

## Nutrition Policy in the United States : Opportunities and Challenges

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### Introduction

In the introduction to a 1979 book entitled "Nutrition Intervention in the United States," James Austen and Christopher Hitt stated :

"The absence of a national food and nutrition policy is the obvious missing piece in this country's nutrition activities. Instead, there is a potpourri of programs that have emerged over the years for multiple reasons and in disparate shapes. Their coordination is notoriously poor, their interrelationships unclear, their directions unrelated, and their financial weight unjustified."... The clamor for formulating a national nutrition policy has grown, and initial steps have been taken, such as the promulgation of national dietary goals. Nonetheless, the intense controversy sparked by the goals suggests that establishing such a policy will still be far from easy, if even possible.(Austen and Hitt, 1979).

In the fifteen or so year since this was written, the state of nutrition policy has changed significantly in many respects. Some of the changes are viewed positively by much of the nutrition community, such as the Nutrition Labelling and Education Act passed in 1990(FDA, 1993), the formulation of quantitative targets for dietary recommendations in 1989(National Research Council, 1989), and the articulation of specific and quantifiable goals and objective for nutrition improvement within the context of Healthy People

2000-the government's current statement of public health priorities and strategies(DHHS, 1991).

Despite the progress that can be identified in specific areas such as these, much of what Austen and Hitt said in 1979 still applies today ; the United States still does not have a national nutrition policy, there is still a need to harmonize-if not coordinate-policies in diverse areas, there continues to be controversy in many areas, and it is still far from clear whether the development of a national nutrition policy is possible. Moreover, the explanation for this state of affairs remains the same as that identified by Austen and Hitt (ibid):imperfect nutrition knowledge, vested political and economic interests, the multisectoral nature of nutrition problems and nutrition-relevant policies, and diverse disciplinary perspectives on the nature of nutrition problems and solutions. Of course, the U.S. is not unique in these respects ; the same difficulties and explanations are apparent in other developed and developing countries(Milio, 1990 ; Kjaernes et al., 1993 ; Pinstrup-Andersen et al., 1993).

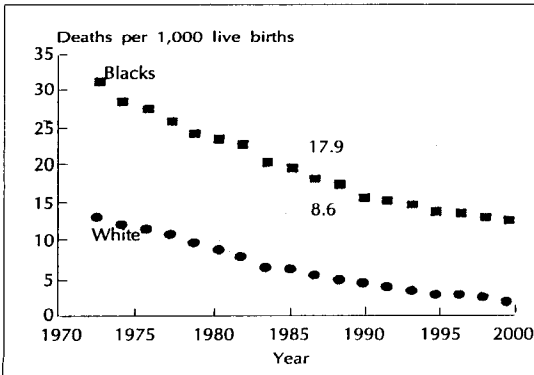
The task of this paper, as given by the symposium organizers, is an ambitious one : to provide an overview of the philosophy and practices of national nutrition policy situation in the United States. As in most developed countries, this could embrace a wide range of food and nutrition problems-from hunger to heart disease, from maternal and child malnutrition to micronutrient malnutrition, from safety to food secu-

ity. Thus, the coverage in this paper will be selective, by necessity. The paper is divided into three sections: First a brief overview is provided of major trends and causes of mortality in the U.S. population. This is followed by a description of three categories of nutrition-related problems and associated government policies. These are maternal and child nutrition, hunger and food insecurity, and chronic disease. The paper closes with some comments on the philosophy of nutrition policy in the U.S. and its relevance, or lack thereof, for nutrition policy in other countries.

### Overview of Levels and Causes of Mortality in the U.S.

The levels and causes of mortality in a society provide a glimpse into a wide range of societal conditions, including: 1) personal behaviors related to health, diet and lifestyle; 2) social, economic and physical environments; 3) the quality of and access to preventive and curative health care. This section reviews mortality statistics for the U.S. in order to provide a broad public health context for the discussion of nutrition policies and programs.

Fig. 1 shows that between 1970 and 1987 the infant mortality rate in the U.S. declined from about 20 per 1000 livebirths to 10 and has continued to decline thereafter(DHHS, 1991). However, the figure shows that in 1987 the overall rate of infant mortality for black infant was still twice that of white infants



Source: National Vital Statistics System and National Linked Birth and Infant Death Data Set(CDC).

Fig. 1. Infant Mortality Rates, Blacks and Whites.

and the gap between the races is widening over time because the decline is faster among whites.

Fig. 2 presents the major categories of death for infants in the U.S., based on the national vital registration system<sup>1)</sup>. Of the five major categories of death shown for infants, short gestation and low birthweight have a partial connection to nutrition. The death rate due to this category is approximately 90 per 100,000 or just under 1 per 1000.

Fig. 3. presents the causes of death for children aged 1-14 years, In many developed societies the lowest rates of death are found during these ages, and the U.S. is no exception. The figure shows that injuries are the leading causes of death at a rate of a-

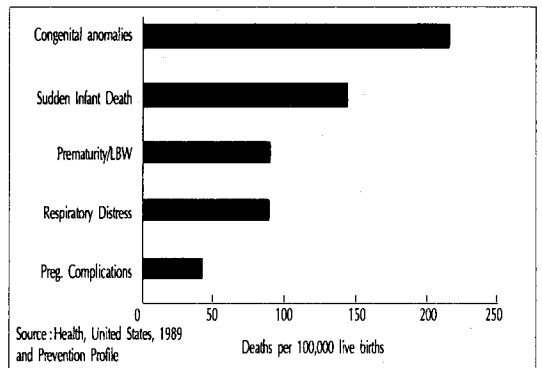


Fig. 2. Leading causes of infant mortality(1987).

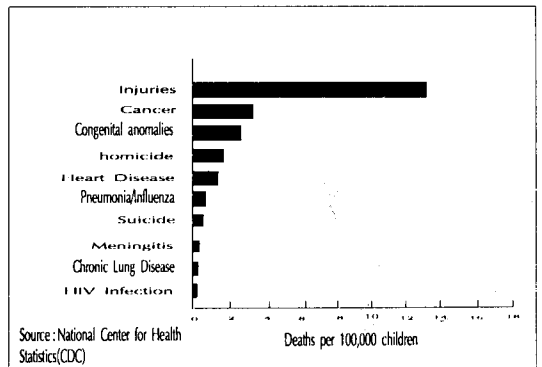


Fig. 3. Leading causes of death for children aged 1 through 14(1987).

1) Fig. 2-5 are adapted from Healthy People 2000 (DHHS, 1991)

bout 14 per 100,000, with the vast majority being accidents of various kinds.

Fig. 4. presents the causes of death for youth aged 15-24 years in 1987. Again, unintentional injuries are the leading cause and occur at a rate about three times higher than 1-14 year-olds. Homicides and suicides are the second and third leading causes of death.

Fig. 5. presents the major causes of death for adults aged 25-64 years in 1987. Cancers, when considered as a single category, represent the leading cause of death, followed by heart disease. In addition to these two leading causes, which have clear links to diet, stroke and diabetes are also diet-related and are among the leading adult killers.

Fig. 6. shows that age-adjusted total cardiovascular disease mortality has been on the decline in the U.S.

since at least 1965, with most of the decline accounted for by coronary heart disease. The total decline in cardiovascular mortality since 1968 is 47%. (Brownson et al., 1993). This decline is associated with reduced rates of cigarette smoking, lower mean blood cholesterol levels and increased control of high blood pressure (DHHS, 1991). Despite this progress, heart disease remains a major cause of adult disability, lost productivity and health care costs.

One of the elements that is not captured by these mortality data is the net effect on life expectancy at birth. Fig. 7 shows that life expectancy has increased steadily for U.S. whites and blacks from 1970 to 1985, after which it has flattened completely for blacks and slowed considerably for whites. There remains an ap-

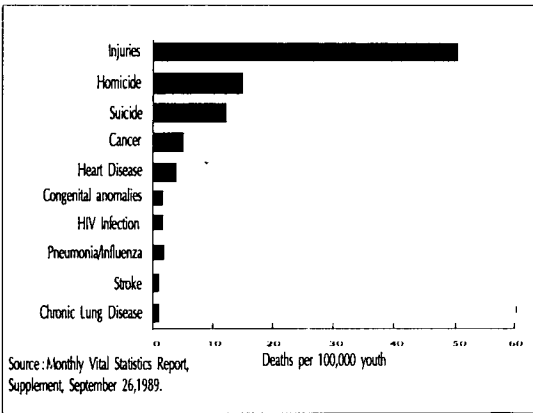


Fig. 4. Leading causes of death for youth aged 15 through 24 (1987).

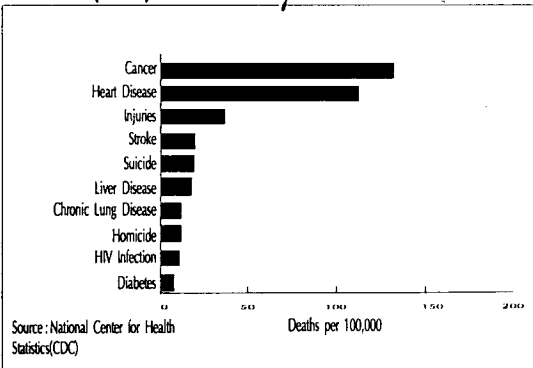


Fig. 5. Leading Causes of Death for Adults Aged 25 Through 64 (1987).

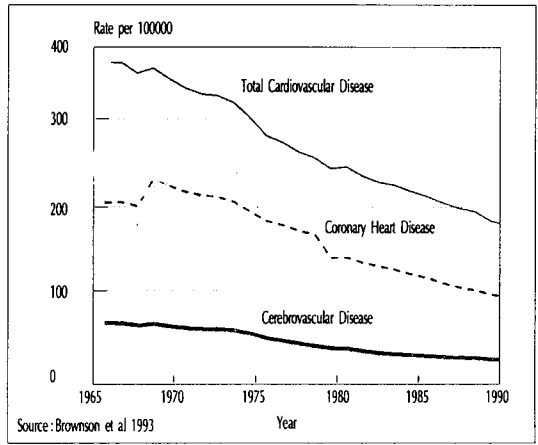


Fig. 6. Cardiovascular disease death rates, United States, 1965-90.

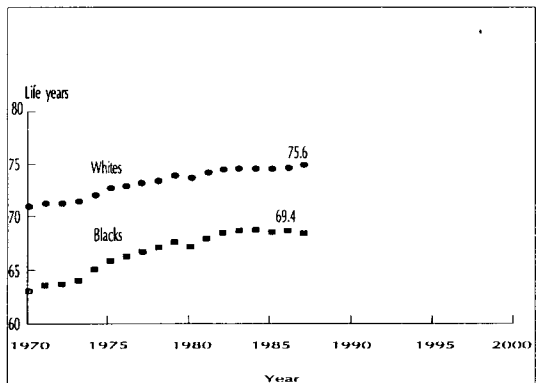


Fig. 7. Life expectancy at birth, blacks and whites.

Source : Health, United States, 1989 and prevention profile

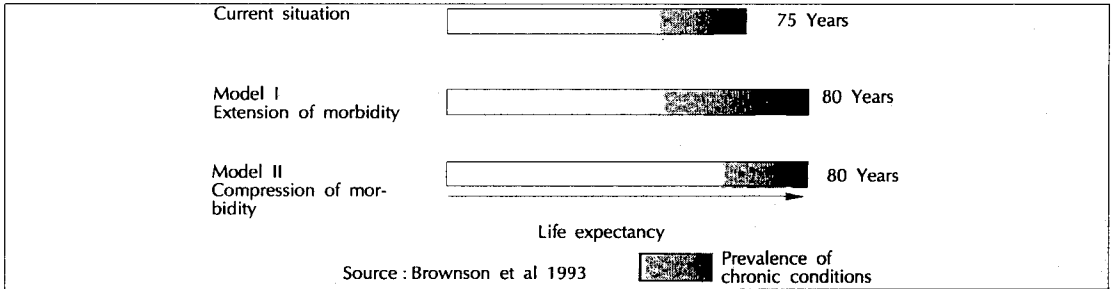


Fig. 8. Alternative models of extension or compression of morbidity as life expectancy is extended.

proximate six year difference in life expectancy between the two groups.

Although life expectancy has been viewed as an important indicator of the health of populations, it can be a deceptive indicator if viewed in isolation. Fig. 8. shows the current situation in a population in which life expectancy is 75 years and a portion of life is spent in the prevalence of chronic conditions. As life expectancy continues to increase there are two models consider. The first is one in which the years of life spent in the presence of chronic morbidity is extended ; the second model is one in which morbidity is compressed and the number of years spent in a morbidity-free state is extended. Clearly, the latter is a more desirable outcome from a personal and societal perspective.

Building upon this perspective, Fig. 9 shows that, of the total life expectancy in the U.S. of 73.7 years,

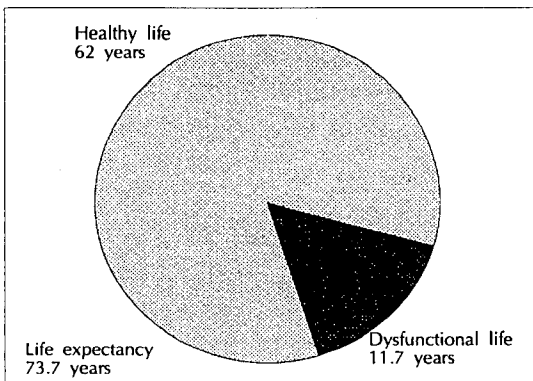


Fig. 9. Years of healthy life as a proportion of life expectancy, U.S. Population(1980). Source : National Vital Statistics System and National Health Interview Survey(CDC)

only 62 of these years are spent in what is termed "healthy life." The other 11.7 years represent so-called "dysfunction caused by chronic or acute conditions (DHHS, 1991). This is a measure that the U.S. has only begun to monitor. It is quite valuable because life expectancy may be extended through expensive medical intervention-giving the appearance of progress-but the years of functional life can more accurately reflect progress in prolonging the quality of life and in postponing the need for medical care and social support. The final perspective in this section relates to the economic costs of nutrition-related diseases. Although this is difficult to quantify, Tab. 1. presents estimates for the major chronic diseases for recent years. The total of almost \$ 200 billion dollars includes the costs of direct health care as well as lost productivity due to morbidity or premature mortality. In the case of cancers, it is estimated that roughly 30% of the total shown here is due to direct health care, the remainder due to lost productivity. This proportion is expected to vary according to the age of on-

Table 1. Estimated annual costs of diet-related chronic diseases.

Disease	Annual Cost <sup>1)</sup>
CHD 1993	\$ 51.6B
Stroke 1991	15.6B
Hypertension 1991	13.7B
Cancers 1990	98.0B
Diabetes 1987	20.3B
<b>Total</b>	<b>\$199.2B</b>

1) Includes cost of direct medical care and lost productivity  
Source : Brownson et al 1993

set and ensuing consequences. In the case of low birthweight, the cost of direct hospital care alone was an estimated \$6.8 billion in 1987(Surgeon General's Report, 1988). It is alone was an estimated \$6.8 billion in 1987(Surgeon General's Report, 1988). It is even more difficult to estimate the proportion of these conditions that is due to diet alone, but all authoritative sources in the U.S. agree that diet is a major contributor to chronic diseases(National Research Council, 1989 : Surgeon General's Report, 1988). It is even more difficult to estimate the proportion of these conditions that is due to diet alone, but all authoritative sources in the U.S. agree that diet is a major contributor to chronic diseases(National Research Council, 1989 : Surgeon General's Report, 1988 ; DHHS 1991).

It is relevant to note, that the total national resources spent on early cancer detection activities such as screening for breast, cervical and colorectal cancer, are estimated to be only \$3-4 billion in 1990(Brownson et al., 1993). The total spent on primary prevention of cancer, such as tobacco control and dietary improvement is estimated to be even smaller than this amount(ibid).

### Nutrition Problems, Programs and Policies

Turning now to the subject of nutrition problems per se, Table 2 provides an overall framework for organizing the many categories of nutrition-related problems. As shown, it is possible to distinguish a least five categories of problems, including those related to : a) reproduction, growth and development ; b) chronic disease ; c) food safety ; d) food access or security ; and e) problems specific to the elderly. In each case it is useful to think about problems related to deficiencies in energy and/or specific nutrients as well as problems related to excessive intake. One of the reasons it is useful to recognize these five categories is that, in the U.S. context at least, different types of institutions, policies and programs are involved with

each.

#### A. Overall Policy Instruments

Having outlined the various categories of nutrition-related problems in the previous Table, Table 3 provides an overview of the types of policy instruments the U.S. government use to address these problems. Scientific research is listed first, because it is a diverse and important category upon which many other policy instruments are based. The types of research vary from molecular and biological aspects of agricultural, food and nutritional sciences, to social and behavioral sciences, and research on nutrition interventions at

**Table 2.** Major categories of food-related public health problems.

	<u>Deficiency</u>	<u>Excess</u>
· Reproduction, Growth and Development through Adolescence		
· Chronic Disease		
· Food Safety		
· Food Access/Security		
· Problems Specific to the Elderly		

Source : Pelletier and Habicht, 1994

**Table 3.** U.S. Nutrition policy Instruments in Use.

1. Nutrition Research(wide range)
2. Dietary Recommendations & RDA's
3. Consumer Information & Guidance
4. Consumer Education & Professional Education
5. Product Labelling by Industry
6. Product Nutrient and Health Claims by Industry
7. Other Industry Regulation(food safety, health inspections)
8. Food Supply Fortification
9. Food & Nutritional Assistance Programs
  - a) food stamps
  - b) child nutrition programs
  - c) emergency food assistance program
  - d) foreign food assistance programs
10. National Nutrition Monitoring
11. Community Interventions
12. Nutrition on Health Promotion(HP2000)

the individual to community levels. A major use of this research historically has been the formulation of Recommended Dietary Allowances and, more recently, the formulation of dietary guidelines and recommendations.

Apart from research, it is convenient to group the other policy instruments into five major categories :

- 1) the dissemination of information, dietary guidance and education to the public and to practitioners such as health care professionals ;
- 2) regulation of information and health claims made by industry ;
- 3) food and nutrition assistance programs ;
- 4) national nutrition monitoring ; and
- 5) a relatively recent addition of nutritional aspects of health promotion, with a heavy focus on community action and voluntary partnerships with industry.

These policy instruments will be revisited in the final section of this paper, but for now they provide an overall context for the examples presented in this section. These are : maternal and child nutrition, hunger and food insecurity, and chronic disease. As will become clear, there are actually a number of interrelationships among these problems and among the policies and programs bearing on.

### B. Maternal and Child Nutrition

As noted earlier, prematurity and low birthweight represent major contributors to infant mortality in the U.S.. In fact, approximately 75% of deaths in the first

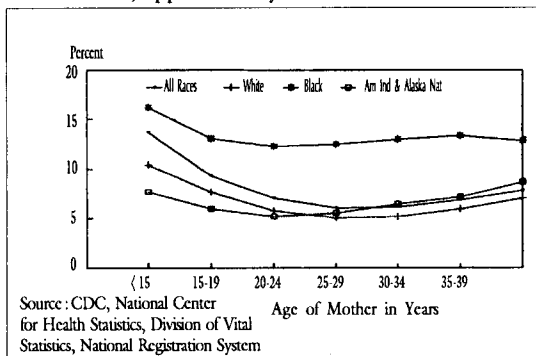


Fig. 10. Low birth weight as a percent of total live births, by age of mother and race of infant, 1986-88.

month and 60% of deaths in the first year occur among low birthweight infants(DHHS, 1991). Accordingly, the prevention of low birthweight has been a public health priority for a number of years and one for which a highly successful nutrition program has been implemented nationwide.

Fig. 10 shows the rate of low birthweight among different populations groups in the U.S. and across maternal age categories. Low birthweight is highest among teenagers of all races and roughly twice as high among blacks as compared to whites at any given age. Note that this figure includes all low birthweight infants, including those with prematurity and those with intra-uterine growth retardation.

One of the most consistent nutritional risk factors for low birthweight is inadequate maternal weight gain during pregnancy. This is shown in Fig. 11, based on fullterm births only. In both races, mothers with weight gains below twenty pounds have a roughly two-fold increase in the risk of low birthweight compared to those with weight gains in the range of 26-35 pounds. In addition, the figure shows that blacks have a much higher risk of low birthweight than whites, regardless of their weight gains, indicating the presence of additional social or health risk factors.

In response to evidence such as this, in 1990 the Institute of Medicine of the National Academy of Sciences reviewed all of the available scientific evidence and changed the recommended weight gain to 25-35

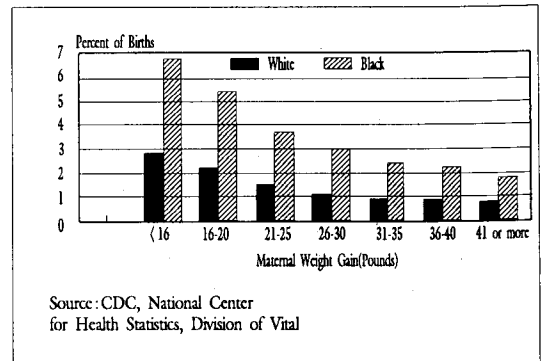


Fig. 11. Low birth weight as a percent of total live births of 40+ weeks gestation, by Maternal weight gain.

pounds for women of average body mass index(IOM, 1990). The recommended range prior to 1990 was lower and more narrow, 22-27 pounds, and was the same for all woman regardless of body mass index. Fig. 12 shows the percent of women with full term births in various weight gain categories in 1989, prior to the implementation of the new recommendations. As shown, 7% of white women and 13% of black women had very low gains, (defined here as less than 16 pounds); a total 32% of white women and 41.3% of black women gained less than 25 pounds.

In addition to inappropriate weight gains, anemia is the other highly prevalent nutrition problem during pregnancy and has been linked to low birthweight (IOM, 1990). Fig. 13 shows the percent of women with anemia, by age and race. Anemia here is defined as a hemoglobin level less than 10g/dl or hematocrit less than 30%.

Roughly 40% of black women below 24 years of age were anemic in 1989, and 27-32% were anemic between 25 and 50 years. The anemia rates are much lower for white women, at 18-24% below 25 years and 12-13% above 25 years.

Although the national data shown here on the prevalence of various maternal and child nutritional indicators is from the late 1980's , the same problems have been present for many decades. In recognition of this, in 1972 the U.S. government initiated the Special Supplemental Food Program for Women, Infants and Children, abbreviated WIC, to complement

the existing maternal and child health programs and food assistance programs administered by the Departments of Health and Human Services and Department of Agriculture(Surgeon General's Report, 1988). After a two year pilot phase, the program was authorized for national implementation in 1974. With funding from the federal level, the program is administered by state health departments though a variety of local agencies, including local health departments and authorized private contract agencies. The program is targeted at those with income less than 185% of the poverty line who also meet specified medical or nutritional risk criteria. Program benefits include vouchers for women to acquire(through retail channels) pre-approved types of nutritious foods that are rich in specific nutrients, on-site nutrition education and referral to physicians for early prenatal and postnatal health care.

Since the early 1980's , the WIC program has enjoyed remarkable support from both political parties and both houses of Congress. In fact, the U.S. Congress has authorized real increases in the WIC budget each year to enable the program to serve an increasing proportion of those deemed eligible based on the income, medical and nutritional criteria. From a national budget in 1975 of \$100 million dollars and a case load of 232,000 women, infants and children, the program has grown to a budget of \$3.2 billion in 1994 and a caseload of 6.4 million and was reaching 70% of eligible people in 1995.

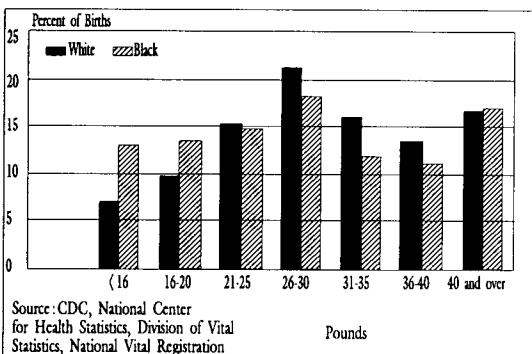


Fig. 12. Percent of live births of 40 weeks gestation or longer, by maternal weight gain and race of mother, 1989.

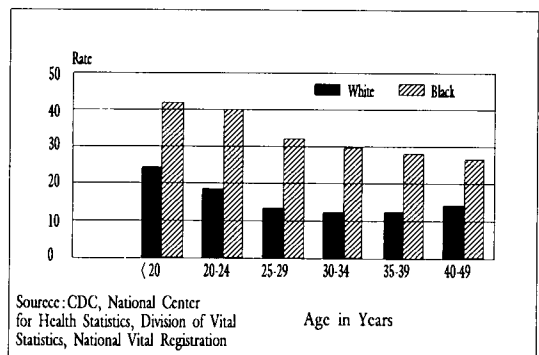


Fig. 13. Anemia rates during pregnancy per 1,000 live births, by maternal age and race, 1989.

The strong political support for WIC is attributed to several factors. First among these is the clear focus on women, infants and children under 5 years of age as participants ; second is the existence of clear medical and nutritional risk criteria which set the program apart from other food assistance or income transfer programs ; and third has been the positive of results of several evaluations showing not only that the program reduces the incidence of low birthweight, prematurity and neonatal mortality, and increases the use of complementary health services, but is also highly cost-effective.

It is estimated that, for each dollar invested in WIC, 4.71 dollars are saved in neonatal care that would have been incurred by government-funded medical insurance programs for this same low income population(Mathematica Policy Research, 1990).

### C. Food Insecurity

The history of U.S. federal policy addressing hunger begins in the 1930's and it is possible to identify three major expansion phases. The first was during the 1930's when the government began purchasing surplus commodities in order to simultaneously bolster declining farm incomes and provide food relief to large urban populations affected by the economic recession. These government interventions included a pilot food stamp program from 1939-43. The second major expansion is traced to 1946, when the national school lunch act was passed in response to the surgeon general's testimony to Congress that a large percentage of young men were being rejected from military service due to nutritional deficiencies incurred during childhood. The third major expansion began during the War on Poverty in the 1960's and 70's when the pilot food stamp program was resurrected into a national program, the Child Nutrition Act and Older Americans Act were passed, and WIC and all of the current food assistance programs were initiated or enhanced. Although these expansions have all been linked to concern about the social welfare and/or health status of the poor, the political support has stemmed in great measure from their being legis-

lativey linked to subsidies and other benefits for strong agricultural interest groups(Browne et al., 1992).

As noted in a recent critique of out-dated myths in U.S. agricultural policy(Browne et al., 1992), the third expansion phase in the 1960's was significantly different from the previous ones because, legislatively, it did not rely exclusively on the disposal of surplus food. Unlike commodity distribution programs, the food stamps program was enacted as an entitlement program in which, by force of law, anyone meeting the income-and asset based eligibility requirements could receive benefits. As it expanded to national status and became an integral component of income support programs in the U.S., it grew to an average of about 2 million participants in the 1980's and 27 million by the end of 1994. The food stamps program now makes up 72% of all food assistance programs in USDA and roughly half of the department's total budget(CNI, June 3, 1994).

Because the food stamps program is not dependent on disposal of surplus commodities, the \$27 billion cost of the program now represents a more vulnerable element of the federal budget and is and subject of current debate in Congress. The next section places the current debate about the federal food assistance programs in the larger context of changes in the distribution of taxes, wages and social programs in recent decades.

Fig. 14 shows the percent change in aggregate in-

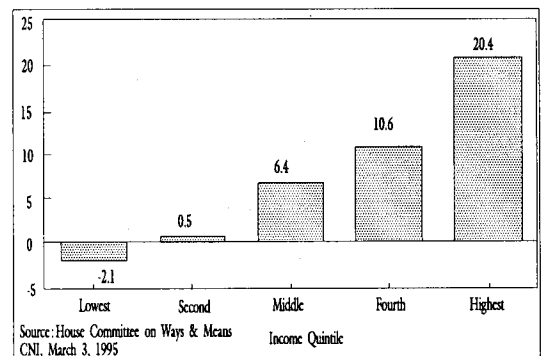


Fig. 14. Changes in income 1979-89(Percent changes in post-tax adjusted family income, by quintile).



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come between 1979-89 by income quintile, with the figures shown here representing net income after taxes have been paid. As shown, the highest quintile experienced a 20.4% increase in disposable income during that decade, while the lowest quintile experienced a 2.1% decline in real income. These changes, along with capital gains taxes for corporations, were justified as tax policies designed to stimulate reinvestment in the economy by the wealthy. They also reflect the relative changes in wages and other income. For instance, when indexed to 1995 dollars, the minimum wage has declined during the 1980's and is currently at its lowest level since the 1950's (analysis by the Center on Budget and Policy Priorities, CNI January 27, 1995). Not surprisingly, these wage and tax policies have contributed to an increase in income inequality. Whereas the upper quintile of the income distribution earned 44% of aggregate national income in 1977, this quintile earned 48.2% in 1993. By contrast, the lowest quintile earned 4.2% in 1977 and earned 3.6% in 1993 (CNI, November 11, 1994).

The decade of the 80's was further marked by large cuts in health and social programs for low income households, as shown in Fig. 15. The figures shown here are adjusted for inflation and refer to the period 1980-90. As shown, cuts on the order of 14-74% were made in maternal and child health, social ser-

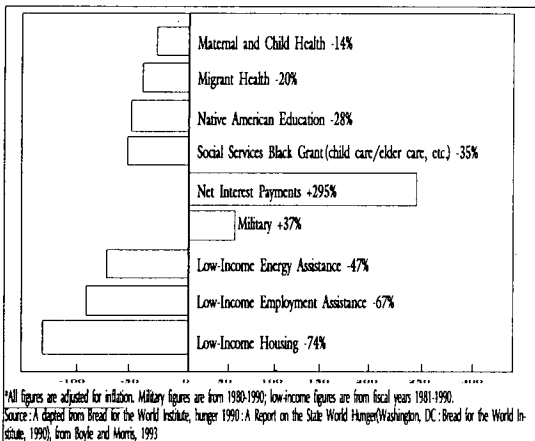


Fig. 15. U.S. Federal budget increases and decreases, 1980-1990\*.

vices block grants, and housing, employment and home energy assistance for low income families. Conversely, large increases were seen in interest payments on the national debt and the military.

Whereas these graphs all refer to the period from 1977 to the early 1990's, legislation proposal in the U. S. House of Representatives in early 1995 would have the effect of continuing these trends. Under pressure to reduce the size of the federal deficit, the House of Representatives proposed spending reductions in a number of areas, including income support programs, food stamps, and child nutrition programs. Figure 16 shows that the proposed law would severely limit increases in the food stamps program over the subsequent five years, resulting in a \$20 billion savings over five years. In similar fashion, increase in the child nutrition programs, including school lunch and the highly successful WIC program, would be limited in

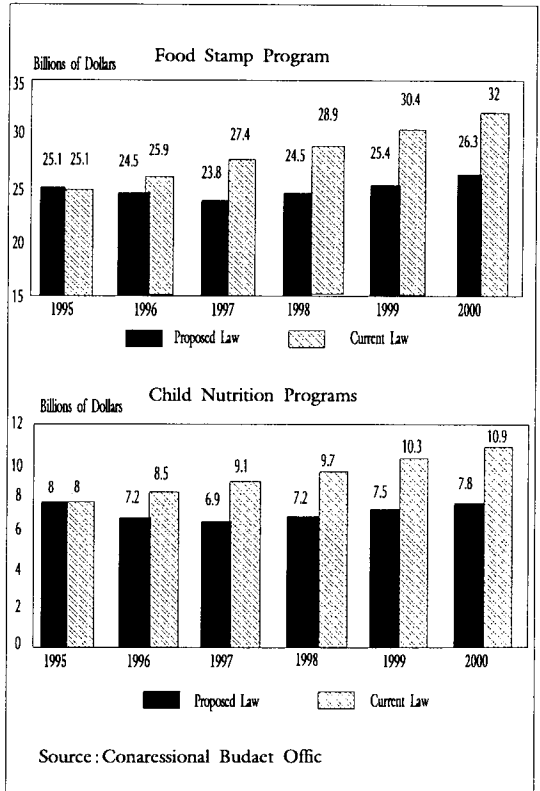


Fig. 16. Effects of the personal responsibility act on federal funding for food stamps and child nutrition.

order to save another \$11.8 billion over five years. Thus the total savings from food stamps and the child nutrition programs would be about \$32 billion over five years. However, at the same time that these food and nutrition programs are being cut to reduce the deficit, the bill proposed to lower taxes by \$400 billion over the same five year period, and the distribution of those tax breaks would again be disproportionately distributed to the wealthy(CNI, March 24, 1995).

It is important to note that these proposals being considered by Congress for limiting growth in food and nutrition assistance programs were not centrally motivated by nutrition concerns, not out of any evidence that the nutrition programs were not reaching their stated objectives. Instead, they were part of a larger set of policy proposals, referred to as the Contract with America, submitted by the conservative party they became the majority party in Congress in the November , 1994 elections. The stated purpose of those proposals was to reduce the size of the government bureaucracy and its degree of regulation in the affairs of the economy and its citizens ; to reduce the size of the federal deficit ; to relieve states and localities from the burden of under-funded and federally-mandated programs ; to reform the welfare system ; and to relieve citizens of some of the burden of taxation. In effect, this represents an effort to reverse the trends that began in mid-century, towards a larger federal budget and bureaucracy, greater federal control over state policies through negative regulation, increasing taxes, and increasing regulation of many as-

pects of the economy(Keley, 1987). Thus, just as some of the expansions in the food and nutrition assistance programs for the poor were motivated and sustained in large measure by non-nutritional and purely political interests related to the agricultural sector(Browne et al., 1992), They were being threatened in the mid-1990's for reasons having little to do with a consideration of the nutritional need for or benefits arising from these programs.

#### D. Diet and Chronic Disease

For most of this century, the primary interest of the U.S. government in relation to food has been to maintain safe and reliable food supplies, to maintain a strong and reliable agricultural base for the economy and, not least, to maintain the delicate political-economic equilibrium among a bewildering web of interest groups. In their critique of U.S. agricultural policy, Browne et al.(1992), maintain that technology, international markets, political economy relationships, and nutritional and environmental concerns have all changed to such an extent in recent decades as to necessitate a major overhaul in the design of U.S. agricultural policy.

For the first half of this century, the dietary recommendations of the federal government were more or less consistent with the food that was being produced. As shown in Fig. 17, these included maintaining diversity in the diet-in the form of a recommendation by USDA to consume from five food groups-and to include adequate amounts of fat and sugar in the diet. The dominant concerns were to pre-

**Table 4.** Selected current U.S. dietary recommendations and U.S. Averages.

Nutrient	Recommendation	U.S. Values	
		Men	Women
Total Fat(1986)	≤ 30% kcals	36.4%	36.7%
(1980)		34.5%	
Saturated Fat(1986)	< 10% kcals	13.2%	13.4%
Cholesterol(1986)	< 300mg/d	435	272
Fruits & Vegetables(1990)	Servings/day	3.3	3.7
	5+servings	17%	23%

Sources : IOM, 1991, Serdula et al, 1995 and Allred, 1995

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vent deficiencies and to provide enough protein and energy to sustain growth and high levels of work output.

As evidence emerged in the 1950's and 60's linking animal-derived fats and lipids to risk of heart disease, nutritional interests began to diverge from agricultural interests. Since 1977, with the publication of the U.S. dietary goals, successive dietary guidelines and recommendations have urged not only the consumption of a varied diet, but also limits on the intake of fat, cholesterol, salt, sugar and alcohol, the maintenance of ideal body weight, and increases in physical activity. In the meantime, fortification and enrichment of the food supply with vitamins and minerals was undertaken to enrich staple foods and restore nutrients lost during processing.

As shown in Fig. 18, from the Surgeon General's Report on Nutrition and Health in 1988, the scientific consensus by the late 1980's was such that many of the dietary recommendations were considered relevant for reducing the risk for multiple chronic diseases simultaneously. This was followed, in 1989,

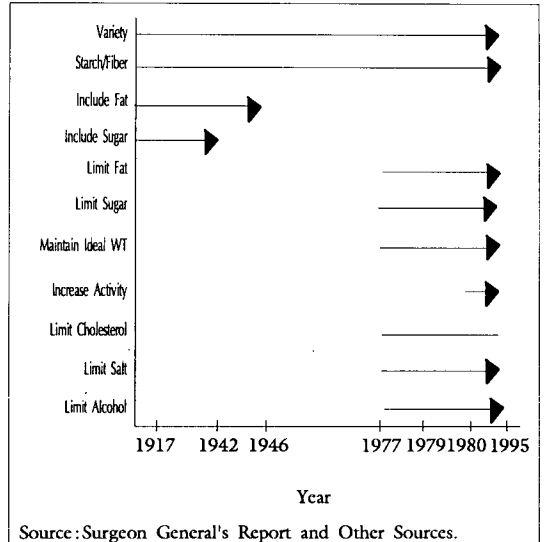


Fig. 17. Longevity of U.S. Federal dietary recommendations.

by the publication of a landmark synthesis entitled "Diet and Health" by the National Research Council of the National Academy of Sciences. This report pro-

Change diet →	Reduce fats	Control calories	Increase Starch & fiber	Reduce sodium	Control alcohol
Reduce risk ↓					
Heart Disease					
Cancer					
Stroke					
Diabetes					
Gastrointestinal Diseases					

Source: Surgeon General's Report, 1988

Fig. 18.

posed quantitative targets for total and saturated fat, cholesterol, sodium, fruit and vegetable consumption, and alcohol intake. Selected of these are shown in Table 4, along with mean values for adult men and women from the mid-1980's. As shown, the mean intake of fat and saturated fat for men and women is well above the individual recommendation that no more than 30% of calories be derived from total fat and no more than 10% be derived from saturated fat. For cholesterol, the mean for men is well above the recommended level of no more than 300 mg/day and the mean for women is below that individual level. Finally, the table shows that only about 17% of men and 23% of women are consuming the recommended five or more servings of fruits and vegetables.

It should be noted that The Diet and Health report is explicit that the table shown here are targets for individuals and, thus, the mean for a population in which virtually all people are meeting the individual requirement should be well below 30%(for total fat) and 10%(for saturated fat). These recommendations on fat intake have been highly controversial, with many scientists claiming they are not low enough and some claiming they may create risks for some segments of the population(Lifshitz and Moses, 1988 : Newman et al., 1990 : Ramsay et al., 1991 : Nicklas et al., 1992). As described by Milio (1990) and Kjaernes et al., (1993) these debates are not unique to the U.S. and reflect differing disciplinary

assumptions(e.g., medical, educational., public health, public policy models) and conflicts with vested economic and political interest groups.

In describing the efforts being taken by the U.S. government to reduce diet-related chronic diseases, it is useful to return to table 3 that showed the range of policy instruments in general. Note that numbers 2-6 are all related to information and education, and numbers 11 and 12 are primarily related to community-level actions.

Although this list of policy instruments-which is highly summarized in itself-suggests that nutrition is being treated as a high priority by the U.S. government, it is important to evaluate these actions within a broader perspective of the determinants of dietary intake and nutritional status. There are two major limitations to an information-and education-based approach that deserve mention, both of which are well-established by social science theory and research(IOM, 1991).

As suggested in Fig. 19, the first limitation arises from the fact that individuals develop preferences, attitudes and behaviors through a process of social learning and, once developed, the behaviors are maintained or influenced by a variety of social and environmental forces. Nutrition information provided to an individual by a government source, a nutritionist, a physician, a textbook or any other source is best viewed as a necessary but not sufficient condition for adopting and maintaining dietary changes.

Such information should be complemented by improvements in the social and food environment in order to be effective. This implies a variety of changes in social food settings such as schools, worksites, supermarkets, restaurants : however, it also implies changes in social norms governing food choices and dietary intake, which are formed and influenced throughout life through information and learning from many sources. It is obvious that advertising of food products has a large influence on social norms and consumer behavior-otherwise the food industry would not spend the billions of dollars it does each

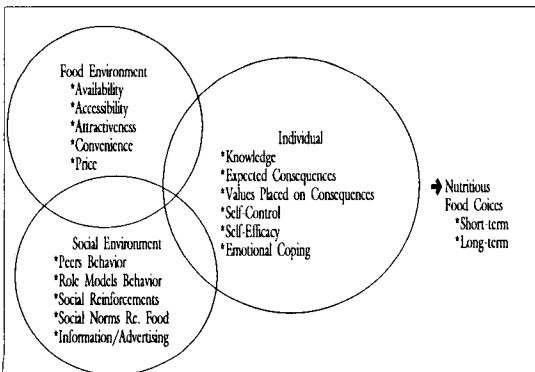


Fig. 19. Adaptation of bandura's social learning theory (Society A).

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year on advertising. It is instructive to note that the entire USDA budget for nutrition education (apart from that within WIC) in 1994 was approximately \$30 million, which is roughly the same amount that a single food company spent in advertising just one of its breakfast cereals (CNI, June 10, 1994)

It is worth noting in Fig. 19 that the positioning of the individual-level factors in relation to the food environment and social factors is deliberate. This figure is meant to imply that the food environment and social factors are "pushing" the individual in the direction of nutrition food choices. This might be the case in a society where the prevailing social, cultural, religious and economic norms all reinforce a the selection of a healthful diet, for instance, one that is naturally high an fruit, vegetable and grain products and low in total and saturated fat, sodium and highly refined products. This is not the case in The U.S.. Fig. 20 has re-arranged these factors to better communicate the situation in countries like the U.S.. In this case, the

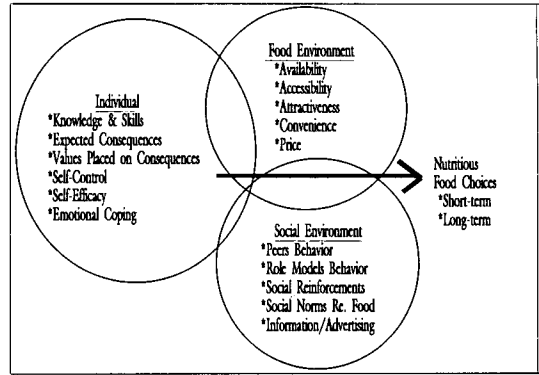
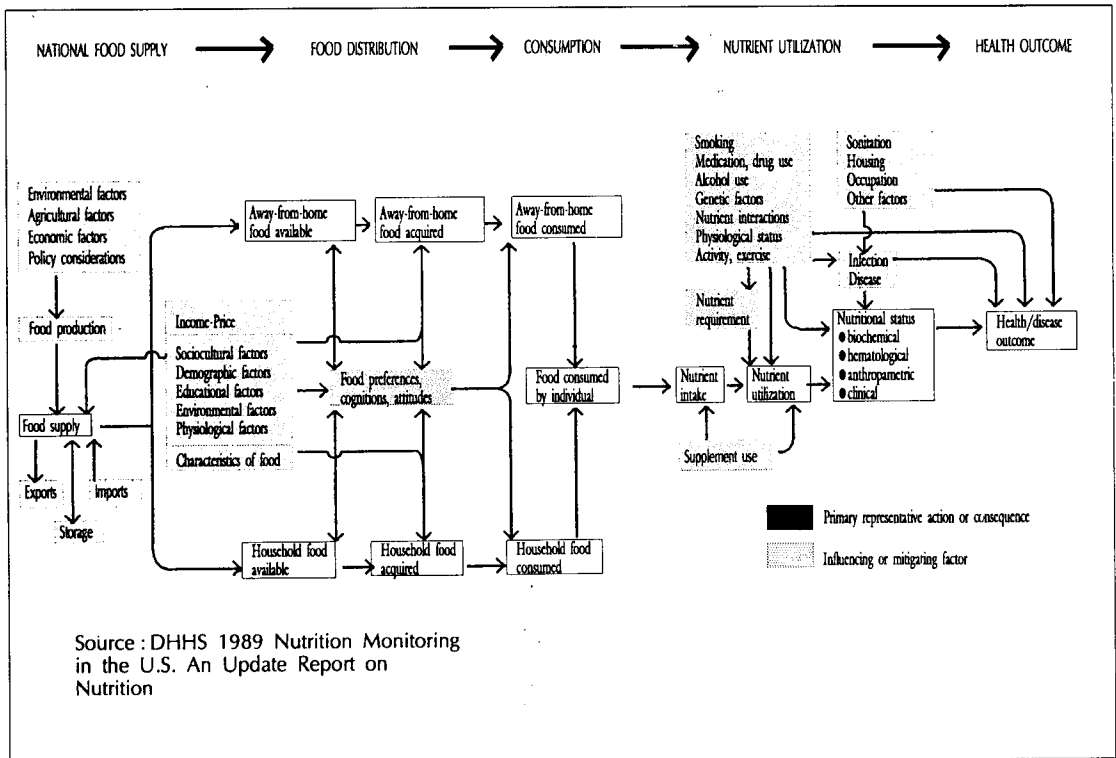


Fig. 20. Adaptation of bandura's social learning theory (Society B).

food dominant environment and social factors are actually obstructing the individual from selecting a healthful diet. It is usually only as a result of strong personal, social or religious values that some Americans can acquire and maintain healthful diets year after year, and decade after decade. This difference between "Society A" and "Society B" in these two fig-



Source : DHHS 1989 Nutrition Monitoring in the U.S. An Update Report on Nutrition

Fig. 21. General conceptual model for food choice.

ures has important implications for countries as they begin to consider how to construct and implement national nutrition policies. In Society A, it may be possible to draw upon deep social cultural and religious norms and customs to help maintain and reinforce healthful diets, whereas the task in Society B is more difficult and requires changing these norms and customs.

The second major limitation of an information-and education-based approach is illustrated in Fig. 21. This figure places the food consumption of an individual within the context of the larger food system. In keeping with the large and growing importance of food away from home in the U.S., it distinguishes that category from food prepared and consumed at home. It also illustrates the links to the national food supply system, incorporating food production as well as imports and exports. All of these supply-side factors are under the influence of a wide variety of policy instruments in the U.S., few of which are based on consideration of contemporary nutrition knowledge and requirements. Two of the most potent influences on consumer behavior, that act in concert with preferences and are influenced by the food supply and food policy, are prices and income, both of which are shown near the center.

In her book entitled "Nutrition Policy in Food Rich Countries" Nancy Milio notes that the central point of contention that divides nutritional and agricultural interests in the question of dietary fats and chronic disease. She notes that the articulation of nutritional goals, such as total fat no more than 30% of calories and saturated fat no more than 10% of calories, can often be controversial all by itself. However, even if that battles is won, there remains the issue of how the goal will be pursued. She notes that :

"The range of instruments with which policy goals can be reached includes the politically and economically less costly means : information, education, research and evaluation. But these are also less powerful for effecting change compared to the more expensive-in political and economic risk-structural

changes by altering such economic measures as subsidies and pricing, production controls, development and marketing support, direct services, and food composition and advertising regulation." (Milio, 1990).

She goes on to note that most governments have a strong preference for the weaker instruments based on information and education, and community-based projects, most all of which are designed to shift consumer preferences rather than food supply.

If this perspective is applied to the U.S., one of the positive signs is that the Nutrition Labelling and Education Act (NLEA) was enacted in 1990. The NLEA not only provides product labels that are easier for consumers to read and understand ; it also standardizes and allows the Food and Drug Administration to regulate the nutrient descriptors placed on food packages and the health claims that are stated or implied on those packages. As Dr. Milio predicts, this piece of legislation was politically costly and it took more than a decade to evolve and finally be passed into law.

However, one of the benefits of the combined package of nutritional goals, public education and awareness, and industry regulation is that the food industry itself has developed and is now marketing thousands of new food products that meet consumer preferences and labelling requirements to be called "low fat" or "reduced fat" or other descriptors. In addition, for several years the livestock industry has been providing leaner cuts of meat and low fat or reduced fat dairy products.

Apart from the regulatory aspects of the NLEA, most of the actions one finds in the U.S. are aimed primarily at the consumer. One does not find evidence that the more powerful policy instruments mentioned by Nancy Milio are being used, nor even considered. Moreover, even the information-based interventions are directed primarily at the individual and have not yet incorporated the science-based models of behavior such as the social learning theory. In Health People 2000, the current guide to improving the

nation's public health, the importance of using a broader environmental approach is acknowledged and endorsed. However, a major constraint at present is the woefully short supply of nutritionists and health educators who could implement such strategies at community level.

Thus, there remain many difficult issues to be tackled in the U.S. in attempting to make a significant impact on diet-related chronic diseases. The following four examples are indicative :

1) As mentioned above, there is a need to closely examine the resources required to implement the nutritional components of the health promotion philosophy articulated in *Health People 2000*. One aspect of this related to community-based professionals ; another aspect relates to the types of training required for such professionals, notably to enable them to design and implement effective programs based on community-organizational and social learning principles, rather than dietary counselling alone. This example is mentioned before all others because many of the actions required to improve the social and food environments, as implied by the social learning model and other models, must be undertaken at community level (Bracht, 1990).

2) One of the major food and nutrition assistance programs-the national school lunch program-does not meet the government's own dietary recommendations for fat, saturated fat and sodium, in part because of the use of surplus commodities in that program. An initiative is underway to bring this program into compliance, but its fate will depend in part on the current debate about food assistance programs in general.

3) The food stamps program currently has limited provisions to encourage selection of nutritious foods among low income participants, a group that is at above-average risk for chronic disease. Being essentially an income-transfer program, the explicit incorporation of nutritional considerations into the program could represent a powerful policy tool for improving the diets of the high-risk population using this program.

4) A fourth challenge is posed by the fact that the

prevalence of obesity has been increasing in recent years, rather than decreasing, despite the apparent increases in consumer awareness, greater availability of low fat foods and slightly lower mean fat intakes among adults (Allred, 1995).

### **A Comment on The Philosophy of Nutrition Policy in The U.S.**

The strong preference for information and education-based approaches for improving diet and reducing chronic diseases in the U.S. is consistent with a number of national values, beliefs and tendencies.

There include the following :

1) that individuals should be free to make their own choices in private matters such as which foods to eat ;

2) that the education of the public in order to facilitate informed decision-making is an appropriate role of government ;

3) that interference in the free-market economy leads to distortions and inefficiencies and should be avoided ; and

4) that the solution to many health and nutrition-related problems can and will be found in science-based knowledge, thereby creating a legitimate role for government-sponsored research in nutritional and biomedical sciences, biotechnology, food sciences and many other fields. It is important to note that this preference for science based approaches is most apparent in the biomedical and technology areas ; social science findings and theories, such as the social learning example, tend to have less salience in policy as implemented.

These values, beliefs and tendencies manifest themselves in many ways, not simply in the arena of nutrition policy, as revealed by public and political resistance to laws governing seatbelts, cigarette smoking in public places and the owning of firearms.

The purpose here is not to debate the soundness or appropriateness of these U.S. tendencies, nor the consistency or lack of consistency with which they are ap-

plied in various policy arenas. Rather, the present purpose is simply to note that they are a function of the particular national values and beliefs held in the U.S., and the social, political, and political-economy forces and relationships operating in recent and historical times. They are not, by any means, a prescription for other countries.

Apart from examining the experiences of particular countries such as the U.S., other countries may find it useful to consider the five principles of health promotion as articulated by the World Health Organization(1984).

These are :

1. Health promotion involves the population as a whole in the context of everyday life, rather than focusing only on people with specific diseases or risk factors :

2. Health promotion is directed towards action on the causes or determinants of health, rather than treating the immediate symptoms :

3. Health promotion combines diverse, but complementary, methods or approaches, including communication, education, legislation, fiscal measures, organizational change, community development, and spontaneous local activities against health hazards :

4. Health promotion aims particularly at effective and concrete public participation :

5. While health promotion is basically an activity in the health and social fields, and not a medical service, health professionals-particularly in primary health care-have an important role in nurturing and enabling health promotion.

In the process of converting these lofty principles into operational policies and programs, it would be useful to initiate a discussion among appropriate leaders concerning the national values upon which their health and nutrition promotion efforts should rest. As revealed in recent book entitled "Health Promotion : Models and Values," Such a discussion brings into play fundamental issues such as individual autonomy, citizenship, social justice, and the appropriate roles of the government(Downie et al., 1990). Such a dis-

ussion would be an essential step en route to developing a national nutrition policy, one that the U.S. has yet to take, and would provide a guidepost for all subsequent steps.

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