6 Finland

It would appear that Finland does not have a national food policy encompassing a nutrition and health component at the present time. Concerns have been expressed about the lack of a national food policy, for example by the Finnish State Nutrition Council which is drafting a plan for a national food and nutrition policy. In 1975, the Finnish Food Industries Federation put forward the aims of national food policy, stressing the importance of nutrition in policy and in the functioning of the food industry. Health authorities, for example the National Board of Medicine, are also contributing to the development of national nutrition policy.

Question 2. If this national food policy has a human nutrition component, is this expressed in terms of national dietary goals?

1 Sweden

According to a recent report released by a U.S. Senate Committee chaired by Senator McGovern, the National Board of Health and Welfare was motivated in 1969 by "the decidedly negative results of the changed food habits in Sweden during the last 30-40 years and the enormous costs of medical care of disease related to these changes" to begin a ten-year campaign to encourage the public to exercise more and alter their diets. The recommended dietary changes included more vegetables, fruit, milk and cereals and less fats and oils, sugar, syrup and sweets. While the impact of the program has not been completely measured, an interview survey conducted in 1974 found that the sugar consumption had declined from 61.5 to 47.8 pounds a year while fresh vegetable consumption increased from 31.5 to 44.8 pounds a year. Poultry consumption rose from 3.3 to 8.8 pounds, but potato consumption dropped from 191.4 to 144.9 pounds. Consumption of certain fruits also declined. The survey also showed that the percentage of energy in the diet derived from fats declined from about 41 per cent in 1965 to 38.5 per cent in 1974.

2 West Germany

National dietary goals are reflected in instructions to the public to "eat correctly". Ten rules have been formulated covering:

- 1 The functions of various foods.
- 2 The need to eat varied foods.
- 3 The purposes and sources of protein.
- 4 The need for moderation in fat consumption.
- 5 An explanation of carbohydrates including a recommendation to eat less sugar.
- 6 The function of vitamins and minerals.
- 7 The dangers of excess weight.
- 8 The need for smaller meals and more frequent mealtimes.
- 9 The need to enhance enjoyment of basic food.
- 10 Information showing "correct" food is inexpensive.

These rules reflect goals to discourage fat and sugar consumption, to encourage vegetable and fruit consumption, to increase awareness of the public concerning nutritionally superior food, to encourage proper food storage and preparation and to cut down on overeating. Another goal, reflected in the campaign "Fit Instead of Fat", is to relate exercise to good eating habits.

3 Norway

The first objective of Norway's new policy is that healthy dietary habits should be encouraged. The government has stated it will formulate policy with the aim that:

- 1 By means of a gradual readjustment of the diet, the proportion of fat in the total energy intake should be reduced to 35 per cent;
- 2 The energy intake from fat should be replaced by increased consumption of starchy foods, primary cereals and potatoes. Sugar as a source of energy ought to be reduced;
- 3 In terms of total fat consumption it is the aim to increase the proportion of polyunsaturated fats and decrease the proportion of saturated fats.

4 United Kingdom

Food policy in the U.K. does not contain a human nutrition component expressed in terms of dietary goals. Producers are encouraged to aim at the production of lean meat and public education - the main component of the government's activity in the nutrition field - attempts to persuade people to consume less food and particularly less fat, sugar and alcohol. Consumption of cereals and vegetable fibre is recommended and milk is still considered to be an essential food. There is no government program to encourage people to substitute polyunsaturated for saturated fat in the diet.

5 France

There are no dietary goals in France.

6 Finland

Finnish health authority proposals for a national nutrition policy include a modified version of the 1968 Nordic resolution on the standard and development of the national diet. The proposals mention, as worthwhile changes, a reduction of fat consumption by 35 per cent and that of sugar by 10 per cent of the total energy intake respectively. They also stress the concept of nutrition density as a way of expressing nutritional value in nutritional information.

Question 3. Does the food policy include any indirect measures to influence the consumption of food in the desired direction?

1 Sweden

As noted above, the Swedish authorities have begun a campaign to improve the quality of the food consumed, focussing on a public information programs. The National Board of Health & Welfare's campaign to improve the quality of the Swedish diet combines its information activities to include food and exercise rather than target in on food alone. For example, the publicity handout "Start the Day Better" suggests that good cheap nutritious breakfasts be combined with a series of wake-up exercises. Aside from a few modest, country-wide information campaigns, the Board targets most of its caterers, institutions, school cafeterias, and also centralized sports bodies reflecting the close links to sports and physical fitness.

2 West Germany

There are a few financial inducements to encourage good eating habits. The value-added tax on food products is 5.5 per cent instead of the standard 11 per cent in recognition of the fact that food is essential for all including low-income groups. Milk is distributed to schools in some, but not all, provinces. There is no food stamp-type program in Germany. School milk distribution and a program to reduce butter prices for old age pensioners are more social and political than dietary measures reflecting excess production of milk and butter in the European Community. Higher milk consumption is consistent with the dietary goals, but higher butter consumption is not.

3 Norway

To encourage the production and consumption of desirable foodstuffs, production subsidies will be used as much as possible to regulate the production of those foods that are supplied mainly through domestic production. Consumer subsidies will be used to make those products that

are desirable, but whose price is fixed in the international market, competitively advantageous on the domestic market. Examples of the way in which nutritional goals may be integrated into the general structure of consumer subsidies include consideration of subsidies on potatoes as part of the effort to increase consumption of complex carbohydrates and unrefined foods, reduction or removal of current subsidies on butter and margarine, use of subsidies to stimulate consumption of low-fat milk in comparison to white milk and arrangement of meat subsidies in relation to fish so that per capita meat consumption is not increased.

4 United Kingdom

The British government has not generally favoured indirect measures to influence the consumption of food in a desired direction. There are no taxes on imported food and even though the government review value-added tax on such luxury foods as confectionery, alcohol and candy, these levies are regarded as revenue raisers rather than health taxes. The Ministry of Agriculture, Fisheries and Food sees no special advantage in special taxes on specific foods as it believes that such taxes would not have a significant impact on consumption.

Consumer subsidies on bread, flour, butter, cheese, tea and milk, introduced in 1975 as part of the government's Social Contract, have not been phased out, except for those on milk and butter. British officials do not believe that these subsidies had a significant effect on consumption. In any event, they were intended not to influence the consumption of food in a desired direction, but rather to assist underprivileged members of society. They have now been superseded by higher social security benefits.

5 France

Some measures affecting the consumption of certain foods do exist, but they do not appear to be influenced by nutritional considerations. They are rather taxes imposed for reasons of economic or fiscal policy, including the sale of butter at reduced prices to free up space in refrigerated storage facilities, taxes on wines, alcohol, liquor and tobacco designed to finance the state budget rather than implement a national public health policy. The freezing of profit margins on fruits, vegetables, fish, soft drinks and fruit juice to control inflation and check the increase in the food price index. There are no subsidies on food consumption.

6 Finland

In one of the supplementary budgets of 1974, \$125,000 were reserved for information, educational and research purposes in order to decrease sugar consumption. In 1975, the Ministry of Social Affairs and Health appointed a team to prepare recommendations on how to reduce sugar consumption and how to use the funds that had been allocated for this purpose. The team reported that special measures should not be used "against" a single, commonly used foodstuff, but rather that programs to reduce sugar consumption should be an integral part of general nutrition

education activities. The so-called "Sugar Funds" have been used by the National Board of Medicine to help Finnish health authorities contribute to the creation of a national nutrition policy.

Question 4. Do national food and nutrition programs exist?

1 Sweden

Sweden has a school lunch program. However, it has not been too successful as it appears that children prefer not to eat in school cafeterias because such places tend to be noisy and uncomfortable. The high labour costs involved in food preparation and presentation may also contribute to the apparent failure of the program. In Sweden, as elsewhere, children apparently prefer to eat "junk food".

No grants are given for supplementary food purchases. Low income citizens receive welfare assistance, of course, but no direction is given on how the funds should be spent. All children from birth to age three receive free vitamin supplements.

2 West Germany

German food and nutrition programs stress public information. A strong nutrition profile is maintained on the basis of advertising and dissemination of information to the press, the provision of information to individuals and groups through consumer advisory offices located in cities and towns throughout the country and through school information programs. The advisory offices attempt to influence the nutritional make-up of canteen, restaurant and institutional meals and also school lunches. The latter are not particularly important however, as German schools end at 12.30; school lunches are not subsidized.

3 Norway

Norway's new food policy states that nutritional education should be promoted at all levels of public education. In particular, medical personnel should be more familiar with, and promote the dissemination of information concerning, the value of nutrition on health. Public information will be used to motivate people towards an improved diet, to disseminate a broad understanding of the major components in such a diet, and develop the basis for people to acquire the needed skills and knowledge so that they can become self-sufficient in questions of diet relative to the available information and supply of foods and drinks.

4 United Kingdom

The U.K. school lunch program, under which free or subsidized lunches are available according to need and family size, is principally a welfare program directed at poor and large families, rather than a health program which attempts to direct consumption in a particular direction. The program is operated by local governments, who receive advice from the central government on what kind of food to offer. Local

authorities are free to spend as much or as little of the central government's rate support grant (covering roads, parks, other local needs) on food as they wish. The trend in recent years has been to move away from the traditional set lunch to the cafeteria approach, in which the children eat something, even if it is hamburger and chips, rather than see good food wasted.

British authorities generally have a voluntarist approach to nutrition. One exception is the fortification of foods. Bread and flour are compulsorily fortified with calcium and riboflavin and margarine with vitamin D, while powdered mashed potatoes are fortified with vitamin C on a voluntary basis to replace the vitamin lost in processing. Some consideration is being given to the fortification of japatī flour with vitamin D to combat the problem of rickets among immigrant children.

5 France

Feeding programs for school children, military personnel, etc. do not exist, nor are there programs of the food-stamp type for the needy and economically weak members of society.

Question 5. Are national policies and programs implemented directly across the country or are they re-interpreted and administered individually by provincial/state, regional or municipal authorities?

1 Sweden

Any program dealing with health care or health education and disease prevention is the responsibility of the county councils. Occasionally, pilot projects are initiated by the National Board of Health and Welfare in a county council. The results of these projects are passed to county councils and interested individuals. While the councils are serviced by the National Board, the ultimate responsibility for administering programs rests at the county council level.

2 West Germany

Food policies are federally planned and implemented. The Federal Ministry of Food, Agriculture and Forests and the Federal Ministry of Youth, Family and Health are jointly responsible for food policy in Germany. The provinces traditionally have had a minimal involvement in nutrition programs. However, with an increased awareness of consumer interests, provinces are acting in an uncoordinated fashion to provide food information which often duplicates that provided by the Federal Government.

National policies are administered by Consumer Advisory offices with 50 per cent federal and 50 per cent provincial financing. These offices are city and town oriented. Agricultural associations, which are financed entirely by the provinces, have a network of household and consumer

advisory offices aimed particularly at farming and country wives.

3 Norway

Administrative arrangements proposed to carry out Norway's nutrition policy include:

- 1 The establishment of an interministerial body to identify projects and draw up plans for the implementation of policy. Responsibility for policy implementation is divided between the Ministries of Fishing, Consumer Affairs, Government Administration, Environment, Commerce, Church and Education, Agriculture, Social Affairs and Foreign Affairs.
- 2 Reorganization of the national nutrition council as a technical advisory body to the government, with national nutrition and food supply questions as its primary concern;
- 3 Creation, within the Ministry of Social Affairs, of an office for nutrition to be responsible for the administration of nutrition matters.

Specific means for implementing the policy would be developed on a cooperative basis between local and central government, trade and professional organizations, the voluntary organizations and groups representing different consumer interests.

4 United Kingdom

The central government is responsible for legislation on food additives and food quality, food research, the promotion of agricultural production, food taxes, the control of claims that can be made in food advertising and the financing of social welfare programs. Local authorities administer the school lunch program out of rate grants provided by the central government.

5 France

Many authorities are involved including the Ministries of Agriculture, Finance, National Education, Defence, Commerce and Industry, Health and Consumer Affairs, the National Institute of Agricultural Research, the National Institute of Health and Medical Research and the National Centre for Study and Research on Food Nutrition.

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