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ABSTRACT

These hearings before the Senate Select Committee on Nutrition and Human Needs are organized in three parts: Part I: "Overview--Consultants' Recommendations," with opening statements by Senators Schweiker and McGovern, followed by the presentations of other witnesses. This section focuses on important nutrition education issues that the committee will undertake in the months ahead. Part II: "Overview--The Federal Programs" details the present and future role of the Federal Government in the area of nutrition education. Part IIA: "Nutrition Education--Appendix"--contained here are miscellaneous articles, tables and charts, and publications relating to USDA. [Part 1A--Appendix, has not been included in this document due to copyright reasons, but is available from the Government Printing Office.] (SE)

NUTRITION EDUCATION—1972

HEARINGS

BEFORE THE

SELECT COMMITTEE ON NUTRITION AND HUMAN NEEDS

OF THE

UNITED STATES SENATE

NINETY-SECOND CONGRESS

SECOND SESSION

PART 1—OVERVIEW
CONSULTANTS' RECOMMENDATIONS

WASHINGTON, D.C., DECEMBER 5, 1972

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NUTRITION EDUCATION:

Part 1—Overview—Consultants' Recommendations, Dec. 5, 1972.
Part 1A—Appendix, Dec. 5, 1972.
Part 2—Overview—The Federal Programs, Dec. 6, 1972.
Part 2A—Appendix, Dec. 6, 1972.

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NUTRITION EDUCATION
Overview—Consultants' Recommendations

TUESDAY, DECEMBER 5, 1972

OFFICE OF SENATOR GEORGE McGOVERN

Senate Nutrition Committee To Hold Nutrition Education Heabings

Senator George McGovern (D.-S.D.) Chairman of the U.S. Senate Select Committee on Nutrition and Human Needs announced today they will begin an intensive inquiry into the concept of "nutrition education." "Overview" hearings will be held on December 5 and 6 and will be chaired by Senators Richard Schweiker (R.-Pa.) and Philip Hart (D.-Mich.).

The introductory hearings are intended to set the stage for further, more intensive study of important nutrition education issues that the committee will undertake in the months ahead. Among the problems that the committee intends to explore on December 5, 1972, are the inadequacy of present Federal efforts in nutrition education; the absence of nutrition education among the medical professions, including physicians, dentists and nurses; and the present role of the private food industry through its advertising and labeling techniques. On December 6, 1972, the committee will hear testimony from panels representing the Department of Agriculture and the Department of Health, Education, and Welfare, on the present and future role of the Federal Government in the area of nutrition education.

Both the December 5 and December 6 hearings will begin at 10 a.m. in room 1202 of the Dirksen Building.

A COMPLETE LIST OF WITNESSES FOLLOWS

December 5

Dr. Jean Mayer, Professor of Nutrition, Harvard University, Cambridge, Mass.,
Mr. Robert Choate, an authority on the relationship between nutrition education and food advertising. Washington, D.C.
Dr. George Briggs, Executive Editor of the Journal of Nutrition Education, and Professor of Nutrition, University of California at Berkeley, Calif.
Ms. Helen D. Ullrich, editor, Journal of Nutrition Education, P.O. Box 931, Berkeley, Calif.
Dr. George Christakis, Professor of Community Medicine, Mount Sinai School of Medicine, New York, N.Y.

December 6

Mr. Richard Lyng, Assistant Secretary, U.S. Department of Agriculture.
Dr. Merlin K. DuVal, DHEW, Assistant Secretary for Health and Scientific Affairs, accompanied by other specialists.
Dr. Ned Bayley, USDA Director of Science and Education, accompanied by other specialists.

NUTRITION EDUCATION

Overview—Consultants' Recommendations

TUESDAY, DECEMBER 5, 1972

U.S. SENATE
SELECT COMMITTEE ON
NUTRITION AND HUMAN NEEDS
Washington, D.C.

The Select Committee met at 10 a.m., pursuant to call, in room 1202 of the Dirksen Building, the Honorable Richard Schweiker, presiding.

Staff members present: Kenneth Schlossberg, staff director; Gerald S. J. Cassidy, general counsel; John Quinn, professional staff member; Vernon M. Goetcheus, senior minority professional staff; and Elizabeth P. Hottell, minority professional staff.

Senator SCHWEIKER. The Senate Select Committee on Nutrition and Human Needs hearings on Nutrition Education will come to order.

OPENING STATEMENT BY SENATOR SCHWEIKER, PRESIDING

Senator SCHWEIKER. We take better care of our automobiles than we do our own bodies. Yet what can be more important to each of us than our personal health and that of our families? The hearings that we begin today will focus on one of the underlying problems causing widespread nutritional ignorance—inadequacy of nutrition education.

Are we a nation of nutritional illiterates?

In the last few years many experts, including Dr. Jean Mayer, who will appear before us this morning, have answered this question with a definite "yes." These hearings are designed to give us some answers as to why we are a nation of nutritional illiterates. The purpose of these hearings is to explore the status of nutrition education in the United States today.

These hearings will prove, I believe, that the widespread belief that nutritional ignorance is limited to poor people alone is absolutely false. In other hearings before this committee we have frequently noted that there are tremendous gaps in nutritional knowledge among all income levels in our society. Having the income needed to maintain a nutritionally adequate diet does not guarantee that this will be done.

We will attempt today to determine how our people obtain nutritional information. There are many sources including schools, colleges, doctors, advertising, and the mass media. We will see if Federal nutrition education programs are working or not working. We will look at how many people are being reached, who they are; and, in general, how good a job we are doing.

I am particularly pleased that we will also cover the status of nutritional education in medical schools. Earlier this year, I introduced a bill, the Nutritional Medical Education Act, which is designed to provide grants for medical schools to teach nutrition education to future doctors. I strongly feel we must fill this gap in medical education by providing courses in our medical schools which will teach applied nutrition. Future doctors now taking nutrition-related courses such as pharmacology, biochemistry, and physiology.

However, most medical schools do not have school courses in applied nutrition which deal in a fundamental way with the relationship between good nutrition and good health. As a result, people are turning to food fadists and other often inadequate sources of information. They do not seek help from doctors, many of whom are not in a position to give it anyway. Since it has been clearly shown that there is a direct relationship between nutrition and health—between the foods we eat and many diseases—it is vitally important that doctors be fully trained to recognize the relationship between diet and health.

We will open our hearings this morning with witnesses from the private sector.

Dr. Jean Mayer, professor of nutrition, Harvard University, will lead off the witnesses. Dr. Mayer will discuss the meaning of "Nutrition Education", and the respective roles of the Federal Government and industry. Dr. Mayer is nutritional adviser to the President.

I am very pleased to call and to welcome to our hearings Dr. Mayer, who has been before this committee a number of times,[1] and is one of our leading experts in this field. Dr. Mayer, if you would come forward, please.

STATEMENT OF DR. JEAN MAYER, PROFESSOR OF NUTRITION, HARVARD UNIVERSITY

Dr. Mayer. Mr. Chairman, it now seems an eternity ago but I think it was only 4 years ago that I had the great honor of being the first witness ever before this committee—speaking about problems of malnutrition due to poverty. As you may remember, at that time we were very involved that the important concern about nutrition education should not obscure the fact that a great many of our citizens were malnourished because they were poor. I think all of us care very much about the problem of poverty. We are very anxious to see that the cart is not put before the horse. I emphasize the fact that nutrition education, indeed, ought to be looked at; but, not before the most urgent aspects of the fight against malnutrition, due to poverty are taken care of.

We would, in effect, be adding insult to injury not to provide food; not to provide money for food or food stamps; and simply provide advice to people what they should buy in the stores. Since that time, there has been enormous progress in the fight against poverty due to malnutrition. We haven't solved the problem by any manner or means but we have added about 12 million people to the food stamp rolls;

[1] See Select Committee on Nutrition and Human Needs, hearings of Dec. 17, 1968; Feb. 23, 1971; Oct. 14, 1971; and June 14, 1972.

the number of children receiving free school lunches has been doubled to about 8.5 million; and, at least, a very vigorous start has been made trying to solve, once and for all, the problem of hunger and malnutrition due to poverty.

'Do People Know What To Buy . . . Eat?"

This, Mr. Chairman, as you point out, is a very opportune time to start addressing ourselves to the other major problem which is: "Do people know what to buy and what to eat?" As you have rightfully pointed out, the problem of ignorance of nutrition is not one which is limited to the poor. In fact, what one can say about the poor, if anything, is that: The less money one has the more you must know about nutrition than the wealthier, in order to be able to be well fed on very little resources.

The problem is not one which is limited to laymen, since even the medical profession and some of the allied health professions have had very little exposure to problems of nutrition.

In addition, I think there are some factors which, almost every day, make the choice of a good diet by our population more and more difficult. The fact is that our food supply is becoming more and more complex. Several hundred new products are added every month to the roster of products that people may buy. It's also my understanding that about 500 succeed each year. Thus we have a food supply which not only, at this point, is represented by an average of 18,000 different articles in the supermarket, but may have 500 added new products every year.

It's difficult for the housewife to orient herself in this maze. I believe all of us hope that the regulations on nutritional and ingredient labeling will be published soon—I was going to say "finally"—by the Food and Drug Administration. There is very little doubt that labeling is going to make the task of the housewife easier. In the large-scale experiments such as the one done in Washington—a Giant Food experiment—there is very little doubt that labeling by itself had an enormous impact on improving buying habits, and in sensitizing people to the need for nutrition knowledge.

Obviously, nutritional labeling is going to be widespread throughout the land on a voluntary basis to start with; but, for instance, in my own State, Massachusetts, the Consumers Council—which is a State organization appointed by the Governor—is proposing to make these voluntary labelings mandatory. If this is going to happen—and I believe it is—then the need for nutrition education for people to take full advantage of this nutritional labeling becomes even greater.

Generally speaking, as we look at our food supply—which represents $130 billion worth of sales every year—one realizes how small the amount of dollars spent for nutrition education actually is, percentagewise. If we spent one-tenth of 1 percent of our food bill every year on nutrition education, we would probably do a splendid job of teaching better nutrition to the public.

The variety, the sort of bewildering variety of our food supply, is compounded by the problem of advertising. I know later this morning you are going to hear Robert Choate, who has probably done more than anyone in the country to call attention to the impact of advertis-

ing in nutrition education or lack of nutritional education, particularly as regards small children. However, let me point out that advertising has resources which, at this time, are literally hundreds of times greater than those available in the Federal budgets for nutrition education.

Let me point out, also, that if you put foods in order of decreasing usefulness you would have something like fruits and vegetables, fish, meat, milk, eggs, bread, breakfast cereals, snack foods, candy, and soft drinks. Yet, if you look at the amount of money spent in advertising, I think you will note that, generally speaking, the amount is in inverse relationship to the nutritional usefulness of the products advertised.

Food Advertising—Miseducating the Public

Inasmuch as you are not going to eat more simply because you watch advertising, the net effect of food advertising becomes an exercise in miseducation of the public—miseducating people from the better foods to the poorer foods. This is not because someone is consciously trying to destroy the food habits of the American people—although it sometimes seems that way—it's simply because of the structure of the industries involved.

Fruits and vegetables, by and large, are pro[illegible] by thousands of small producers who, generally speaking, have [illegible]ew brands or no brands to protect—particularly for the fresh fr[illegible]d vegetables.

At the opposite end of the scale, the soft drink industry is dominated by two giants and with only three or four other large producers. They have very well established brands, and very large advertising budgets. The net effect, thus, is that they end up with enormous resources to further destroy our food habits.

The chairman used the term "nutritional illiterates," which, I believe, I was one of the first to use—a number of years ago. Frankly, Mr. Chairman, I'm beginning to regret having coined that term because "illiterate," for most of us, connotes an impression of the virgin mind who has had no impression and is ready to learn. In effect, what we have is a very tired mind, subjected day in-day out, to a tremendous amount of information—which is mostly misinformation—by people who have something to sell. Whether it's a product, or whether it's a new, fanciful reducing diet, or whether it's a miracle book on how to be thin forever and eat as much as you want, the result of all this is that it will be even more difficult to teach proper nutritional education than if we started out from scratch.

Nutritionally Educate Young School-Age Children

When one speaks about education, the immediate connotation is schools. Indeed, this is where one could start—at least, with young children of school age. We will talk about very small children later.

I think it can be generally said that our educational system is not doing a good job of teaching nutrition. I think there are some very good reasons for it, or at least, some perfectly understandable reasons for it. Elementary schools and high schools are already overburdened with teaching responsibilities. We want them to teach the children

the basic elements of reading, writing, using numbers. We want them to do some history. we want them to know what the world is all about, we want them to know some science, and so on, and the net effect—of forcing the schools to deal with a multiplicity of subjects, with everyone from the school committee to the Red Cross having something that they want the schools to teach—is that the schools end up doing a poor job of what they are primarily concerned. Particularly, in the large cities all the objective measurements of literacy—ability to use mathematics, and other basic subjects—seem to show a steady deterioration. To add new subjects in the classroom without helping the schools is understandably resisted by teachers—many of whom, anyway, are poorly prepared for the job of teaching nutrition and don't have any interesting material available.

Dr. Joanna Dwyer and I have done a study of what young people actually know when they graduate from high school. We have been struck by the very small impact of the teaching of nutrition; particularly, in classes of home economics as it is now taught. We have also been struck by the fact that boys knew as much nutrition as the girls and were very much more interested.

High school boys are extraordinarily interested in fitness and listen very carefully to anything the coach says. This seems to have a great deal more impact than what the home economics teacher says to the girls. We have made very little use of this receptivity, and we have not given the teachers anything by the sort of striking material which would help in impressing on young minds the importance of nutrition.

I think a number of us are struck by the fact that, everyday, most of the children of the Nation have lunch at school. Also, that very little use has been made of that time in a school lunchroom to teach nutrition to youngsters—even though this is the time when they are exposed to the actual article of food which is, after all, what we want to have them understand.

The White House Conference on Food, Nutrition, and Health, Panel on Nutrition Education, did emphasize the fact that the school lunch—as, indeed, is written in in the law—should be the occasion of teaching some nutrition. Coordination of what goes on in the lunchroom, with special sessions given by local professional nutritionists—members of the American Dietetic Association and others under the sponsorship of the school system—could be extremely effective without overtaxing the teaching facilities for the schools. This is particularly so if good teaching material such as booklets, posters, and films are made available; and, if the teaching in the school is collated with exhibits and material in the store. Let me remind you that not only do children in middle-class neighborhoods accompany their mothers to the store; but in poor neighborhoods the children very often do the shopping for their mothers.

Basic 12-Year Nutrition Education

Building around this general idea, I have suggested at least a basic cycle which could be used in teaching nutrition: Presenting material in the classroom, in the lunchroom, and then commenting on it at

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various times of the year. The material is available in posters, in exhibits, and so on.

In 12 years we ought to be able to teach children. In the first cycle—in grades 1, 2, and 3—I would emphasize the diversity of foods available. Primarily, because to eat a varied diet is, by and large, to eat a good diet—particularly if the diet contains a sufficient proportion of foods which are not overprocessed.

I would also put a great deal of emphasis on regional and ethnic foods. Nutrition education has been seen by some of our Federal citizens as an attempt to produce uniform food habits. I am reminded of a remark that some Mexican Americans made at a State conference on food nutrition and health in New Mexico a couple of weeks ago. It was to the effect that nutrition education, as far as they could see, was a design to obliterate Mexican-American food habits.

One of the wealths of this country is the pluralism of its culture, and that includes different types of food preparation and different food choices. It's possible to build up in any of these ethnic habits a good diet, and everybody does not have to eat the same diet throughout the country to be well fed. I am impressed with the fact that our urban population—that's essentially most of our population now—does not know where food comes from. They are, therefore, unable to appraise some of the most important scientific aspects of what may happen if we don't do various things to preserve our environment.

I think children in the first cycle should be familiarized with the plants and animals which are used as foods. They should be told where milk comes from; how butter is made; how wheat grows, and how it's milled, what happens during milling; and, know something about fishing and about the history of the main foods—particularly those indigenous to this continent like corn and potatoes.

In the second cycle, in grades 4, 5, and 6, I would put a lot of emphasis on the human body and how it functions. Explain to people and to children what food does—how it is carried to the cells; how it is burned in the body to provide fuel for movement, for motion, for heat, for the functioning of the various organs; and, give them some idea about the way the various organs work—including the sense organs of taste and olfaction.

From grade 7 and up, the youngsters are ready to understand the basic overall reasons why we eat: namely, to acquire nutrients. They should know and understand nutritional and ingredient labeling. To prepare them we must teach them something about carbohydrates, fats, protein, vitamins, minerals.

It's not that difficult to explain to children. The average 13- or 14-year-old knows more technical terms on what happens under the hood of a car than he does about nutrition.

Finally, in the last three grades, I would use the interest that exists in fitness and in weight control—particularly for the girls—to get them interested in nutrition. I would give the girls an understanding of weight control, and the importance of calories coming in and coming out. This is the only way by which we will counter the ridiculous propaganda on weight control, carried out by various one-season authors who have the key to weight control problems—the latest, as you may remember, the most popular right now is the author telling people to actually make themselves psychotic in order to lose weight.

I would tell the youngsters something about protein and amino acids; about animal and vegetable sources; talk to them about the identification of vitamins; talk about nutrition and athletics; and, nutrition in the prevention of disease and so on.

Soldiers' Autopsies Show Deterioration

The last point is a particularly important one. All data we have on autopsies of American soldiers, in Korea and even more so in Vietnam, have shown that by the time our young men are 20, they have arteries already infiltrated with fat deposits. Also, I would remind you that in 1950, we spent $12 billion a year on health—on medicine. This year we have spent $75 billion, yet we have made no progress whatsoever in life expectancy of Americans.

Finally, I would complement this teaching with more attention paid to the teaching of nutrition in the health science courses—which are now required in junior colleges, and in many colleges throughout the country. Approximately 600,000 to a million young people are now taking health sciences every year in junior colleges—with sometimes fairly indifferent exposure to nutrition.

The teaching of nutrition in medical schools, that Senator Schweiker spoke about, is obviously essential. It need not be a very expensive item. I believe that if the Congress could appropriate between $12 to $15 million a year, this would be enough to provide each one of our 108 medical schools with $100,000—which is enough to maintain a professor of nutrition, his salary, secretary and office.

I think it is essential that the money be used wisely and—as an academic person—I could not endorse the idea of the Federal Government telling who should and who should not be appointed a professor of nutrition, or a professor of anything else. At the same time, I believe there is a risk that unless some care is exercised certain medical schools might appoint people who are not really nutritionists and then use their money for other purposes than intended by the Congress. I would, therefore, suggest that besides making the money available for the creation of chairs of nutrition, the Congress have some money for the administration of the program. In particular, for the creation of a study section which would look at the program proposed by each medical school to make sure that it will indeed serve as a center for the nutirition teaching within the medical area. Also, for gathering together the resources which, in fact, exist in all medical centers at present but are not properly utilized.

Radio and TV Must Aid Nutrition Education

Finally, I think that it would be a very great mistake to think of nutrition education as something which should only happen at all levels in schools. It is essential to have it happen in other media. As you may know, Mr. Chairman, I have a column twice a week in a number of papers—including two or three in Pennsylvania—and a number of my colleagues are doing the same thing. I am not sure that we are reaching as many people as we think we are, when we look at the circulation of those papers. The more I write the more I am convinced that our fellow citizens are nonreaders and this puts the onus

back on radio and particularly on television to do a great deal more educating than is being done at the present.

I think more public service time on television should be made use of. I think it's essential to have available much better short public-interest messages and short films available for showing to the national audience.

In the past 6 or 8 months I have been involved in helping to prepare a few such shorts for television, which hopefully will be shown next spring. I believe we need a great deal more of this type of programs. Also, we need to have the Federal Trade Commission—particularly the Federal Communications Commission—insist that these public interest messages be, in fact, shown. That they be shown at times which they will be watched. In particular, that the scandalous amount of misinformation given on the Saturday morning television to small children be replaced by valuable nutrition information which, from an early age, will reinforce what we hope will be the sound teaching of their parents and of the schools.

Thank you very much.

PREPARED STATEMENT OF DR. JEAN MAYER[1]

Nutrition Education, always an important facet of education, is now more urgently needed than ever:

1. Our food supply is more and more complex. With 500 additional products every year in the supermarket, knowing what to buy is also becoming yearly a more complex task for the housewife. It is to be hoped that regulations on nutritional and ingredient labelling will be published soon by the Food and Drug Administration. Labelling will make the task of the housewife easier. The labelling should be complimented by a massive public campaign in Nutrition Education for the general public. A minimum of one tenth of one percent of our national food bill should be spent on Nutrition Education for the public with particular emphasis on the use of television.

2. Advertising too often represents a massive threat to Nutrition Education. Advertising has resources presently hundreds of times in excess of federal budgets for Nutrition Education. The products most advertised on television are soft drinks and other "foods" of no or little nutritional value. We must improve the veracity, information content and tone of advertising through coordinated action by the Food and Drug Administration, Federal Trade Commission, Federal Communications Commission, foundations and private efforts.

3. Our educational system is doing a poor job of teaching nutrition. There are some good reasons for it: Elementary schools and high schools are already overburdened with teaching responsibilities. Particularly in the cities, objective measurements of literacy, mathematics, and other classical subjects often show deterioration in performance. To add new subjects in the classroom schedule is understandably resisted by teachers. Furthermore, teachers are often poorly prepared for the job of teaching Nutrition and have little good material available.

Much better use could be made of the School Lunch Program to teach Nutrition. Coordination of what goes on in the lunch room with special sessions given by nutritionists and dietitians under the sponsorship of the school system could be highly effective without overtaxing the teaching facilities of the school. This is particularly so if good teaching material (booklets, posters, film) are made available. A model curriculum is appended.

In junior colleges and colleges, the requirement for Health Science courses is a useful development. Here, too, however, there is need for better teaching material to assist what are often new and untried Health Science departments.

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[1] Dr. Jean Mayer was Chairman of the White House Conference on Food, Nutrition and Health, is a Member of the President's Consumer Advisory Council, and Chairman of its Nutrition and Health Committee.

Medical schools are still deficient in the teaching of Nutrition. They will continue to be so until there is a clear place for Nutrition in the curriculum and a professor of Nutrition to direct the teaching. In this regard, I would support a modest yearly appropriation, say $15 million, to support the salary and office of a faculty member responsible for Nutrition Education in each medical school. Attention should similarly be paid to dental schools and allied health schools.

4. The federal food programs other than the School Lunch Program, such as food stamps, commodities and the whole range of child nutrition programs, should have a built in Nutrition Education component as has been pioneered in some (limited) areas. Again, good teaching material should be developed. Use of television, radio, and other media should be stepped up, with special attention being given to non-English speaking groups.

MODEL CURRICULUM FOR NUTRITION EDUCATION IN SCHOOLS

First cycle (Grades 1, 2, 3)

Various types of food-regional and ethnic foods.
Descriptions of plants and animals which are used as food.
Where milk comes from, how butter is made.
Rapport with families, stores—Wheat growing and milling. Fishing. Discovery of corn and potatoes.

Second cycle (Grades 4, 5, 6)

The human body, with special attention to how food is used: chewing, the role of the stomach, intestine, liver. How food and oxygen are brought to all cells in the body. Taste and olfaction.

Third cycle (Grades 7, 8, 9)

The nutrients: carbohydrates, fat, protein, vitamins.
Calories.
Calories in foods, caloric expenditures—Nutritional labeling.
Ingredient labelling.

Fourth cycle (Grades 10, 11, 12)

Weight control. How to calculate your diet.
Proteins and amino acids: animal and vegetable sources.
The identification of vitamins ("natural" and synthetic vitamins).
Fads and fallacies.
Nutrition and athletics.
Nutrition and the prevention of disease.

Throughout.—Recipes and ingredients in the school lunch program will be emphasized. From the 7th grade on all foods presented in the school lunch room will be labelled both in terms of nutritional labelling and ingredient labelling.

I would strongly recommend that the Federal Government assist state education departments in establishing and supporting a required course on human biology to be given sometime in the last two years of high school; this course would include as one of its components the physiological and health aspects of nutrition.

(See also appendixes A and B.)[1]

CURRICULUM FOR NUTRITIONAL EDUCATION IN SCHOOLS

Senator SCHWEIKER. Thank you very much, Doctor. I really greatly appreciate your coming before our committee and summarizing your views on this very important topic.

I was very intrigued by your suggested model curriculum for nutrition education in schools. In fact, in looking at my own nutritional education in schools compared to what you suggest, I would guess that the amount I received would be pretty close to zero in terms of what you say the target ought to be. The exception might be the girls in the

[1] See Part 1A—Appendix.

home economics class in school who received a little of it. I suspect the men didn't get very much at all.

I notice, too, in your fourth cycle you list weight control as one of the important topics for the upper-grade levels, and that brings to mind what we hear today about diet pills, and crash weight reduction programs.

I wonder if you'd like to comment on these problems of our society. It just seems to me that having been brought up in ignorance we then tried to overcompensate for that by some of these diet reduction programs. I'd like to get your thinking on where they stand nutritionally in the areas.

Dr. MAYER. Well, Mr. Chairman, before I answer that question let me pick up one point you made—which I think is an extremely important one.

When those of us who are middle aged were young, we indeed, received far less conscious nutrition education. On the other hand, we had many more set food habits. The nutrition of the family was controlled by the mother. We sat down at three meals a day. Those meals were the result of thousands of years of traditional wisdom including sometimes mortal trials and errors, and the empirical basis of our nutrition was sound.

NUTRITIONAL DIETS NOW VOIDED BY CHANGE

The destruction of food habits by the destruction of meal habits, the appearance of completely erratic snack and meal times, the enormous multiplicity of foods that look like and almost taste like traditional foods—but have very different nutritional values—these are the reasons why we now need a great deal of nutrition education where somehow we managed to survive without it.

As regards weight control, it's indeed an obsessive concern of our society.

Senator SCHWEIKER. In other words, Doctor, you are saying that mother got us through before; but, now with television, advertising, and snack foods she can't cope with that kind of competition?

Dr. MEYER. Especially as no one shows up at meal time anyway, because someone is upstairs watching television; two people are out in the car; and, the father is upon the road—doing whatever he is doing.

Also, the obsessive concern with weight control is, of course, something new. I think, as a sociological explanation, all the data we have show that the American people are eating less per person than was eaten in 1900.

Senator SCHWEIKER. Less?

Dr. MAYER. Less. But exercise, our physical activity has decreased so much faster than our food habits that the excess is all there to see. It's not only the appearance of the automobile but, also, of labor-saving devices. So, no matter what residual muscular contraction is left, there is at least 2 or 3 corporations doing research to try to see how to eliminate it.

EXTRA PHONE EQUALS 5 POUNDS EXTRA FAT

Think of "Mother Bell's" advertisement, about the extra extension in the kitchen, which will save you so many steps. If this is calculated in

terms of weight control, the extra extension in the kitchen is worth 5 pounds of fat per year. Under those conditions, it's not surprising the youngest and most impressionable part of the population—particularly the high school students and that age group—should be terribly concerned about weight. In a recent survey we did in Boston, we found that 97 percent of the girls in high school were on some sort of diet: About 3 or 4 percent with the idea of gaining weight—with the touching idea that all the extra weight would go on very limited parts of the anatomy; about 3 or 4 percent worrying about acne; and, about 90 percent worrying about losing weight—whether or not they needed to lose weight with only about 20 percent of the group really needing to lose weight.

However, this preoccupation is accentuated by the fact that they spend a great deal of time looking on the screen at extremely thin actresses, and in the magazines at extremely thin models. This is then accompanied by the provision of bad advice by people who are selling, in fact, a high protein, high fat diet; a low protein, low fat diet; a high protein, moderate fat diet; high carbohydrate diet—anything goes—including the pineapple diet, the grapefruit diet, the hard-boiled egg diet and so on.

All this is done in the absence of any clear understanding that your weight is a function of how many calories go in and how many calories come out. Thus, with 3,500 calories being equivalent to a pound of fat, if you eat 500 calories more a day for a week you will gain a pound of fat and vice versa.

The young women are, of course, particularly vulnerable to fad nutritional advice because soon they will be pregnant, and malnutrition at that period is particularly dangerous—not only for them but for the next generation.

A large part of our population is on essentially one ridiculous diet after another—usually deficient in one or several nutrients, or the type of diet that will push everybody's cholesterol further up. The concern with weight control, which in itself is a sensible thing to do, becomes, with the exclusion of any attempt to exercise, often futile. This, of course, is one of the great difficulties in our society—the lack of exercise facilities or places where it is pleasant and safe to walk.

Labeling of Nutritional Contents Critical

Senator Schweiker. Doctor, I was very pleased to see you mention the nutritional labeling phase. I am also going to sponsor a bill to do that and I am delighted that the Government is moving on its own in this direction.

I wonder if you would just summarize why you feel the labeling of nutritional ingredients is so critical today?

Dr. Mayer. If you look at the development of our food supply in this country we started with a subsistance food supply—people growing the food which they actually ate—to a market food supply—the farmers bringing their foods to market which was then sold.

Then the market went from a local one to a regional one, and with the advent of the railroads and Chicago stockyards to a national one. Since 1945, something quite new has happened, we have gone from an agricultural market, where foods were being grown and sold, to an in-

dustrial food market—where varieties of food are grown wherever is most convenient from the point of view of climates, soil, labor costs, import duty, or what have you.

The components of the foods are then extracted and convenience foods are put together. This has some advantages for the consumer. It allows the consumer to be independent of seasons and of geography, as regards its food supply. It also has made largely possible the emancipation of women. After all, somebody had to spend several hours a day preparing the food, peeling the potatoes, preparing the stew, and so forth. With the advent of convenience foods it is now possible, at long last, for women to have the same type of life and fulfill themselves professionally the same as men—so it's not at all a loss.

The advent of processed foods has also created opportunities for the food industry. The amount of food consumed by the American people, as a whole, is growing extremely slowly. The population is growing by less than 2 percent per year. Food intake is going down slowly as physical activity goes down, so there isn't much of an opportunity for growth in this sort of situation. However, by adding services to foods—so that what is sold is not potatoes but french fried potatoes, or cheese souffle, or what have you—then it's possible for large and profitable industries to grow.

So far, I have listed advantages for the public in general and for one industry. There are, however, some serious drawbacks. One of them is that by incorporating more and more services in our food supply we have made our food supply more and more dependent on labor costs—even though less and less people are involved in growing the food. This means that the cost of food is going up as fast as—and, in some instances faster—than cost of living in general. This bumps against the fact that there is more resistance to increased food prices than there is to industrial prices in general.

When you buy a house you may spend more money than you intended, but it is only one bad decision to make. You may borrow twice as much money as you make in a year—an unreal feeling anyway—and then your payments are the same from then on. To a lesser extent, the same thing is true with cars.

Food Additives Can Be Used To Delude

With food, on the other hand, you pay with real money that which you see—with dollars and cents that come out of your pocket—and the resistance is considerable. The net effect of this pressure on the food industry—the increased costs and the consumer resistence—is that, like all other industries, they are going to look for cheaper and cheaper sources of raw material. The cheaper sources of raw material are sugar and hydrogenated vegetable fat. Modern food technology enables you to make food that looks like any other foods even though they are made different. I believe that unless we react to what has happened we will end up with a debased food supply. The only way we can react is either by having standards of identity prescribing how all the foods are going to be made, or by having nutritional labeling nutrition education so that people will know what they buy—and will make a choice accordingly.

Experience has shown that people are extremely receptive to nutritional labeling—that they are not deterred by being faced with a number of figures. It's a common prejudice among men that women will be incapable of coping with a system of 10 or 12 numbers in nutritional labeling. Very little attention is paid to the fact that the average newspaper has three solid pages of figures representing the New York Stock Exchange, the American Stock Exchange, and the Over-The-Counter Exchange, which obviously millions of Americans feel they are able to cope with.

The sports section has column after column with sporting averages with three decimals—which every American male child over 8 not only knows but memorizes and recites to his parents, whether they want to hear it or not.

Women are deemed to be unable to understand a system of 12 numbers on which the health of their family depends. The experience in Washington in this large-scale experiment that was conducted by Giant Food—shows that women understand it and act on it. They are not necessarily able to recite to you what percentage of dietary allowance means; but they know that if there is 30 percent in one food and 10 percent or none in another food of the same category, this means that in this respect the food is better. This has enabled people to make much more intelligent choices.

For instance, the choice—unless you know something about nutrition—is easy to classify, as pizza and donuts being in the same category. With nutritional labeling, you suddenly realize there is a lot of nutrition in a good pizza, and very little in a donut; thus, within each category it becomes very much easier to make choices. This also crystalizes the interest in nutrition, because for the first time you can apply it. If you don't have the information available on food, then knowing all the nutrition in the world isn't going to help you.

Senator SCHWEIKER. In your opinion, Doctor, what has prevented the medical and dental and nursing schools from taking the leadership in this nutritional program? Why is it that, here in our country, we seem so far behind at the professional level where we ought to be leading the effort? Why has the priority of nutritional education, as you advocate it, been so low in our medical and professional health fields?

Dr. MAYER. Senator Schweiker, I am worried also, and have been puzzled a great deal. I have come to the conclusion that it's because of the way in which medicine is practiced and paid for.

Medicine in this country is really crisis oriented. You go and see a physician because something hurts on the right side of your abdomen. He examines you, decides that you have appendicitis, takes out your appendix, and you pay him for that service. Anything which is a long-term process like nutrition—which is going to either weaken your resistance because you are malnourished, or is going to cause you to develop a coronary, because year after year you have had deposits of cholesterol added to your arteries—this sort of process, which is obviously essential in terms of health, is not really what the doctor is called to do anything about.

BILLIONS FOR AFTER CARE—ZERO FOR PREVENTION

We end up, therefore, spending tens of billions of dollars wastefully. We literally establish everywhere intensive coronary care units to take

care of you after you have had a myocardial infarction; but, essentially, spending no money on the prevention of cardiovascular disease. Again, this is not the way we practice medicine.

We must get our people conditioned to the idea that health is not something you get by buying medical care. It is something that you nurture through good habits of good living and in particular, good nutrition, sufficient exercise, sufficient rest, and so on.

Senator SCHWEIKER. That's really, then, an argument, too, for a change in our medical delivery system. The health maintenance organization, really, is the kind of approach that would foster preventive medicine and preventive health. Is that what you are saying?

Dr. MAYER. I think we need to put a lot of attention into preventive medicine; a lot of attention into health education in general; and, I may add, that every dollar spent in that area is going to be a great investment in terms of cutting down on expeditures in care after the fact.

I think the same is true as regards malnutrition due to poverty. One may ask why it is that our medical profession was so slow in recognizing that we had a lot of malnutrition due to poverty. Again, I think the answer is very much the same plus the fact that, of course, a lot of poor people did not routinely see their physicians—certainly children didn't see trained pediatricians.

When they eventually arrived at the hospital they arrived because of an acute condition—which may have been precipitated by malnutrition. But it's the acute condition which was treated, and not the underlying social and long-term causes. Unless we rethink our whole public health and medical delivery system, I believe we are going to spend more and more money just staying at the same place and using medicine to try to repay areas in social planning.

Senator SCHWEIKER. Sort of locking the barn door after the horse is stolen.

Dr. MAYER. Buying an expensive lock, after the horse is stolen.

Senator SCHWEIKER. Along the same line you did a survey, I understand, on nutritional knowledge of physicians, old and young. In just a brief summary, what did your survey show, or what were the basic findings of your survey?

Dr. MAYER. Well, we found that, first of all, there was an interesting age difference. Older physicians and younger physicians had about the same amount of nutrition knowledge. Older physicians seemed to be quite satisfied about their knowledge. Younger physicians, on the other side, were dissatisfied and wanted to learn more about nutrition—although it was not obvious that they, in fact, did learn more nutrition.

The medical students, on the other hand, have been very insistent in the past 2 or 3 years that they wanted more nutrition. In my university, at the Harvard Medical School, nutrition has been reintroduced—albeit in very small amounts—in the general course for the medical students at the insistence of the medical students. Of course, in the school of public health, our students are mostly physicians who have already decided they are interested in preventive medicine and public health. They, of course, learn nutrition in very large numbers. However, in the medical school, we are beginning to see a reappearance of interest in nutrition—largely because of the pressure of the students.

Inability To Give Practical Advice

I may add, that when we tested the knowledge of physicians, we found that they remembered more of the biochemistry of nutrition than we thought they would. But, also, they were unable to translate their knowledge of nutrition into foods so that they were not able to give practical advice to patients. I think one of the deficiencies in medical education at present—of the things which are not taught and could serve, at least, as a partial substitute for nutritional knowledge—is to teach physicians how to use dietitians intelligently.

My own view of the minimum that medical students should be taught, is that in their primary approach to the patient—when they first take a history and look at a patient—they ought to ask those relatively limited number of questions, those few questions, and look at those few signs, which will either raise or lower a little red flag in their mind. Thus, if there is any reason they think that this should be looked into further—and if they don't have the time, or the detailed knowledge to do so—they should automatically know how to refer this patient to a therapeutic dietitian in order to get the additional information.

At present, even that limited amount of knowledge is not taught. Dietitians, by and large, complain throughout the Nation that they are not intelligently utilized by the physicians with whom they work.

Senator Schweiker. On the cost, you advocate a program of $12 to $15 million a year for teaching nutritional education in medical schools. How did you estimate or arrive at this figure?

Dr. Mayer. My thought is that it's probably unrealistic and perhaps undesirable to have the Federal Government assume—in one fell swoop and in a single act—all the teaching, research, and so on to be done in nutrition in medical schools. But, what urgently needs to be done is provide each medical school with a center of crystalization, so to speak, for the various nutritional activities which exist in the area—there are dietitians in the hospitals; there probably are some nutritionists in the local land-grant college, there are a number of physicians interested in metabolism who have thought about nutrition; there are probably some pediatricians interested in nutrition. I think all these people need to have a center and a rallying point, and that this can best be provided by a person who is the professor of nutrition in that school. The $100,000 figure that I suggest is one which would cover the salary of the professor of nutrition, a secretary, the rental or the equivalent of an office, and a little money with which to get some projects started.

Then the idea is that the professor of nutrition would then apply for research or training grants and attract collaborators who, in turn, could ask for additional grants. These grants would be subject to peer review as are all such training grants and research grants at present, who go to the National Institutes of Health. That $100,000 is thus the nucleus that will be there, which medical schools will count on. Hopefully, it will enable them to appoint a professor of nutrition, which can serve as a base for the development of the subject.

In addition, I thought that something of the order of $1 million for the administration of the program—including the calling of a very careful study section. This would examine the programs suggested by each medical school to make sure that it makes sense, that the people

are qualified, and so on. This is what is needed to get the program underway.

Senator SCHWEIKER. Doctor, you mentioned in your statement earlier that we ought to spend one-tenth of 1 percent of our national food bill on nutrition education. When you talk of the percentage, did you mean the Federal Government's food bill or the entire food budget of the American people? Which?

Dr. MAYER. No. I meant the entire food budget of the American people. This amounts to roughly $125 to $130 billion a year. One-tenth of 1 percent is $130 million.

Senator SCHWEIKER. And that is the $130 million figure?

Dr. MAYER. I was trying to think of what was needed in terms of television time, in terms of preparation of material and so on.

UNSPENT $15 MILLION ALLOCATED FOR NUTRITION EDUCATION

It seemed to me that somewhere within $100 to $200 million a year would probably enable us to do a very good job. As I understand the law, it's by belief that 1 percent of the Federal school lunch appropriation ought to go for nutrition education. I am not aware at this point—and this is probably simply my lack of awareness—but I am not aware that much money is spent; or, that it is spent, visibly, that any of us is very conscious of it.

I think that a minimum of 1 percent of the Federal expenditure for school lunches, which is on the order of $1.5 billion, so that 1 percent would be on the order of $15 million, ought to be spent immediately on the development of material for nutrition education in the school lunchroom. I would suggest that the very inexpensive and very useful material which could be prepared immediately is a system of posters which would give nutritional labeling for the foods served in the school lunchroom.

If, as the child makes his choice, he had—in terms appropriate for his age level—the nutritional labeling and the percentage ingredient labeling for the main ingredients of the foods which he is choosing, this would—without any personnel being involved, without any additional time being involved—immediately get him used to the idea that one of the reasons we eat is because of nutrition.

Senator SCHWEIKER. Do you have any idea or estimate, Doctor, of how this compares to what you think we are spending today, if those figures are available?

Dr. MAYER. I don't know, but I do know that we spend hundreds of millions of dollars on food advertising. I believe that Robert Choate has some figures on the amount of money spent on advertising in various categories of food. Advertising is so much a part of our problem that I think we have to look at that order of magnitude in terms of judging the size of the effort we will have to exert.

CRITICAL PERIODS OF CHILDREN'S LIVES NEGLECTED

Senator SCHWEIKER. Now, I notice that you and Dr. Dwyer recently participated in awards for nutritionally valuable advertisements. No award was given for advertising directed at children. You stated that none was worthy of such an award. And yet, isn't this

really a critical part of the educational process of advertising, for children when their habits are being formed and when they are learning about eating and other kinds of nutritional habits? Isn't this really the most critical time of all, though you can say we are really not doing much at all?

Dr. MAYER. I think there are two critical periods. The first period is when very small children before they even go to school—and this is why television, public interest messages directed at children are so important, because this is a very important period. The other period is adolescence, where people develop their adult self-image and do, in part, change their food habits and adopt the food habits which they are likely to keep throughout their life.

The awards were given under the sponsorship of a magazine, Family Health, by a jury representing the major professional nutrition organizations, plus two well-known consumer advocates—one of which will testify before you today—and a retired, eminent member of the advertising profession. They looked at advertising in various categories to find out what advertisements did give information which was truthful, attractive, and informed people on nutrition, and they did find such advertisement. It's not that it's not possible, it's not that you can't sell nutrition; it's just that it's not a very widespread habit.

On the other hand, when we looked at the advertisements for small children, we were struck by the fact that those were, in many ways, the worst of the lot. They advertised essentially sweetness, they advertised appearance, they advertised taste, they advertised the fact that you can get a large, green monster for a box top and 10 cents; but, they gave no information to children on the nutritional content of what the children were sold. In some cases—or in many cases, considering what they were advertising—one can see why this restraint was exercised.

FOOD ESSENTIAL TO NATION'S HEALTH

I think it's very important for us, as a nation, to decide that foods, like drugs, are not commodities like any other commodity. That foods, like drugs, are essential to the Nation's health and that, therefore, they cannot be sold—particularly to small children—with the same type of huckster techniques with which one can sell the plastic green monsters, or this and that toy.

The information must be truthful. All of us are, in effect, the trustees of the health of the children, and considerable restraints have to be placed on the quality of advertising. For that matter, I think that if such restraints were put on the advertising of food to small children, the diet of small children would, in fact, improve.

There has been a great deal of controversy on breakfast cereals. Many breakfast cereals are excellent foods. I, personally, believe that an increase in the consumption in general, both of breakfast cereals and bread, is one of the things we need to do in order to knock down the fat content of the diet.

MOST CHILDREN ADVERTISED CEREALS LEAST USEFUL

It is, however, unfortunate that those breakfast cereals that are advertised to small children tend to be the ones that are the least use-

ful; tend to be the ones that are covered with sugar to the extent that, in some of them, if you look at the listing, sugar is the first ingredient. This means that there is more sugar in them than cereals. Properly speaking, they ought to be called cereal-flavored candy rather than sugar-covered cereals.

I also believe that if the techniques of advertising had not been used those cereals probably could not be sold. Therefore, I believe that the problem of information to small children, particularly through television, is one which is not only essential—to make sure that the children are, in fact, well informed and learn something about nutrition—but, also essential if their good nutrition, itself, is going to be maintained.

Senator SCHWEIKER. Doctor, the committee wants to thank you very much for taking your valuable time and coming before us today and further helping us in the educational-nutritional problem. We appreciate your willingness to come and consult with us from time to time. Thank you very much.

Dr. MAYER. Thank you, Senator.

Senator SCHWEIKER. Our next witness this morning will be Mr. Robert Choate, who will discuss the relationship between nutrition education and advertising.

Mr. Choate is an authority on hunger problems in the United States and has acted as a consultant to this committee on several occasions.

We would like to welcome you, Bob, before our committee, and you may proceed in any way that you would like. I know you have a film that you are going to show us about advertising, and because we do have limited screen facilities, some of you in the audience may wish to shift your seats so that you can see the screen a little bit more readily.

STATEMENT OF ROBERT B. CHOATE, CHAIRMAN, COUNCIL ON CHILDREN, MEDIA, AND MERCHANDISING, WASHINGTON, D.C.

Mr. CHOATE. Senator Schweiker, thank you for permitting me to appear before this committee. My name is Robert Choate, and I am chairman of the Council on Children, Media, and Merchandising, which has its office in this city.

I will skip through my testimony in the interest of saving you time.

Senator SCHWEIKER. All right. We will be sure to include it in complete detail in the record. [1]

Mr. CHOATE. I do believe that nutrition education came into a point of crisis right after World War II, when the food technology that served us so well overseas during that war came to be turned into convenience food and fun foods for the supposed benefit of the American family.

[1] See prepared statement p. 31.

The food industry, post-World War II, armed with the new technology, faced a lineal expansion of population growth. Their sales seem predicated solely on the number of mouths to feed. Not satisfied with this profit limitation, they developed a whole new class of foods and used that new, wonderful medium called television to get the information out to the public.

The weak and passive nutrition profession saw its already small influence on the U.S. food scene shrink as flavors, fragrances, colors, shapes, and mouth feel became the preoccupation of the food company executive suite. Nutrition losses in the ever more sophisticated manufacturing processes were ignored while crunchiness became the Holy Grail. Sugar became the seductor of the young.

An example of the food products that came out of this new food technology are up there on that first board labeled, "Products With Water as Primary Ingredient." These are some of the convenience foods, fun foods, if you will, that have been developed and highly promoted by all advertising media, hoping to get the housewife to spend a few extra cents for something that is already prepared.

Nutrition education, circa 1946, was dominated by the U.S. Department of Agriculture, which swore by first a nine-, then a seven-, then a four-food group system of education. In the 1930s, one probably could use four-food groupings to describe how one should eat properly. With the new food technology, however, fortification, augmentation, and synthetic nutrient enrichment rapidly made the four-food groupings meaningless.

Can we see, now, the next board?

The signs of food technology developed false flavors, emulsifiers, and chemicals to give body, tartness, and sweetness. The entire food system became the playground of the food chemist, with the nutritionist having a rather small role to play in the development of new formulations.

Meanwhile, in the school, home economists, nurses, and coaches kept passing out USDA literature as well as that of the industry-oriented meat, dairy, and cereal companies. Such efforts missed most boys, unless they were body conscious athletes. The subject was recognized to be dull, and seemed to be taught even more dully than need be. It quickly became a subject to forget.

Photographic, Not Nutritional, Selling

If you look at the advertisements of food today, you will find that a new science or a new technology came into being after World War II, and that was in the photographing of foods. There are some very famous cameramen who have made worldwide reputations mainly on the basis of how they can photograph foods.

In my prepared statement I gave you an idea of the massive shift in food merchandising efforts that occurred after World War II, and the resulting allocation of dollars. I asked Advertising Age magazine to give me a breakdown of how the Nation's major food companies allocated their advertising dollars in the year 1955, and again in 1970. You will note that the total for advertising in measured media was $683 million in 1970 as opposed to $181 million in 1955. If you only include not only the measured media, but the other sales promotions

that take place all the way from where the food is grown to where the food is consumed, I believe the American food industry today is spending $2 billion per year in advertising its products.

Television, of course, came to be the primary tool of those selling the new food technology. It taught us to pay more attention to the sizzle than to the steak.

Mrs. Joan Gussow, a nutrition educator at Columbia Teachers College, urged one of her students to do an analysis of the food advertising that was appearing in the winter and spring of 1972 in major women's magazines. The magazines studied were Women's Day, Good Housekeeping, Family Circle, McCall's, and Ladies Home Journal. Ranking the foodstuffs by category, one sees that the principal items advertised to women in that winter of 1971–72 were first, desserts, then condiments, then fats and oils, then starches, then snacks, and only then, fruits, soups, protein, breakfast cereals, and vegetables. The detailed accounting of this magazine research is on page 52 of the March 2, 1972, report of the Subcommittee on Consumers of the Senate Committee on Commerce.[1] I recommend its total inclusion in the record of this hearing if you have the space, Senator. It is a rather complete analysis of how not only magazine advertising has started to shape the housewife's food habits, but also how television has influenced us.

Senator SCHWEIKER. We will look into the space[2] problems and let you know.

Mr. CHOATE. Thank you.

One cannot ignore television as being the food educator of this country. The moderate TV-watching child of today sees 5,000 food commercials a year, 80,000 food commercials by the time that child is 16 years old. Let's take a look some of those commercials.

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[1] For full record of hearing, request Serial No. 92–44 from the U.S. Senate Committee on Commerce.

[2] See Part 1A—Appendix.

RADIO T.V. REPORTS, INC.

PRODUCT CHEERIOS 03403
PROGRAM JETSONS · 9/12/70 30 SEC
WCBS-TV (NEW YORK) 1 43PM

1. ANNCR: Be a winner

2. with the Johnny Lightning Stiletto Model Race car.

3. It's yours free

4. from Cheerios.

5. The Stiletto with little body construction.

6. racking sticks, mad style wheels designed for speed.

7. Race your Johnny Lightning

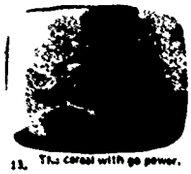
8. Stiletto on tracks

9. not included in this offer.

10. Fast, furious and free for three Cheerios package seals.

11. Details on boxes marked like this.

12. Get your Johnny Lightning Race Car free from Cheerios.



13. The cereal with go power.

RADIO T.V. REPORTS, INC.

PRODUCT CHEERIOS #0511
PROGRAM FAMILY AFFAIR - 2/12/70 7:50PM
WCBS-TV (NEW YORK) 30 SEC.

1. GIRL. This is my father. He makes firewood. (MUSIC)
2. Lifts big heavy chairs,
3. takes me to the zoo.
4. Where does he get his go? From me. I lend him my Cheerios.

5. Because a Cheerio breakfast gives him lots of oat protein and energy. Same as me.
6. And we both like the taste.
7. Give your dad some Cheerios,
8. and maybe he'll let you take home a lion.

RADIO T.V. REPORTS, INC.

PRODUCT COUNT CHOCULA FRANKEN BERRY 716688
PROGRAM DEPUTY DAWG 12/11/71 30 SEC.
WNBC-TV (NEW YORK) 9:08 AM

1. COUNT- Mirror, mirror, on the wall,
2. whose cereal is the super sweetest of them all?
3. Is it my Count Chocula?
4. FRANKEN BERRY Poo de do.

5. My Franken Berry is the super sweet cereal
6. OUNT But I've got chocolate sweeties for monsterous chocolate flavor
7. FRANKEN But I've got strawberry sweeties, for monsters of strawberry flavor
8. COUNT Count chocula

9. FRANKEN Franken Berry.
10. (SFX MIRROR BREAKS)
11. COUNT AND FRANKEN Oh, oh oh
12. COUNT- Count chocula FRANKEN Franken Berry

RADIO T.V. REPORTS, INC.

PRODUCT	CRACKER JACK		03845
PROGRAM	SCOOBY-DOO	9/26/70	60 SEC
	WCBS-TV	(NEW YORK)	12 14 PM

1. (MUSIC) MAN· One for you,

2. one for you and one for you,

3. one for Uncle Charlie,

4. (MUSIC)

5. MAN· Another one for you, you, you another one for Uncle Charlie.

6. (MUSIC)

7. (MUSIC) MAN Here.

8. (SFX)

9. MAN It could happen to anyone, anyone

10. (SFX)

11. MAN One for you, for you, for you.

12. CHORUS OF CHILDREN SING Candy-coated popcorn,

13. peanuts and a prize

14. That's what you get in Cracker Jacks

RADIO T.V. REPORTS, INC.

PRODUCT ORANGE PLUS 711876
PROGRAM NEWS - 4/5/71 - 30 SEC
WNBC TV (NEW YORK) 7 28 PM

1. ANNCR This is one of the best frozen orange juice

2. This is Orange Plus Frozen orange juice, smells good

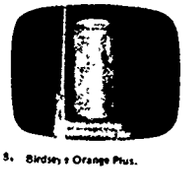
3. Orange Plus smells like fresh squeezed orange juice

4 Frozen Orange juice tastes g od

5. Orange Plus tastes like fresh squeezed orange juice

6. Frozen Orange Juice looks good

7. Orange Plus has as much pulp as fresh squeezed orange juice



8. Birdsey s Orange Plus.

9. Frozen concentrate for immitation orange juice.

PRODUCT: HERSHEY'S SYRUP V-714400
PROGRAM: DIALING FOR DOLLARS - 8/31/71 30 SEC.
KLZ-TV (DENVER) 2 02 PM

1. WOM Look, if you've got a can of Hershey's Syrup on the shelf, you've got dessert.

2. Pour it on cream puffs or doughnuts or peaches and pears.

3. Pour it on ice cream and

4. more ice cream

5. If you've got a can of Hersey's Syrup,

6. you've got tonight's dessert.

7. Go ahead, pour it on

8. Pour it in. Hershey's Syrup

9. It even makes milk a dessert.

RADIO T.V. REPORTS, INC.

PRODUCT FRITOS 714291
PROGRAM DOUBLE DECKER · 8/28/71 · 30 SEC
WABC-TV (NEW YORK) 10 38AM

1. BANDITO Hello.

2. The Frito Bandito has a free gift for kids everywhere.

3. A free gift in an eraser

4. that looks just like me.

5. It is free in every six-pack of Fritos Corn Chips.

6. It erases anything you draw

7. Oh Oh.

8. The Frito Bandito eraser is a free gift from the Frito Bandito

9. ANNCR Get the specially marked six-pack of Fritos Corn Chips with

10. the free Frito Bandito eraser

RADIO T.V. REPORTS, INC.

PRODUCT PEPSI COLA H-723352
PROGRAM STATION BRI IK 5/19/72 30 SEC.
WLS-TV (CHICAGO) 8 59 PM

1. MAN Look at this, Pepsi Cola's gallon pack

2. It's remarkable. Eight 16-ounce returnable bottles with reseal caps

3. So you can save or share with the wife and kid

4. Look at all that's left (DOORBELL AND VOICES)

5. And when friends drop in there's plenty for everybody

6. 25 five-ounce servings

7. There's even a little left for the old man

8. The Pepsi Cola gallon pack It's really remarkable

RADIO T.V. REPORTS, INC.

PRODUCT CHOCOLATE ZESTABS 715949
PROGRAM MAKE A WISH 11/7/71 60 SEC.
WABC-TV (NEW YORK) 11.45AM

1. MAN: Hello, my little sweet friends,

2. I'm Professor Chocolate. Here's some of my famous inventions:

3. chocolate chip cookies

4. (SFX)

5. and chocolate sundae.

6. I invented it on Monday.

7. Chocolate milk. First, I had to invent a chocolate cow.

8. (MUSIC)

9. And now my greatest invention, chocolate vitamins. New delicious chocolate Zestabs.

10. Chocolate inside, beautiful colors outside. For Angela is an artist.

11. (MUSIC) Mom, since kids don't always eat right, one Chocolate Zestab

12. gives them all the vitamins they normally need in a day.

13. along with their favorite thing to eat, chocolate (MUSIC)

14. Ah, hm, delicious.

15. New delicious Chocolate Zestabs.

Nutritional Information Only in Dogfood Ads

I won't stop to show you the ads for Gaines Dog Food, Peter Pan Peanut Butter, and Raisin Bran Flakes, ones which were taken off the air just recently. It is interesting to note the absence of nutritional information in practically every one of those ads that we saw, and at the same time the Gaines Dog Food ad found it no problem at all to discuss nutrients in the 30- or 60-second ad.

As these kinescopes that you have seen are quite expensive, we have used for the committee's record a less satisfactory way of looking at food advertising. It is the storyboards which are developed from these actual films. The storyboards we have selected for the record have been chosen because they deprecate interest in nutrition knowledge. They are selling Super Sugar Chex, Sealtest Ice Cream, and Sunkist Oranges.

Make Children "Inside" Salesmen

On the subject of children's television, during the 1960s, children came into the target area of the food advertising moguls. They perceived that children could be made salesmen within the home, and they set out to woo the child to persuade the mother. A recent study by Professor Scott Ward, of the Harvard Business School, shows how successful is this effort. The following percentages of mothers usually yielded to exhortation from their children, according to the categories listed.

When the children were begging for breakfast cereals, 88 percent of the mothers interviewed said they complied with their children's wishes. When snack foods was the subject of their exhortation, 52 percent complied; candy, 40 percent complied; and soft drinks, 38 percent complied. We cannot believe any more the denial by the food manufacturer that his statements to the child about going to ask mother's permission don't work.

Few men sitting on Capitol Hill understand the nagging capacity of a child who views 5,000 food commercials a year, but mothers do feel this industry-initiated pressure.

Nation's Nutrient Educator—Tony the Tiger

In January of 1972, during 29 hours of children's television, 82 percent of the 388 network commercials aired were for ingestible items such as food, drink, candy, gum, or vitamin pills. Tony the Tiger and Peter Pan have become the Nation's real nutrition educators. They have recently been joined by that Pink Panther character who is now selling a cereal product. These characters have pushed into the dark the conventional home economist.

Attached to some copies of the testimony that was passed out here this morning is a detailed sheet from something called the BAR report, the Broadcast Advertiser Report. This is a compilation of the ads that you will see on the air any typical day of the viewing year. Let me read to you the products that were advertised between 9:32 and 10:54 in the morning on Saturday, October 14, 1972: Kellogg Fruit Loops, Milky Way Candy Bar, a toy, Cherio cereal, Baron Von

Redberry cereal, a toy, Hershey Instant Chocolate, Berger King Drive-In Restaurant, Beechnut Lifesavers, Captain Crunch cereal, Kraft Caramels, a toy, Post Pep, Post Sugar Alphabets, a toy, Post Super Sugar Crisps, Libby Frozen Dinners for Children, PDQ Chocolate Chips, a toy, Kelloggs Sugar Frosted Chips, a toy, Post Super Orange Crisps, Post Honeycombs, a toy, Chef Boy-Ar-Dee Beefaroni, Kelloggs Product 19, Snickers Candy Bar, and a toy.

Thus, in 90 minutes of viewing time, on CBS on one Saturday morning, kids saw 40 ads, 27 of them on foods.

Up against this barrage of food information we have the nutrition educator. The nutrition educator need not be dull and she need not be a she, and yet it is fascinating to see the way women dominate this field. We must remember that for 25 years or more, television has been telling children that women make the food decisions in this world. As a result, most men have avoided the subject as teacher or pupil.

Nutrition education can be revitalized and modernized, no matter who is teaching it. It must be shaped to cope with the food manufacturer's natural inclination to pursue the greater profits in sales of the more frivolous foods.

Unfortunately, as Dr. Mayer pointed out, a great many of these foods that you see on the storyboards up there, on the exhibit boards, and also in the kinescope—a great many of these foods are sold primarily on their sugared basis. Dr. Mayer made reference to some of the cereals that are more sugar than wheat or grain. We see several cereals on the market today that are between 40 and 47 percent sugar.

Use TV To Teach Nutrient Values

I do recommend an overhaul of the classroom materials now used to teach an interest in food and nutrients. I do recommend new educational tools for the playground, the home, and the classroom. I think we can invent nutritional hopscotch and nutritional checkers. I do recommend nutrition education for doctors, dentists, nurses, coaches, camp counselors, and others in influential positions with children; but most of all, I recommend using that marvelous communication tool, the television set, to sell positive nutrient values to young people. And if that is to be our goal, then the nutrition education must start on Madison Avenue. I don't think there are many places where ignorance of food values, real food values, exceeds that to be found in the advertising profession.

Private industry must help to create this nutrition message. Private industry must moderate the sales of foodless foods if any nutrition campaign is to work. We ought to recognize the difficulty of bringing change.

The Food and Drug Administration, as you know, has been pushing nutrient labeling for 3 years. It still isn't a fact yet, and there are still hurdles being raised by certain segments of the food industry. Manufacturers of certain foods are very dubious about the appearance of zeroes on some of their food labels.

I want to report to this committee a recent meeting that took place in San Diego under the sponsorship of the American Medical Association. I believe that the National Canners Association was a cooperator in the convening of this meeting. And I believe the real purpose of the meeting was to blunt FDA's nutrient labeling plan.

Meeting Spokesmen Minimized Nutrition

The participants there were drawn from USDA, from agriculturally oriented land-grant colleges, canners and packers, and food technologists. Few growers were represented. Nutrient content of fresh produce and nutrient research was obviously of lower priority to those attending than color, skin texture, and firmness. These marketing goals were considered paramount by those representing food companies and the Department of Agriculture. Most spokesmen at that meeting minimized the need for genetic nutrient improvement, nutrient stability research or nutrient uniformity research.

The San Diego meeting included a number of very unusual speeches. The San Diego meeting was tape recorded by the AMA. I urge you to get a complete taped transcript unedited from that meeting, particularly the very revealing speech given by Mr. Edwin A. Crosby of the National Canners Association. If his speech were made public I do believe that we would get a furor which would raise the interest in the nutrients in our food supply.

USDA at that meeting revealed its preoccupation with tons, bushels, and profits, and not with nutrient characteristics.

As you know, Senator, the Food and Drug Administration's labeling plan was an outgrowth of the White House Conference on Food, Nutrition, and Health.

Senator Schweiker. I would like to say we will be glad to get the speech [1] and, assuming it is not long, probably incorporate it in the record.

Mr. Choate. I think there are parts of it that ought to be excerpted, at the very least.

I think the labeling plan promoted by FDA has spotlighted the ideological difference between the Department of Agriculture and its fascination with tons, and the Food and Drug Administration's interest in ingredients and nutrients. The labeling plan has received the active support of the Grocery Manufacturers of America.

Before I forget it, let me point out here that the GMA has put out a rather interesting comic book for distribution in schools and Head Start centers on Food Facts and Fun.[2] It is an example of a positive contribution by an industry group.

Little Support for Nutrition by Ad Agencies

We have seen very, very little support for nutrition advertising by advertising agencies and their trade organizations. I don't know of any really positive steps taken by the American Association of Advertising Agencies or any comparable advertising trade organization. And until food company sponsors, who pay the bills, dunk agency heads in nutritional wisdom the nutrient content of advertisements will remain shallow. Madison Avenue still prefers to talk more about the sizzle and the smell than what is in the food supply. Perhaps you can persuade Dr. Jean Mayer and Dr. George Briggs to run a seminar for Madison Avenue to deliver agency people from their nutritional ignorance.

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[1] See Part 1A—Appendix.
[2] Retained in committee files.

It should not take blasts like my 1970 cereal testimony to convince any more agencies that they are maintaining the nutritional illiteracy of this Nation. But if a blast is needed, I think we ought to do it. Perhaps this committee would like to hear an agency-by-agency report on the apparent nutritional competence of scriptwriters.

We do know that food companies today are starting to have a sincere interest in nutrient content. Unfortunately, their advertising agencies are lagging behind.

Having found so little interest in the world of advertising agencies, I went to the broadcasting industry a little over a year ago. I went before the National Association of Broadcasters Code Authority to urge that they adopt a code for advertising edibles equivalent to their toy code. As the Senator probably knows, the Code Authority, which is totally an industry-controlled group, has enunciated a toy code which governs how toys are sold on approximately 400 of the Nation's 700 television stations. I asked that the Code Authority adopt a similar code for advertising edibles. I asked that they consider the 5,000 advertisements for edibles that a moderate TV-watching child sees each year. They took it under consideration and did nothing.

I do have copies here of the presentation I made to the National Association of Broadcasters.[1]

It might interest the Senator to know that the Code Authority was set up, I believe, in 1961. It is now in its 11th year, and I am the only consumer who has ever appeared before that group in its history—and they did nothing.

When private enterprise does not act in its own self-interest as well as in the public interest, the private citizen has no place to turn other than to the Federal Government or to the press. We are currently conducting a major effort through both channels to get food manufacturers and advertisers to more correctly describe their products on the air.

FTC to Develop Nutritional Worth in Ads

The Federal Trade Commission currently is developing guidelines for affirmative declaration of nutritional worth in the advertisement of foods. This is an effort perhaps comparable in importance to that of the Food and Drug Administration on labeling. I think that we have gone the last mile with the food manufacturers, the food agencies, and the broadcasters who carry their messages, and unfortunately once again we have to resort to a governmental agency to get people to be ethical—particularly with children.

I would throw in here a comment that it is particularly important that we clean up our own food advertising mess in this country. Unfortunately, the American private enterprise system has a marvelous way of exporting practically everything it does, whether it is good or bad, to the rest of the world. In recent nutritional conferences that I have attended—Lima, Peru, and Guadelajara, Mexico—I, once again, heard that we are exporting our know-how of how to sell foods.

[1] Retained in committee files; available from Council on Children, Media, and Merchandising, 1346 Connecticut Ave., N.W., Washington, D.C.

We are selling the junk foods in other nations on just as immoral a basis as we are selling them in this country.

There are some hopeful signs on the nutrition education front, and I cite just a few because I know you are going to get further into them with more closely related spokesmen.

The Nutrition Foundation has put out an excellent pamphlet on nutrients, a copy of which perhaps you will want to enter into the record.[1] You might also want to ask that foundation why it has been so slow in developing messages for the national airwaves on nutrition, since it obviously has the competence to put forth a first rate production.

Other Nutritional Literature Available

The National Dairy Council has produced better than average nutritional literature, and has made a major effort to get this information into the schools along with a message on milk products.

The Department of Agriculture has made a much touted, relatively unstudied, person-to-person effort in nutrition education. I think this program needs to be evaluated by somebody outside of USDA, for huge sums are being spent on this program.

The University of New Mexico Ad Hoc Nutrition Planning Committee, under an OEO grant, has made a major effort to get good nutrition messages on the public airwaves in that State.

Westinghouse's Group W, operating with the Yellowball Workshop of Lexington, Mass., has prepared some short messages relating to nutrition.

The San Francisco Committee on Children's Television similarly has become involved with preparing television messages for kids on nutrition subjects.

Throughout all this, the stimulating influence of Dr. George Briggs can be felt.

My organization over the past year has been preparing, for public service time airing, some compensatory messages on nutrition-related subjects. After the first of the year, the messages will be sent to selected broadcasters throughout the Nation, with the request that they be aired during children's watching time. If it pleases this committee, I would like to come back at a later date and talk about these and other examples of how the airwaves and modern communication techniques can be used to advocate better nutritional habits.

One should not overlook the work of Safeway, Giant, Jewell, and the First National Stores of New England in experimenting with nutritional labeling policies. Many of these efforts came as the result of stimulus by Dr. Jean Mayer. All of these efforts, Senator, are worth noting and studying, but they are a mere drop in the bucket when compared with the massive food miseducation message currently sponsored by the Nation's major food manufacturers.

PREPARED STATEMENT OF ROBERT B. CHOATE

Mr. Chairman: My name is Robert Choate. I am Chairman of the Council on Children, Media and Merchandising, which has its offices at 1346 Connecticut Avenue, N.W., Washington, D.C. 20036. I have been a student of food merchandis-

[1] Retained in committee files: Food—A Key to Better Health, Nutrition Foundation, Extension Service, USDA. Available from Office of Communications, USDA, Washington, D.C. 20250.

ing and nutrition practices since March of 1967, when I first started research on hunger in the United States. As one of the original proponents of the formation of this Committee, I am pleased to come before you to discuss nutrition education.

World War II was a turning point in food merchandising in the United States; as a result, nutrition knowledge and nutrition education underwent great changes.

Prior to World War II, old town or old country knowledge of the food supply was handed down through generations from grandmother to mother to child. Whether it was shelling peas, scrubbing potatoes, rolling pie crust or cleaning fish, the child of that generation picked up food knowledge by helping in the kitchen.

During the years prior to World War II, typical meals in the United States had identifiable ingredients or came from recipes proven through decades and centuries to be capable of sustaining some degree of nutritional health. Prior to World War II, many citizens of the United States were still producing some of their own food supply and hence paid attention to the quality of the eggs produced by their chickens or to the color of the carrots produced from their own vegetable gardens.

The military requirements of World War II produced a host of food technology innovations. Meals for our armed forces had to stand storage for months. Snacks called K and C rations became substitute meals. Drinks from powdered ingredients and eggs and milk in a dry-pack cardboard box came to be common. Cartons and their liners were studied to resist insects, rodents and mildew.

The nation's tastebuds broadened with military service. (An ex-Army Mess Sergeant several years ago in Washington State told me he knew of no more expanding influence on eating habits than travel to a foreign land. He told me repeated stories of individuals locked into one food pattern who rapidly broke those patterns when stimulated by foreign lands and foreign dishes.)

Post World War II, the food industry, armed with the new technology, faced lineal expansion based on population growth—their sales seemed predicated solely on the number of mouths to feed. Not satisfied with lineal growth, the food companies sought to turn the World War II technology into new products for the home. "Fun foods" and "convenience foods" became the rallying cry of food merchandising.

The weak and passive nutrition profession saw its already small influence on the U.S. food scene shrink as flavors, fragrances, colors, shapes and mouth feel became the preoccupation of the food company executive suite. Nutrition losses in the ever more sophisticated manufacturing processes were ignored, while crunchiness became the Holy Grail.

Nutrition education circa 1946 was dominated by the U.S. Department of Agriculture, which swore by first a nine, then a seven, then a four food group system of education. In the 1930's, one probably could use four food groupings to describe how one should eat properly. With the new food technology however, fortification, augmentation and synthetic nutrient enrichment rapidly made the four food groupings meaningless.

In the school, home economists, nurses and coaches kept passing out U.S.D.A. literature as well as that of the industry oriented meat, dairy and cereal companies. Such efforts missed most boys, unless . were body conscious athletes. The subject was recognized to be dull, and seemed to be taught even more dully than need be. It quickly became a subject to forget.

Meanwhile, the U. S. food industry discovered color photography and television. Exotic dishes in wondering color proliferated in the nation's magazines, particularly those addressed to women. Newspaper sections on Wednesdays, Thursdays and Fridays carried full page advertisements of brand new products that arrived at the supermarket shelf in amazing array. It has been estimated that the number of items sold on the supermarket shelf increased from less than 3,000 in 1948 to over 10,000 by 1965.

Individuals trained in photography became famous for their ability to fake a picture portraying shepherd's pie, lemon meringue topping or a gloriously basted turkey. Dessert photography became a specialty in itself.

To give you an idea of the massive shift in food merchandising efforts that occurred after World War II, I asked *Advertising Age* magazine to give me a breakdown of how the nation's major food companies allocated their advertising dollars in the year 1955 and again in 1970:

[In millions]

Year	Total	Magazine	Newspaper sections	Network TV	Spot TV	Network radio	Outdoor
1970	$683	$86	$9	$264	$310	$5	$9
1955	181	72	16	65		29	(1)

[1] Unknown.

Food editors and food commentators spread the word of the brand new food technology which was developing variations on old foods at a fantastic rate. Processed foods, using basically inexpensive materials that were coaxed into supposedly fascinating new shapes, colors and smells, came to be advertised and glorified out of proportion to their nutritional contribution. Processed foods with heavy advertising could afford a higher mark-up, which justified further heavy advertising. Basic nutritionally-worthwhile items such as fruits, vegetables, inexpensive cuts of meat, and low cost legumes rich in vegetable protein disappeared from television advertising as major dollars were put behind the contrived foods. As the cost of television commercials rose, only the most artificially inflated foods could afford the biggest budgets.

While television was teaching us to select food "more on the sizzle than on the steak", as a restaurant magazine put it, magazine presentations were making confectionary foods a dominant theme in the modern housewife's goals. Mrs. Joan Gussow, a nutrition educator at Columbia Teachers College, urged one of her students to do an anlysis of the food advertising that was appearing in the winter and spring of 1972 in major women's magazines. The magazines studied were *Women's Day, Good Housekeeping, Family Circle, McCall's,* and *Ladies Home Journal.* Ranking the foodstuffs by category, one sees that the principal items advertised in these magazines, speaking collectively, were desserts, then condiments, than fats and oils, then starches, then snacks, then fruits, then soups, protein, breakfast cereals or items, and vegetables. The detailed accounting of this magazine research is on Page 52 of the March 2, 1972 report of the Subcommittee on Consumers of the Senate Committee on Commerce.

On the other hand, here are some examples of the foods advertised on television. These advertisements were taken directly from programing on the air in 1971 and 1972:

Cheerios	Hershey's Syrup
Count Chocula	Orange Plus
Frankenberry	Chocolate Zestabs
Cracker Jack	Gaines Dog Food
Pepsi Cola	Peter Pan Peanut Butter
Fritos	Raisin Bran Flakes

These kinescopes are quite expensive. A less satisfactory way of looking at food advertising is the "storyboards" which are developed from the films. These particular storyboards have been chosen because they deprecate interest in nutrition knowledge:

Super Sugar Chex
Sealtest Ice Cream
Sunkist Oranges

Children's Television

During the 1960's, children came into the target area of the food advertising moguls. They perceived that children could be made salesmen within the home, and they set out to woo the child to persuade the mother. A recent study by Professor Scott Ward of the Harvard Business School shows how successful is this effort. The following percentages of mothers usually yielded to exhortation from their children, according to the categories listed:

	Percent complied
Breakfast cereals	88
Snack foods	52
Candy	40
Soft drinks	38

Few men sitting on this hill understand the nagging capacity of a child who views 5,000 food commercials a year—the figure for even a moderate TV watching child. But mothers do feel this industry initiated pressure. In January of 1972, during 29 hours of children's television, 82% of the 388 network commercials aired were for ingestible items such as food, drink, candy, gum or vitamin pills. Tony the Tiger and Peter Pan have become the nation's real nutrition educators. They have pushed into the dark the conventional home economist message.

The conventional nutrition educator need not be dull. She need not be a she. We must remember that for 25 years or more television has been telling children that women make the food decisions in this world. As a result, most men have avoided the subject as teacher or pupil. Nutrition education can be revitalized and modernized, no matter who is teaching it. It must be shaped to cope with the food manufacturer's natural inclination to pursue the greater profits in sales of the more frivolous foods.

I do recommend an overhaul of the classroom materials now used to teach an interest in food and nutrients. I do recommend new educational tools for the playground, the home and the classroom. Let's invent nutritional hopscotch and nutritional checkers. I do recommend nutrition education for doctors, dentists, nurses, coaches, camp counselors and others in influential positions with children; but most of all, I recommend using that marvelous communication tool, the television set, to sell positive nutrient values to young people. Private industry must help to create this message. Private industry must moderate the sales of foodless foods if any nutrition campaign is to work.

While some food manufacturers are finally awakening to their nutrition education responsibilities, one should recognize the difficulty of bringing food change. The Food and Drug Administration has been pushing nutrient labeling for three years. While it will be voluntary at first, it has created enough public comment to get food purchasers to look past the biggest words on the label. It certainly will increase the consumer's curiosity about the nutrients in our twisted, shaped, colored and perfumed foods.

The Food and Drug Administration has not had an easy time: the manufacturers of the more frivolous and dubious foods don't like zeros on their food labels.

Another group very leery of nutrient labeling are those who grow and pack fresh produce. A recent American Medical Association sponsored meeting in San Diego saw the fresh produce interests team up with the National Canners Association in an effort to blunt FDA's nutrient labeling. The participants there were drawn from U.S.D.A., from agriculturally oriented land grant colleges, canners and packers and food technologists. Nutrient content of fresh produce and nutrient research was obviously of lower priority to those attending than color, skin texture and firmness. These marketing goals were considered paramount by those representing food companies and the Department of Agriculture. Most spokesmen at that meeting minimized the need for genetic nutrient improvement, nutrient stability research or nutrient uniformity research.

This San Diego meeting may well have been a pretense to gird up the National Canners Association position that they should have special variances for canned fruits and vegetables, apart from other packaged foods. I urge you to get a complete taped transcript of that meeting, particularly the very revealing speech given by Mr. Edwin A. Crosby of the National Canners Association.

U.S.D.A. at that meeting revealed its preoccupation with tons, bushels and profits, and not with nutrient characteristics.

The Food and Drug Administration's labeling plan was an outgrowth of the White House Conference on Food, Nutrition and Health. The labeling plan probably has caused more soul searching on the part of industry than any other posture taken by a Federal Agency. It has spotlighted the ideological difference between the Department of Agriculture and its fascination with tons, and the Food and Drug Administration's interest in ingredients and nutrients. The labeling plan has received the active support of the Grocery Manufacturers of America.

Unfortunately, we have seen little support for nutritional advertising by the American Association of Advertising Agencies or comparable advertising trade associations. Until food company sponsors dunk agency heads in nutritional wisdom, the nutrient content of advertisements will remain shallow. They still prefer to talk about the sizzle and the smell. Perhaps Dr. Jean Mayer and

George Briggs can run a seminar for Madison Avenue to deliver agency people from their nutritional ignorance.

It should not take blasts like my 1970 cereal testimony to convince any more agencies that they are maintaining the nutritional illiteracy of this nation. But if a blast is needed, I'll do it again. Perhaps this committee would like to hear an agency by agency report on the apparent nutritional competance of scriptwriters.

Having found so little interest in the world of advertising agencies, I went to the broadcasting industry. In may of 1971, I went before the National Association of Broadcasters Code Authority to urge that they adopt a code for advertising edibles equivalent to their toy code. I pointed out that they had seen the need to protect children from misrepresentative toy ads. I asked that they consider the 5,000 advertisements for edibles that a moderate TV watching child sees each year to be a marvelous opportunity for nutrition education. They took it under consideration and then did nothing.

When private enterprise does not act in its own self interest as well as in the public interest, the private citizen has no other place to turn other than to the Federal Government or to the press. We are currently conducting a major effort through both channels to get food manufacturers and advertisers to more correctly describe their products on the air.

Nutrition Innovations

There are some hopeful signs on the nutrition education front. Here are a few assorted examples:

The Nutrition Foundation has put out an excellent pamphlet on nutrients, a copy of which is submitted herewith. You might want to ask that foundation why it has been so slow in developing messages for the national airwaves on nutrition, since it obviously has the competance to put forth a first rate production.

The National Dairy Council has produced better than average nutritional literature, and has made a major effort to get this information into the schools along with a message on milk products.

The Department of Agriculture has made a much touted, relatively unstudied, person to person effort in nutrition education. It needs to be evaluated by someone outside U.S.D.A., for huge sums are being spent on this program.

The University of New Mexico Ad Hoc Nutrition Planning Committee under an O.E.O. grant, has made a major effort to get good nutrition messages on the public airwaves in that State.

Westinghouse's Group W, operating with the Yellowball Workshop of Lexington, Massachusetts, has prepared some short messages relating to nutrition.

The San Francisco Committee on Children's Television similarly has gotten involved with preparing television messages for kids on nutrition subjects.

Throughout all this, the stimulating influence of Dr. George Briggs can be felt.

My organization over the past year, has been preparing, for public service time airing, some compensatory messages on nutrition related subjects. After the first of the year, the messages will be sent to selected broadcasters throughout the Nation with the request that they be aired during children's watching time. (I would like to come back at a later date and talk about these and other examples of how the airwaves and modern communication techniques can be used to advocate better nutritional habits.)

One should not overlook the work of Safeway, Giant, Jewell and the First National Stores of New England in experimenting with nutritional labeling policies.

All of these efforts are worth noting and studying, but they are a mere drop in the bucket when compared with the massive food mis-education message currently sponsored by the nation's major food manufacturers.

Average Child Sees 5,000 Food Commercials Yearly

Senator Schweiker. Well, I think the presentation you made is a very good one, and we will include all the details of your statement in the record [1] as well as any additional statements you made as you presented the testimony on an informal basis.

[1] See prepared statement, p. 31.

You mentioned that the average child sees 5,000 food commercials a year. About how many hours of TV watching a week does it take to see 5,000?

Mr. CHOATE. Twenty-one.

Senator SCHWEIKER. What's that?

Mr. CHOATE. Twenty-one.

Senator SCHWEIKER. Twenty-one, which would be about three a day.

Mr. CHOATE. Roughly 3 hours a day. And that is supposedly below the national average. I think that is a very conservative figure.

Senator SCHWEIKER. And do you have a figure on the percentage of all TV commercials that relate to food products?

Mr. CHOATE. Perhaps it would interest the committee, and I can give you a print for the record, of the types of advertisements made to adults and children. That chart, that long graph there, shows the concentration in, I think, cereal products.

Senator SCHWEIKER. Is it the upper or lower chart?

Mr. CHOATE. The upper is adults, shows the types of products that are advertised to adults, and the bottom chart shows the types of products advertised to children. You can see the predominance of the food snacks and sweets items on that chart as compared to the plethora of things that are advertised to adults. On children's advertising in January of 1972, 82 percent of the advertisements were for edible products. At this time of year, they are probably 50–50 because of the Christmas toy advertising. In the main, I would say that food product, edible product advertising, constitutes 60 to 65 percent of children's commercials.

Senator SCHWEIKER. In your prepared statement, you state that only foods having artificially inflated prices can be advertised on TV. Is this a general statement, or are you applying that mainly to children's TV products?

NEED OF HUGE PROFIT MARGIN FOR TV FOOD ADS

Mr. CHOATE. No, I think—I have been told this time and again by those who know food merchandising—the reason we don't see cuts of meat advertised on television is that the product is rather costly to begin with, and one can't put a huge advertising budget behind it and make a profit comparable to taking an item of much lower nutritional worth, like a toasted or twisted or colored flake, and making it into a seemingly exotic product. We find very little money behind the advertising of fruits and vegetables. Again the low markup and lack of dominant companies minimize the number of commercial messages.

When we talk about compensatory advertising, we are saying that television is the major food educator today in this country. Its menu is grossly unbalanced, and until the food industry, the advertising agencies, or the broadcasters can bring some balance into that electronic menu, children are bound to be nutritionally miseducated.

Senator SCHWEIKER. Do you think in terms of generalizations about advertising food that the amount of advertising relates inversely to the nutritional quality of the advertised product, or can't we draw a conclusion of that type from what you are telling us?

Mr. CHOATE. I would have said that that was true in 1969. Now I am not so sure. As you remember, I took off after the breakfast cereals in

May of 1970. Of the 40 products that I decried, 36 have been so reformulated as to be really different products. The 36 that have shown nutritional improvements have been improved in the vitamin and mineral areas. They have been synthetically augmented or fortified so that they are now of some nutritional worth.

I think that since 1969 and 1970, the food industry has paid much more attention to using the cheap minerals and vitamins that are available to increase their product's worth. They have not paid any comparable attention to the protein worth in their products.

Senator SCHWEIKER. You refer in your prepared statement, to food advertisers and the reluctance to support nutritional advertising. What role do you see the advertising process playing in the decisions to market certain foods? In other words, how is the marketing decision made in this relationship, in your judgment?

Mr. CHOATE. Well, if you want to take an example, in the case of the General Mills line of Baron Von Redberry and Sir Grapefellow Frankenberry plus Count Chocula, General Mills had the ability to turn out corn, wheat, and oats combined with sugar in infinite numbers of forms, shapes, and sizes. The Dancer Fitzgerald Sample Advertising Agency decided that they could make a total campaign out of this ability, and they invented the characters, they invented the box, they invented the advertisements, and then they shaped the product to the box.

FOODS "INVENTED" BY ADMEN

I was meeting in Los Angeles, yesterday, with the heads of some major advertising agencies; they said that it is a fairly common practice to have a firm with the plant capacity run another 8 hours—or to run another day for a week. They have extruding machines, twisting machines, coloring machines, and flavoring machines which can make an infinite variety of products using basically the same ingredients. It is up to the advertising man to convince the company that there is a position on the shelf and that one can position a product successfully on the shelf so it will sell to, say 16½-year-olds who are worried about acne. If the adman is successful, away they go on a multimillion-dollar advertising campaign. A great, great many of our foods today in our food supply are more invented by advertising men than they are by food technologists.

Senator SCHWEIKER. Do you think that some kind of coordinating body is needed for the Federal regulatory bodies that deal in this area—such as FDA, Federal Trade Commission, USDA, in terms of insuring nutrition education—or how do you think we ought to approach this problem at the Federal Government level?

RESPONSIBILITY OF CONGRESSIONAL COMMITTEES

Mr. CHOATE. I think the Congress operating through this committee, and a comparable committee interested in nutrition on the other side of the Hill, could keep enough pressure on USDA, HEW, FDA, and FTC, so that something improved in nutrition education. I suspect that the best affirmative ideas are going to come from industry, from those same advertising agencies that I am now deploring. They have the imagination. The trouble with them is they sell their wares too

well. I think that they have the ability to create the positive messages. I think it might be the responsibility of this committee and comparable committees to keep the pressure on the Federal regulatory groups so there is a negative pressure on those organizations, too, so that they know somebody is going to crack the whip if nutritional advertising does not come.

I am pleased that the FDA has become so deeply involved in nutrition labeling; I am delighted that the Federal Trade Commission after about 3 years of persuasion has finally decided to get into the act and look at how we sell foods. I think we must control, to a degree, the almost unlimited fantasy and exaggeration that surrounds food advertising, particularly to kids.

Senator SCHWEIKER. Bob, I want to thank you very much for being here this morning. Your testimony and movie and charts have been very helpful to our committee, and we appreciate the advice and suggestions you have given us from time to time. We are grateful for your participation.

Mr. CHOATE. Thank you very much.

Senator SCHWEIKER. Our next witness is Dr. George Briggs, professor of nutrition, University of California at Berkeley, and executive editor of the Journal of Nutrition, accompanied by Ms. Helen D. Ullrich. He will discuss the Federal role in nutrition education through educational programs and food programs.

Dr. Briggs, we are glad to welcome you today, and we appreciate your participation. We will be pleased to insert your complete statement in the record,[1] and you use as much of the statement as you feel appropriate at this time.

STATEMENT OF DR. GEORGE M. BRIGGS, PROFESSOR OF NUTRITION, UNIVERSITY OF CALIFORNIA AT BERKELEY, AND EXECUTIVE EDITOR OF THE JOURNAL OF NUTRITION EDUCATION; ACCOMPANIED BY MS. HELEN ULLRICH, EDITOR, JOURNAL OF NUTRITION EDUCATION, BERKELEY, CALIF.

Dr. BRIGGS. Thank you very much. I appreciate being here. I also want to acknowledge that Helen Ullrich, the editor of the Journal of Nutrition Education and coauthor of this paper, is here in the audience and would answer any questions.

Senator SCHWEIKER. Very glad to have her with us. She may want to come up with you.

Dr. BRIGGS. I first have been asked to define nutrition education, which somebody should do about now. We believe that the definition of nutrition education is broadly defined as the imparting or dissemination of information about nutrition in all of its aspects. This would include training in the science of nutrition, as well as its interpretation and application to eating habits in order to insure optimal nutritional health.

I want to take just a couple of minutes, Senator, to talk about why nutrition education is needed.

One thing that most people in positions of leadership don't really understand is that malnutrition exists in this country and exists in a

[1] See prepared statement, p. 43.

very, very large way. It exists in many forms, such as outright hunger, borderline malnutrition resulting from inadequate intakes of certain nutrients, overnutrition, obesity in all its forms, and dental decay. Malnutrition exists because of inadequate food supply to many people, poor food choices, misuse or overuse of certain foods like fats, sugar, and alcohol, and overconfidence in the powers of so-called health and organic foods.

I have said it many times before, and will say it again, our national eating habits are terrible. Malnutrition in its various forms is extremely costly to this country in terms of public and private costs of treatment of nutritional problems.

Nutritional Illnesses Cost Country $30 Billion

I want to take just a minute to speak of these costs. I am a nutritional economist, also, and have taught courses many times on this subject. It is recognized, of course, that there are many factors involved along with malnutrition which contribute to the total problem of ill health. However, the costs to society of undernourished mothers and their sickly infants, physically and mentally inferior children, absenteeism in the working force and schoolchildren, the great loss of life from cardiovascular disease and hypertension, the costs of dental decay, alcoholism, and diseases of diabetes, obesity, digestive disturbances, osteoporosis, can all be attributed in part to poor nutrition. We estimate that the annual costs to our country from hunger and these examples of personal mismanagement of food to the detriment of one's health is approximately $30 billion.

Senator Schweiker. $30 billion?

Dr. Briggs. $30 billion. Now, this is equivalent to nearly one-third of our Nation's health bills—the total money we pay the hospitals, the doctors, the dentists, is about $75 billion. This $30 billion figure also represents about 25 percent of our national food bill. This figure does not include reduction in food costs, if the most economic food choice is made.

Now, let's speak to the causes, just very briefly, of malnutrition, and then we will get into some proposals. We recognize that the causes of these problems in the United States are multiple and complex and will vary for each individual. Certainly, poverty is a primary factor. However, it is also well documented that persons with adequate and affluent incomes also have nutritional problems. You don't have to be poor to have nutritional problems.

Nutritional misinformation is another factor. Many people, such as the old and ailing and isolated, cannot easily obtain and store food even though money is not a primary factor. The feeding programs for children and elderly provide food which is not always acceptable to the individual for a variety of reasons. Social, cultural, and religious attitudes and traditions can contribute to the problem. For example, the soft drink and poor snacking habits of many Americans are well known and are often socially related.

"Motivational Advertising . . . Factor for Inadequate Nutrition"

The motivational advertising to buy certain foods, which Robert Choate just spoke of so well, can be a contributing factor for inadequate

nutrition. Sellers of food supplements and certain specialty foods, such as the so-called health and organic foods sold through mail-order catalogs and special retail stores, have not always represented correctly the effectiveness or lack of effectiveness of their products.

I hate to make this following statement, but I must. Most all segments of the $120 billion food industry, which encompasses the growing, processing, distribution, and marketing of foods, generally has been more concerned with the profit ledger than the nutritional value of its product. There are very few exceptions. But there are some, fortunately. Several billions of dollars in food advertising is directed each year primarily to young children to motivate the choice of new, highly processed foods of questionable nutritional value. These foods appear so attractive, taste so good, and have such wonderful "mouth feel" and texture that they add to the lack of nutritional willpower and knowledge that causes a choice of the nutritionally better ones.

The general urbanization of our population makes it impossible for most of our citizens to even grow a few vegetables, much less raise a few chickens, keep a cow, or have a few fruit trees—as many of us older people were able to do in our younger days when there was more space. Many people have limited cooking facilities or even clean running water. The source of food supply is away from home and often processed and packaged ready to eat. Many people eat away from home. Mother is no longer the major source of knowledge for food selection. The sources now are the label, the ad, the menu, the grocery store, or the school.

Now in the few minutes left I want to speak of what we need as a Nation, in a broad way, in nutrition education. Because of these terrible costs of malnutrition to our Nation it is tremendously important, therefore, to develop each individual's nutritional knowledge so he will be motivated to choose a nutritionally adequate diet within the limitations of his income. It is more than just having information. One has to be educated to know why you have to do these things and be motivated to do these things. We feel that this right of the individual to be able to easily obtain sufficient knowledge to choose an adequate diet is basic and too long neglected.

Food Industry Has Responsibility For Nutritious Foods

Let me speak briefly of the food industry's role. A concerned food industry with a nutrition conscience is of prime importance. Whether by voluntary action—which has not proven to be too successful, as we have just heard—or by laws and regulatory action the nutritive quality must be established for all foods and more informative labels and advertising must be developed. The food industry has a responsibility to produce foods that are nutritious. The development of fabricated foods containing nothing but calories is irresponsible—especially when advertised as good nutrition. To advertise food which is less than optimal in its nutrient content as being special or super special is misinformation. An important way to improve this condition is to develop some sort of mandatory regulation of advertising and/or labeling. Labeling and advertising do not take the place of education, but are part of the educational process. There must be additional funds provided to develop an educational program making use of this information.

Studies have shown that people expect to be informed about the food they should eat through all forms of the media and there should be some form of regulation to protect the consumer against misinformation.

I laud the attempts of FTC and FDA in this connection.

WHC 1969 Panel Recommendations Not Carried Out

Now let's speak briefly of nutrition education in our schools. Of equal importance is the development of nutrition education of every citizen through a vastly improved school program. Many of the recommendations of the panels of the 1969 White House Conference on Food, Nutrition, and Health relating to this area have not been carried out. I happened to be chairman of the Panel on Nutrition Education in elementary and secondary schools at the White House Conference and I know that people in our Government have not been following out these recommendations.

While it will take time and appropriation of funds, every child of the next generation should, by the time he is 18, have sufficient knowledge about food values and nutrient needs to be able to make adequate food choices. This would require at the Federal level the cooperation of both USDA and HEW. At the present time, there are only a few demonstration projects being carried on by granting funds from the Office of Education. As a matter of fact, it is very strange, Senator Schweiker, that there is no one in our Office of Education whose primary responsibility it is to put nutrition education in the curriculum. This was one of our major recommendations to the White House Conference on Food, Nutrition and Health. This is a very sad case, and much can be done in the Office of Education to provide an example for the rest of the country and to provide leadership.

The nutrition education component of the child nutrition program in USDA is limited by meager funds from which both nutrition education and school food service training programs must be developed. The National Advisory Council on Child Nutrition in its report to President Nixon in January 1972, listed nutrition education as the first order of priority in the child nutrition programs. There should be strong national leadership in the development of guidelines for ways in which nutrition can be incorporated in the educational system from preschool programs through high school. Four States—Illinois, California, New York, and Massachusetts; there may be others but these are the ones that have come to our attention—have established mandatory health education which includes nutrition education and a few others have incorporated nutrition education with school food service, but this is only a beginning. Provision should be made in all 50 States. Now our schools need to teach the four R's: reading, 'riting, 'rithmetic, and right eating.

Nutrition education is involved in more than just schools, of course. It is a lifetime process. As a part of health education and preventive medicine and dentistry, nutrition education should be greatly increased in both Federal and State programs. It is in the areas of health and disease where the tremendous waste of national income exists. For example, we feel that up to 50 percent of the money spent on dental care could be saved by proper nutrition programs. Effective nutrition

education could reduce the incidence of obesity by as much as 80 percent. The very young and the very old need help, too. Day-care centers and programs for the aging should have accompanying nutrition education programs in order to establish good eating habits.

Now let's speak just briefly about nutrition training. There will also be another statement to this effect by Dr. Christakis. In order to implement programs there must be nutrition training for leadership. This means an expanded program at all professional education levels. Also, teachers at the elementary and secondary level will need in-service training and college level training. Specialists such as the physician, dentist, nurse, and other health professionals should have nutrition incorporated into their training programs.

The bill, S. 3696, introduced by Senator Schweiker requesting appropriation for nutrition education in the medical school for the next 5 years is the first bill of this kind to be proposed. It is an excellent move toward much needed legislation. Similar bills should be introduced for nutrition training of elementary and secondary teachers, paraprofessionals and even communications specialists.

No longer can we teach nutrition in our schools, for instance, only in home economics classes. Many high schools do not have these anymore. But it must be taught throughout the school, especially in biology classes, physical education classes, science, health education, et cetera.

Very Little Unbiased Material for Teachers

There is need for legislation to appropriate funds for research in nutrition education and the development of educational materials which would be effective for a wide range of needs. For example, there presently exists very little unbiased material which would help a high school science teacher carry out a nutrition education program.

Where will the money come from to fund development of programs and materials? We suggest taxes be levied on the "empty calorie" foods such as soft drinks, candy, and snacks that contain little or no nutrient value—in somewhat the same manner as alcohol and tobacco products are taxed. If this appears discriminatory we would extend it to all foods, if necessary.

I agree fully with the figure of 0.1 percent of the Nation's food bill, as just suggested by Dr. Mayer, which would be, roughly, today about $120 million. This is not too little for nutrition education. This is only about one two-hundred-fiftieth the cost of malnutrition in this country. So it is a very small figure in the total picture.

We also feel that a solution to this whole problem is the formation of a National Nutrition Education Council. This is badly needed.

No single group in this country has exclusive responsibility for nutrition education. The Federal Government through USDA and HEW and other agencies are active in these fields. State governments, the food industry, the community public health people, schools, and family also have responsibility for nutrition education. The need for nutrition education continues throughout life, and priorities need to be established. For instance, what is the nutrition message that you are going to give to different people?

We feel that such a National Nutrition Education Council should be established to develop overall policy and coordinate the efforts of all groups and identify areas of need and make recommendations for action programs in nutrition education.

PREPARED STATEMENT OF DR. GEORGE M. BRIGGS[1] AND HELEN D. ULLRICH[2]

NUTRITION EDUCATION NEEDS IN THE UNITED STATES

NUTRITION EDUCATION DEFINITION

Nutrition education is broadly defined as the dissemination of information about nutrition in all of its aspects, including training in the science of nutrition as well as its interpretation and application to eating habits in order to insure optimal nutritional health.

WHY NUTRITION EDUCATION IS NEEDED BACKGROUND STATEMENT

Malnutrition exists in this country; this point is very clear. It exists in many forms, such as outright hunger, borderline malnutrition resulting from inadequate intakes of certain nutrients, overnutrition, and dental decay. Malnutrition exists because of inadequate food supply, poor food choices, misuse of certain foods like fats, sugar and alcohol, and overconfidence in the powers of so-called "health" and "organic" foods.

I have said it many times before, and will say it again, our national eating habits are terrible. Malnutrition in its various forms is extremely costly to this country in terms of public and private costs of treatment of nutritional problems.

It is recognized, of course, that there are many factors involved along with malnutrition which also contribute to the total problem. However, the costs to society of undernourished mothers and their sickly infants; physically and mentally inferior children; absenteeism in the working force and school children; the great loss of life from cardiovascular disease and hypertension and the costs of dental decay, alcoholism and diseases such as diabetes, obesity, digestive disturbances, osteopoeosis can be attributed in part to poor nutrition.

We estimate that the annual costs to our country from hunger and these examples of personal mismanagement of food to the detriment of one's health is approximately 30 billion dollars. This is equivalent to nearly ⅓ of our nation's health bills and ¼ of our national food bill. (This does not include reduction in food cost if the most economic food choice is made.)

We recognize that the causes of these problems in the United States are multiple and complex and will vary for each individual. Certainly poverty is a primary factor. However, it is also well documented that persons with adequate and affluent incomes also have nutritional problems. Nutrition misinformation is another factor. Many people, such as the old and ailing and isolated, can not easily obtain and store food even though money is not a primary factor. The feeding programs for children and elderly provide food which is not always acceptable to the individual for a variety of reasons. Social, cultural, and religious attitudes and traditions can contribute to the problem. For example, the soft drink and poor snacking habits of many Americans are well known.

The motivational advertising to buy certain foods can be a contributing factor in inadequate nutrition. Sellers of food supplements and certain specialty foods such as the so-called "health" and "organic" foods sold through mail order catalogues and special retail stores have not always represented correctly the effectiveness (or lack of) of their products.

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[1] Professor of Nutrition, Department of Nutritional Sciences, University of California, Berkeley, California and Executive Editor Journal of Nutrition Education. (Formerly, President of the American Institute of Nutrition (1967–68) and the Society for Nutrition Education (1968–69). Chairman of the Panel of Nutrition Education in Elementary and Secondary Schools, White House Conference on Food, Nutrition and Health (1969). Telephone: (415) 642–5462.

[2] Editor, Journal of Nutrition Education and Education Director, Society for Nutrition Education, 2140 Shattuck Avenue, Berkeley, California. (Formerly, Nutrition Specialist, Agricultural Extension Service, University of California, Berkeley. Telephone: (415) 548–1363.

Most all segments of the 125 billion dollar food industry which encompasses the growing, processing, distribution, and marketing of foods generally have been more concerned with the profit ledger than the nutritional value of their product. Several billions of dollars in food advertising is directed each year primarily to young children to motivate the choice of new, highly-processed foods of questionable nutritional value. They appear so attractive, taste so good, and have such wonderful "mouthfeel" and texture that they add to the lack of nutrition-will-power and knowledge which would otherwise cause a choice of the nutritionally better ones.

The general urbanization of our population makes it impossible for most of our citizens to even grow a few vegetables much less raise a few chickens, keep a cow, or have a few fruit trees. Many people have limited cooking facilities or, even, clean running water. The source of food supply is away from home and often processed and packaged ready-to-eat. Many people eat away from home. Mother is no longer the major source of knowledge for food selection. The sources now are the label, the ad, the menu, the grocery store, or the school.

NUTRITION EDUCATION NEEDS

It is of tremendous importance, therefore, to develop each individual's nutritional knowledge so he will be motivated to choose a nutritionally adequate diet within the limitations of his income. We feel that this right of the individual to be able to easily obtain sufficient knowledge to choose an adequate diet is basic and too long neglected.

Food Industry's Role—A concerned food industry with a nutrition conscience is of prime importance. Whether by voluntary action (which has not proven to be too successful) or by laws and regulatory action the nutritive quality must be established for all foods and more informative labels and advertising must be developed. The food industry has a responsibility to produce nutritious foods. The development of fabricated or highly processed foods containing little but calories is irresponsible, especially when advertised as "good nutrition." To advertise food which is less than optimal in its nutrient content as being special is misinformation. An important way to improve this condition is to develop some sort of mandatory regulation of advertising and/or labeling. Labeling and advertising do not take the place of education but are part of the educational process. There must be additional funds provided to develop an educational program making use of this information.

Studies have shown that people expect to be informed about the food they should eat through all forms of the media and their should be some form of regulation to protect the consumer against misinformation.

Nutrition Education in the Schools—Of equal importance is the development of nutrition education of every citizen through a vastly improved school program. Many of the recommendations of the panels of the White House Conference on Food Nutrition and Health, 1969, relating to this area have not been carried out.

While it will take time and appropriation of funds, every child of the next generation should, by the time he is 18, have sufficient knowledge about food values and nutrient needs to be able to make adequate food choices. This would require at the Federal level the cooperation of both the United States Department of Agriculture and the Department of Health, Education and Welfare. At the present time, there are only a few demonstration projects being carried on by granting funds from the Office of Education. There is no one whose primary responsibility is to provide leadership in getting nutrition education in the school's curriculum in the Federal Office of Education. This was a major recommendation of the White House Conference and the situation today is very sad. The nutrition education component of the Child Nutrition Program in the USDA is limited by meager funds from which both nutrition education and school food service training programs must be developed.

The National Advisory Council on Child Nutrition in its report to President Nixon in January, 1972, listed nutrition education as the first order of priority in the Child Nutrition programs. This needs implementation.

There should be strong national leadership in the development of guidelines for ways in which nutrition can be incorporated in the educational system from preschool programs through high school. Four or five states have established mandatory health education which includes nutrition education and a few others

have incorporated nutrition education with school food service but this is only a beginning. Provision should be made in all 50 states. Now our schools need to teach the four R's: reading, writing, 'rithmetic, and right eating.

Nutrition Education Throughout Life—Nutrition education as a part of health education and preventive medicine and dentistry should be greatly increased in federal and state programs. It is in the areas of health and disease where the tremendous waste of national income exists. For example, we feel that up to 50 percent of the money spent on dental care could be saved by nutrition programs. Effective nutrition education could reduce the incidence of obesity by as much as 80 percent.

The educational attempts that have been made in the areas of drug abuse, alcoholism, prevention of heart disease and smoking have not been very encouraging. Why do we not do more in educating for optimal nutritional health as a preventive measure to these problems? If our population were adequately fed through making good choices according to their own knowledge, there would possibly be less desire for changing one's health through various kinds of abuses.

The very young and the very old need help, too. Day care centers and programs for the aging should have accompanying nutrition education programs in order to establish good eating habits.

Nutrition Training—In order to implement programs there must be nutrition training for leadership. This means an expanded program at all professional education levels. Also, teachers at the elementary and secondary level will need in-service training and college level training. Specialists such as the physician, dentist, nurse and other health professionals should have nutrition incorporated into their training programs.

The bill (S. 3696) introduced by Senator Schweiker (R-Pa.) requesting appropriation for nutrition education in the medical schools for the next five years is the first bill of this kind to be proposed. It is an excellent move toward much needed legislation. Similar bills should be introduced for nutrition training of elementary and secondary teachers, para-professionals and even communications specialists.

There is need for legislation to appropriate funds for research in nutrition education and the development of educational materials which would be effective for a wide range of needs. For example, there presently exists very little unbiased material which would help a high school science teacher carry out a nutrition education program.

Where will the money come from to fund development of programs and materials? We suggest taxes be levied on those "empty calorie" foods such as soft drinks, candy, and snacks that contain little or no nutrient value, somewhat in the same manner as alcohol and tobacco products are taxed. If this seems unnecessarily discriminatory we would suggest that such a tax be applied to all foods. In any event, the amount of money needed to launch effective nutrition education programs is about 120 million dollars, which is 0.1 percent of the nation's food bill or 0.4 percent of the cost of malnutrition in this country. This figure is the same as the estimate of the amount needed made by Dr. Jean Mayer whom you have just heard.

A NATIONAL NUTRITION EDUCATION POLICY

No single group in this country has exclusive responsibility for nutrition education. The Federal Government (USDA, HEW and other departments) and state governments, the food industry, the community, the schools, and the family all have responsibility for it. The need for nutrition education continues throughout life. Priorities must be established. What is the nutrition message itself, for example, to tell normal lay people?

We feel that a National Nutrition Education Council should be established with Federal sponsorship, at the Executive level, to develop overall policy, to coordinate the efforts of all groups, to identify areas of need, and to make recommendations for action programs in nutrition.

We compliment the Committee for its interest in Nutrition Education.

How To Reduce $30 Billion Cost of Improper Eating

Senator Schweiker Well, I thank you very much, Dr. Briggs, and I do have some questions that I would like to ask you and have Ms.

Ullrich comment on, too. First of all, you state the annual cost of improper eating is $30 billion. Do you have any estimate as to how much we could reduce the annual cost of health care if we did eat properly? Could we reduce all of that amount or a proportion of that amount if we had the theoretical optimum of eating properly, eating nutritiously, and eating the way we should?

Dr. BRIGGS. If we were in a utopia, where everybody ate as they should, I feel all $30 billion would be saved.

Senator SCHWEIKER. So that really is a target to shoot at and what our goal ought to be?

Dr. BRIGGS. Right.

Senator SCHWEIKER. You do say, too, that effective nutrition education could reduce the incidence of obesity by as much as 80 percent. Does that imply then that obesity is mostly the result of nutritional ignorance, or the majority of it is, or how do you put that?

Dr. BRIGGS. It is far more than ignorance, of course. It is also lack of willpower—nutritional willpower. We know we should eat better, but we don't. It is hard to pass the refrigerator late at night, and it is hard to not take this extra special dessert. So it is concerned with nutrition education if we count as part of the definition of nutrition education those factors which influence our willpower and our motivation, not just knowledge. In other words, many of us do things we know we shouldn't be doing. It is the motivation that is really part of this whole picture.

Senator SCHWEIKER. In your prepared statement you say that no one has primary responsibility for nutrition education. Who do you suggest might have that primary responsibility or where does it belong?

Dr. BRIGGS. In the Federal Government I would assume that this would have to rest at a level higher than the departments, in the executive level, because it is a responsibility of HEW and the Food and Drug Administration and the Office of Education clearly, and the National Institutes of Health, and many branches of HEW. But it also is a very important responsibility of the Department of Agriculture. Agriculture is concerned with the raising of foods for our Nation's people, and its concern should not only be with the raising of food and the proper requirements, but as many of us believe, the concern also should be for the way these foods are used for the benefit of people. And in order to get this sort of aim and purpose established for HEW and for USDA I think it takes a group at a higher level than both of these departments, along with other departments involved in nutrition, as is the Department of Defense, Department of Interior, Department of Commerce, and still other agencies of the Government. They would be represented on such a council, too.

Senator SCHWEIKER. Ms. Ullrich, would you like to comment in general on this problem in any way or any of the specific questions at all that I have asked Dr. Briggs, since you are on the firing line and you are in the every day business of this profession. We will be glad to hear any observations or reactions to any of this you might have.

LEADERSHIP NEED IN NUTRITION EDUCATION

Ms. ULLRICH. Well, I would like to comment on the need for leadership in nutrition education in the Office of Education, through which

programs could be developed, as Dr. Mayer was speaking about, from the preschool level up through the college level. There should be established a section in the Office of Education whose primary concern is all aspects of nutrition education within the educational system for all segments of our population. It takes some degree of leadership.

One of the major problems that I see is that there is very little in the way of what we call unbiased teaching materials that are useful at each of the educational levels. It really takes more than someone deciding that we are not drinking enough milk or eating enough fruits and vegetables; but it takes an overall look of a total education program and the development of educational materials on a sequential basis.

I am reminded, for instance, that in the science education fields there are groups of science educators who do this kind of thing. Very little has been done in this way for nutrition education.

Senator SCHWEIKER. I might ask you, too, Ms. Ullrich, in view of your Journal of Nutrition Education work what receptivity do you see now for this kind of thing? Has there been a change of attitude? Are we making progress, or how hard is the task of getting people receptive to receiving this kind of education?

Ms. ULLRICH. The reception is tremendous from the time we started. I might just say when we started our publication, as a prototype issue in 1968, we sent it to nutrition educators and nutritionists around the country. One of the comments was that possibly there might be some use for a publication of this sort, but maybe if a supplement were put out every couple of years on nutrition education this would be all that is needed. I might just say, later—after we started our publication and then we opened up membership in the society for professional people who were very concerned about nutrition education—this same person who felt there might not be a need came back to us and said "I want to be a sponsoring member because I think the needs in nutrition education are so important."

I think we have created an awareness of nutrition education, that people are realizing that there is a great deal that needs to be done.

Senator SCHWEIKER. I would be glad to become one of your subscribers, so please put me on the list.

Ms. ULLRICH. I will be happy to supply one for you.

Senator SCHWEIKER. Dr. Briggs, I would like to ask you what you see as the educational component of, say, a Federal food program. Has it an educational as well as a nutritional function, and what is the educational value, say, of fortified breakfast cakes?

ARTICLE QUOTES ON IMPROPER AMERICAN DIET

I would like to quote from an article in front of me to sort of get your reaction:

> Everything that is wrong with the American diet is rolled up in a snack cake or pie. They are high in calories, high in sugar, high in fat, encouraging a child or his mother to think of them as good nutrition; in a country where the major nutritional problems are overweight, tooth decay diabetes, and heart disease, it is a little like teaching a 4-year-old to smoke on the grounds that that will be good for his lungs.[1]

[1] Excerpt from Gussow, Joan Dye, "Counter Advertising—The Handwriting on the Wall," an address given at Advertising Age Creative Workshop, Aug. 15, 1972.

What is your general reaction to the education component of Federal food programs in light of that?

Dr. BRIGGS. Of course, I think the educational component of Federal food programs is very important. This specific product, a food product which looks like a cupcake, is to me like giving candied cigarettes to 4-year-olds. I don't think it teaches good habits. I tend to agree with some of this that you just read, particularly because I am trained as a nutritional scientist and I know that you cannot get our experimental animals to grow by adding only 10 or 12 nutrients to purified material. This is not good nutrition. Children need all the nutrients in foods and not just a few, and we can't provide all the nutrients we need in a manufactured or synthetic diet. And so I am concerned more about the minor nutrients which now become major when they are deficient—magnesium, folic acid, vitamin B-6, zinc, manganese, and other trace elements and vitamins that we are not getting when we add just a few to synthetic types of food.

Certainly white flour is an important food, but it is not a complete food. When we supplement fat and sugar and flour with eight or 10 nutrients, we do not make a complete diet.

Senator SCHWEIKER. One other question I have, Dr. Briggs. In the opening part of your prepared statement, you listed the effect of malnutrition in our society and you specifically included alcoholism. I just wonder if you would like to elaborate a little on that. Since I happen to be on the Subcommittee on Alcoholism and Narcotics of the Committee on Labor and Public Welfare, too. I would be very interested in hearing some of your thoughts about it.

ROLE OF ALCOHOL LONG NEGLECTED BY NUTRITIONISTS

Dr. BRIGGS. I think nutritionists have too long neglected the role of alcohol as a food. We have tended to put it in other kinds of categories. But alcohol is a food. It is taken before meals, with meals, after meals, and between meals. Our national intake of alcohol is very high. In our own State of California, for instance, we have about 1.4 million people that are alcoholics or nearly close to being alcoholics—about 7 percent of our population. We are very concerned about this. The cost of alcoholism in this country is about $15 billion a year. Now I didn't use that figure to come up with my $30 billion——

Senator SCHWEIKER. I was going to say you did not include that in the $30 billion.

Dr. BRIGGS. Only the effect of alcohol which affects our health in terms of liver damage, in terms of deficiencies which are produced by the intake of 600 to 700 calories or more of alcohol per day—which many millions of people in our country do—which then drive out the intake of more important nutrients.

Senator SCHWEIKER. Well Dr. Briggs, I certainly want to thank you, as well as Ms. Ullrich, for coming before our committee and being very patient this morning in waiting your turn. We certainly will continue to look to you, as we progress, for some advice and guidance and suggestions to our committee. Thank you very much.

Our last witness this morning will be Dr. George Christakis, professor of community medicine, Mount Sinai School of Medicine, New York, who will testify on the role of nutrition education in community medicine and the availability of nutrition education in medical schools.

Dr. Christakis, we are delighted to welcome you here today and greatly appreciate your patience in sitting in the audience for so long.

STATEMENT OF DR. GEORGE CHRISTAKIS, PROFESSOR OF COMMUNITY MEDICINE, MOUNT SINAI SCHOOL OF MEDICINE, NEW YORK

Dr. CHRISTAKIS. Thank you very much, Senator. It is a pleasure and privilege to be here, and I want to extend the thanks of my colleagues for this committee and its efforts. It is doing great work for our fellow American citizens, and my academic colleagues at the nutrition division of our medical school certainly express their gratitude for your interest and that of your staff.

It is also a little late—it is 12:30. I will try to be as brief as I can.

Senator SCHWEIKER. We will be sure to include your whole statement [1] in the record, and you highlight as much or take as much time as you want to put across your point of view.

Dr. CHRISTAKIS. All right, sir.

It is certainly our conviction that nutrition is one of the most important environmental determinants of health and disease and that it is a key to the quality of life. In view of the relationship between protein deficiencies and central nervous system and behavioral development, physiologically optimal nutritional status should be the inherent birthright of every American child. And I believe that there may be some constitutional grounds for this statement. Every child should have the nutritional ability to fulfill the genetic potential with which he is endowed.

NUTRITION EDUCATION CONCERN TO ALL

In order to maintain health, prevent nutritional anemias, and other specific nutritional deficiencies, and utilize current nutrition knowledge to help prevent such major public health problems as obesity, coronary heart disease, hypertension, and diabetes, nutrition education must be a concern of all of us.

Nutrition education should be part of every training curriculum for teachers at all grade levels from preschool to medical school. It should be available through official and voluntary agencies utilizing every mass communication media available in order to particularly educate the poor, young pregnant women, young mothers, the elderly, all citizens, rich or poor.

Particularly, it should be an integral component of the curriculum of preschool, primary, secondary, college and post-graduate level students, especially in medical schools.

The Ten-State Nutrition Survey, published July 1972, indicates that suboptimal nutritional States exist in many segments of our population. It is, therefore, the responsibility of Federal, State, local, official and voluntary agencies to embark on an integrated program of nutrition education which will permit all citizens—but particularly the poor—to utilize their food in a way which provides maximum nutrients per calorie, per dollar. This is particularly important inas

[1] See prepared statement p. 54.

much as a family on welfare may not always meet the recommended dietary allowances with the amount of money provided them. I believe that this has already been shown.

Moreover, in view of the fact that the American housewife, as Dr. Mayer has eloquently testified, faces thousands of food items every time she walks into a supermarket, knowledge is required in order to obtain the best possible combination of nutrients provided by a varied nutritional pattern without the addition of excessive nutrient-free, or so-called empty calories, as present in carbohydrate or fat-rich foods.

Difficulties of Shopping for Nutritious Foods

Senator Schweiker. I think that is a very good point. I have trouble when I do substitute shopping for my wife in even finding an item—of which there are 7,000 to choose from—and here the problem is far more substantial than that. It is in knowing, identifying and integrating the nutritional value of a particular food. And if you have 7,000 to choose from—even with a good computer—a knowledgeable person would have very great difficulty even if all the items had ingredient labeling. So I think you point up the problem that there are so many options available that if we did everything else right, we would still have a hard time doing the job properly.

Dr. Christakis. It is certainly gratifying that through the efforts of the Federal Government and nutritionists throughout the country—and here again I think we should extend our thanks to Dr. Mayer and the White House Conference—there has been substantial improvement in the Commodities Distribution, Food Stamp, and School Lunch programs, although there is some data to indicate that food stamp use is falling off. However, the public must be given the knowledge to understand that two key principles of nutrition education must be implemented:

1. Variety of foodstuffs to assure adequate access to the 40 to 50 essential nutrients, required by man, and I am sure more are yet to be discovered.
2. Moderation in those foods which provide relatively few nutrients in a high calorie package.

Thus the quantity and quality of food given to the poor and nonpoor, particularly through commodities programs, must be so varied that the maior food groups are represented: the vegetables, the whole grain breads and cereals, the fruits, lean meat, milk and cheeses, and cooking oils. Whether you believe in the basic four or the seven or the six, the point is that one needs to choose food from these many food groups.

Health Hazards Also Due to Heredity

Furthermore there are population groups who may exhibit specific nutritional problems such as obesity and diabetes, and who may not be given the wide variety of nutrients that would permit them to consume a nutritional pattern which would decrease the health hazards associated with their specific metabolic attributes.

I know that is a long sentence, Senator, but what I mean is there are certain populations—and I had in mind the Papago Indians—who have a specific incidence of diabetes and obesity, which in turn is associated with the potential threat of hypertriglyceredemia and increased risk of developing coronary heart disease. So are there populations, again, among the poor and rich that have special problems. There also must be nutrition education leveled to these particular populations and their problems.

It is considered, for example, that one out of every 200 babies born may have a hyperlipidemia of some type. That is, a genetic predisposition to high levels of cholesterol or high levels of triglyceride. If this indeed is so, then, indeed, special nutrition education modalities must be concerned with this particular problem.

It is now well known that one-third of our adult male population—particularly under the age of 50—have levels of serum cholesterol which are associated with high risk of coronary heart disease. If we are going to do anything about the coronary arteries—which Dr. Mayer described from the McGill studies quoting the Vietnam and Korean investigations [1]—then the lowering of serum cholesterol by proper nutrition education modalities, as well as through the availability of certain foods rich in poly-unsaturated fatty acids, is certainly necessary. If we are going to blunt the No. 1 public health problem in the United States, namely, coronary heart disease this must be done.

It is gratifying to indicate that nutrition knowledge has greatly increased in the last 4 decades. We now have good concepts as to what a normal diet pattern should be. We know that we must control calories, we know that we must decrease the total daily caloric intake from lipids. We know we must increase the amount of polyunsaturated lipids—I say we know—this is the conviction at least of some of us nutritionists. We are concerned about total daily calories from carbohydrates—particularly refined carbohydrates or "simple" sugars.

For the black population, there is some data to indicate that excessive salt intake may provoke a predisposition towards high blood pressure or hypertension.

Implement Known Knowledge by Education Programs

We know these things. Now it remains for nutrition education—and for those of us concerned with it—to implement this knowledge through action education programs.

Labeling law must also exist which permit the public a clear and simple understanding of the composition of foodstuffs and their nutritional properties, at least in general. The public must be so well educated in nutrition matters that they will be able to judge what is proper nutrition information and ignore self-styled nutrition experts—who serve only to confuse the public with misinformation or faulty interpretation of existing data.

It was my privilege to appear with Dr. Elmer George, and Dr. W. Sebrell and others at a hearing conducted by Attorney General Lefkowitz, last Friday, in New York City in which organic and health

[1] See previous testimony, p. 7.

foods were discussed. It was revealed at that hearing that organic foods may not only contain less pesticide residue levels, but indeed may contain more. It was our point that not only are they more expensive, but if an individual concentrated on organic and health foods for his sole dietary intake it is very likely that he would not be able to take from these six major food groups I mentioned—thus he would be in risk of developing nutritional deficiency. So the public must be aware of these efforts to take their food dollar or food money away, and be in a position to make good judgments for themselves.

I have indicated in my testimony, sir, that Senator Javits appreciated the lack of concern for nutritional teaching in medical schools, and I cited his bill and I am delighted to indicate that at the Mount Sinai School of Medicine we are implementing some of our earlier recommendations in the teaching of nutrition. But your bill indeed—the Nutritional Medical Education Act—will go a long way in helping to fill the void of the lack of nutrition teaching in medical schools, which I will discuss briefly later.

Again resorting to my submitted testimony, Senator, I wish to indicate that nutrition education knowledge has to be available to the public so that they can identify desirable food patterns, identify desirable weight-reducing diets, avoid food faddisms of all kinds, the organic, the macrobiotic, and so forth; and finally, they must know the relationship between their food choices and disease prevention.

Nutrition education should be provided within the cultural framework of specific racial and ethnic groups.

Nutrition education must not only involve a change in food concepts, but favorably change eating behavior.

There is a study by Lovett and others, that teachers who are trained with good nutrition education materials increase the ability of students to apply nutrition education from 39 percent when materials were used only—to 150 percent when materials and teachers in nutrition were used.

Need Guidelines for Desirable Nutritional Patterns

The Food and Nutrition Board should be charged with the responsibility of identifying guidelines for desirable nutritional patterns. Only with such information could the public be able to evaluate and judge the barrage of advertising material to which it is exposed—particularly as these food advertisements affect the nutritional behavior of children.

Concerning television commercials related to food, it would appear desirable that food companies describe the nutritional attributes of their products within a context of a complete and adequate nutritional pattern, rather than to suggest that their products can stand alone because of their inherent nutritional characteristics.

Nutrition education could also be the vehicle through which faculty and students learn about health and science. Nutrition knowledge integrates such diverse fields as biochemistry, physiology, sociology, pharmacology, psychology and even history. More research funds are required to determine the psychosocial factors which influence behavorial aspects of eating and nutrition. It is my conviction that the availability of a varied diet and the knowledge of how to put it to-

gether through desirable eating behavioral patterns can do much to improve the public health status of Americans of all ages.

I would like to go on for a few minutes more, if I may, Senator, to state that we believe it is an unfortunate and intolerable situation that the majority of our Nation's physicians may be currently unable to diagnose primary nutritional deficiencies. This at a time when the Ten-State National Nutrition Survey has revealed that growth and developmental failure exists and that a basis for this is nutritional. Clinical and subclinical hyperlipidemic states may be all too common particularly in the lower socioeconomic population.

Inability of Physicians to Properly Diagnose

If you will, think for a moment if your physician found your level of serum cholesterol to be at a high of 300 milligrams percent and your triglyceride level at 200 milligrams percent, would he be able to explain and supervise a dietary regimen? Your risk of developing a heart attack lies in the balance of this answer. If the physician could not outline a dietary regimen, his lack of nutrition knowledge would be tantamount to medical incompetence—if not negligence. If he couldn't recommend a diet, he should at least lead you to a nutritional resource such as a nutritionist or a dietitian.

Let us all consider that you have a newly married daughter who likes to be "Twiggy-thin" and becomes pregnant and she and her husband have recently gone on a rather strict vegetarian diet. Would her obstetrician be able to transmit the knowledge that limitation of high-quality protein intake, if severe, could possibly affect the number of brain cells developed by her child?

Nutritional Knowledge Needed To Cure

Finally, let's take the instance of the down-and-out alcoholic of 20 years duration whose breakfast consists of a 4-ounce glass of whiskey with only the barest trace of bread and cereals. When this unfortunate man comes into the emergency room with extreme shortness of breath and his legs massively swollen, will the intern on duty be sharp enough in his nutritional knowledge to spot a case of heart failure that will not respond to any of the conventional heart medicines but which can be cured in a matter of hours by one injection of thiamine?

We hope that from this new generation of physicians the answer to these questions will be a resounding "yes."

We have been fortunate and have received a grant from the Nutrition Foundation to help establish a nutrition division at the Mount Sinai School of Medicine, Senator. It has been our privilege to participate in the curriculum for the last 3½ years and, if you wish, I will submit for the record a paper which is in the current October 1972, issue of the American Journal of Clinical Nutrition in wherein we describe our teaching experience in this medical school.

Senator Schweiker. Yes: we would very much like to put that in the record.[1]

Dr. Christakis. Thank you, sir. For first-year medical students we have been able to introduce nutrition in courses entitled "Introduction

[1] See Part 1A—Appendix.

of Medicine in Biochemistry." We have our own nutrition elective, and I am delighted to say that one-third of the entire class is taking this elective in addition to the required nutrition teaching in our medical school, which totals 35 to 40 hours in the 4-year medical school curriculum.

Senator SCHWEIKER. Required?

Dr. CHRISTAKIS. Yes, Senator, required. We have approximately 200 electives at the Mount Sinai School of Medicine. And we are delighted that this new generation of medical students have this keen interest in gaining nutrition knowledge as mentioned by Dr. Mayer. They sense that nutrition not only is of tremendous clinical and public health importance, but of sociological importance as well.

COURSE IN MEDICAL NUTRITIONAL DIAGNOSIS

We also have a summer apprenticeship program. We further have a course called nutritional diagnosis. We participate in medical ecology. We are given time by our colleagues in the following teaching units: Pharmacology, cardiovascular and infectious disease units; we participate in the training of community medicine residents. We also assume another responsibility, sir. We feel that a medical school should not only avail its resources to the students, but also to the surrounding community. This concept we owe to the late Dr. George James; to the present administration, Dr. Hans Popper; and to our dynamic chief of community medicine, Dr. Kurt Deuschle. We are in fact not only teaching medical students; we are teaching graduate nutrition students; we are teaching high school students who wish to develop career opportunities in health. We also teach social workers and public health nurses in the community, for instance, in voluntary agencies such as the Little Sisters of the Assumption, who take this knowledge and are able to diagnose and refer to us children with serious nutritional problems like Kwashiorkor, children who exhibit growth and development failure, and so forth. Because they relate to families living deep in the inner city, they are able to refer these cases to us.

We have also participated in the teaching of physicians through the American Academy of Family Practice. We have just completed a series of five 2-hour seminars to physicians, and at the end of that five-session seminar they were so interested in nutrition they asked us to extend the course.

However, I must also indicate a sense of concern with the current crunch on research and community involvement funds. We are really concerned as to whether we can continue the quality and quantity of this nutrition teaching in the medical school, and we are delighted that your bill addresses itself to this objective. We can only hope that we will, indeed, be given the resources to continue this major effort in the teaching of nutrition to medical students.

PREPARED STATEMENT OF DR. GEORGE CHRISTAKIS

Nutrition is one of the most important environmental determinants of health and disease; it is a key to the quality of life. In view of the relationship between protein deficiencies and central nervous system and behavioral development, physiologically optimal nutritional status should be the inherent birthright of every American child. Every child should have the nutritional ability to fulfill the genetic potential with which he is endowed.

In order to maintain health, prevent nutritional anemias and other specific nutritional deficiencies, and utilize current nutrition knowledge to help prevent

such major public health problems as obesity, coronary heart disease, hypertension and diabetes, *nutrition education* should be:

a. Part of every training curriculum for teachers at all grade levels from pre-school to medical school,

b. Available through official and voluntary agencies utilizing every mass communication media available in order to particularly educate the poor, young pregnant women, young mothers, the elderly, etc.

c. An integral component of the curriculum of pre-school, primary, secondary, college and post-graduate level students, *especially in medical schools.*

The Ten State Nutrition Survey, published July 1972 (DHEW Publication No. HSM 72-8130) indicates that sub-optimal nutritional states exist in many segments of our population, particularly in the lower socio-economic areas. It is, therefore, the responsibility of Federal, State, local, official and voluntary agencies to embark on an integrated program of nutrition education which will permit all citizens, but particularly the poor, to utilize their food in a way which provides maximum nutrients per calorie, per dollar. This is particularly important inasmuch as a family on welfare may not always meet the recommended dietary allowances with the amount of money provided them. Moreover, in view of the fact that the American housewife faces approximately 7,000 food items every time she walks into a supermarket, knowledge is required in order to obtain the best possible combination of nutrients provided by a varied nutritional pattern without the addition of excessive nutrient-free (empty) calories as present in carbohydrate or fat-rich foods.

It is gratifying that through the efforts of the Federal Government and nutritionists throughout the country, there has been substantial improvement in the commodities, food stamp and school lunch programs. However, the public must be given the knowledge to understand that two key principles of nutrition education must be implemented:

1. *Variety* of foodstuffs to assure adequate access to the 40 to 50 essential nutrients required by man; and

2. *Moderation* in those foods which provide relatively few nutrients in a high caloric "package."

Thus the quantity and quality of food given to the poor and nonpoor particularly through commodities programs, must be so varied that the major food groups are represented:

1. dark green and deep yellow vegetables;
2. enriched and whole grain bread and cereals;
3. citrus fruits and other vitamin C-rich fruits & vegetables;
4. milk and cheese;
5. lean meat, poultry, fish, eggs, dried beans & peas and nuts; and,
6. salad and cooking oils for polyunsaturated fatty acids.

There are, moreover, population groups who may exhibit specific nutritional problems such as obesity and diabetes, and who may not be given the wide variety of nutrients that would permit them to consume a nutritional pattern which would decrease the health hazards associated with their specific metabolic attributes. For example, the Papago Indians have a considerable prevalence of diabetes and obesity, which in turn is associated with the potential threat of hypertriglyceredemia and increased risk of developing coronary heart disease. If such specific groups are not given special nutritional consideration with regards to availability of a varied diet and special nutritional counseling, our Government may be inadvertently contributing to the nutritional genocide of such high-risk groups.

It is gratifying to indicate that nutrition knowledge has greatly increased in the last four decades. We now have good concepts as to what a "normal" diet pattern should be. We are knowledgeable as to the relationship between diet pattern and risk of developing coronary heart disease. The Food and Nutrition Board of the National Academy of Sciences, the American Medical Association and the American Heart Association, have urged that Americans lower their serum cholesterol levels if they are elevated in order to help prevent heart attacks, our #1 public health killer.

Labeling laws must also exist which permit the public a clear and simple understanding of the composition of foodstuffs and their specific nutritional properties. The public must be so well educated in nutrition matters that they will be able to judge what is proper nutrition information and ignore self-styled nutrition experts who serve to confuse the public with misinformation or faulty interpretation of existing data.

I have previously gone on record with my colleagues in deploring the current state of nutrition teaching in medical schools. We have also shown that teaching nutrition at the Mount Sinai School of Medicine is feasible and a contribution to the medical curriculum, as evidenced by reprint attached (see Appendix A[1]). Senator Jacob Javits, appreciating the concern for the lack of nutrition teaching in medical schools, submitted a bill in 1971, S. #1865, providing funds to medical schools. This bill was passed by the Senate as Title II of S. 3418, of the Family Medical Practice Bill, but died because of the lack of legislative nourishment.

It has been the experience of our Nutrition Division at the Mount Sinai School of Medicine (see Appendix B[1]), that it is of great value to train *voluntary agency* health personnel, such as social workers and public health nurses. Thus far, the training of social workers and public health nurses in nutritional diagnosis and education has resulted in the identification of failure-to-thrive infants, those with severe nutritional anemias and other nutritional disorders. It must also be emphasized that obesity is a form of malnutrition and the obese individual is not a storehouse of excessive nutrients, but in fact, has been shown to be nutritionally deficient, with particular reference to iron requirements.

To provide nutrition education without providing the poor with food, money or other resources, is like inviting someone to dinner and offering them empty plates. Lack of nutrition knowledge is not the privilege of only the poor, but extends to the wealthy and educated; currently there is unprecedented food zealotry on the campuses of American universities, which are being maintained by campus cafeterias who sponsor vegetarian and "health food" diet patterns.

When food and/or money is provided to the poor, then nutrition education can help them better utilize their nutritional resources. Nutrition education should provide knowledge concerning:

a. Desirable diet patterns;

b. Desirable weight-reducing diets;

c. Avoidance of food faddisms of all types, i.e. organic, macrobiotic, etc.; and,

d. Explaining the relation between food choices and disease prevention.

Nutrition education should also be provided within the cultural framework of specific racial and ethnic groups.

Nutrition education must not only involve a change in food concepts but favorably change eating behavior. Lovett, Baker & Marcus (Journal of Nutrition Education, vol. 2, page 70) report that trained teachers with good nutrition education materials, increase the ability of students to apply nutrition knowledge from 39% (materials only) to 150% (teachers + materials).

The Food and Nutrition Board should be charged with the responsibility of identifying guidelines for desirable nutritional patterns. Only with such information could the public be able to evaluate and judge the barrage of advertising material with which it is exposed, particularly as these food advertisements affect the nutritional behavior of children.

Concerning television commercials related to food, it would appear desirable that food companies describe the nutritional attributes of their products within a context of a complete and adequate nutritional pattern, rather than to suggest that their products can stand alone because of their inherent nutritional characteristics.

Nutrition education could also be the vehicle through which faculty and students learn about health and science. Nutrition knowledge integrates such diverse fields as biochemistry, physiology, sociology, pharmacology, psychology and even history. More research funds are required to determine the psychosocial factors which influence behavioral aspect of eating and nutrition. It is my conviction that the availability of a varied diet and the knowledge of how to put it together through desirable eating behavioral patterns can do much to improve the public health status of Americans of all ages.

Do Many Medical Schools Provide Nutritional Education?

Senator Schweiker. Well, Doctor, I thank you very much. I think you have covered much in such a short time—particularly of interest

[1] See Part 1A—Appendix.

to us on this specific topic of education in our medical schools. It seems to me, from what I have heard, that your school and the work you have done is somewhat unique. Is this a fair statement? In other words, how many other medical schools have progressed or have advanced in this area as far as yours at the present time?

Dr. CHRISTAKIS. There are approximately 112 medical schools, I believe now, Senator Schweiker. I can't tell you the exact number, but I would say that a dozen have teaching units in medical schools. Harvard, Columbia now does, Vanderbilt, Michigan State, Tulane, U.S.C. I am sure that my colleagues in the audience can increase this list. But I doubt whether it goes beyond 12 or 15 at the top—20, but I would doubt that.

Senator SCHWEIKER. So you are talking roughly about 10 percent?

Dr. CHRISTAKIS. I would say that is correct.

Senator SCHWEIKER. And I might ask: What is the reason. in your judgment, that the other 90 percent haven't advanced this far or haven't progressed in this way? What are some of the reasons, in your judgment, that have held back this development?

Dr. CHRISTAKIS. I think that the role of nutrition is finally coming into its own. Senator, a couple of years ago we used to talk about the blurred image of nutrition. That was the time when the line between nutrition and health was not really defined. But in the course of the last 10 or 15 years with the relationships shown between malnutrition and physiological and behavioral development and nutrition and obesity, nutrition and coronary heart disease, I think there has been a great new impetus given in our field.

Now to address myself to your question, I think that we don't have the resources at present to develop the expertise to fully staff these 112 medical schools. But we do have a nucleus of people in these schools, whether they be hematologists, gastroenterologists or pediatricians, who can be rallied to this objective, given the funds such as your bill would provide.

Several factors make it very timely that medical schools receive fiscal support at this time. Substantial nutrition knowledge is already available. Furthermore, there is social visibility and appreciation of the importance of this knowledge for the physical and social health of our entire population. In addition, we are now in a position to provide medical schools and other centers with the ability to develop personnel and to put this nutrition knowledge into action. These are the elements which have comprised a critical mass for educating our medical students with nutrition knowledge.

NUTRITION EDUCATION BENEFITS ALL CITIZENS

Moreover, I think we are on the crest of a wave of interest in nutrition and if we do not promote nutrition education in medical schools now, we are going to "miss the boat." I say this not merely from the point of view of the vested interests of we nutritionists, but because of the benefit that nutrition education will provide medical students and all or our citizens.

When one stops to think that nutrition is related to behavioral development, central nervous system development, which has inferences as regards the social pathology that all of us are concerned with,

particularly in the inner city; when we think of the relationship between diet and coronary heart disease, as I indicated, trying to correct that condition while the individual is in the metabolic stages; when we think of obesity, its provocation of diabetes, its provocation of hypertension, let alone what it does to the psyche and other health parameters such as osteoarthritis and gall bladder disease, I think, sir, that we would have an impact on perhaps over two-thirds of the public health problems now affecting the populace of the United States. In other words, the ability to correct malnutrition, whether it be undernourishment or malnutrition related to the malnutrition of obesity and of excessive saturated fat intake; I think we would do more for public health than any number of immunization programs we have had in the past; not that these aren't valuable, but that we have a chance here to improve the public health that is beyond most of our expectations.

Federal Investment Would Pay Large Dividends

Senator Schweiker. So a fairly small investment on the Federal Government's part in this area would pay a tremendous dividend You used the figure two-thirds, if I recall, a moment ago, in terms of public health problems.

Dr. Christakis. Yes. The reason I said that is, if you add up coronary heart disease, hypertension, diabetes, and particularly the alcoholism problem which is a major health problem in the United States, you have got a major portion of the public health problems, the health problems facing our citizenry.

Senator Schweiker. Another area that I know you have done some research in that is also related here indirectly and perhaps very directly is relationship of nutrition and/or malnutrition to drug addiction. I wonder if you might comment on that just briefly, as to what you are investigating or pursuing.

"Dual Addiction Phenomena"

Dr. Christakis. We have investigated the nutritional status of 400 individuals who are undergoing a rehabilitation program for drug addiction. We have also seen 200 individuals as they first came in off the streets and entered into a program. This includes a detailed physical examination as well as many biochemical parameters of nutritional status. We have been concerned with, not only the amount of subclinical malnutrition that has been seen, but with their ability, that is the economics of requiring food. When they get their food, it is very carbohydrate-rich, and this has been a fascinating thing for us to observe. We don't know what the reason for this is or whether it's only economic. It may be related to their drug intake. They take in very little in the way of vitamin-rich and protein-rich foods. Not only are they malnourished as addicts, but very often as they solve their addiction problem, Senator, they become addicted to alcohol. We call this the dual addiction phenomena, and this comes at a time when they may have ruined their livers because of the hepatitis problem resulting from their drug addiction.

So here they are, malnourished, with liver problems, and on top of this, they don't eat, but do consume a great deal of alcohol. We are very

concerned that later on many of these individuals will develop very serious liver disease which will very negatively affect their health.

So I am just saying that here is a way, through the nutrition program we have established at the Exodus House rehabilitation program that we believe we can put a dent into this kind of illness rate, and also, use nutrition as a wedge to the comprehensive medical care which we provide. We opened our field clinic for these addicts, and we never separate nutrition from comprehensive health care. That era should long be gone.

And the next thing we do is use nutrition as a way for social rehabilitation. This is a new challenge for home economists and dietitians. They have more power than they realize as a source of nutrition education. For nutrition means hospitality, it means social relationship which can be used constructively to help lift these addicts out of their dismal way of life, much of which, by the way, is due to the abominable living conditions in the East Harlem area, and I am sure, other areas around the country.

Compares U.S. Medical Licensing to Other Countries

Senator Schweiker. One of the critics of the present situation has said that, generalizing now, this country is too disease oriented as opposed to a preventive health orientation. I wonder how this compares to, say, other countries and other areas. What is our comparison to, say, other countries approaches to this problem? How would you relate it?

Dr. Christakis. Well, sir, I do know that Western Germany has included nutrition questions in part of their licensing examination. In other words, you cannot now graduate from a West German medical school without passing an examination having a nutritional component. I also know that many Eastern European countries are putting into practice the nutritional recommendations which have largely come out of our own country. I am referring to the Framingham study, the Tecumseh project, the Anti-Coronary Club study program of the New York City Department of Health, and other prospective studies in which the role of diet in preventing coronary heart disease has been defined. The Eastern Europeans have developed "rehabilitation centers" which large numbers of people attend and engage in physical activity programs and receive nutrition education counseling, all directed toward the prevention of coronary heart disease.

So I think that other countries are also moving ahead in the areas which we are getting further into. I am not discouraged, because with the multirisk factor reversal program now being set up by the NIH, following upon the heels of the Lipid Research Center program. I think that we are moving in the right direction.

Senator Schweiker. Well, Doctor, I want to thank you very much. You have certainly been very helpful. I think you directed yourself specifically to one of the pieces of legislation that is before the committee, and your opinion is very important to us. Certainly we will be very glad to have it for the record and for further action on our bill. Thank you very much for being with us and for your patience.

Dr. Christakis. Thank you.

Senator Schweiker. I would like to say that tomorrow we will have witnesses from the U.S. Department of Agriculture, and Department

of Health, Education, and Welfare to discuss the nutritional activities of these agencies.

I believe these hearings are illustrating that nutrition education is clearly an important part of an overall program of preventive medicine. We are showing, too, that there are great gaps in this area, nationally, which need to be filled. Also the hearings point to the urgent need for a coordinated national policy as an integral part of the overall effort to keep our people healthy.

The committee is in recess, to reconvene on Wednesday at 10 a.m.

(Whereupon, at 12:55 p.m., the Select Committee was recessed, to reconvene at 10 a.m., on December 6, 1972, in room 1202 of the Dirksen Building.)

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NUTRITION EDUCATION—1972

HEARINGS

BEFORE THE

SELECT COMMITTEE ON NUTRITION AND HUMAN NEEDS

OF THE

UNITED STATES SENATE

NINETY-SECOND CONGRESS

SECOND SESSION

PART 2A—APPENDIX

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NUTRITION EDUCATION:

Part 1 and 1A—Overview—Consultants' Recommendations, Dec. 5, 1972; with Appendix.
Part 2 and 2A—Overview—The Federal Programs, Dec. 6, 1972; with Appendix.
Part 3 and 3A—TV Advertising of Food to Children, March 5, 1973; with Appendix.
Part 4 and 4A—TV Advertising of Food to Children, March 6, 1973; with Appendix.

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DECEMBER 6, 1972

ITEM 1—SUBMITTED BY WITNESSES

FROM THE USDA

Publications referred to by Mr. Lyng in his USDA "kit" include:

Extension Home Economic -Helps Today's Families Build Better Lives: PA-981, Extension Service* Price 15 cents. Stock No. 0100-1456.

Food and Nutrition . . . basic lessons for training extension aides; Extension Service, USDA. Revised March 1971.§

Youth in Extension's Expanded Food & Nutrition Program: Extension Service, USDA.§

Leader's Guide No. 1 through 10; with Funsheet No. 1 through 10; Extension Service, USDA.§

Impact of the Expanded Food and Nutrition Education Program on Low-Income Families, an Indepth Analysis; Agricultural Economic Report No. 220. Economic Research Service, USDA.§

RESPONSE TO QUERY FROM SENATOR HART

The following tables were received from the USDA in response to testimony about Section 6 and Section 10 funds in Part 2, The Federal Programs, pp. 186-189.

*For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402

§Available from Office of Communications, U.S. Department of Agriculture, Washington, D.C. 20250.

Program Implications of Blood Cholesterol Levels in Adolescent Children (Section 6)

Requesting Organization: Harvard University.
State: Massachusetts.
Funds Requested: $4,000.
Date Approved: June 1971.

Objectives: To determine the effect of a fat-cholesterol modified diet on serum cholesterol of teenage boys and how such a diet could be manipulated in quantity food service operations without rejection by students, faculty, or food service personnel.

Develop Instruments To Assess Change in Food Habits (Section 6)

Requesting Organization: Oklahoma State University.
State: Oklahoma.
Funds Requested: $2,000.
Date Approved: June 14, 1971.

Objectives: To conduct food-related interviews as a basis for construction of food-oriented value tests; and to use the value patterns thus identified to aid in motivating students to want to eat available foods in a variety of amounts so as to maintain an optimum state of nutritional health.

Preschool Day-Care Nutrition Education (Section 6)

Requesting Organization: National Urban League.
State: Pennsylvania.
Funds Requested: $110,032.
Date Approved: July 10, 1971.

Objectives: To design a nutrition education program for preschool children, parents, and staff of day-care centers.

Consumer Health Education Workshops (Section 6)

Requesting Organization: Moorhead State College.
State: Minnesota.
Funds Requested: $670.
Date Approved: July 22, 1971.

Objectives: To set up a health education summer workshop to provide elementary and secondary teachers with accurate and current information about nutrition; and to provide resources of nutrition, the school lunch program as a laboratory experience for nutrition education, and coordination of school/community nutrition programs.

Food Procurement Training Course (Section 6)

Requesting Organization: N.C. State Agency and University of N.C.
State: North Carolina.
Funds Requested: $4,000.
Date Approved: October 18, 1971.

Objectives: To train school food service managers and supervisors through a 15-part series involving identification, development, and application buying; to provide nutritious meals to more children at less cost.

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Computer Assisted Menu Planning (Miami)—CAMP (Section 10)

Requesting Organization: Dade County Schools, Miami, Florida.
State: Florida.
Funds Requested: $17,000 (2 years).
Date Approved: December 23, 1971.

Objectives: To evaluate the IBM–CAMP system as a standard for developing lunches for the National School Lunch Program; to plan lunches which meet a predetermined standard at minimum cost, and are acceptable to the students; and to compare these menus to manually-prepared menus as to average cost and nutritional quality of meals served.

Economic Evaluation of School Lunch Systems (Section 6)

Requesting Organization: Cornell University.
State: New York.
Funds Requesed: $41,000.
Date Approved: December 28, 1971.

Objectives: To determine the nature of the costs for serving Type A lunches for different type and size school feeding systems, including physical production aspects of lunches in terms of labor per hour, per meal, etc.

Computer Assisted Menu Planning (Memphis—CAMP) (Section 10)

Requesting Organization: Memphis City Schools, Memphis, Tennessee.
State: Tennessee.
Funds Requested: $14,997 (2 years).
Date Approved: February 22, 1972.

Objectives: To evaluate the IBM–CAMP system as a standard for developing lunches for the National School Lunch Program; to plan lunches which meet a predetermined standard at minimum cost, and are acceptable to the students; and to compare these menus to manually prepared menus as to average cost and nutritional quality of meals served.

Cincinnati Summer Special Food Service Demonstration (Section 10)

Requesting Organization: FNS MWRO.
State: Ohio.
Funds Requested: FY 1972, $25,000; FY 1973, $92,813.08. Total: $117,813.08.
Date Approved: May 10, 1972.

Objectives: To develop a model for other cities to use in inaugurating and operating a financially sound food service program; provide through innovative food delivery systems nutritionally adequate meals to participating children; compile and publish step-by-step planning and operational techniques for adaptation and implementation in other cities.

Comparison of Type A Pattern and Nutrition Standard Approaches to School Food Service (Section 6)

Requesting Organization: Colorado State University.
State: Colorado.
Funds Requested: $249,180.
Date Approved: May 11, 1972.

Objectives: To develop menu-planning methods to be used as a guide for planning meals designed to achieve a predetermined nutrient goal and compare the Type A pattern and Nutrient Standard approaches in terms of the acceptability of the meal service, the nutritive contribution of the meal as planned and consumed, and management and operational feasibility.

Early Childhood Workshops and Programs in Nutrition Education (Section 6)

Requesting Organization: West Virginia State Agency.
State: West Virginia.
Funds Requested: $74,700.
Date Approved: May 16, 1972.

Objectives: To motivate school administrators, lead teachers of early childhood education and school food service personnel to develop a nutrition education program for implementation in the recently mandated early childhood programs in West Virginia; and to show them how to go about developing such a program.

Nutrition Education for Migrants (Section 6)

Requesting Organization: Whatcom-Skagit Rural Opportunity Council.
State: Washington.
Funds Requested: $11,287.
Date Approved: June 2, 1972.

Objectives: To provide nutrition education information to approximately 250–300 Mexican-American migrant children and their mothers; and develop areas which may have implications for groups working with Mexican-American migrants in other parts of the country.

Operation Improvement Child Nutrition Programs (Section 6)

Requesting Organization: North Carolina State Agency.
State: North Carolina.
Funds Requested: $144,675 (3 years).
Date Approved: June 19, 1972.

Objectives: To provide nutrition education and training for school food service personnel as the basis for improvement in the implementation of the Child Nutrition Programs.

Evaluation of School Lunch and School Breakfast Programs in State of Washington (Section 6)

Requesting Organization: Washington State University.
State: Washington.
Funds Requested: $200,258.
Date Approved: July 12, 1972.

Objectives: To determine the effect of school food programs on the dietary intake of school children, food acceptance and its relationship to ethnic and family socio-economic variables; and to determine reasons for nonparticipation in school food programs.

FOOD SERVICE FOR RURAL SCHOOLS IN IDAHO (SECTION 10)

Requesting organization: Idaho State Department of Education.
State: Idaho.
Funds Requested: $3,700.
Date Approved: July 14, 1972.

Objectives: To develop and establish food programs in schools in remote areas of Idaho, where the development of a kitchen is not feasible, ensuring that such programs meet Type A requirements and operate within the reimbursement rates for meals.

FACTORS AFFECTING NUTRITIONAL AND ECONOMIC PARAMETERS OF CHILD NUTRITION PROGRAMS (SECTION 10)

Requesting Organization: Department of Food Science.
State: North Carolina.
Funds Requested: $115,047.
Date Approved: July 24, 1972.

Objectives: To investigate the quality characteristics of school-served food which are important to children, and the nutritional and economic implications of attaining these characteristics; and to test alternatives to the conventional Type A lunches which can increase nutritional benefits without a proportional cost increase to the children.

DEVELOP A MODEL FOR SHARING SCHOOL FOOD SERVICE CONSULTATION ACROSS SCHOOL DISTRICT LINES IN A FOUR-COUNTY-AREA IN RURAL GEORGIA (SECTION 10)

Requesting Organization: West Central Georgia Educational Services.
State: Georgia.
Funds Requested: $128,718 (3 years).
Date Approved: August 15, 1972.

Objectives: To improve food service in a four-county area of rural Georgia through the hiring of a school food service consultant.

FROM THE DHEW

Publications referred to by Dr. DuVal in his prepared statement include:
The Dietary Management of Hyperlipoproteinemia—a Handbook for Physicians; DHEW Pub. No. (NIH) 72-110:‡
Type I Diet,
Type II Diet,
Type III Diet,
Type IV Diet, and
Type V Diet; DHEW (NIH) Pub. Nos. 111-115‡
Facts About Nutrition, Public Health Service, NIH, DHEW (35 cents)*
Research Explores Nutrition and Dental Health. Public Health Service, NIH, DHEW (30 cents)*
How a Mother Affects Her Unborn Baby, Public Health Service, NIH, DHEW‡
Malnutrition and Learning, Public Health Service NIH, DHEW †

RESPONSE TO QUERY FROM SENATOR HART

(Regarding spending $130 million on nutrition education [1])

In response to the question as to whether we should be spending $130 million on nutrition education, I would suggest that with the expenditures of this Department, the Department of Agriculture and other Federal agencies we are generating substantial total activity in nutrition education, and we should continue efforts to make the resources applied as effective as possible.

(Regarding people and allocation of money [2])

The recently established Department Nutrition Coordinating Committee is composed of representatives from all DHEW agencies as well as all major staff offices of the Secretary—comprising a total of 17 members. The Committee held its initial meeting on December 19, 1972 and is beginning its coordinative activities. The Committee will receive staff support from the Health Services and Mental Health Administration equivalent to 1.5 full time positions. This will include 4 professional staff members part time and clerical support. No formal budget support is presently seen as being required but assessment of the resources needed to support the committee adequately will be made after operating experience is gained. Operating agencies will provide support as it becomes necessary for specific coordinative projects which relate to their specific program areas.

*For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.
†Available from Institute of Child Health and Human Development, NIH, Bethesda, Md. 20014.
‡Available from Office of Heart and Lung Information, NIH, Bethesda, Mr. 20014.
[1] See testimony, Part 2, p. 157.
[2] See testimony, Part 2, pp. 161-162.

RESPONSE TO QUERY FROM MR. JOHN QUINN

(Allocation of funds, number of persons, served by DHEW Nutrition Education programs [1])

Allocation of funds, number of persons, and the population groups served in the DHEW nutrition education programs

Program	Funds	Persons reached	Population groups served
Office of Child Development. (A sizeable proportion of the persons reached are from low income families, but a direct estimate is not possible, since some of the educational efforts (such as TV programs) reach all income groups.)	$400,000	15,000,000	
Office of Education. No funds can be identified exclusively for nutrition education, but the following programs all contain nutrition education components. Amounts shown are for the most recent fiscal year for which complete data are available:			
Consumer and homemaker education (Vocational Education Act, pt. F, fiscal year 1971).	25,625,000	3,000,000	At least ⅓ of Federal funds are to be spent in economically depressed areas.
Occupational training (Vocational Education Act, pt. B, fiscal year 1972).	20,000,000	338,000	At least 15 percent of Federal funds are to be used to train economically disadvantaged persons.
Elementary and Secondary Education Act:			
Title I (fiscal year 1971)	19,737,821	5,600,000	Primarily low-income persons.
Title VIII (fiscal year 1972).	2,000,000	20,000	Low-income group.
Health Services and Mental Health Administration:			
Center for Disease Control.	500,000	15,000	Primarily low income.
Community Health Service.	534,000	NA	Do.
Indian Health Service	253,000	158,000	Do.
Maternal and Child Health Service.	2,500,000	5,250,000	Do.
Regional Medical Programs Service.	563,000	NA	All income groups, including indigent.
National Institutes of Health. (51,000 persons are subjects directly involved in studies that include nutrition education; 842 persons are trainees in programs that include nutrition education. In addition, NIH distributed 3,000,000 copies of publications on nutrition in fiscal year 1972.)	2,828,700	51,842	Do.

[1] See testimony, Part 2, p. 170.

Allocation of funds, number of persons, and the population groups served in the DHEW nutrition education programs—Continued

Program	Funds	Persons reached	Population groups served
Social and Rehabilitation Service: Administration on Aging, (fiscal year 1973). (2,500 project directors will be trained to operate projects funded under Title VII of the Older Americans Act. When fully operational, the nutrition education component of these projects will reach the majority of the 3,500,000 aged persons with incomes below the poverty threshold.)	175, 000	2, 500	Primary low income.
Summary: An estimated $9,300,000 are spent directly on nutrition education services by DHEW programs. At least an additional $67,000,000 are spent on programs containing a nutrition education component. An overall estimate of the number of persons reached by these programs is impossible to make, because several of the programs serve primarily low-income groups and the possibility of multiple counting exists.			
Education Professions Development Act, pt. E (fiscal year 1973).	27, 000	5	Fellowships.
National Defense Education Act, Title IV (fiscal year 1972).	37, 800	7	Do.
Food and Drug Administration: Consumer information about nutrition.	1, 500, 000	2, 000, 000	General public directly by FDA consumer specialists.
		50, 000, 000	General public by mass media.

ITEM 2—SUBMITTED BY OTHER THAN WITNESSES

FROM DR. HAROLD ROSENBERG

270 West End Avenue
New York, N.Y.

My practice is devoted to preventive care, the wholistic concern of health of an individual through chemical analysis, nutrition and exercise.

We need not be blind to reality. We are an affluent nation, but we are also malnutritious.

As a nation, we have a poor concept of what constitutes good nutrition. We thrive on excess carbohydrates and rely on our taste buds and visual sensations for sustenance. In most instances, we have not learned to eat to live, but rather to live to eat, and take for granted that what we eat is nutritious. Of course, much time is spent feeding a void, filling our stomachs gluttonously without regard to its value. Pizza pies, pastries, cokes, etc. do not add to our health, but only satisfy esthetic values.

Do we eat balanced meals? I categorically state we do not and, furthermore, concepts of balanced meals do not necessarily fulfill the demands of cellular vitality. We are all biologically or biochemically individualized, and a diet for all does not necessarily satisfy all. In other words, we are genetically different.

As a nation, we have little concept of the value of protein to our well being. Nor do we have an iota of an idea as to the value of vitamins. If one considers that we are variously estimated to be between 75 and 95% fluid or water, we must then accept the principle that we are only 25 to 5% formed, not solid. That formed part which begins with our cells is primarily fat and protein. A house built of straw cannot stand under stress as well as one built of brick. A house based on protein needs protein. Vitamins are not freely available in so-called balanced diets. Frozen foods, packaged meals are divorced of good nutrition. Meals missed, as breakfast, and reliance on coffee breaks are poor substitutes for nutrition. Dietary fads based on single meals also contribute to poor health. Failure to eat soundly leads to poor physical performance as well as poor mental function and handicaps us socially and economically. Our total performance, as a nation is retarded. Vitamins cannot be measured by minimal or recommended daily requirements. Some need more than others, and I feel MDR and RDR are inadequate. Vitamins are enzymatic in activity and, consequently, essential to our life's processes. I cannot see any reason why a nation as technologically great as ours cannot develop soft drinks primarily protein in character. An entire industry with greater employment and newer experts must be developed (physicians, dentists, allied professions, industrial personnel).

Good nutrition must be practiced from inception, the maternal or natal stage, post-natally by breast feeding, and in schools and institutions by sound knowledge of its basics. Early acquired habits will protect an individual for his entire natural life. Poor habits (eating) shorten productivity and enhance aging or degeneration.

There has to be a complete turn about in our concepts, our food industries, our advertising agencies, our educators, and our legislatures must not take food for granted. As a guarantee of human dignity, it is high time that we acknowledge the importance of protein, or at least reappraise our populace of the value of each element of diet; fats, carbohydrates and protein. We have to get away from critical care of our population and develop maintenance of lifetime attention. Food is one aspect of lifetime care.

Our mouths can be dangerous organs. 1. By poor intake or too little food intake (false weight control); or, 2. by words (putting ones foot in ones mouth).

It is not possible to capsulate the severity of health care through nutrition in this short writing. I, as a practicing physician involved in preventive care and past-president of the International Academy of Preventive Medicine, am optimistic about the future, but saddened by so much misinformation. We as a nation, must not only indicate to our populace the right direction, but set the example for all nations. Preventive care means good health. Preventive care can only come through good nutrition, exercise, and biochemically understanding the rights of individuals.

FROM DAVID J. KYTE

CROFTON, Md., *December 9, 1972.*

KENNETH SCHLOSSBERG,
Staff Director, Select Committee on Nutrition and Human Needs, Room 301, Senate Annex, Washington, D.C.

DEAR MR. SCHLOSSBERG: My former work with American Educations Publications at Wesleyan University at Middletown, Conn., had given me some insight into the problems of education.

Since arriving in Washington, nearly 4 years ago, it has been my privilege to be able to attend hearings on problems concerning the aging[1]; equal educational opportunity, with their ramifications upon the need for school lunch programs[2]; and the aspects of nutrition and other human needs.[3]

INTRODUCTION

After attending the hearings on Food Additives, in September, and before returning to work previous to the hearings in December on Nutrition Education, I suffered a myocardial infarction. It is to this cause of Nutrition Education that I am submitting this item, with its enclosures.

The statements, during the Nutrition Education hearings, of Dr. Christakis concerning contributory causes for heart diseases; Dr. Jean Mayer on nutritional aspects; Mr. Robert Choate on the aspects of advertising of "junk" foods upon our children made me resolve to take my own time to relate the experiences I have had to learn about health and food habits.

A. MY DIET FOR A NEW LIFE

After my attack, I discussed my diet with my physician, Dr. Kenneth Krulevitz of Baltimore, Md. Soon a number of "coincidences" became apparent:

1. I had been raised in the Midwest where my diet consisted of beef, pork, chicken, gravy, butter, whole milk and most foods high in animal fat and cholesterol.
2. When I went in service during World War II and was exposed to seafood for the first time in my life, I cared for nothing but shrimp—which although low in calories is very high in cholesterol—that I relished from the first taste.
3. Assuming that cholesterol is tasteless, odorless, and seemingly nonhabit forming, why did I have this desire for only high-cholesterol seafood?
4. Also, while most of my ancestors were long-lived, there is a trace in my heredity on my father's side of young men, seemingly in good health, keeling over and suddenly dying with heart-attack symptoms.

I believe our scientists and researchers should look into this possibility of childhood dietary habits, and the possibility of heredity instability of the genetics of the body to control the cholesterol intake.

B. INEFFECTIVENESS OF CONTENT LABELING

After being released from the hospital to recuperate at home, I would first take short walks to the grocery store to attempt to buy certain foods recommended by the doctor.

1. The first time it took me 2½ hours to purchase eight articles—the same articles, that without having to read the contents for additives, an average housewife would purchase in less than 20 minutes.

[1] See Publications List, February 1972; Special Committee on Aging, Room G-233, Dirksen Bldg., Washington D.C. 20510.
[2] See Publications List, Select Committee on Equal Educational Opportunity, December 1972; available from office of Senator Mondale, Room 443, Russell Bldg., Washington, D.C. 20510.
[3] See Publications List, Select Committee on Nutrition and Human Needs, February 1973. Room 301A, Dirksen Annex, Washington, D C. 20510.

2 I began to realize the difficulty that Older Americans must have in reading and comprehending all the extremely fine type that is typical of the "Contents" listings of various products.

3. I became cost-conscious. I would gather identical products from the same manufacturer and find that *without salt and sugar added* to them the cost increased from 10 to 600 percent. I began to realize why many of our Older Americans on reduced incomes were having such a difficult time feeding themselves adequately.

4. Packaging has become an "art of deception." Trying to find the net weight of contents is a game of "hide-and-seek." Packages are puffed, flattered, and gimicked.

5. The question of cost-per-unit was supposedly solved by the "truth in advertising" legislation. Yet many chain stores have their "own system" which does not corelate to an opposite chain store. The manufacturers' ideas of different sizes and costs is to package, e.g., in 2.85 oz.; perhaps the next size is 7¼ ozs., then to an 11-ounce package to a 1 lb., 3-oz. size.

The time has come for the Congress to help "address these wrongs"—especially those inflicted upon the poor, aged, and educationally-deprived citizens of our Nation. I believe the food and advertising industries must be more responsible in meeting the special needs of the consumer in today's complicated marketplace.

The following table lists, as to the best of my ability, hours of shopping in chain stores—Giant, Pantry Pride, Grand Union, Consumers, A & P, to list a few. I hope this experience may help some people reach a wiser decision in their food shopping habits.

Much of the bibliography material was given to me by my friend, Kenneth Krulevitz, M.D., Diplomate and Charter Fellow, American Board of Family Practice, to be utilized for the greater gain of Nutritional Education in America. While I believe I speak for him—that he endorses the contents and compliments the companies putting out these brochures—it does not necessarily mean that these companies have the only suitable product. He has assured me that he would be glad to testify before the Select Committee on Nutrition and Human Needs as to his feelings and professional advice upon these problems. I sincerely hope your committee may have an opportunity to hear these words of counsel from this medical doctor.

Sincerely,

DAVID J. KYTE.

BIBLIOGRAPHY [1]

Bland Diet. Copyright 1968, The Upjohn Company.

Dietary Control of Cholesterol; Low-Sodium Diets; and Calorie Maintenance. Fleischmann's Margarines, Box 46F, Mount Vernon, N.Y. 10559.

The Prevention of Heart Disease Begins in Childhood; a service to the medical profession from Fleischmann's Margarines. Fleischmann's Margarines, Box 46F, Mount Vernon, N.Y. 10559.

Vitamins, food, and your health; by Marcella Katz. Public Affairs Pamphlets, 381 Park Ave. South, New York, N.Y. 10016; No. 465, 25¢.

[1] Retained in committee files

TABLE 1.—*Increase in percentage of costs for necessary foods to a low-sodium, anticholesterol diet*

Item	Brand	Package unit weight [1]	Cost	Approximate percentage cost above regular foods [2]
BREAD:				
Natural [3]	Various	1 lb	$0.54	100
Regular	Store brand	1.5 lbs	.41	
CRACKERS:				
Diet matzos [3]	Goodmans	11 oz	.45	250
Saltines	Brand name	2 lbs	.24	
CEREALS, prepared: [4]				
Puffed rice	Quaker	7 oz	.43	
Puffed wheat	do	6 oz	.39	
Puffed rice	A & P	8 oz	.29	(5)
Puffed wheat	Sunnyfield	do	.29	(5)

See footnotes at end of table.

TABLE 1.—*Increase in percentage of costs for necessary foods to a low-sodium, anticholesterol diet*—Continued

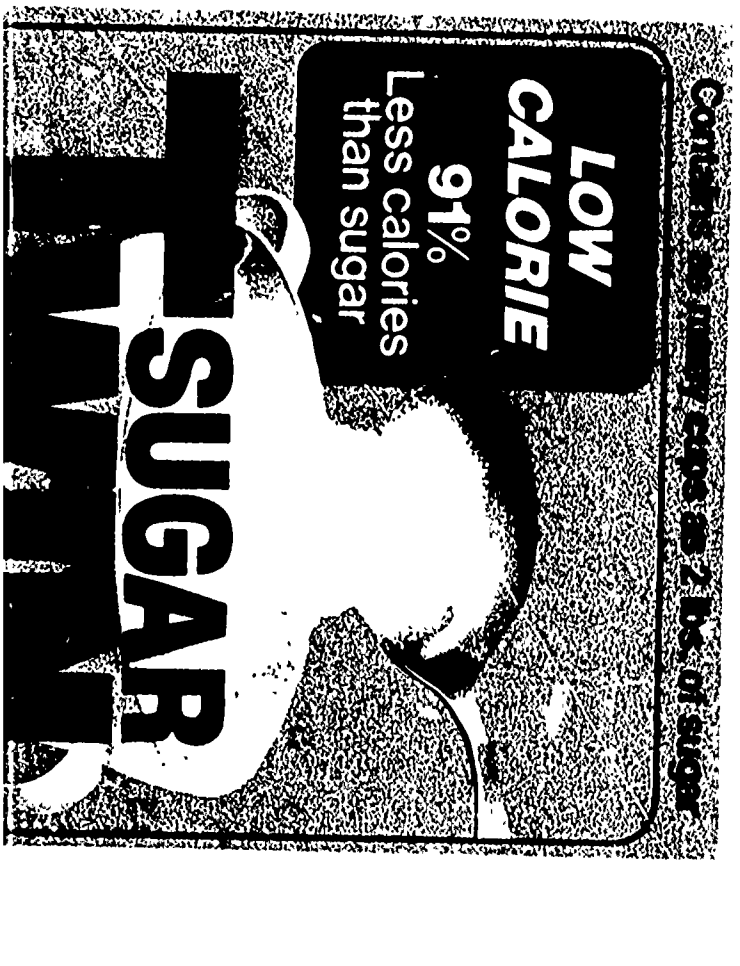
Item	Brand	Package unit weight [1]	Cost	Approximate percentage cost above regular foods [2]
COOKING OILS:				
Corn oil	Store brand	Pint	.42	330
Olive oil	Various	Quart	1.39–1.74	600
Peanut oil	Planters	do	1.05	420
Safflower oil	Various	do	.79	310
Vegetable oil	Wessons	Pint	.46	380
Vegetable shortening	Cristo, other name.	Pound	.25–.32	
FRUITS:				
Applesauce:				
Dietetic [6]	White House brand.	1 lb	.[illegible]	20
Regular	do	do	.175	
Pears:				
Dietetic [6]	Various	do	.66	250
Regular	do	do	.27	
JUICES:				
Grapefruit, unsweetened.	A & P [7]	48 oz	.49	(8)
Orange/grapefruit, unsweetened.	do	do	.49	(8)
Pineapple/grapefruit, unsweetened.	A & P	do	3/1.00	(8)
Grapefruit, unsweetened.	Store brand	do	.51	(8)
Pineapple, with added sugar.	Dole [9]	do	.33	
MARGARINES:				
Corn oil [10]	Various	1 lb	.39–.54	12
Vegetable	do	do	.20–.55	
MEATS:				
Liver: calf	Various stores	1 lb	2.19	360
pork	do	do	.59	
Hamburger		do	.79	25
Ground chuck		do	.89	50
Ground round		do	1.09	90
Roast: eye of round		do	1.79	65
chuck		do	1.09	
Tuna, canned white chunk albacore: [11]				
Dietetic	Chicken of the Sea.	6.5 oz	.53	−4
Regular	Name brand	do	.55	
SEASONINGS:				
Salt, iodized	Morton's	1 lb	.12	
Substitutes	Various	do	3.43–[illegible].29	500+
Example		3¼ oz.	.59	400
SUGAR:				
Granulated	Domino	5 lbs	.69	
	Sugar Twin [12]	2.85 oz [13]	.45	90
	Sweet 'n Low [12]	8 oz. [14]	.79	[8] 14
Ind. 100 pkts	Sweet 'n Low	3.5 oz [15]	.88	300
SOFT DRINKS: [16]				
No sugar	Hoffman's	1 pt	.13	

See footnotes at end of table.

TABLE 1.—*Increase in percentage of costs for necessary foods to a low-sodium, anticholesterol diet*—Continued

Item	Brand	Package unit weight [1]	Cost	Approximate percentage cost above regular foods [2]
SOUPS: [17]				
Tomato, low sodium	Campbells	1 lb	.33	250
Vegetable, low sodium	do	do	do	do
Green pea, low sodium	do	do	do	do
Regular	do	do	.12–.14	

[1] Many stores and brands do not [illegible] equal or multiples that allow the division of different sizes in proper ratios. A slide rule is still nearly [illegible]sary to equate sizes.
[2] General averages of many different brands—not worked out with slide rule.
[3] Without additives that may be harmful, nor salt and sugar.
[4] Only 2 cereals out of over 50 examined containing no added sugar and salt. Both brands seemingly equal, except for "fancy" packaging of Quaker product.
[5] Best buy for nutritional value and/or price.
[6] Only difference is that no sugar is added.
[7] A. & P. only store that does not charge more for unsweetened juices than for "sugar added" juices.
[8] A question that has bothe[illegible]t many people: Why does pineapple juice imported from Hawaii cost nearly 50 percent less than grapefru[illegible]ce trucked from continental United States?
[9] Generally, sugar-added j[illegible]t approximately 10 percent more than natural or unsweetened juices.
[10] Generally, corn oil margarines cost approximately 8 to 12 percent more than other vegetable margarines. When corn is generally a surplus crop: Why?
[11] The only difference is that dietetic is in a water pack with no salt added. This is the only food that costs less with no additives.
[12] See examples of, to me, deceptive packaging.
[13] Claims equivalency to 2 lb. of sugar.
[14] Claims equivalency to 5 lb. of sugar.
[15] Seemingly, an exorbitant cost added for the convenience of packaging; especially since a small measuring spoon is included in the 8-oz granulated package size.
[16] Be especially wary of "diet" drinks—generally they contain approximately 8 calories per ounce (8X12=96 calories while "no sugar" drinks generally are less than 1 calorie per ounce.
[17] Again, seemingly, an exorbitant cost added for not adding salt.



A Study To Determine the Nutritional and Economic Need for Free Lunches and To Measure the Effects of R
Breakfast and/or Lunches on the Nutritional Status of Children (Section 10)

Requesting Organization: Cornell University.
State: New York.
Funds Requested: $60,031.
Date Approved: March 12, 1971.

Objectives: To compare the number of children e
free and reduced-price meals to the number determ
tionally needy; to quantify the effectiveness of t
and School Breakfast Programs; and to judge a
intake through 24 hour dietary recall of students

Seminar on Nutrition Education and the Management Process (Section 6)

Requesting Organization: University of Wisconsin.
State: Wisconsin.
Funds Requested: $45,856.
Date Approved: April 3, 1971.

Objectives: To examine: the need for nutrition
school; the relationship between hunger, malnutrit
ability; recent findings in nutrition research; to de
education program in a school; and to analyze an
tion education curriculum. (100 participants from

Seminar on Nutrition Education and the Management Process (Section 6)

Requesting Organization: Kansas State University.
State: Kansas.
Funds Requested: $48,530.
Date Approved: April 8, 1971.

Objectives: To give factual information on curr
thinking in the field of nutrition and education;
demonstrations on teaching methods to be used i
and training of others involved in child feeding
participants from 7 States)

Seminar on Materials and Methods in Nutrition Education (Section 6)

Requesting Organization: Florida A. & M. University.
State: Florida.
Funds Requested: $48,530.
Date Approved: April 13, 1971.

Objectives: To develop subject matter and giv
expand and up-date the knowledge of the food se
with regard to materials and methods in nutrition
can be used in training programs in their schools. (
from 9 States, Puerto Rico and the Virgin Islands

Early Childhood Nutrition Education Program Workshops in Elementary and Secondary Schools (Se

Requesting Organization: West Virginia Educational State Agency.
State: West Virginia.
Funds Requested: $17,000.
Date Approved: May 10, 1971.

Objectives: To design 2 nutrition and health e
shops for teachers, the primary purpose of which
local leadership in correlating and coordinating
services dealing with educational activities in sch
shops also served to prepare instructors for implen
programs in nutrition at the local level for teache
school food service personnel, parents, and volunte

SEMINAR ON NUTRITION DELIVERY SYSTEMS (SECTION 6)

Requesting Organization: Pennsylvania State University.
State: Pennsylvania.
Funds Requested: $35,815.
Date Approved: May 4, 1971.

Objectives: To present current important topics
cation to supervisory personnel, with an emphasi
in a school food service setting; to provide sch
supervisors with information on the commonalit
food service operation and other school and com
knowledge of this commonality would enable the
communicate more effectively with other publics
importance of the school food service. (100 parti
States and the District of Columbia.)

SEMINAR ON NUTRITION EDUCATION IN SCHOOL FOOD SERVICE (SECTION 6)

Requesting Organization: Utah State University.
State: Utah.
Funds Requested: $49,517.
Date Approved: May 6, 1971.

Objectives: To emphasize nutrition education
techniques relevant to improving program effect
resource leaders as consultants in order to develo
individualized training to better understand nutrit
the school. (100 participants from 11 States and An

ETV SERIES ON TRAINING SCHOOL FOOD SERVICE WORKERS (SECTION 6)

Requesting Organization: New England Educational States.
State: 6 New England States.
Funds Requested: $221,482.
Date Approved: May 18, 1971.

Objectives: To produce a TV series which is desig
school food service employees and homemakers
knowledge and tools to improve children's diets; a
this series as a structured course for school food s
parents, and others interested in effective child nu

PROJECT ANSER—FIVE COUNTY MANAGEMENT IMPROVEMENT (SECTION 10)

Requesting Organization: Volusia County, Florida.
State: Florida.
Funds Requested: Fiscal year 1971, $1,500; Fiscal year 1972, $141,257; Fiscal year 1973, $127,500; total $271,257.
Date Approved: June 1, 1971.

Objectives: To prepare profile description of the
service operations; identify and describe ways of
scope of various school system food services; id
for achieving economies in operating county scho
services; explore advantages of management service
innovative management techniques; develop prot
school food service operation.

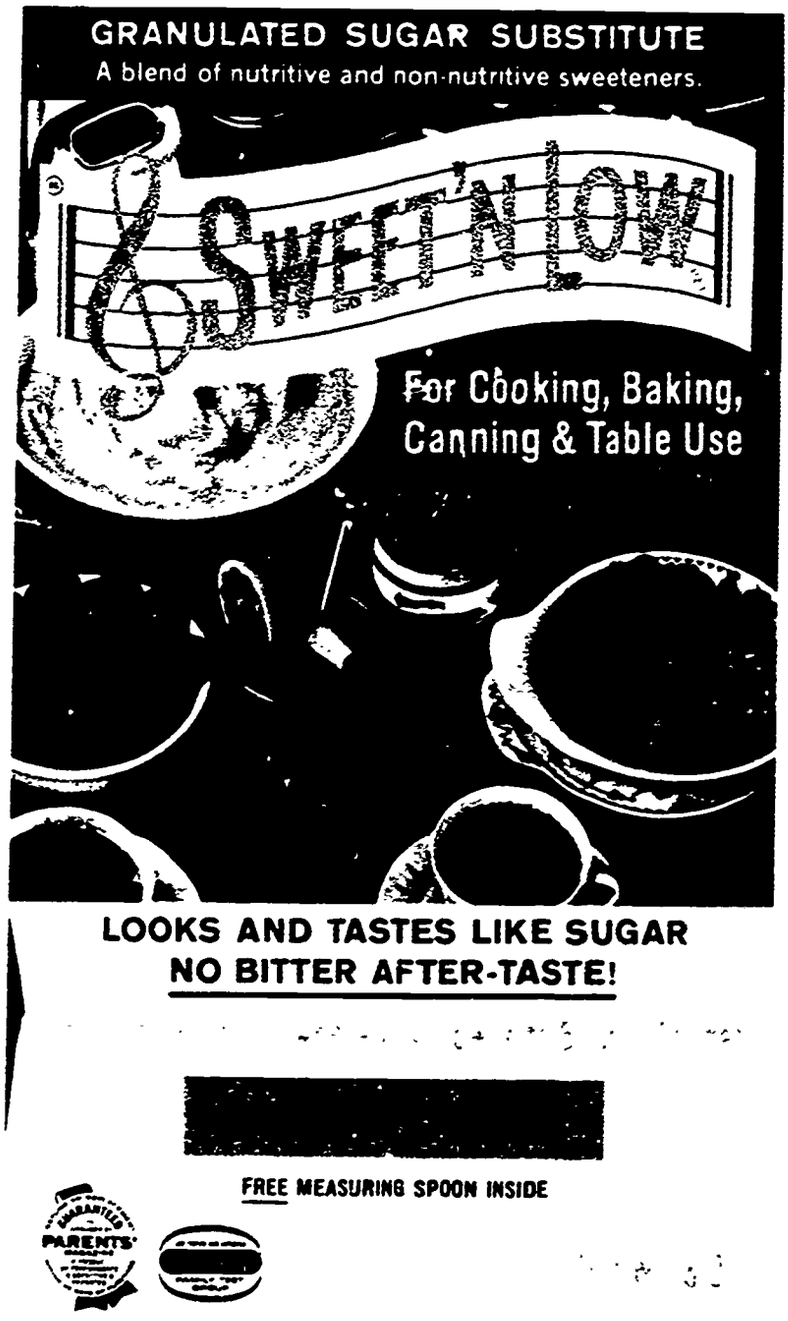


Figure 2.—Sweet'n Low box size is 4¼ × 7", priced at 85 cents.

LOW SODIUM, LOW FAT ("ANTICHOLESTEROL") DIET

*Date:*_____

*Patient:*_____

General Dietary Instructions: Eat only foods that do not contain much sodium. Use no table salt (sodium chloride) in food preparation or at the table. Neocurtosal® (sodium-free salt substitute) may be used to season foods during preparation or at the table. Do not use bicarbonate of soda (baking soda) either in cooking or as an antacid.

In general, the low sodium "anticholesterol" diet contains very little salt (sodium) and also is low in a certain type of fat. The fats to be avoided are essentially those of animal origin (in meat, cream, butter and eggs) and processed oils (in spreads, shortenings, etc.); use in their stead uncooked and unprocessed oils of vegetable origin.

Food	*Permitted*	*Forbidden**
Meat	Beef, Lamb, Veal } except brain and kidney; very lean meat only	Pork All fried meats, especially deep-fried Processed meats, such as salted, smoked, canned, spiced and pickled meats, e.g.: Bacon, Ham, Bologna, Liverwurst, Frankfurters, Salami, Sausages
Poultry	Chicken, Turkey } very lean meat only	Duck
Fish Only fresh or frozen meat, fish or poultry (not more than 3 or 4 oz. daily); boiled, roasted or broiled	Fish (except shellfish) small servings Protein concentrate (Essenam®)	Shellfish Clams, Oysters, Crabs, Scallops, Lobster, Shrimp Processed or oil-packed fish Soups and bouillons containing salt Gravies Fat
Eggs	One whole egg a day maximum, poached or boiled (egg white allowed freely)	Fried eggs Egg yolk, as in pastries and puddings
Vegetables Fresh only, not canned (which are usually salted)	Asparagus Broccoli Brussels sprouts Cabbage Cauliflower Lettuce Mushrooms Onions Potato, small Radishes String beans Tomatoes Watercress	Canned vegetables (unless specially packed without salt) Baked beans, Beets, Spinach, Carrots, Squash, Celery, Sweet potatoes, Endive, Kale, Swiss chard, Kidney beans, Lima beans Sauerkraut All fried vegetables Relishes

Food	Permitted	Forbidden*
Bread	Specially prepared salt-free bread or plain roll Cake, such as angelfood prepared without salt, egg yolk, butter or butter substitutes	Sweet rolls Bread or rolls prepared with salt Cake containing salt, egg yolk, butter or butter substitutes Pancakes Pie Soda crackers
Fruits	Most fresh fruits; berries and melons without cream Dried apricots, peaches, prunes Desserts with egg white, but no salt or egg yolk Jams and jellies	Bananas Dried figs, raisins Olives Salads with dressing
Cereals (with milk)	Barley Cream of wheat Farina Hominy Macaroni Oatmeal Rice (plain or puffed) Rye Wheat (plain or puffed)	Most commercial cereals Cereals with cream Cereals with salt added
Dairy Products	Butter or margarine, unsalted, 1 pat daily Cottage cheese, dry curd (1 oz.) Skim milk, 2 glasses daily	Cream Ice cream Most processed cheese Salted butter Sweet butter over 1 pat daily Whole milk
Seasoning and Sweetening Agents	Jams and jellies Mustard (plain) Neocurtasal salt substitute Pepper Sugar Vinegar	Catsup Mayonnaise Pickles Relish Salt (sodium chloride) Salted meat sauce
Fats, Oils, Shortenings	Corn oil and other vegetable oils, in liquid form (uncooked) Olive oil Peanut oil	Meat fats Cream Butter Processed vegetable oils, such as butter substitutes and shortenings Cooked oils
Beverages	Most standard beverages permitted	Buttermilk Beverages with cream Skim milk over 2 glasses Whole milk

* Because of high sodium content or type of fat or oil.

BASIC MENU (to be varied with permitted foods).

Use no table salt (sodium chloride) in food preparation or at the table. Neocurtasal (sodium-free salt substitute) may be used to season foods during preparation or at the table. Do not use bicarbonate of soda (baking soda) either in cooking or as an antacid.

BREAKFAST

Fruit or fruit juice
1 egg—boiled or poached
Salt-free bread or toast
Butter or margarine, unsalted, ½ pat or
Jelly or jam
Coffee or tea, black or with milk (sugar permitted)

LUNCH

Fruit cocktail
Meat or fish (1 or 2 oz.)
Two or three vegetables
Green salad (lemon seasoned)
Salt-free rolls or bread
Unsalted butter or margarine (½ pat) or cottage cheese (1 oz.)
Fruit or fruit dessert, no cream
Skim milk (1 glass only)

DINNER

Fruit juice or soup
Meat or fish (2 or 3 oz.)
Potatoes or spaghetti
Two or three vegetables
Salt-free rolls or bread
Unsalted butter or margarine (½ pat) or jelly or jam
Fruit or fruit dessert, no cream
Skim milk (1 glass only)

ADDITIONAL SUGGESTIONS

Exercise—The amount of exercise permitted varies with the individual; you have been given instructions as to how much activity is allowed for you. Avoid getting tired or short of breath. Walking is generally permitted. Climbing, lifting, or fast-moving sports usually are to be avoided. Whatever amount of exercise you are allowed, do it in moderate amounts daily rather than in concentrated "spurts" of activity.

Sleep—Regardless of how much exercise you take, plenty of sleep is essential. Don't let yourself get behind on sleep and then try to catch up; this can't be done. Eight or more hours' sleep may seem old-fashioned, but don't forget that blood vessel diseases were not as common in the past as they are today.

Mental Activity—Mental stress can be your worst enemy. If your work causes you to worry or makes you tense, you may need medication to slow you down. Try to "tune out" your worries, stresses and fears at the end of the day.

Overeating—If you are inclined to be overweight, cut down on the amounts of all the foods in this diet list. In particular, reduce the quantity of carbohydrates (sugars and starches) in your diet. Avoid eating between meals and high calorie beverages (sweet sodas, etc.).

Medication—Take medication only as directed, for best results and for safety's sake. If a prescription is to be refilled, have it refilled a few days before you run out of the medication. Avoid baking soda and preparations containing it.

SPECIAL INSTRUCTIONS

_____

_____

_____

Dr. _____

How to get rid of the calories you'll never miss.

How to get rid of the calories you'll never miss.

Your doctor will tell you how many calories you should eliminate from your diet each day to lose weight at a healthy rate.

The easiest way to eliminate these calories is by substituting foods with lower caloric content (that are just as nourishing and filling) for the foods that you currently eat. That way, you're getting rid of the calories you'll never miss. The purpose of this booklet is to get you in the habit of doing just that.

Go through the food items on the four pages following. Put a checkmark in the box next to any item in the left hand column that you eat at least once every three weeks. Next time you plan to include that item on your menu, substitute the lower calorie food in the column next to it.

Remember that substituting one food for another only works if you watch the size of your portions. If you eat a bigger portion of the substitute food than recommended, you won't be saving the calories shown in the booklet. Second helpings, in particular, defeat the whole purpose of substituting one food for another.

Don't feel that you have to stick to the substitutes suggested. Make up your own by re-combining any of the food items in the booklet.

Be honest with yourself. If you check off foods you don't ordinarily eat, you won't be saving anything by replacing them with their substitutes.

On page 6 of this booklet, you'll find a handy chart for keeping track of the calories you save.

	FOR THIS	CALORIES	SUBSTITUTE THIS	CALORIES	CALORIES SAVED
BEVERAGES	☐ Milk (Whole), 8 oz	160	Milk (Buttermilk, Skim), 8 oz	90	70
	☐ Prune Juice, 8 oz.	200	Tomato Juice, 8 oz.	45	155
	☐ Soft Drinks, 8 oz.	10[illegible]	Diet Soft Drinks, 8 oz	1	104
	☐ Coffee (with cream & 2 teaspoons sugar)	[illegible]	Coffee (black with artificial sweetener)	0	95
	☐ Cocoa (all milk), 8 oz.	235	Cocoa (milk and water), 8 oz	140	95
	☐ Chocolate Malted, 8 oz	450	Lemonade (sweetened), 8 oz.	100	350
	☐ Beer (1 bottle), 12 oz.	185	Liquor with soda or water, 8 oz.	150	35
BREAKFAST FOODS	☐ Rice Flakes, 1 cup	105	Puffed Rice, 1 cup	55	50
	☐ Eggs (scrambled), 2	220	Eggs (boiled or poached), 2	160	60
BUTTER AND CHEESE	☐ Butter on toast	170	Apple Butter on toast	90	80
	☐ Cheese (Blue, Cheddar, Cream, Swiss), 1 oz	105	Cheese (Cottage, uncreamed), 1 oz.	25	80
DESSERTS	☐ Angel Food Cake, 2" piece	110	Cantaloupe Melon, ½ melon	60	50
	☐ Cheese Cake, 2" piece	200	Watermelon, ½" slice of 10" diameter	60	140
	☐ Chocolate Cake with icing, 2" piece	445	Sponge Cake, 2" piece	120	325
	☐ Fruit Cake, 2" piece	115	Grapes, 1 cup	65	50
	☐ Pound Cake, 1 oz. piece	140	Plums, 2	50	90

	FOR THIS	CALORIES	SUBSTITUTE THIS	CALORIES	CALORIES SAVED
	☐ Iced Cupcake, 1	185	Plain Cupcake, 1	145	40
	☐ Cookies, assorted, 3" diameter, 1	120	Vanilla Wafer (dietetic), 1	25	95
	☐ Ice Cream, 4 oz.	150	Yoghurt (flavored), 4 oz	60	90
	☐ Pie, Apple, 1 piece (1/7 of a 9" pie)	345	Tangerine (fresh), 1	40	305
	☐ Pie, Blueberry, 1 piece	290	Blueberries (frozen, unsweetened), ½ cup	45	245
	☐ Pie, Cherry, 1 piece	355	Cherries (fresh, whole), ½ cup	40	315
	☐ Pie, Custard, 1 piece	280	Banana, 1	85	195
	☐ Pie, Lemon Meringue, 1 piece	305	Lemon flavored gelatin, ½ cup	70	235
	☐ Pie, Peach, 1 piece	280	Peach (fresh), 1	35	245
	☐ Pie, Rhubarb, 1 piece	265	Grapefruit, ½	55	210
	☐ Pudding (flavored), ½ cup	140	Pudding (dietetic, non-fat milk), ½ cup	60	80
FISH AND FOWL	☐ Tuna (canned), 3 oz.	170	Crabmeat (canned), 3 oz.	85	85
	☐ Oysters (fried), 6	250	Oysters (on shell with sauce), 6	100	150
	☐ Ocean Perch (fried), 4 oz.	260	Bass, 4 oz.	105	155
	☐ Fish Sticks, 5 sticks or 4 oz.	200	Brook Trout, 4 oz.	130	70
	☐ Lobster meat, 4 oz. with 2 tbl. butter	300	Lobster meat, 4 oz. with lemon	95	205

	FOR THIS	CALORIES	SUBSTITUTE THIS	CALORIES	CALORIES SAVED
	☐ Duck (roasted), 4 oz.	200	Chicken (roasted), 4 oz.	140	60
MEATS	☐ Loin Roast, 3½ oz.	340	Pot Roast (Round), 3½ oz.	200	140
	☐ Rump Roast, 3½ oz.	340	Rib Roast, 3½ oz.	260	80
	☐ Swiss Steak, 3½ oz.	300	Liver (fried), 3½ oz.	210	90
	☐ Hamburger (av. fat, broiled), 3 oz.	245	Hamburger (lean, broiled), 3 oz	185	60
	☐ Porterhouse Steak, 3½ oz	290	Club Steak, 3 oz.	190	100
	☐ Rib Lamb Chop (medium), 3 oz.	300	Lamb Leg Roast, 3 oz.	235	65
	☐ Pork Chop (medium), 3 oz.	340	Veal Chop (medium), 3 oz	185	155
	☐ Pork Roast, 3 oz.	310	Veal Roast, 3 oz.	230	80
	☐ Pork Sausage, 3 oz.	405	Ham (boiled, lean), 3 oz.	200	205
POTATOES	☐ Potatoes (fried), 1 cup	480	Potato (baked), 2½" diameter	100	380
	☐ Potatoes (mashed), 1 cup	240	Potato (boiled), 2½" diameter	100	140
SALADS	☐ Chef Salad with: Regular oil, 1 tbl	160	Chef Salad with: Dietetic Dressing, 1 tbl	40	120
	☐ " " " Mayonnaise, 1 tbl.	125	" " " Dietetic Dressing, 1 tbl	40	85
	☐ " " " Roquefort, Russian, French, 1 tbl	105	" " " Dietetic Dressing, 1 tbl.	40	65
SANDWICHES	☐ Club Sandwich	375	Open Bacon & Tomato Sandwich	200	175

	FOR THIS	CALORIES	SUBSTITUTE THIS	CALORIES	CALORIES SAVED
	☐ Peanut Butter and Jelly	275	Open Egg Salad	165	110
	☐ Turkey with Gravy	300	Open Hamburger (lean), 2 oz.	200	100
SNACKS	☐ Fudge, 1 oz.	115	Vanilla Wafers, (dietetic), 2	50	65
	☐ Peanuts (salted), 1 oz.	190	Apple, 1	70	120
	☐ Peanuts (roasted), 1 cup	800	Grapes, 1 cup	65	735
	☐ Potato Chips, 10 medium chips	115	Pretzels, 10 small sticks	35	80
	☐ Chocolate, 1 oz. bar	145	Marshmallows, 3	60	85
SOUPS	☐ Creamed soup, 1 cup	135	Chicken Noodle soup, 1 cup	65	70
	☐ Bean soup, 1 cup	170	Beef Noodle soup, 1 cup	70	100
	☐ Minestrone soup, 1 cup	105	Beef Bouillon, 1 cup	30	75
VEGETABLES	☐ Baked Beans, 1 cup	320	Green Beans, 1 cup	30	290
	☐ Lima Beans, 1 cup	180	Asparagus, 1 cup	35	145
	☐ Corn (canned), 1 cup	170	Cauliflower, 1 cup	25	145
	☐ Peas (canned), 1 cup	165	Peas (fresh), 1 cup	115	50
	☐ Winter Squash, 1 cup	130	Summer Squash, 1 cup	30	100
	☐ Sweetpotash, 1 cup	260	Spinach, 1 cup	40	220

Keep track of the calories you save each day for the next 21 days. Every time you make a calorie substitution, mark down the amount of calories you saved below the appropriate day. (Remember, your portion sizes are as important as your substitutions.) At the end of the day, add down to get your total savings.

DAYS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
TOTAL																					

FROM THE DEPARTMENT OF SCHOOL NURSES

THE DEPARTMENT OF SCHOOL NURSES
National Education Association

Occasional Papers

OCCASIONAL PAPERS/NO. 1

NUTRITION IN TODAY'S EDUCATION — AS A SCHOOL NURSE SEES IT

By Regina M. Eddy, R.N., B.Sc.,
Supervising Nurse, School Nurses' Service,
Long Beach Unified School District, California

The influence of nutrition on the ability to learn has become a subject stimulating to many educators today. As evidenced in on-going research on nutrition, it can influence both structure and functioning in the brain and central nervous system. The most crucial time for proper nutrition consumption is three months before delivery of a child and six months after birth, and continuing on a reduced scale until he is three years of age. Although this relates to a pre-school child, the maintenance of nutritional well-being is a needed role for schools to play in giving each child the opportunity to achieve his potential.

Malnutrition reaches out to all socio-economic levels of society and relates closely to the learning process. Under-nutrition and malnutrition can lessen energy, reduce concentration, attention span, cause fatigue, and reduce a child's ability to cope with both school and home environs.

The school's program must incorporate nutrition education in the curriculum. School nurses are key people to be used in planning and implementing these programs. Objectives in this program should be to:

- Survey children's attitudes toward food
- Establish proper food habits
- Align food habits with table manners and meal procedures and
- Effectively design a program of nutrition information for Kindergarten through Grade 12.

The overall goal should be to provide well balanced meals as they apply to ethnic cultural patterns and food habits that promote and maintain the well-being of school children.

IMPACT OF NUTRITION IN TODAY'S SOCIETY

According to Dr. Yank D. Cable, Director of Nutrition for Pillsbury Company, "Nutrition may become the word of the decade but the meaning and the words are unclear." I will have to concur unless nutrition is upstaged by ecology — and this might very well happen. In considering nutrition, let's think for a moment of the number of people we personally know who have a vested interest in such groups as Overweight Anonymous, Weight Watchers, TOPS; familiar to all of us. These, plus the protein dieters, calorie counters, grapefruit eaters and "Mayo" dieters imply we are a nation of over-indulgence. To quote Dr. Cable, obviously there really is a serious "communication gap between the consumer and science" in the field of nutrition and health. With this in mind, it is interesting to review nutrition and its influence on today's education.

In light of many frames of reference — cultural, ethnic, socio-economic, geographic, versus the recommendation of nutritional needs from nutrition experts, the influence of environment on nutrition provides a confusion of facts for the public. Such confusion leads to a complexity of problems which adds to the difficulty of effecting solutions in improving nutritional health.

The ever-evolving controversy via news media, T.V., radio, magazine articles, etc. on nutritional needs versus nutritional habits provides a quality of nutritional imprint on today's children which might well determine the nutritional health of a coming generation.

We have had congressional hearings, legislative action and "stepped up" activities of Federal agencies — all focused on problems of hunger and malnutrition. In the State of California, as in most states, many programs are in progress to provide adequate nutrition for school children for a minimal amount of money or through a free program Some of those familiar to school people are:

- School Lunch Program — Regular *Type A* school lunch as a part of the National School Lunch Program, subsidized in commodities or cash.
- Reduced Price Lunch Program — A lunch sold for not more than 20c, but less than the full price of the regular program.
- Breakfast Program — Has been experimented with in some school areas — usually around 8.30 a.m. and geared to food students enjoy: Secondary level — hamburger, orange juice, etc. — Elementary level — scrambled eggs, milk, toast

These programs have been quite successful in some areas of California and are currently gathering momentum in motivation toward better eating habits for boys and girls.

Apropos of this, Dr. Cable has pointed out that so-called "junk meals" to the "establishment" are nutritionally sound to young adults. He indicated a mid-morning breakfast of a big hamburger, french fries and milk shake are regarded as throw-away meals by many people In reality, the meal provides one-third of the caloric need, two-thirds of the protein, and more than one-third of the minerals, thiamin and vitamin C needed daily by a teen-ager.

- Milk Program — Is given for 5c or is free (to children from low socio-economic areas) in Kindergarten or Grade 1.
- Free Lunch Program — A lunch for which neither the child nor the parent pays. *All AFDC recipients, foster children on AFDC, Food Stamps, Medicare, and general relief.

*AFDC — Aid to Federally Dependent Children

- Food Stamps — Voluntary Program. For low-income families. Permits families to buy food stamps at a discount. (A family of five with a $200 monthly income would pay $72 and receive $102 worth of coupons or stamps.)

All of these are basic programs, well known to all of us. Each is carried out according to guidelines set by various school districts.

PROGRAMS OF NATIONAL INTEREST

Programs in effect which hopefully will re-inforce the nutritional knowledge of young people of our nation are:

- Maternal and Child Health Programs supported by the Federal Government, such as, Project Head Start and Parent and Child Centers, with emphasis on parent involvement under the guidance of a professional multidisciplinary health team.
- Comprehensive Health and Medical Care Projects for Mothers and Children, with preventative and treatment aspects of nutrition care.
- Clinical nutrition programs for mentally retarded children.
- Educational television programs relative to nutrition
- Special programs for pregnant teen-age girls, emphasizing food selection and preparation, consumer education, adequate and nourishing food during prenatal period and baby food selection.
- Auxiliary Personnel — Aides and volunteers trained by Nutritionist and with re-inforced knowledge from School Nurses have exhibited great skill and have been effective in motivating low-income parents to change food habits and to provide help for them in planning economic meals.

CONTROVERSIAL COMMENTS BY NOTABLE PEOPLE ON TODAY'S NUTRITIONAL PATTERNS

Professor Jean Mayer — *Family Health*, July 1970. — "Children should be given a substantial snack at mid-morning because many children are not hungry in the morning and come to school without breakfast." A mid-morning snack is recommended; not necessarily milk. Sometimes too much milk results in children not getting enough other foods, e.g. Vitamin C and iron and other necessary proteins.

If possible, children should have something special for breakfast — *what they need most* is: "to see mother going to some trouble to prepare breakfast and then sitting quietly and lovingly enjoying it together."

Researchers from Medical College of Wisconsin at Milwaukee — "Obesity is at the stage of epidemic" — the problem of obesity is more critical to national health than undernutrition — e.g., TOPS, Weight Watchers, Overweight Anonymous, and others.

Drs. Morton Pearce and Seymour Deyton, UCLA, at the American Heart Association Symposium, — "Incidence of people on diets high in polyunsaturated foods to avoid coronary problems are evidencing developing cancer. Emphasis therefore in cardiovascular patients should be a cutting down on foods high in cholesterol rather than substituting a diet high in polyunsaturates."

Thoughtful observation of these notable quotes, makes it imperative for School Nurse educators to plan for and implement positive educational programs in collaboration with teachers at both the elementary and secondary level. In these days of national financial crisis for the homemaker, food buying must be interwoven into all lesson plans. It does no good to teach what to eat nutritionally if we do not consider ethnic and cultural patterns along with the socio-economic levels from which the students evolve.

Some suggested programs to provide nutritional knowledge to teachers for educational i..put are:

- *Big Idea Program* — Dairy Council of California — Set of 19 complete lesson plans, Grade K-3 and 10 lesson plans Grade 4-6 — now available and presented in workshop form by Dairy Council
- *Breakfast Around the World* — Dairy Council — published cooperatively with a school nurse, Mary Ford, Chicago, Illinois.
- *Breakfast and the Bright Life* — Cereal Institute — Jr. High and Sr. level — has a 12 page teacher's guide — a 10" record and filmstrip combination.

- *Breakfast Survey* — can be done at any grade level. It is a known fact that an adequate breakfast can change the attitude and attention of a student to a point of better academic achievement.
- *Programs Planned Around the "Seven Ages of Nutrition"* — could become innovative, continuing programs beginning with parents or teen-age p egnant girls — or be used in a variety of programs geared to Growth and Development.

Age of Infancy — Nutritional needs - formula - breast feeding - hours of feeding (Senior High — Homemaking)

Age of Childhood — Nursery School — Kindergarten through Grade 6 — established eating habits — snack needs — ethnic and cultural patterns.

Age of Adolescence — Junior High Level — Eating habits evaluated — discussed and their relativity to growth spurts, hormonal changes and emotional stress including obesity. (Mini-Munchers Program as seen in DSN's *The School Nurse* — Connecticut). Since "soul food" is one "in thing" for our young society today, a research or evaluation program on it and other new trends could be a motivating lesson for students.

Age of Athletes — Junior and Senior High Level — Too much emphasis on protein diet -- excessive vitamin supplementaries are not nutritionally sound. Light amount of food before games is recommended. Research this and then provide a practical program through cooperative efforts of the coach.

Age of Pregnancy — Health Education Classes — Home Economics, Special Classes for Pregnant Girls. Senior High and Adult Groups — the effects of poor nutrition on the mother; on the development of the baby; plus the impact of nutrition on mental retardation.

Middle Age — Parent Groups — PTA — Overweight Anonymous, etc.

Old Age — Needs — Fads and Fallacies — Experimental Programs in geriatrics:

- Meals on Wheels
- Reasonable priced meals in school cafeteria — when children are not there.
- Personal assistance in shopping and preparation through help of trained volunteers.

It is this writer's opinion, while school nursing is primarily pointed toward services to children, we must provide cooperative service, with teachers, to enhance the learning potential of all school children. It is sincerely hoped these few "beads of knowledge" will be helpful to professional coworkers in the field of School Nursing.

As an addendum, excerpted is a concise Health Education Unit in Nutrition; should be helpful in promoting good nutrition to staff and students.

I would like to close with

A RECIPE FOR PRESERVING CHILDREN

1 grass grown field
½ doz. children or more
Several dogs and puppies if it's the proper time of year
1 brook or stream
Pebbles

> Into the field pour children and dogs. Pour brook over the pebbles until slightly frothy. Mix well. When children are nicely brown, cool in warm tub. When dry, serve with buttermilk and fresh baked bread.

Whereas the recipe may not really have the basic four, it surely has the basics for a happy child, and helps the School Nurse in advising parents for the greatest of all nutrients — Tender Loving Care.

UNIT ON NUTRITION EDUCATION (K-12)

GRADES K - 3

CONCEPTS	SUGGESTED PUPIL ACTIVITIES
1. All living things need food in order to grow.	Bring and discuss pictures of where people eat; home, school, picnics, parties.
2. Growing regularly is a sign of health.	Keep height and weight charts for individual comparison at 3-month intervals. Keep charts of self-testing physical activities (jumping, throwing, etc.) to measure individual progress. Observe eating habits of pets; note differences between large and small animals, if any.
3. Food is good.	Discuss lunches or lunch menus: a) what foods did they eat today that the cow gave? b) did they have any foods that grew underground? c) did they have any foods that grew on a tree, on a vine? Construct a food train made from cartons composed of an engine and four cars. Each car should be designated as one of the basic four food groups. Make models of wide variety of foods and place in appropriate car. Make a chart of United Nations countries. Illustrate special foods of each. Show the foods served in the school lunchroom which are related to other countries. Discuss traditional holiday foods (at home and in other countries).
4. Many kinds of food are available for an adequate diet.	Have a play store using stand-up pictures. Shop for foods (or stock with empty cans and boxes). Make a simple food mobile from construction paper.
5. Some foods may be better for the body than others.	Discuss: Foods good for snacks. Visit a dairy to see how milk is pasteurized. Make a chart showing the many forms milk can take (ice cream, cottage cheese, etc.).
6. Certain behavior while eating is important to enjoying and getting the most out of your meals.	Demonstrate proper use of napkin at table. Discuss small bites, eating slowly, elbows on table, cheerful conversation, use of utensils. Draw up list of good eating habits for bulletin board display.

7. Food is kept safe to eat by improved processing methods	Display the different ways you can buy food at the store. (Students may bring in empty cans, jars, boxes, etc.) Discuss the nutritional value of raw and cooked vegetables. Why do we cook foods? Cook foods varying lengths of time and observe both the food and the water each time.

NUTRITION EDUCATION UNIT

GRADES 4 - 6

CONCEPTS	SUGGESTED PUPIL ACTIVITIES
1. Work efficiency depends upon adequate food intake.	List and discuss the foods they ate for breakfast this morning. Make a bulletin board display of reasons why we eat (growth, energy, feel better, etc.).
2. Our selection of food depends upon many different factors	Have blindfolded tasting test. Do tastes affect what we select to eat? (Use celery, apple, carrot, etc. to determine sweet, sour.) Where can you taste sweet, sour, etc.? Have a (ee check plate waste for a week to determin(foods are not eaten in the lunchroom from both served and home packed lunches. Discuss why these foods were not eaten; discuss how we learn to like foods.
3. Every food has a story.	Divide class into "try out" committees for new, different or unusual foods. (use help of mothers to plan — PTA) Write about your favorite food. (Try to make it sound so tasty others will want to try it. Bring recipe to class for others to try. Tell its history and any related customs.) Discuss your favorite food at birthdays, Christmas, Thanksgiving, etc. What do children in other lands eat on their holidays? Plan a Spanish menu, Italian menu, French menu, etc.
4. All nutrients needed for growth are available through foods.	List foods you dislike and find substitute foods supplying same nutritional value. Demonstrate how different foods can be tested for their content. (6th grade) • protein — burn food in a direct flame from a Bunsen burner. Foods high in protein will exhibit a characteristic odor. (gelatin will burn without too many other conflicting odors.) • starch — soften, crush and dissolve or soak the food in water. Place the water and food in a test tube and

	add a drop one per cent iodine solution. If it turns blue, starch is present. • fats — place the food on a piece of typing paper. Press it against the paper so juices from the food penetrate the paper. Remove the food and place the paper on a radiator to heat. Remove after all the water has evaporated. Fatty foods will leave grease spots on paper. • minerals — burn the food on an asbestos or metal plate. Foods high in minerals such as dried milk, beans, peas, and egg yolk will leave a gray ash consisting of minerals. Non-mineral foods such as sugar will leave only black carbon. • water — expose fruits, leafy vegetables and other food to the air and sunshine. Allow them to remain exposed until they become shriveled and dry. They have lost their water. The food may be weighed before and after dehydration to determine the amount of water lost.
5. Some foods do more for us than others.	Discuss food fads and the problem of getting reliable information. Discuss how to tell the difference between food facts and misinformation. Choose a food such as milk or eggs or a favorite vegetable. Make a little book chart showing the many ways to serve this food, how the food aids in growth and development, etc. Plan a "Food of the Week" campaign to introduce new foods or those seldom eaten. Analyze some magazine advertisements about different foods. Develop a class or individual recipe booklet which can be added to from time to time. Use recipes they've tried from their own camping or cooking experience or refer to Scout or Junior Cook Books.
6. One's daily diet should be planned each day to include foods which produce sufficient amounts of nutrients and calories.	Make a daily chart of what you've eaten. a) Discuss implications of growing problem of obesity. b) Relate obesity to caloric intake and output. Determine how our body uses energy.
7. One's feelings and emotions affect digestion of food.	Discuss whether feelings of happiness or sadness influence digestion. Discuss fear, hate and anger relating to digestion. Discuss rest and relaxation in relation to digestion. Importance of moderate activities immediately after meals. Discuss effects of a quick or hurried meal.

8. Many steps are being taken to solve world food problems.	Investigate current world food problems Plan a panel discussion on some solutions to these problems. Discuss organizations involved in world food problems. Food and Agriculture Organization (FAO), World Health Organization (WHO), International Children's Emergency Fund (ICEF).

NUTRITION EDUCATION UNIT

GRADES 7 - 9

CONCEPTS	SUGGESTED PUPIL ACTIVITIES
1. The foods you eat today have a far-reaching effect on your body.	List factors which will influence your weight throughout life. Select several for individual reports (i.e. fashions, height-weight charts, physical activity, genetic factors, peer eating fads, eating habits, psychological factors, etc.). Survey of breakfasts among all students; the number who are eating breakfast as well as the nature of the foods consumed.
2. Food has important effects on our bodies.	Discuss reasons why we eat. Examine cells of different plants under a microscope. Discuss cell division as related to human body.
3. Nutrients are the nourishing substances found in foods.	Divide class into "nutrient groups"; report on discovery of nutrient, function, sources (Emphasize experimentation and visual aids in delivery of report, e.g. soak a small uncooked bone in vinegar for three days. The mineral matter will dissolve and the bone will lose its strength and firmness so that it can be easily bent. This experiment demonstrates the presence of minerals especially calcium and phosphorus in bones. It points up the importance of minerals in the diet.)
4. Some foods do more for us than others.	Display representative examples of food fads and fallacies. Do research to discover why these foods are considered to be such. Collect magazine food advertisements by apparent food quacks and evaluate content.
5. Our food choices need to be distributed wisely among meals and snacks.	Discuss reasons for skipping breakfast — (not enough time, don't feel like it, I'm dieting, etc.). Investigate research done by nutritionists on value of eating breakfast. What effect does eating breakfast have on you? (Refer to "Breakfast Source Book" Cereal Institute, Inc. Publication.) — "Breakfast Around the World." Report on what your body does with extra nutrients it does not need. How should this influence the distribution of your food during the day.

6. Some foods are better than others for snacking.	List common snack foods and discuss in terms of caloric value and nutritional value. Conduct a one to three day survey of snack foods eaten by students
7. Intelligent choices need to be made about foods and food fads.	Collect newspaper clippings and advertisements about crash diets, reducing fads, reducing pills and quackery. Discuss and analyze weight reducing procedures. Evaluate liquid diets, baby-food diets and other teen-age fad diets in terms of nutritional value.
8 Storage and processing practices have changed the variety, palatability and nutritional values of food.	Select a prepared problem and develop reports. Typical examples might be: chicken salad is left from lunch on a hot day. What would you do with it and why? you can select pasteurized or raw milk. Which would you select and why? you have your choice of freezing or canning specific foods. Which would you do and why? a friend tells you not to eat eggs or pork. (salmonella, trichinosis) Would you take her advice? you read that most vitamins are lost in everyday foods. Investigate the accuracy of such a statement of evaluate need of vitamin supplements. a food supplement salesman wants your family to sign for an extended period to use his product. What should your family do and why? your community sells fruits that have been sprayed. Should you eat them? investigate all of these problems by interviewing knowledgeable people, visiting food processing plants, talking to individuals at Better Business Bureau, reading, etc. Discuss the responsibility of students who work in the lunch program. Investigate why the food and drug laws were passed. Investigate differences in foods taken on camping trips now and 50 years ago
9. Every person is responsible for making meal times pleasant and harmonious.	Observe and discuss manners at mealtime. Discuss why certain actions have become accepted as appropriate while others have not. Develop a skit involving a family meal showing the importance of such things as pleasant conversation,

	good table manners, sharing preparation and cleaning up. etc.
	Organize with help of school dietitian a committee to improve the attractiveness of the cafeteria through the use of posters, table settings, flowers, etc.
10 Certain diseases are caused by lack of vitamins.	Prepare committee reports on the discovery of the more common vitamins and the effect on a person if these vitamins are missing or lacking.
	Prepare bulletin boards depicting lack of vitamins — disease.
11. Weight can affect your health	Discuss causes of obesity (overeating, poor eating habits, glandular disturbances, emotional disturbances).
	Discuss effect of family eating habits on obesity
	Evaluate through discussion the disadvantages and dangers of obesity. (fatigue, discomfort, play and exercise require greater effort, limited group activity, personality difficulties, job handicaps, effect on internal organs, heart, arteries kidneys)
	Discuss causes of underweight (worry, disease, fatigue, heredity, poor eating habits).
	Evaluate through discussion the dangers of underweight (reduced health, vitality, malnutrition).
	Discuss lack of proper foods and the effect on the learning process.
	Invite personnel involved in nutrition research to discuss weight reduction with class.
	Prepare articles on weight reduction, etc. for school newspaper.
	Participate in panel discussion on "Diet and its relationship to weight control."
12. Food is an integral part of cultural patterns.	Bring a list of traditional or regional foods eaten by your family when celebrating special occasions. Emphasize factors influencing choices; climate, region, nationality, traditional festivities, storage available, seasonings, preparation.
	Discuss possible origin of three meals a day.
	Prepare bulletin board display, show-case exhibits, or dioramas, food models, pictures or paper-mache models showing certain regional meals, dishes, etc.
	With parent-teacher association members, plan, prepare, and serve a meal that contains foods from a foreign country.

NUTRITION EDUCATION UNIT

GRADES 10 - 12

CONCEPTS	SUGGESTED PUPIL ACTIVITIES
1. Nutrition can affect how you look.	Discuss what one needs to know to meet the nutritional needs of each family member. What factors change these needs? (age, allergies, activities)
	Discuss the causes of acne and how diet might aid the correction of it.
	Investigate flouridation in your local drinking water. Set up a panel discussion to evaluate the pros and cons.
	Tabulate the percentage of students who have had dental work done. Determine what effect nutritional habits may have had in these percentages.
2. Your personality can be influenced by how you eat.	Debate the effect of diet on personality characteristics such as cheerfulness, self-confidence, poise, emotional stability against such things as losing sense of humor, being morose, apathetic, etc.
	Investigate the effects of caffeine and other similar stimulants on your system and determine if there is any effect on your physical or mental efficiency.
3. Growth and development can be affected by nutrition and its interplay with heredity and environment.	List different family eating habits (2 big cooked meals a day, eating on "the run", little meat, no breakfasts, mid-morning and afternoon snacks, many desserts, etc.) Show how some of these habits may affect growth and development.
	Discuss the inheritance of family tendencies in size.
	Investigate the differences in diet between warm climates and cold climates.
4. Nutrients are needed in ample amounts.	Discuss the recommended daily dietary allowances.
	Have students rate weekly diets.
5. The individual must consider many things in making his own food selection.	Discuss the factors which influence adolescent eating habits.
	Determine costs of food by:
	planning a week's menu on the amount of money welfare or retired people spend on food.
	listing inexpensive substitutes for meats or inexpensive dishes that might help keep food costs down.
	check U.S.D.A. commodities in use in the school lunch program and U.S.D.A. commodities available to welfare recipients . . . check food value.

discuss food stamp program for welfare recipients.

determine cost of school lunch. Compare school lunch, home packed lunch, drive-in lunch for cost, nutritional value, calories, satisfaction.

6. All persons throughout life have need for the same nutrients but in varying amounts.

Arrange committees to research and report on the relationship of nutrition to the following:

pre-natal and post-natal dietary needs
care of the diabetic
treatment of TB patient
therapy of alcoholic
treatment of cardiac cases
nutrition and mental health
child's diet and nutrition
teenager's diet and nutrition
adult nutrition
athlete's nutrition

(Prepare display — bulletin board chart to depict special diets.)

Discuss influence of nutrition on embryological development and child growth. Compare opinions and customs on breast feeding.

7. Consumers look for several qualities in fresh and processed food.

Compile list of factors that influence consumers in their food purchases.

Collect food advertisements and evaluate them in terms of nutrition and cost.

Have each student do a week's food shopping (on paper) for a family of 4 or 5 on a predetermined, minimal amount of money. (This can be an excellent evaluating device if used both at beginning of unit and near the end to see if pupils food selection has improved.)

8. Intelligent choices need to be made about foods, food fads and sensational claims. Foods may contain substances that are harmful to our bodies.

Investigate the ways that certain diseases are transported by foods. Discuss methods of discouraging this kind of transference (typhoid, dysentery, trichinosis, etc.).

Evaluate quackery in nutrition. Possible committee reports should include the following:

prepare and administer a food fad and fallacy test. Give test to a sample group in your community.

analyze nutrients of several "health foods" and compare to "ordinary foods" — discuss food additives.

Bring in samples of ads for food supplements, nutrition aids and digestive remedies. Evaluate these in the light of their scientific or pseudo-scientific approaches.

	Discuss and evaluate common misconceptions about certain foods (brain-foods, raw foods, nerve foods, natural foods, etc.).
	Report on saturated fats and cholesterol; point out opinions on relationship to disease. Check food labels to see which products state they have poly-unsaturates.
9. Some prevalent physiological conditions can be prevented and treated by good nutrition.	Have class collect information on all types of reducing diets: starvation diets, mechanical means (vibrators) chemical (drugs), special foods, exercises, etc. Report on each and determine: cost, scientific basis for claims, danger to health, long term effect and successfulness. Make graphs showing relationship of heart disease, diabetes, high blood pressure, etc. to overweight.
10. Quantity of food intake is a growing health problem.	Discuss basal metabolism and its influence on how the body utilizes nutrients. Compare and evaluate means of losing weight. Determine what effect overweight and obesity can have on an individual's health. Investigate and discuss the significance of malnutrition in the world today.

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Miraglia, Joseph, M.D , Lankenau Medical Center, Pennsylvania
Pearce, Morton, M D , University of California, Los Angeles
Wauson, Beryl, R.N., Long Beach Unified School District, California

CREDITS

Cereal [illegible] Chicago, Illinois
Dairy Council, Nation[illegible] Dairy Council, Los Angeles County Area, California
[illegible] Department of Agriculture, Extension Service, Washington, D C.
[illegible]ul credit goes to Dr. Joseph Miraglia, who graciously gave the Department of School Nurses permission to [illegible] material he has published. In granting our request, he stated, "Anything I write can be reproduced [illegible] ll help people." This, then, is the spirit of the total document

Department of School Nurses
National Education Association
1201-16th Street NW
Washington, D.C. 20036

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Public Law 91-248
91st Congress, H. R. 515
May 7, 1970

An Act

To amend the National School Lunch Act and the Child Nutrition Act of 1966 to clarify responsibilities related to providing free and reduced-price meals and preventing discrimination against children, to revise program matching requirements, to strengthen the nutrition training and education aspects of the programs, and otherwise to strengthen the food service programs for children in schools and service institutions.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Food service programs for children.
84 STAT. 207
84 STAT. 208

AUTHORIZATION FOR ADVANCE APPROPRIATIONS; CARRYOVER AUTHORIZATION

SECTION 1. (a) Section 13 of the National School Lunch Act is amended by inserting at the end thereof the following: "Appropriations to carry out the provisions of this Act and of the Child Nutrition Act of 1966 for any fiscal year are authorized to be made a year in advance of the beginning of the fiscal year in which the funds will become available for disbursement to the States. Notwithstanding any other provision of law, any funds appropriated to carry out the provisions of such Acts shall remain available for the purposes of the Act for which appropriated until expended."

76 Stat. 944; 82 Stat. 117. 42 USC 1752. 80 Stat. 885. 42 USC 1771 note.

(b) The first sentence of section 10 of the National School Lunch Act and the first sentence of section 12(d)(5) of such Act are each amended by striking the words "preceding fiscal year" and inserting in lieu thereof the following: "fiscal year beginning two years immediately prior to the fiscal year for which the Federal funds are appropriated".

76 Stat. 945. 42 USC 1759, 1760.

NONFOOD ASSISTANCE PROGRAM AUTHORIZATION

SEC. 2. Sections 5(a) and 5(b) of the Child Nutrition Act of 1966 are amended to read as follows:

Appropriation. 80 Stat. 887. 42 USC 1774.

"(a) There is hereby authorized to be appropriated for the fiscal year ending June 30, 1971, not to exceed $38,000,000, for the fiscal year ending June 30, 1972, not to exceed $33,000,000, for the fiscal year ending June 30, 1973, not to exceed $15,000,000, and for each succeeding fiscal year, not to exceed $10,000,000, to enable the Secretary to formulate and carry out a program to assist the States through grants-in-aid and other means to supply schools drawing attendance from areas in which poor economic conditions exist with equipment, other than land or buildings, for the storage, preparation, transportation, and serving of food to enable such schools to establish, maintain, and expand school food service programs. In the case of a nonprofit private school, such equipment shall be for use of such school principally in connection with child feeding programs authorized in this Act and in the National School Lunch Act, as amended, and in the event such equipment is no longer so used, it may be transferred to another nonprofit private school participating in any of such programs or to a public school participating in any of such programs, or, failing either of these dispositions, that part of such equipment financed with Federal funds, or the residual value thereof, shall revert to the United States.

"(b) The Secretary shall apportion 50 per centum of the funds appropriated for the purposes of this section among the States during each fiscal year on the same basis as apportionments are made under section 4 of the National School Lunch Act, as amended, for supplying agricultural and other foods. The remaining funds appropriated for

Apportionment to States.

76 Stat. 944. 42 USC 1753.

the purposes of this section shall be apportioned to each State on the basis of the ratio between the number of children enrolled in schools without a food service in such State and the number of children enrolled in schools without a food service in all States. Payments to any State of funds apportioned for any fiscal year shall be made upon condition that at least one-fourth of the cost of any equipment financed under this subsection shall be borne by State or local funds."

ADMINISTRATIVE EXPENSES, NUTRITION EDUCATION, AND DIRECT EXPENDITURES

60 Stat. 231. 42 USC 1755.

SEC. 3. The first sentence of section 6 of the National School Lunch Act is amended to read as follows: "The funds provided by appropriation or transfer from other accounts for any fiscal year for carrying out the provisions of this Act, and for carrying out the provisions

76 Stat. 944; Ante, p. 208.

of the Child Nutrition Act of 1966, other than section 3 thereof, less

"(1) not to exceed 3½ per centum thereof which per centum is hereby made available to the Secretary for his administrative expenses under this Act and under the Child Nutrition Act of 1966;

76 Stat. 944; 60 Stat. 231. 42 USC 1753, 1754.

"(2) the amount apportioned by him pursuant to sections 4 and 5 of this Act and the amount appropriated pursuant to sections 11 and 13 of this Act and sections 4, 5, and 7 of the Child Nutrition Act of 1966; and

Post, pp. 211,210. Post, pp. 214,210. Ante, p. 208.

"(3) not to exceed 1 per centum of the funds provided for carrying out the programs under this Act and the programs under the Child Nutrition Act of 1966, other than section 3, which per centum is hereby made available to the Secretary to supplement the nutritional benefits of these programs through grants to States and other means for nutritional training and education for workers, cooperators, and participants in these programs and for necessary surveys and studies of requirements for food service programs in furtherance of the purposes expressed in section 2 of this Act and section 2 of the Child Nutrition Act of 1966,

60 Stat. 230; 80 Stat. 885. 42 USC 1751, 1771.

shall be available to the Secretary during such year for direct expenditure by him for agricultural commodities and other foods to be distributed among the States and schools and service institutions participating in the food service programs under this Act and under the Child Nutrition Act of 1966 in accordance with the needs as determined by the local school and service institution authorities."

STATE MATCHING REQUIREMENTS

60 Stat. 232. 42 USC 1756.

SEC. 4. Section 7 of the National School Lunch Act is further amended by inserting immediately before the last sentence of such section the following: "For the fiscal year beginning July 1, 1971, and the fiscal year beginning July 1, 1972, State revenue (other than revenues derived from the program) appropriated or utilized specifically for program purposes (other than salaries and administrative expenses at the State, as distinguished from local, level) shall constitute at least 4 per centum of the matching requirement; for each of the two succeeding fiscal years, at least 6 per centum of the matching requirement; for each of the subsequent two fiscal years, at least 8 per centum of the matching requirement; and for each fiscal year thereafter, at least 10 per centum of the matching requirement. The State revenues made available pursuant to the preceding sentence shall be disbursed to schools, to the extent the State deems practicable, in such manner that each school receives the same proportionate share of such revenues as it

of his boys were coming to school breakfast-less. Added to the already myriad home and school-based problems of these boys, inadequate nutrition was a real obstacle to achieving the goals of the Special Education program.

"What can you suggest?" he asked. "The usual exhortation to 'eat a good breakfast' is going to fall flat. Some of these boys are responsible for getting themselves ready for school each morning — their mother has already gone to work, or doesn't get up that early! Some of them stop at the corner for a 'coke' on the way to school; others come without that much nourishment."

A different approach was certainly necessary, I agreed. How about making up a menu of nutritious, if somewhat unconventional breakfasts, which these boys could learn to prepare by themselves? The teacher was enthusiastic, and offered to help with simple cookery instruction to supplement any kitchen skills the boys might already possess.

We devised the following menu suggestions, and in classroom visitation I introduced to the boys the idea of becoming their own gourmet chefs. They were delighted.

Using rat study posters published by the U.S. Department of Agriculture, I discussed the vital role of nutrition to total health. Graphically convinced of the value of the right foods for good health, the boys prepared themselves in practice with the teacher, studying vocabulary and cooking skills.

With a cover letter, we explained to parents our "campaign" to introduce nutritional concepts to students, asked support in supplying the ingredients with which the boys could practice food preparation, and supplied each parent with our menu.

Success? We think so! The boys enthusiastically reported each culinary success. With frequent reminders from the teacher, they were encouraged to make breakfast-preparing a regular routine; not just once-in-the-kitchen for fun. Our breakfasts may have been unorthodox, and not even completely acceptable nutritionally, but we felt they had given our boys a chance at skill-development and a sense of accomplishment, as well as nutritional improvement.

UNUSUAL BREAKFASTS

Try one of these each day to make your breakfast lively!

FRUIT

Banana Drizzle

Slice a peeled banana into a dish, drizzle fortified chocolate over it, sprinkle with your favorite dry cereal.

Apple Annies

Quarter a washed apple, remove core, sprinkle each section with sugar and cinnamon. Eat them with your fingers.

Banana Blast

Slice a peeled banana into a dish, squeeze juice of an orange over it. Sprinkle with coconut and miniature marshmallows. Be sure to brush your teeth afterward!

EGGS

Egg In a Pocket

Cut a hole and shape out of a slice of sandwich bread. Place in buttered frying pan. Break an egg into the "pocket" and fry on one side until done. Turn the bread section over to fry the other side.

Hamburger Scramble

Fry a pound of hamburger until done, stirring it. Pour a beaten egg over it after draining the extra grease. Stir it gently until egg is cooked. Scoop out center of a heated hamburger bun. Put the meat and egg in the bun, cover it with the bun if you wish.

receives of the funds apportioned to the State for the same year under sections 4 and 11 of the National School Lunch Act and sections 4 and 5 of the Child Nutrition Act of 1966." 76 Stat. 944; Post, p. 211. 42 USC 1753.

STATE ADMINISTRATIVE EXPENSES

Post, p. 214. Ante, p. 208.

SEC. 5. The first sentence of section 7 of the Child Nutrition Act of 1966 is amended (1) by inserting "or for the administrative expenses of any other designated State agency" immediately after "its administrative expenses"; and (2) by inserting "and service institutions" immediately after "local school districts". 80 Stat. 888. 42 USC 1776.

ADDITIONAL PROGRAM REQUIREMENTS AND AUTHORITY

SEC. 6. (a) The second sentence of section 9 of the National School Lunch Act (42 U.S.C. 1751) is amended by inserting "not exceeding 20 cents per meal" immediately after "or at a reduced cost". 60 Stat. 233. 42 USC 1759.

(b) Section 9 of the National School Lunch Act is further amended by inserting after the second sentence thereof the following: "Such determinations shall be made by local school authorities in accordance with a publicly announced policy and plan applied equitably on the basis of criteria which, as a minimum, shall include the level of family income, including welfare grants, the number in the family unit, and the number of children in the family unit attending school or service institutions; but, by January 1, 1971, any child who is a member of a household which has an annual income not above the applicable family size income level set forth in the income poverty guidelines shall be served meals free or at reduced cost. The income poverty guidelines to be used for any fiscal year shall be those prescribed by the Secretary as of July 1 of such year. In providing meals free or at reduced cost to needy children, first priority shall be given to providing free meals to

How to hard-cook an egg: Place it gently in enough boiling water to cover the egg. Turn the fire low, and simmer for 10 minutes. Pour off hot water, cover the egg with cold water, let stand a few minutes to cool.

MEAT

Tickle Taco

Roll up wiener and grated cheese in a tortilla, stick a toothpick through it to hold together, heat in oven for 5 - 8 minutes on a foil plate.

Submarine Taco (for sea-food lovers)

Drain a can of tuna, mix a little tuna with chopped hard-cooked egg and grated cheese. Stuff into a taco shell, heat in oven 3 - 5 minutes in a foil pan.

*DSN thanks Mrs. Wauson for this special project.

UNIT ON NUTRITION EDUCATION

RATIONALE: Our country provides an excess of food to its population; so much so, that obesity is a major concern and foods and beverages are advertised on the basis of low-calorie content. As a *nation* we eat well, but maintaining adequate nutrition is a major health problem because as *individuals* we do not!

Without a definite program of nutrition education started at the beginning of their school life, children are apt to confine their food choices to favorite foods. Likewise, they cannot project benefits into the future, and have no concern or appreciation for what the future will bring if they fail to eat properly now. Nutrition education should be stressed to boys as well as to girls. Dietary and reducing fads thrive upon inadequate public knowledge and faulty practices.

The school's major nutritional concern is in the promotion of sound dietary habits. The challenge is to break the traditional boredom of memorizing nutrients and food groups and move into the field of stimulating nutritionally-grounded experiences. Eating is essential for life!

BASIC CONCEPT: Optimal growth is dependent on personal health practices and wise decisions.

SUGGESTED PUPIL OUTCOMES:

- Relates good nutrition, adequate sleep and physical activity to his own growth and development.
- Understands the basic digestive process and how it relates to growth.
- Plans and understands the preparation of nutritious meals and snacks.
- Broadens the variety of food eaten and enjoyed by himself and others.
- Realizes the importance of modern day methods for handling and preserving foods.
- Is familiar with the resources available to provide food for himself and others.
- Critically evaluates facts and beliefs about foods.
- Discovers how behavior while eating can influence body processes in both a negative and positive manner.
- Discovers the cause, correction and prevention of certain digestive disorders, deficiencies, and diseases.
- Recognizes the growing problems of obesity at all age levels.
- Understands and can apply the modifications of diet that are necessary depending on the age and the individual.

in such schools and institutions. The requirements of this section relating to the service of meals without cost or at a reduced cost shall apply to the lunch program of any school utilizing commodities donated under any of the provisions of law referred to in the preceding sentence. None of the requirements of this section in respect to the amount for 'reduced cost' meals and to eligibility for meals without cost shall apply to nonprofit private schools which participate in the school lunch program under the provisions of section 10 until such time as the Secretary certifies that sufficient funds from sources other than children's payments are available to enable such schools to meet these requirements."

84 Stat. 2
42 USC 1759.

SPECIAL ASSISTANCE

Appropriation
76 Stat. 944
7 USC 1759a.

SEC. 7. Section 11 of the National School Lunch Act is amended to read as follows:

"SPECIAL ASSISTANCE

"SEC. 11. (a) There are hereby authorized to be appropriated for the fiscal year ending June 30, 1971, and for each succeeding fiscal year such sums as may be necessary to provide special assistance to assure access to the school lunch program under this Act by children of low-income families.

"(b) Of the sums appropriated pursuant to this section for any fiscal year, 3 per centum shall be available for apportionment to Puerto Rico, the Virgin Islands, Guam, and American Samoa. From the funds so available the Secretary shall apportion to each such State an amount which bears the same ratio to such funds as the number of children aged three to seventeen, inclusive, in such State bears to the total number of such children in all such States. If any such State cannot utilize for the purposes of this section all of the funds so apportioned to it, the Secretary shall make further apportionment on the same basis as the initial apportionment to any such

"(f) If in any State the State educational agency is not permitted by law to disburse funds paid to it under this Act to nonprofit private schools in the State, the Secretary shall withhold from the funds apportioned to such State under subsection (b) or (c) of this section an amount which bears the same ratio to such funds as the number of free or reduced-price lunches served in accordance with section 9 of this Act in the fiscal year beginning two years immediately prior to the fiscal year for which the funds are appropriated, by all nonprofit private schools participating in the program under this Act in such State, bears to the number of such free and reduced-price lunches served during such prior year by all schools participating in the program under this Act in such State. The Secretary shall disburse the funds so withheld directly to the nonprofit private schools within such State for the same purposes and subject to the same conditions as are applicable to a State educational agency disbursing funds under this section.

Ante, p. 210.

"(g) In carrying out this section, the terms and conditions governing the operation of the school lunch program set forth in other sections of this Act, including those applicable to funds apportioned or paid pursuant to section 4 or 5 but excluding the provisions of section 7 relating to matching, shall be applicable to the extent they are not inconsistent with the express requirements of this section.

76 Stat. 944; 60 Stat. 231; Ante, p. 209. 42 USC 1753, 1754.

"(h)(1) Not later than January 1 of each year, each State educational agency shall submit to the Secretary, for approval by him as a prerequisite to receipt of Federal funds or any commodities donated by the Secretary for use in programs under this Act and the Child Nutrition Act of 1966, a State plan of child nutrition operations for the following fiscal year, which shall include, as a minimum, a description of the manner in which the State educational agency proposes (A) to use the funds provided under this Act and funds from sources within the State to furnish a free or reduced-price lunch to every needy child in accordance with the provisions of section 9; (B) to extend the school-lunch program under this Act to every school within the State, and (C) to use the funds provided under section 13 of this Act and section 4 of the Child Nutrition Act of 1966 and funds from sources within the State to the maximum extent practicable to reach needy children.

80 Stat. 885. 42 USC 1771 note.

82 Stat. 117; Post, p. 214. 42 USC 1761.

"(2) Each school participating in the school-lunch program under this Act shall report each month to its State educational agency the average number of children in the school who received free lunches and the average number of children who received reduced price lunches during the immediately preceding month. Each participating school shall provide an estimate, as of October 1 and March 1 of each year, of the number of children who are eligible for a free or reduced price lunch.

Reports to educational agency.

"(3) The State educational agency of each State shall report to the Secretary each month the average number of children in the State who received free lunches and the average number of children in the State who received reduced price lunches during the immediately preceding month. Each State educational agency shall provide an estimate as of October 1 and March 1 of each year, of the number of children who are eligible for a free or reduced price lunch."

Reports to Secretary.

REGULATIONS

SEC. 8. Section 10 of the Child Nutrition Act of 1966 is amended by striking out the period at the end thereof and inserting in lieu thereof

80 Stat. 889. 42 USC 1779.

76 Stat. 944; 82 Stat. 117. 42 USC 1752.

Transfer and reserve of funds.

the following: "and the National School Lunch Act, including regulations relating to the service of food in participating schools and service institutions in competition with the programs authorized under this Act and the National School Lunch Act. In such regulations the Secretary may provide for the transfer of funds by any State between the programs authorized under this Act and the National School Lunch Act on the basis of an approved State plan of operation for the use of the funds and may provide for the reserve of up to 1 per centum of the funds available for apportionment to any State to carry out special developmental projects."

NATIONAL ADVISORY COUNCIL.

SEC. 9. The National School Lunch Act is amended by adding at the end thereof the following new section:

"NATIONAL ADVISORY COUNCIL

Membership.

"SEC. 14. (a) There is hereby established a council to be known as the National Advisory Council on Child Nutrition (hereinafter in this section referred to as the 'Council') which shall be composed of thirteen members appointed by the Secretary. One member shall be a school administrator, one member shall be a person engaged in child welfare work, one member shall be a person engaged in vocational education work, one member shall be a nutrition expert, one member shall be a school food service management expert, one member shall be a State superintendent of schools (or the equivalent thereof), one member shall be a State school lunch director (or the equivalent thereof), one member shall be a person serving on a school board, one member shall be a classroom teacher, and four members shall be officers or employees of the Department of Agriculture specially qualified to serve on the Council because of their education, training, experience, and knowledge in matters relating to child food programs.

Terms of office.

"(b) The nine members of the Council appointed from outside the Department of Agriculture shall be appointed for terms of three years, except that such members first appointed to the Council shall be appointed as follows: Three members shall be appointed for terms of three years, three members shall be appointed for terms of two years, and three members shall be appointed for terms of one year. Thereafter all appointments shall be for a term of three years, except that a person appointed to fill an unexpired term shall serve only for the remainder of such term. Members appointed from the Department of Agriculture shall serve at the pleasure of the Secretary.

"(c) The Secretary shall designate one of the members to serve as Chairman and one to serve as Vice Chairman of the Council.

"(d) The Council shall meet at the call of the Chairman but shall meet at least once a year.

"(e) Seven members shall constitute a quorum and a vacancy on the Council shall not affect its powers.

Study.

42 USC 1751 note, 1771 note.

Report to President and Congress.

"(f) It shall be the function of the Council to make a continuing study of the operation of programs carried out under the National School Lunch Act, the Child Nutrition Act of 1966, and any related Act under which meals are provided for children, with a view to determining how such programs may be improved. The Council shall submit to the President and the Congress annually a written report of the results of its study together with such recommendations for administrative and legislative changes as it deems appropriate.

"(g) The Secretary shall provide the Council with such technical and other assistance, including secretarial and clerical assistance, as may be required to carry out its functions under this Act. Technical and other assistance.

"(h) Members of the Council shall serve without compensation but shall receive reimbursement for necessary travel and subsistence expenses incurred by them in the performance of the duties of the Council." Travel and subsistence pay.

SCHOOL BREAKFAST PROGRAM AUTHORIZATION

SEC. 10. Section 4(a) of the Child Nutrition Act of 1966 is hereby amended by striking out "$12,000,000" and inserting "$25,000,000". 82 Stat. 119. 42 USC 1773.

Approved May 14, 1970.

LEGISLATIVE HISTORY:

HOUSE REPORTS: No. 91-81 (Comm. on Education and Labor) and 91-1032 (Comm. of Conference).
SENATE REPORT No. 91-641 accompanying S. 2548 (Comm. on Agriculture and Forestry).
CONGRESSIONAL RECORD:
Vol. 115 (1969): Mar. 20, considered and passed House.
Vol. 116 (1970): Feb. 20, 23, 24, considered and passed Senate, amended.
Apr. 30, Senate agreed to conference report.
May 4, House agreed to conference report.

Public Law 92-433
92nd Congress, H. R. 14896
September 26, 1972

An Act

86 STAT. 724

To amend the National School Lunch Act, as amended, to assure that adequate funds are available for the conduct of summer food service programs for children from areas in which poor economic conditions exist and from areas in which there are high concentrations of working mothers, and for other purposes related to expanding and strengthening the child nutrition programs.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 13 of the National School Lunch Act (42 U.S.C. 1761) is amended by adding at the end thereof the following:

Child nutrition programs. Continuation and expansion. 82 Stat. 117; 85 Stat. 86.

"(i) Notwithstanding any other provision of law, the Secretary of Agriculture is authorized to utilize, during the period May 15 to September 15, 1972, not to exceed $25,000,000 from funds available during the fiscal years 1972 and 1973 under section 32 of the Act of August 24, 1935 (7 U.S.C. 612c), to carry out the purposes of this section. Funds expended under the provisions of this paragraph shall be reimbursed out of any supplemental appropriation hereafter enacted for the purpose of carrying out section 13 of the National School Lunch Act, and such reimbursements shall be deposited into the fund established pursuant to section 32 of the Act of August 24, 1935, to be available for the purposes of said section 32. Funds made available under this subsection shall be in addition to direct appropriations or other funds available for the conduct of summer food service programs for children."

Summer program. 49 Stat. 774.

Grants-in-aid. 85 Stat. 86.

SEC. 2. (a) The first sentence of section 13(a)(1) of the National School Lunch Act (42 U.S.C. 1761(a)(1)), as amended, is amended to read as follows: "There is hereby authorized to be appropriated such sums as are necessary for each of the fiscal years ending June 30, 1973, June 30, 1974, and June 30, 1975, to enable the Secretary to formulate and carry out a program to assist States through grants-in-aid and other means, to initiate, maintain, or expand nonprofit food service programs for children in service institutions."

(b) Section 13(a)(2) of such Act is amended by inserting a new sentence at the end thereof as follows: "To the maximum extent feasible, consistent with the purposes of this section, special summer programs shall utilize the existing food service facilities of public and nonprofit private schools."

School breakfast program, appropriation. 85 Stat. 85.

SEC. 3. (a) The first sentence of section 4(a) of the Child Nutrition Act of 1966 (42 U.S.C. 1773(a)) is amended to read as follows: "There is hereby authorized to be appropriated such sums as are necessary for the fiscal years ending June 30, 1973, June 30, 1974, and June 30, 1975, to enable the Secretary to carry out a program to assist the States through grants-in-aid and other means to initiate, maintain, or expand nonprofit breakfast programs in all schools which make application for assistance and agree to carry out a nonprofit breakfast program in accordance with this Act."

(b) Section 4(b) of the Child Nutrition Act of 1966 (42 U.S.C. 1773(b)) is amended to read as follows:

80 Stat. 886.

"APPORTIONMENT TO STATES

"(b) Of the funds appropriated for the purposes of this section, the Secretary shall for the fiscal year ending June 30, 1973, (1) apportion $2,600,000 equally among the States other than Guam, the Virgin Islands, and American Samoa, and $45,000 equally among Guam, the Virgin Islands, and American Samoa, and (2) apportion the remainder among the States in accordance with the apportionment formula

Post, p. 726.

contained in section 4 of the National School Lunch Act, as amended. For each fiscal year beginning with the fiscal year ending June 30, 1974, the Secretary shall make breakfast assistance payments, at such times as he may determine, from the sums appropriated therefor to each State educational agency, in a total amount equal to the result obtained by (1) multiplying the number of breakfasts (consisting of a combination of foods which meet the minimum nutritional requirements prescribed by the Secretary pursuant to subsection (e) of this section) served during such fiscal year to children in schools in such States which participate in the breakfast program under this section under agreements with such State educational agency by a national average breakfast payment prescribed by the Secretary for such fiscal year to carry out the purposes of this section; (2) multiplying the number of such breakfasts served free to children eligible for free breakfasts in such schools during such fiscal year by a national average free breakfast payment prescribed by the Secretary for such fiscal year to carry out the purposes of this section; and (3) multiplying the number of reduced price breakfasts served to children eligible for reduced price breakfasts in such schools during such fiscal year by a national average reduced price breakfast payment prescribed by the Secretary for such fiscal year to carry out the provisions of this section: *Provided*, That in any fiscal year the aggregate amount of the breakfast assistance payments made by the Secretary to each State educational agency for any fiscal year shall not be less than the amount of the payments made by the State educational agency to participating schools within the State for the fiscal year ending June 30, 1972, to carry out the purposes of this section."

State disbursement to schools. 80 Stat. 886; 85 Stat. 85.

(c) Section 4(c) of the Child Nutrition Act (42 U.S.C. 1773(c)) is amended by adding at the end thereof the following sentence: "Breakfast assistance disbursements to schools under this section may be made in advance or by way of reimbursement in accordance with procedures prescribed by the Secretary."

(d) Section 4(e) of the Child Nutrition Act of 1966 (42 U.S.C. 1773(e)) is amended to read as follows:

"NUTRITIONAL AND OTHER PROGRAM REQUIREMENTS

"(e) Breakfasts served by schools participating in the school breakfast program under this section shall consist of a combination of foods and shall meet minimum nutritional requirements prescribed by the Secretary on the basis of tested nutritional research. Such breakfasts shall be served free or at a reduced price to children in school under the same terms and conditions as are set forth with respect to the service of lunches free or at a reduced price in section 9 of the National School Lunch Act."

Post, p. 726.

Nonprofit private schools. 80 Stat. 887.

(e) Section 4(f) of the Child Nutrition Act of 1966 (42 U.S.C. 1773(f)) is amended to read as follows:

"(f) For the fiscal year ending June 30, 1973, any withholding of funds for and disbursement to nonprofit private schools shall be effected in the manner used prior to such fiscal year. Beginning with the fiscal year ending June 30, 1974, the Secretary shall make payments from the sums appropriated for any fiscal year for the purposes of this section directly to the nonprofit private schools within a State, that participate in the breakfast program under an agreement with the Secretary, for the same purposes and subject to the same conditions as are authorized or required under this section with respect to the disbursements by State educational agencies."

Reimbursement rates.

SEC. 4. (a) Notwithstanding any other provision of law, the Secretary of Agriculture shall until such time as a supplemental appro-

purposes of this section among the States on the basis of the ratio that the number of lunches (consisting of a combination of foods which meet the minimum nutritional requirements prescribed by the Secretary pursuant to section 9 of the National School Lunch Act) served in each State in the latest preceding fiscal year for which the Secretary determines data are available at the time such funds are apportioned bears to the total number of such lunches served in all States in such preceding fiscal year. If any State cannot utilize all of the funds apportioned to it under the provisions of this subsection, the Secretary shall make further apportionments to the remaining States in the manner set forth in this subsection for apportioning funds among all the States. Payments to any State of funds apportioned under the provisions of this subsection for any fiscal year shall be made upon condition that at least one-fourth of the cost of equipment financed under this subsection shall be borne by funds from sources within the State."

Ante, p. 726.

(c) Section 5(d) of the Child Nutrition Act of 1966 (42 U.S.C. 1774(d)) is amended to read as follows:

Nonprofit private schools. 80 Stat. 888.

"(d) If, in any State, the State educational agency is prohibited by law from administering the program authorized by this section in nonprofit private schools within the State, the Secretary shall administer such program in such private schools. In such event, the Secretary shall withhold from the funds apportioned to any such State under the provisions of subsection (b) of this section an amount which bears the same ratio to such funds as the number of lunches (consisting of a combination of foods which meet the minimum nutritional requirements prescribed by the Secretary pursuant to section 9(a) of the National School Lunch Act) served in nonprofit private schools in such State in the latest preceding fiscal year for which the Secretary determines data are available at the time such funds are withheld bears to the total number of such lunches served in all schools within such State in such preceding fiscal year."

Ante, p. 726.

(d) Section 5 of the Child Nutrition Act (42 U.S.C. 1774) is amended by adding at the end thereof the following new subsection:

Supra.

"RESERVE OF FUNDS

"(e) In each of the fiscal years ending June 30, 1973, June 30, 1974, and June 30, 1975, 50 per centum of the funds appropriated for the purposes of this section shall be reserved by the Secretary to assist schools without a food service. The Secretary shall apportion the funds so reserved among the States on the basis of the ratio of the number of children enrolled in schools without a food service in the State for the latest fiscal year for which the Secretary determines data are available at the time such funds are apportioned to the total number of children enrolled in schools without a food service in all States in such fiscal year. In those States in which the Secretary administers the nonfood assistance program in nonprofit private schools, the Secretary shall withhold from the funds apportioned to any such State under this subsection an amount which bears the same ratio to such funds as the number of children enrolled in nonprofit private schools without a food service in such State for the latest fiscal year for which the Secretary determines data are available at the time such funds are withheld bears to the total number of children enrolled in all schools without food service in such State in such fiscal year. The funds reserved, apportioned, and withheld under the authority of this subsection shall be used by State educational agencies, or the Secretary in the case of nonprofit private schools, only to assist schools without

a food service. If any State cannot utilize all the funds apportioned to it under the provisions of this subsection to assist schools in the State without a food service, the Secretary shall make further apportionments to the remaining States in the same manner set forth in this subsection for apportioning funds among all the States and such remaining States, or the Secretary in the case of nonprofit private schools, shall use the additional funds so apportioned or withheld only to assist schools in the State without a food service. Payments to any State of the funds apportioned under the provisions of this paragraph shall be made upon condition that at least one-fourth of the cost of equipment financed shall be borne by funds from sources within the State, except that such condition shall not apply with respect to funds used under this section to assist schools without food service if such schools are especially needy, as determined by the State."

Equipment survey.

(c) To assist the Congress in determining the amounts needed annually, the Secretary is directed to conduct a survey among the States and school districts on unmet needs for equipment in schools eligible for assistance under section 5 of the Child Nutrition Act. The results of such survey shall be reported to the Congress by June 30, 1973.

Ante, pp. 727, 728.

Report to Congress.

Regulations.

SEC. 7. After the first sentence of section 10 of the Child Nutrition Act of 1966 (42 U.S.C. 1779) add the following new sentence: "Such regulations shall not prohibit the sale of competitive foods in food service facilities or areas during the time of service of food under this Act or the National School Lunch Act if the proceeds from the sales of such foods will inure to the benefit of the schools or of organizations of students approved by the schools."

80 Stat. 889; 84 Stat. 212.

60 Stat. 230; 85 Stat. 85.

42 USC 1751 note.

SEC. 8. Section 8 of the National School Lunch Act (42 U.S.C. 1757) is amended by deleting the phrase "reimbursing it for" in the second sentence thereof and inserting in lieu thereof the following: "assisting it to finance" and by adding at the end of such section the following sentence: "Lunch assistance disbursements to schools under this section and under section 11 of this Act may be made in advance or by way of reimbursement in accordance with procedures prescribed by the Secretary."

60 Stat. 232.

84 Stat. 211.

42 USC 1759a.

80 Stat. 885.

42 USC 1771 note.

SEC. 9. The Child Nutrition Act of 1966 is further amended by adding at the end thereof a new section as follows:

"SPECIAL SUPPLEMENTAL FOOD PROGRAM

"SEC. 17. (a) During each of the fiscal years ending June 30, 1973, and June 30, 1974, the Secretary shall make cash grants to the health department or comparable agency of each State for the purpose of providing funds to local health or welfare agencies or private nonprofit agencies of such State serving local health or welfare needs to enable such agencies to carry out a program under which supplemental foods will be made available to pregnant or lactating women and to infants determined by competent professionals to be nutritional risks because of inadequate nutrition and inadequate income. Such program shall be operated for a two-year period and may be carried out in any area of the United States without regard to whether a food stamp program or a direct food distribution program is in effect in such area.

"(b) In order to carry out the program provided for under subsection (a) of this section during the fiscal year ending June 30, 1973, the Secretary shall use $20,000,000 out of funds appropriated by section 32 of the Act of August 24, 1935 (7 U.S.C. 612(c)). In order to carry out such program during the fiscal year ending June 30, 1974, there is authorized to be appropriated the sum of $20,000,000, but in

49 Stat. 774.

Appropriation.

the event that such sum has not been appropriated for such purpose by August 1, 1973, the Secretary shall use $20,000,000, or, if any amount has been appropriated for such program, the difference, if any, between the amount directly appropriated for such purpose and $20,000,000, out of funds appropriated by section 32 of the Act of August 24, 1935 (7 U.S.C. 612(c)). Any funds expended from such section 32 to carry out the provisions of subsection (a) of this section shall be reimbursed out of any supplemental appropriation hereafter enacted for the purpose of carrying out the provisions of such subsection, and such reimbursements shall be deposited into the fund established pursuant to such section 32, to be available for the purpose of such section. 49 Stat. 774.

"(c) Whenever any program is carried out by the Secretary under authority of this section through any State or local or nonprofit agency, he is authorized to pay administrative costs not to exceed 10 per centum of the Federal funds provided under the authority of this section. Administrative costs, limitation.

"(d) The eligibility of persons to participate in the program provided for under subsection (a) of this section shall be determined by competent professional authority. Participants shall be residents of areas served by clinics or other health facilities determined to have significant numbers of infants and pregnant and lactating women at nutritional risk. Eligibility.

"(e) State or local agencies or groups carrying out any program under this section shall maintain adequate medical records on the participants assisted to enable the Secretary to determine and evaluate the benefits of the nutritional assistance provided under this section. The Secretary and Comptroller General of the United States shall submit preliminary evaluation reports to the Congress not later than October 1, 1973; and not later than March 30, 1974, submit reports containing an evaluation of the program provided under this section and making recommendations with regard to its continuation. Medical records. Reports to Congress.

"(f) As used in this section— Definitions.

"(1) 'Pregnant and lactating women' when used in connection with the term at 'nutrition risk' includes mothers from low-income populations who demonstrate one or more of the following characteristics: known inadequate nutritional patterns, unacceptably high incidence of anemia, high prematurity rates, or inadequate patterns of growth (underweight, obesity, or stunting). Such term (when used in connection with the term 'at nutritional risk') also includes low-income individuals who have a history of high-risk pregnancy as evidenced by abortion, premature birth, or severe anemia.

"(2) 'Infant' when used in connection with the term 'at nutrition risk' means children under four years of age who are in low-income populations which have shown a deficient pattern of growth, by minimally acceptable standards, as reflected by an excess number of children in the lower percentiles of height and weight. Such term, when used in connection with 'at nutritional risk', may also include (at the discretion of the Secretary) children under four years of age who (A) are in the parameter of nutritional anemia, or (B) are from low-income populations where nutritional studies have shown inadequate infant diets.

"(3) 'Supplemental foods' shall mean those foods containing nutrients known to be lacking in the diets of populations at nutritional risks and, in particular, those foods and food products containing high-quality protein, iron, calcium, vitamin A, and vitamin C. Such term may also include (at the discretion of the

Secretary) any food product commercially formulated preparation specifically designed for infants.

"(4) 'Competent professional authority' includes physicians, nutritionists, registered nurses, dieticians, or State or local medically trained health officials, or persons designated by physicians or State or local medically trained health officials as being competent professionally to evaluate nutritional risk."

60 Stat. 232; 84 Stat. 212.

SEC. 10. Section 7 of the National School Lunch Act (42 U.S.C. 1756) is amended by inserting the words "for the preceding fiscal year" after the phrase "per centum of the matching requirement" each time such phrase appears in such section.

Approved September 26, 1972.

LEGISLATIVE HISTORY:

HOUSE REPORTS: No. 92-1170 (Comm. on Education and Labor) and No. 92-1387 (Comm. of Conference).
SENATE REPORTS: No. 92-1027 (Comm. on Agriculture and Forestry) and No. 92-1120 (Comm. of Conference).
CONGRESSIONAL RECORD, Vol. 118 (1972):
June 29, considered and passed House.
Aug. 16, 17, considered and passed Senate, amended.
Sept. 13, Senate agreed to conference report; House agreed to conference report, receded and concurred in Senate amendment.

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NUTRITION EDUCATION—1972

HEARINGS

BEFORE THE

SELECT COMMITTEE ON NUTRITION AND HUMAN NEEDS

OF THE

UNITED STATES SENATE

NINETY-SECOND CONGRESS

SECOND SESSION

PART 2—OVERVIEW

THE FEDERAL PROGRAMS

WASHINGTON, D.C., DECEMBER 6, 1972

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NUTRITION EDUCATION:

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WEDNESDAY, DECEMBER 6, 1972

NUTRITION EDUCATION

Overview—The Federal Programs

WEDNESDAY, DECEMBER 6, 1972

U.S. SENATE
SELECT COMMITTEE ON
NUTRITION AND HUMAN NEEDS
Washington, D.C.

The Select Committee met at 10 a.m., pursuant to call, in room 1202 of the Dirksen Building, the Honorable Philip A. Hart, presiding.

Staff members: Gerald S. J. Cassidy, general counsel; John M. Quinn, professional staff member; Vernon M. Goetcheus, senior minority professional staff; Elizabeth P. Hottell, minority professional staff.

Senator HART. The hearing will come to order.

OPENING STATEMENT BY SENATOR HART, PRESIDING

Senator HART. As all of us understand, the purpose of these hearings is to explore the scope and meaning of the phrase "Nutrition Education." Since the inception of this committee, we have repeatedly heard of the need to investigate nutrition education, and to give any efforts along these lines our strong support. The question many of us have had is "what does 'nutrition education' mean?" Our reluctance to devote significant time to this question, I think, is attributable to a virtually unanimous feeling on the committee—with our limited resources, manpower and time—the question of physical hunger and its alleviation, through the provision of adequate food, was our first priority. No one could convince us 3 years ago—and no one will convince me today—that knowledge of the importance of food is an adequate substitute for food itself.

Our concern with the elimination of hunger has not lost its priority standing. It still exists. It still remains to be ended, finally. We think it appropriate, though, to begin our Nutrition Education inquiry at this time. This offers us an opportunity to look to the efficacy of our past efforts, to improve nutrition through the school food programs and the family food programs, so that we can see whether we have been on the right track—nutritionally speaking. These hearings also offer us the opportunity to look into the frequently repeated warning that "an adequate income no longer guarantees an adequate diet." If that is true, why is it so?

Yesterday, this committee heard a great deal of support for that allegation from a wide array of highly competent witnesses. Today, I

would like to welcome two panels of witnesses from the administration. It is our understanding that we will handle it in sort of a two-panel fashion. First, we will hear from witnesses from the Department of Agriculture, and then from a panel from the Department of Health, Education, and Welfare.

Generally speaking, we want to learn about the education efforts in the area of nutrition that have been undertaken by both of your departments. We want to know about the educational value of the Federal food programs. We want to know what role you see for the concept of nutrition education in the development of a sound national nutrition policy. I thank you for your attendance today and I look forward to your testimony.

Let me welcome, first, the distinguished Assistant Secretary Richard Lyng of the Department of Agriculture. You can organize the USDA presentation in such sequences as you feel most likely to help all of us.

STATEMENT OF RICHARD LYNG, ASSISTANT SECRETARY, U.S. DEPARTMENT OF AGRICULTURE

Mr. LYNG. Thank you, Mr. Chairman.

I will give you a brief statement and then Dr. Ned Bayley, who is Director of Science and Education for the USDA, will give a statement, with comments, accompanied by some members of his staff.

We are pleased at this opportunity to meet with you to discuss some aspects of nutrition education.

We are pleased, too, that this committee is undertaking a study of nutrition education. It is a subject worthy of study and one, certainly of vital concern to all of us. We need more understanding of nutrition if we are to make wise choices among the massive offerings of food items that our productive farmers and an ingenious food industry make available to us.

It may be well to reflect for a moment upon the relationship between agricultural productivity and the need for nutrition education.

Our farmers have, since the very founding of this Nation, provided ample quantities of food for a continuously expanding population. Moreover, food costs, as a percentage of disposable income, have steadily decreased and are the lowest in the world. The result is that we are offered a huge quantity of food in an almost unlimited variety of raw and processed products, in supermarkets with thousands of food items to choose from, in prepared food establishments ranging from quick-serve, franchised fast-food services to elegant restaurants.

We have good reason to be grateful for the ample supply of food. We should be thankful that our affluence permits the wide freedom to choose the food we eat. But, it is also true that this wealth of production, this opportunity to select from so much, creates a greater need for wisdom in the choices we make—a need for nutrition education.

In many parts of the world there is so little freedom of choice, that there is little or no need for nutrition education. For example, there is not much point in teaching people whose only available food is rice that they ought to be eating a variety of unobtainable foods.

The need for nutrition knowledge and nutrition information has long been an active concern of the U.S. Department of Agriculture. USDA has an excellent record and, in fact, substantial credentials in the whole area of human nutrition research and education.

Dr. Ned Bayley, director of the USDA's Science and Education activities, and some of his staff are here to report to you in further detail upon the role that the Extension Service and the Agricultural Research Service play in expanding nutrition knowledge. These agencies have the primary educational role within the department.

Handbooks With Nutrition Knowledge

I am sure that Dr. Bayley, because of his direct responsibilities in the field, may well be too modest in his description of the department's achievements. As a relative newcomer to the department, I have more freedom in pointing to the decades of achievement by home economists throughout the country in bringing nutrition knowledge to people everywhere. More recently, the Nutrition Aide program has concentrated on poor people. USDA's Handbook No. 8, containing the results of exhaustive research into the nutritional composition of foods, has for years been the basic reference for teachers, nutritionists and food technologists and physicians. And for those interested in a less technical approach USDA has provided the widely used Daily Food Guide or Food for Fitness.

Several Yearbooks of Agriculture—the 1969 one titled "Food For Us All" and the 1965 best-seller, "Consumers All" for example—also stand as benchmarks in the effort to impart available nutrition knowledge to the public.

There's another reason that, I think, nutrition education is worth increased attention of this Senate committee at this time. Some of you may recall, 3 years ago, in December 1969 at the White House Conference on Food, Nutrition and Health, several voices protested the fact that some panels were devoted to nutrition education. Their thesis was that poor people need food before education. Basically, they were right.

Since that time, we have expanded and liberalized USDA's food assistance programs to the point that it is now particularly appropriate to intensify our efforts to help low-income people stretch these added resources for maximum nutritional benefit.

This committee—over the past 2 or 3 years—time and again, has looked over the size and scope of our plans to alleviate poverty-caused hunger and malnutrition. I won't reiterate a stack of statistics on our progress at this point, but it is worth noting that we now have a family feeding program for people below the poverty level, substantially everywhere in the United States. Also, various Child Nutrition programs are widely available.

In the sense, then, that we have now eliminated a resource lack, it is even more important that we talk in terms of education, so that not only the poor but everyone—rich and poor alike—use their food resources to the best advantage. This is particularly important among poorer people, because even though we are putting over $4 billion into food assistance programs, the amount per family or per individual requires good planning to obtain maximum benefit from this resource—and good planning can come only from knowledge.

We try to do this within the programs themselves. The Food and Nutrition Service has put informative, bilingual labels on the foods distributed to families. In the Food Stamp Program, the inside cover of the millions and millions of food coupon books carriers a nutrition

message about the four food groups, and the importance to good nutrition of buying and using a variety of foods.

There are numerous other educational materials that FNS uses to supplement its primary role—which is the delivery of food, or the means to buy food—to people or groups in need of assistance. We are trying to carry an educational impact along with that role. We have a collection of some of the department's nutrition education materials here in a kit that I hope the committee will find interesting. Our last printing of the "Thrifty Family" series was for 500,000 copies of some 14 flyers.

These educational efforts are carried out cooperatively with State and local governments—extension agents, public health workers, home economics teachers and so on—those best qualified to do the job.

There is another facet of nutrition education that FNS is carrying out in connection with its child nutrition programs—activities specifically authorized by the Congress in the 1970 amendments to the National School Lunch and Child Nutrition Acts.

USDA Leadership in Nutrition Education

Language in the legislation gave clear expression to congressional intent that USDA assume leadership for—"nutritional training and education for workers, cooperators, and participants in these [child nutrition] programs and for necessary surveys and studies of requirements for food services programs." School Lunch and other child nutrition programs certainly offer a positive "laboratory for learning" about human nutrition. I would not minimize the importance of over 25 years of experience in furthering nutrition education by the practical experience of eating balanced, nutritious meals.

The bulk of the educational activities undertaken under our expanded role has been in the furtherance of nutritional training of school food service workers and supervisors. Over the last 25 years, State and local school food service personnel—with some USDA assistance—have done much to train school food service workers and supervisors. The 1970 amendments gave a much needed boost to improving the quality and availability of such training, especially nutritional education.

The 1970 amendments had another important effect. Before 1970, USDA limited its child nutrition education efforts strictly to food service personnel because both the National School Lunch and the Child Nutrition Acts prohibited the Secretary and the States from imposing any requirements on classroom education in carrying out the acts. These provisions are still in the acts, but the 1970 amendments clearly showed that USDA should cooperate with those responsible for classroom education to encourage nutrition education. FNS works closely with the Office of Education in such cooperative efforts. A number of State and local schools already have food nutrition education programs.

I might just mention a few examples of specific nutrition education projects we have undertaken:

A 10-part television nutrition training course for school food service workers is under development in cooperation with New England State agencies. It will be available to all States, after initial telecast over New England ETV facilities early in 1973.

Nutrition training short courses for school lunch workers were conducted by State universities in each of the five FNS regions last year.

A FNS information and educational materials center has been set up at the National Agricultural Library in Beltsville, Md.

In this phase of the expanded role in nutrition education, the department has had the advantage of advice and guidance from the National Advisory Council on Child Nutrition, which, again, was established at the direction of the 1970 legislation. As chairman of the council, I am proud of the people we have on it, and they have shown tremendous interest in furthering these activities. Their first annual report, last March, gave nutrition education a top priority among their five major recommendations for action.

Tribute to Agricultural Commodity Organizations

I do not want to conclude my remarks without paying tribute to the significant contributions to nutrition education made by the private sector of the agricultural community. In particular, the agricultural commodity organizations. The National Dairy Council, for example, does a tremendous job in directing authoritative, well-rounded information materials to the general public, to schools, and to dentists and doctors. The Poultry and Egg National Board, the United Fresh Fruit and Vegetable Association, the citrus people, the meat groups—turkey and broiler organizations, grain, cereal and rice associations, and many, many other units—all together render great service to the cause of balanced diets through the dissemination of available nutrition knowledge.

Finally, I think one significant point needs to be made about nutrition education. Education—the act of educating—is basically the transmittal of knowledge from one person to another. In this field, we just do not have enough knowledge to transmit. *Our understanding of human nutrition lags far behind our knowledge in other health areas.* [Emphasis added.] Some of the weaknesses in nutrition education can be related to the fact that there is a lack of accurate information to transmit.

It has often been said that science knows immeasurably more about livestock or poultry nutrition than it does about human requirements. There are, of course, some very good reasons for that gap. Science cannot put generations of people into controlled experiments and feed them nutrient rations the way they do in cattle pens and broiler houses. Research on human nutrition is more intricate and difficult.

I do not want to get into Dr. Bayley's area. But I would urge more attention to research to gain knowledge, before we turn all our enthusiasm and resources to a total concept of nutrition education. We can only impart the available knowledge, and the knowledge of nutrition we now have is insufficient. There are many, many myths about nutrition that only scientific research can dispel or clarify. If we are going to add to the nutrition knowledge of our population, we must enlarge the body of basic information on the subject.

Thank you very much, Mr. Chairman. As I said, Dr. Bayley, the Director of Science and Education, is here. It is my understanding that Dr. DuVal, Assistant Secretary from the Department of Health, Education, and Welfare, has some travel plans. Perhaps if the

ment of not less than 8 cents per meal within each State during the fiscal year 1973. Funds expended under the foregoing provisions of this section shall be reimbursed out of any supplemental appropriation hereafter enacted for the purpose of carrying out section 4 of the National School Lunch Act, and such reimbursements shall be deposited into the fund established pursuant to section 32 of the Act of August 24, 1935, to be available for the purposes of said section 32.

(b) Funds made available pursuant to this section shall be apportioned to the States in such manner as will best enable schools to meet their obligations with respect to the service of free and reduced-price lunches and to meet the objective of this section with respect to providing a minimum rate of reimbursement under section 4 of the National School Lunch Act, and such funds shall be apportioned and paid as expeditiously as may be practicable.

Apportionment to States. 76 Stat. 944. 42 USC 1753. 84 Stat. 208. 42 USC 1752. 60 Stat. 231. 42 USC 1754.

(c) Section 4 of the National School Lunch Act is amended effective after the fiscal year ending June 30, 1973, to read as follows:

"SEC. 4. The sums appropriated for any fiscal year pursuant to the authorizations contained in section 3 of this Act, excluding sum specified in section 5, shall be available to the Secretary for supplying agricultural commodities and other food for the program in accordance with the provisions of this Act. For each fiscal year the Secretary shall make food assistance payments, at such times as he may determine, from the sums appropriated therefor, to each State educational agency, in a total amount equal to the result obtained by multiplying the number of lunches (consisting of a combination of foods which meet the minimum nutritional requirements prescribed by the Secretary under subsection 9(a) of this Act) served during such fiscal year to children in schools in such State, which participate in the school lunch program under this Act under agreements with such State educational agency, by a national average payment per lunch for such fiscal year determined by the Secretary to be necessary to carry out the purposes of this Act: *Provided*, That in any fiscal year such national average payment shall not be less than 8 cents per lunch and that the aggregate amount of the food assistance payments made by the Secretary to each State educational agency for any fiscal year shall not be less than the amount of the payments made by the State agency to participating schools within the State for the fiscal year ending June 30, 1972, to carry out the purposes of this section 4."

Infra.

Nonprofit private schools, disbursement. 60 Stat. 233; 84 Stat. 208.

(d) Section 10 of the National School Lunch Act of 1946 (42 U.S.C. 1759) is amended by striking "section 7." at the end thereof and inserting in lieu thereof the following: "section 7: *Provided*, That beginning with the fiscal year ending June 30, 1974, the Secretary shall make payments from the sums appropriated for any fiscal year for the purposes of section 4 of this Act directly to the nonprofit private schools in such State for the same purposes and subject to the same conditions as are authorized or required under this Act with respect to the disbursements by the State educational agencies."

Program requirements. 60 Stat. 233; 82 Stat. 117. 42 USC 1758. 84 Stat. 210; 85 Stat. 420.

SEC. 5. (a) The first sentence of section 9 of the National School Lunch Act is designated as subsection (a) of that section.

(b) The second through the seventh sentences of section 9 of the National School Lunch Act shall be designated as subsection (b) of that section and are amended to read as follows:

Chairman would permit him to testify now, and Dr. Bayley follow up, it would be of real convenience to Dr. DuVal.

Senator HART. Permission will be granted.

Before I forget it, let us receive for the record the flyers and the other descriptive materials to which Secretary Flemming made reference.

We are glad that Dr. DuVal has been able to stay his travel plans long enough to let us hear from him. We welcome the distinguished Assistant Secretary for Health and Scientific Affairs from the Department of HEW.

For the record, Dr. DuVal, before you begin, if you would identify your associates.

STATEMENT OF DR. MERLIN K. DuVAL, ASSISTANT SECRETARY FOR HEALTH, DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE, ACCOMPANIED BY DR. OGDEN C. JOHNSON, DIRECTOR, DIVISION OF NUTRITION, FDA; DR. BENJAMIN T. BURTON, ASSOCIATE DIRECTOR, NATIONAL INSTITUTE OF ARTHRITIS, METABOLISM, AND DIGESTIVE DISEASES, NIH; DR. ROBERT J. LAUR, DEPUTY DIRECTOR, PREVENTION AND CONSUMER SERVICES, HSMHA; MISS MELSA SCHNEIDER, ASSISTANT DIRECTOR, DRUG EDUCATION, HEALTH, AND NUTRITION PROGRAMS, OFFICE OF EDUCATION; RONALD B. SCHWARTZ, ASSISTANT ADMINISTRATOR FOR LEGISLATION, SOCIAL AND REHABILITATION SERVICE, AND RAYMOND C. COLLINS, CHIEF, PROGRAM DEVELOPMENT DIVISION, OFFICE OF CHILD

annual income not above the applicable family-size income level set forth in the income poverty guideline prescribed by the Secretary shall be served a free lunch. Following the announcement by the Secretary of the income poverty guideline for each fiscal year, each State educational agency shall prescribe the income guidelines, by family size, to be used by schools in the State during such fiscal year in making determinations of those children eligible for a free lunch. The income guidelines for free lunches to be prescribed by each State educational agency shall not be less than the applicable family-size income levels in the income poverty guideline prescribed by the Secretary and shall not be more than 25 per centum above such family-size income levels. Each fiscal year, each State educational agency shall also prescribe income guidelines, by family size, to be used by schools in the State during such fiscal year in making determinations of those children eligible for a lunch at a reduced price, not to exceed 20 cents, if a school elects to serve reduced-price lunches. Such income guidelines for reduced-price lunches shall be prescribed at not more than 50 per centum above the applicable family-size income levels in the income poverty guideline prescribed by the Secretary, except that any local school authority having income guidelines for free or reduced price lunches which exceed those allowed by this subsection may continue to use such guidelines for determining eligibility until July 1, 1973, if such guidelines were established prior to July 1, 1972. Local school authorities shall publicly announce such income guidelines on or about the opening of school each fiscal year and shall make determinations with respect to the annual incomes of any household solely on the basis of a statement executed in such form as the Secretary may prescribe by an adult member of such household. No physical segregation of or other discrimination against any child eligible for a free lunch or a reduced-price lunch shall be made by the school nor shall there be any overt identification of any such child by special tokens or tickets, announced or published lists of names, or by other means."

Discrimination, prohibition.

(c) The eighth through the thirteenth sentences of section 9 of the National School Lunch Act shall be designated as subsection (c) of that section and the last sentence of such subsection shall be amended by deleting the phrase "under the provisions of section 10 until such time as the Secretary" and inserting in lieu thereof the following phrase "under this Act until such time as the State educational agency, or in the case of such schools which participate under the provisions of section 10 of this Act the Secretary".

Ante, p. 726.

Appropriation.
84 Stat. 208.
42 USC 1774.

SEC. 6. (a) The first sentence of section 5(a) of the Child Nutrition Act of 1966, as amended by section 2 of Public Law 91-248, is amended by deleting the phrase "for the fiscal year ending June 30, 1973, not to exceed $15,000,000 and for each succeeding fiscal year, not to exceed $10,000,000" and inserting in lieu thereof the following phrase: "for each of the three fiscal years ending June 30, 1973, June 30, 1974, and June 30, 1975, not to exceed $40,000,000 and for each succeeding fiscal year, not to exceed $20,000,000".

Apportionment to States.

(b) Section 5(b) of the Child Nutrition Act of 1966 (42 U.S.C. 1774(b)) is amended to read as follows:

"(b) Except for the funds reserved under subsection (e) of this section, the Secretary shall apportion the funds appropriated for the

In order to give you an opportunity to pursue such questions as you wish, I will not attempt to read the some 29 pages of testimony which we have assembled for your record so you can have in one place a relatively accurate summation of the breadth of the programs that we are attempting to operate in HEW. Instead, if you do not mind, I will read the first two or three pages only to set the stage, and then give a few examples in each of the units, and then go right into your questions.

Senator HUMPHREY. Very well, and we will have printed in the record, as though given, the balance of your statement.[1]

Dr. DUVAL. Thank you, Mr. Chairman.

It is a sincere pleasure for me to be here today as the committee begins its study of Nutrition Education and present to you testimony on the activities of the Department of Health, Education, and Welfare on this important subject.

INTRODUCTION

In his Message to Congress on Hunger and Malnutrition in 1969, and in his address to the White House Conference on Food, Nutrition, and Health, President Nixon has emphasized the importance of improving the nutrition of all Americans—especially those who are less advantaged.

In response to presidential directives in the Message to Congress and to the recommendations of the White House Conference, this department has made nutrition an important priority. HEW has upgraded its efforts to learn more about the relationship between nutrition and health through research, to provide better nutrition to the less

large supermarkets frequently stock over 10,000 items. People must be taught to make wise choices.

To whom, therefore, should nutrition education be directed? First, we believe that nutrition education should be an element in the education which a person receives regarding personal health. This is necessary in a time when technologically constructed foods are increasingly replacing natural products whose nutritional role was well understood. [End p. 2—prepared statement.]

But beyond this generalized type of nutrition education for the public, there are particular groups which need a more detailed and focused approach. These groups include: (1) people who influence others, and (2) people who have exhibited, or are at risk with respect to, specific nutritional problems. In the first group are parents, teachers, physicians, family case workers, nurses, nutritionists, health aides and others. Clearly, if such people are to help others acquire sufficient knowledge to practice good nutrition, they must be taught sound nutritional facts. They must also develop skills that enable them to make practical applications of these facts.

Into this same group also falls the food industry. No other group has greater impact on the food practices of our nation. If this is to be a desirable impact, then industry involvement in nutrition education, both as a recipient and as a provider, is important.

At a different level, but in the same group, are our homemakers who mold the food behavior of their families. The recently published DHEW Ten-State Nutrition Survey showed that children under 16 had fewer nutritional problems as the level of educational attainment of mothers increased.

In the second category—the special problems of high risk groups, we have a number of examples. With obesity and cardiovascular diseases the major public health problems [end p. 3—prepared statement] they presently are, the public must have ready access to all nutritional information pertinent to the prevention of these disorders.

Similarly, there is the problem of iron deficiency anemia, the major nutritional deficiency found in the Ten-State Nutrition Survey. Nutrition experts tell us it is only by the most judicious choice of foods that diets will supply the recommended amounts of iron. We must educate those at highest risk for the development of iron deficiency to make the proper choices.

The expectant mother, the pregnant teenager, as well as teenagers in general, preschool children and the elderly, are also high risk groups for whom nutrition education is necessary.

PREPARED STATEMENT OF DR. MERLIN K. DUVAL

(Continued from p. 4)

Departmental Nutrition Education Activities

OFFICE OF EDUCATION

Existing Federal legislation gives the Commissioner of Education the authority to provide support for a variety of nutrition education programs and projects. Most of this support is made available through formula grants to the States, which in turn allocate the funds for projects developed by their local education agencies and other eligible organizations. Let me briefly outline some of the specific programs under which the Office of Education supports nutrition education.

1. Under the Vocational Education Amendments of 1968, Federal funds are allocated to State departments of education for consumer and homemaking education. This includes the "promotion of nutritional knowledge and food use and the economic aspects of food use and purchase." According to the latest statistics available, three million secondary, post-secondary, and adult students were enrolled in consumer and homemaking education courses in FY 1971 at an annual cost of $25,625,000 from Federal funds.

At least one-third of the Federal funds provided for consumer homemaking education must be used in depressed areas or areas of high unemployment. Approximately 780,000 youth and adults were reached in FY 1971 in inner city and rural depressed areas. Classes were offered for adults in public housing developments, community centers, churches—wherever low income people could be reached. Mobile instructional units reached out to adult homemakers and the aged in inner city neighborhoods, mountainous rural areas, migrant camps, Indian reservations, and Spanish American communities. These lessons on food and nutrition emphasize getting one's money's worth in buying foods, creative use of federally-donated commodity foods and food stamps, foods needed for good health for individuals of various ages, and planning and preparing meals for families to meet nutrition needs and cultural preferences.

2. In FY 1971, there were 68,000 youths and adults enrolled in home economics occupational training programs preparing them for jobs in food production, management, and service. Nutrition is an increasingly important component of these courses. In the programs for training school lunch cooks, for example, particular attention is given to the nutritional needs of children and youth. In addition, most trainees in health occupations classes are now required to enroll in a course in nutrition. In FY 1971, approximately 270,000 persons were in training in the health occupations fields.

3. Under the Adult Education Act, lessons on nutrition and consumer buying of foods are included in basic reading and writing courses in four demonstration projects.

4. Twenty-three graduate fellowships under the National Defense Education Act have been provided to universities over the past three years to prepare college and university teachers for academic careers in food and nutrition. In the 1972–73 school year, five fellowships in nutrition were provided under the Education Professions Development Act.

5. Nutrition is one of the most important needs of children eligible under Title I of the Elementary and Secondary Act. Title I funds have been used to supplement existing food services. As more funds become available from the U.S. Department of Agriculture's Food and Nutrition Service/Child Development Program, however, less Title I money is required for this purpose. There is a close relationship between the school breakfast and lunch programs and nutrition education. Since parents must be involved in Title I programs, such programs provide opportunities for home-school consultation on the nutrition needs of children.

6. Recognizing that poor health, emotional problems, and hunger impair a child's ability to learn, OE sponsors demonstration projects to improve school health and nutrition services for children from low income families. Improved physical and mental health enhances the opportunity for each child to develop his full potential. Projects funded by this program provide free or reduced-price breakfasts and lunches, nutrition education in the school curriculum, and in-service training for professionals and paraprofessionals. There are also provisions for dietary supplements to meet special needs of some children and for programs to educate families about nutrition and to acquaint them with Federal food programs. Twelve projects are currently operational with a target population of approximately 15,250 children.

7. The Follow Through Program, which was established to sustain and supplement in the early grades the gains made by low income children who have had a full year's experience in a Health Start or comparable preschool program, requires a nutrition component. The objectives of a good component are:

a. To provide a balanced meal in the morning and at noon in order to enhance the physical, social, and emotional development of students in the Follow Through program.

b. To provide demonstration of nutritional education for parents.

c. To introduce new foods to children and their families.

During the 1972–73 school year, 173 Follow Through projects are serving 75,000 low income children in 150 communities.

OFFICE OF CHILD DEVELOPMENT

The major missions of the Office of Child Development include operating such comprehensive programs for disadvantaged children as Head Start and the Parent and Child Centers; developing innovative programs such as Home Start, a home based program to strengthen parents as educators of their own children; and serving as an advocate for children by bringing their needs to the attention of government and the public. The agency's concerns extend to all children from conception through adolescence with emphasis on the informative first five years of life and on children and youth who are "at risk" because they have special problems.

The Office of Child Development comprehensive child development services have two major thrusts: (1) to provide food which will help meet the child's daily nutritional needs and (2) to help children, families and child care staff understand the relationship of nutrition to health. Nutrition services in child development programs are provided in partnership with parents to reinforce their role and thereby strengthen family life.

Nutrition education is a supporting activity in the Office of Child Development programs directed to all individuals who can influence the nutritional health of children and their families. This includes children, parents and other family members, child-care takers such as teachers, health personnel and other community workers as well as the general public.

Specifically, nutrition education activities of the Office of Child Development include the following:

Project Head-Start—the comprehensive child development program which, in FY 1973, expects to serve 301,000 children in full-year and experimental programs; nearly 78,000 children in Head Start summer programs; and 8,400 children in Parent and Child Centers. Nutrition education is integrated into the Head Start Program for staff, parents and children. Children participate in learning activities planned to affect the selection and enjoyment of foods to meet their needs. All children in Head Start receive a quantity of food in meals and snacks which help to meet their daily nutritional needs; and meal periods and foods are used as a part of a "learning laboratory."

Families receive education and counseling in nutrition, how to select and prepare foods to meet family needs, guidance in home and money management and help in consumer education so that they can fulfill their major role and responsibility for the nutritional health of the family.

Staff receive education in principles of nutrition and their application to child development and family health. Over 54,000 professional and nonprofessional staff members and over 164,000 volunteers were involved in Head Start full year programs, FY 1971. Training and technical assistance in nutrition was provided for selected grantees by nutritionists employed by Head Start on a consultant basis. Nutrition staff of other community agencies such as State and local health agencies, colleges and universities also provide consultant help.

Educational materials prepared by the Office of Child Development to assist in developing and implementing nutrition education include a series of "how to" guideline materials for Head Start staff, an award winning film, "Jenny Is A Good Thing", which has been shown in over a thousand movie theaters all over the U.S. since its release in 1969, and the well-known publications such as Prenatal Care, Infant Care, Food for Your Baby's First Year, and many others which provide basic nutrition information for parents, professional workers and the lay public. In an effort to reach a broader audience of children in the Nation, in 1972 the Office of Child Development launched a "Captain Kangaroo" series of animated-live action films for TV. Of the 50 three and half-minute films available, five are specifically focused on nutrition.

Public Health Service

Health Services and Mental Health Administration

Four major types of nutrition education activities are now underway in several of the HSMHA programs. The first, which in a limited sense is not literally education but has an obvious relationship to it, consists of the research projects and surveys which identify nutritional problems and high risk groups. Second, are the provision and stimulation of community education activities directed at these high risk groups. Third, the training of health professionals and auxiliary health workers in this area. And fourth, the development and evaluation of new educational methods especially suited for nutrition and education.

Nutrition surveys identify the incidence and prevalence of nutritional disorders and aid in the planning of remedial education programs. The largest nutrition survey undertaken in this country at any time was the Ten-State Nutrition Survey, which focused mainly on the poor. The findings of this survey grossly identified many of the groups most in need of nutritional education. Another survey carried out by HSMHA in the U.S. documented the nutritional status of preschool children. Important research on maternal nutrition and the course of pregnancy has been carried out; these findings are now being widely disseminated to physicians and other health professionals. The Health and Nutrition Examination Survey (HANES) a joint undertaking of Center for Disease Control (CDC) and National Center for Health Statistics (NCHS) is presently being conducted to document the nutritional status of a random segment of the American population, pages 1–74. It is projected that this survey will continue, on 2-year cycles, to give a continuing picture of the overall nutritional status of the American population.

The second category, community education activities, focuses on some of the highest risk groups. Through such education we are attempting to reduce infant mortality, improve the nutritional health of preschoolers, improve nutrition knowledge of school children, and help people to utilize available resources such as the U.S. Department of Agriculture food programs. Projects which include nutrition education are underway on Indian Reservations and with the Alaska Federation of Natives. A project with migrant workers utilizing "Outreach" teams consisting of professionals, indigenous aides, and mobile classrooms, provides nutrition education to migrant worker households with identified nutrition problems.

Under the basic demonstration authority of the PHS Act, CDC is carrying out a number of educational programs in Model Cities and other deprived areas. Inner city projects include a Model Cities neighborhood which is being provided with nutrition education, direct assistance in meal planning, and the purchase and preparation of food, in an attempt to reduce the prevalence of iron deficiency anemia in preschoolers and pregnant women. In another metropolitan area, a community nutrition group is conducting nutrition education,

Across the country, the Maternal and Child Health Service (MCHS) supports services directed toward nutritional needs of pregnant and lactating women and children. Individual women and groups of women are trained in such topics as infant and child feeding, nutritional needs during pregnancy and lactation, dietary needs of the adolescent mother-to-be and use of food assistance programs.

The MCHS-supported Public Health Nutritionists participate in family planning programs, to educate women on the importance of diet in the periods before and between pregnancies. One project (funded jointly by the U.S. Department of Agriculture and CDC) directs a nutrition education program at a group of pregnant women (primarily Spanish-Americans) in a low income area of West Los Angeles.

The large number of maternal and Infant and Children and Youth Centers supported by HSMHA all contain a nutrition education component as an integral part of the project activities. While improvement in infant nutrition is approached through education of the mother, preschool children also have programs of their own. Child nutrition programs, community outreach programs and programs of State and local health departments are all attempting to reach preschool children. One CDC project, in a Head Start setting, will educate children, parents, and school staff alike; periodic evaluations will be conducted to determine the lasting effectiveness of the education program.

Health professionals—Physicians, nurses, paraprofessionals, and all those who are in positions to give counseling—are being provided the essential new knowledge that is being gained in nutrition. The report on "Maternal Nutrition in the Course of Pregnancy" (mentioned above) has been sent to 85,000 general practitioners and other health workers. Personnel who work with mentally retarded children are being trained in nutrition education through regional workshops and institutes. Maternal and Child Health Service, Indian Health Services (IHS), and CDC have sponsored workshops and symposia on maternal and pediatric nutrition which have been held across the Nation. One program is training Indians and Alaskan Natives to assume active roles in nutrition education by becoming nutritionists and dietitians. A recent symposium, co-sponsored by the American Medical Association Council on Foods and Nutrition, and Nutrition Foundation, and CDC, explored ways of improving the nutrition curriculum of medical schools, dental schools, and nursing schools.

Finally, innovative experiments in nutrition education are being carried out by CDC. These include the use of a computer which takes a diet history and provides nutrition instructions, and a broad game for two to six players which teaches the players to choose a balanced diet within a given caloric allowance. A model curriculum unit for a high school is being developed, using a project-oriented, direct involvement approach.

NATIONAL INSTITUTES OF HEALTH

At the National Institutes of Health, a wide variety of nutrition education and related activities are part of the ongoing programs in a number of the Institutes. For example, two of the major missions of the National Heart and Lung Institute, the control of atherosclerosis and hypertension, are interrelated with nutrition. Both in terms of etiology and prevention, the dietary content of sodium, cholesterol, fatty acids, carbohydrates and total calories has profound importance.

In 1970, the Institute sponsored a meeting of nutritionists that not only discussed the basic studies that needed to be done but also focused on practical nutrition needs. It was realized that only with better basic nutrition education could the dietitian, nutritionist and clinician apply new insights in diagnosis and management to patient care.

As an outgrowth of this meeting the Institute is now supporting directly two nutrition education programs and has built into the texture of its newest programs, elements of nutrition education.

The network of Lipid Research Clinics that have recently been created around the country have as a major objective the education of physicians and nutritionists in the diagnosis and management of hyperlipidemia. These large standardized population laboratories are also being used to develop and evaluate new methods of dietary evaluation and teaching.

Several of the NHLI Specialized Centers in arteriosclerosis and in hypertension have as major goals the evaluation of the effects of dietary constituents on disease and the search for behavioral and other factors that may improve patient compliance with dietary management.

The Hypertension and Detection and Follow-up Program, as well as the Multiple Risk Factor Intervention Trial, are additional initiatives of the Institute concerned with efforts to improve the educational methods and means for dietary treatment of hyperlipidemia and hypertension.

Finally, the Institute's office of Heart and Lung Information has undertaken an expanded role in providing information to practicing health care personnel and the public. A handbook on the Dietary Management of Hyperlipidemia [1] for physicians and nutritionists as well as individual patient care manuals have been prepared and distributed in very large numbers (over 2 million copies) by the Institute. Institute staff have participated in an increasing number of di-

[1] Retained in committee files; see also Part 2A—Appendix.

etetic workshops at colleges, universities and medical care centers around the country.

The National Institute of Arthritis, Metabolism, and Digestive Diseases prepares and distributes a 24-page booklet, *Facts about Nutrition*,[1] which discusses good dietary practice, malnutrition, obesity, and nutritional requirements at the various life stages such as infancy and pregnancy.

This brochure was first published 11 years ago and is continually updated and reprinted. In addition to those copies sold by the U.S. Government Printing Office, the Office of Public Information distributes more than 20,000 copies per year on demand to schools, doctors' offices, and the like.

In fiscal year 1972, the NIAMDD established the Academic Career Development Award in Digestive Diseases and/or Nutrition. The objectives of this award are: (1) to provide an institution (for example, a school of medicine or school of public health) with the academic expertise to initiate or augment educational efforts, as well as research activities, in the areas of digestive diseases or nutrition, and (2) to provide young medical scientists with an opportunity to develop the qualifications necessary for an academic position in these particular areas of medical science.

In addition to supporting research in nutrition and oral health, the National Institute of Dental Research plays a key role in disseminating information from this research to other scientists, to dentists, and to the public.

Educational activities directed to the public, in particular, are carried out through the information office of the Institute. A specific effort has been the preparation of a pamphlet entitled "Research Explores Nutrition and Dental Health."[1] In addition, pertinent references to nutrition are made in other pamphlets, news releases, and radio spot announcements. Generally, these focus on the caries-inhibiting effects of fluoride, the decay-producing properties of sucrose (table sugar), and frequency of eating as a factor in caries causation.

From fiscal year 1969 to the present, it is estimated that over 304,000 copies of the following pamphlets, with nutrition references, have been distributed to the public: "Research Explores Nutrition and Dental Health", "Research Explores Dental Decay", "Research Explores Plaque", "Research Explores Pyorrhea and Other Gum Diseases (Periodontal Disease)", and "Research Explores Canker Sores and Fever Blisters". It is estimated that an average of $15,700 is expended each year on these particular health communications activities.

The Institute has also worked with the American Dental Association, the Division of Dental Health, and other agencies and organizations, such as the Society of Nutrition Education, to inform dentists and the public at large of the role of sugar in tooth decay.

Much of the research supported by the Institute has a nutritional component which ultimately would benefit people who are responsible for educating the public. For example, research is underway to develop a safe and tasty sugar substitute and to identify snack foods not conducive to decay. Scientists are looking at such favorites as peanuts, pretzels, and potato chips to see if they are safer than cookies and candy.

Nutrition education programs of the National Institute of Child Health and Human Development flow from that Institute's concern with the factors influencing normal and abnormal development at all phases of life, from pregnancy to old age. Research on this subject is supplemented by preparation and distribution of educational materials aimed at translating research knowledge into practical guidelines for everyday use. Pamphlets and reports distributed by the Institute cover such topics as "How a Mother Affects Her Unborn Baby," "Malnutrition and Learning,"[1] and "Nutrition and Society".

Training of physicians, dentists and other health personnel in nutrition education at the time they receive their initial professional training is also an important objective.

Section 770 of the PHS Act now requires the applicants for Health Professions Capitation Grants to submit a plan to carry out, or establish and carry out during, the budget period of the grant and the succeeding twelve months specific projects in at least three of nine possible categories. One of these categories which a school may select includes a nutrition option (Purpose F).

Of the 58 schools that indicated Purpose F, eight medical schools mentioned nutrition education specifically within the narrative portion of their application. This number however, is only a rough indicator of the magnitude of programs as some shifting of projects into or out of categories is expected due to the brief

[1] Retained in committee files; see also Part 2A—Appendix.

period of time schools were allowed to assess resources and make plans during early implementation of this new legislation.

Section 772(a)(7) provides for grants to meet the cost of Special Projects to "establish programs at schools of medicine or osteopathy (and where applicable at other health professions schools): (a) providing increased emphasis on, and training in, the science of clinical pharmacology, the prevention, diagnosis, treatment, and rehabilitation of alcoholism and drug dependence, and the assessment of the efficacy of various therapeutic regimens; or (b) providing increased emphasis on, and training and research in, the science of human nutrition and the application of such science to health."

In fiscal year 1972, two awards were made for the purpose of nutrition under the Health Professions Special Project Grants program to schools of medicine for a total amount of $235,641 which is available for expenditure over a two-year budget period. The grants will support the equivalent of 13 full-time staff members for the budget periods.

The Public Health Training program, authorized under Sections 306 and 309 of the Public Health Service Act, provides both institutional support and student assistance grants for graduate or specialized training in public health, including public health nutrition.

Project grants in Public Health Nutrition, for expansion and enrichment of the curriculum, have aided educational institutions in their development and offering of course content designed to: (1) identify and solve nutritional problems relating to groups of individuals or total communities, rather than only to individual patients; (2) provide an understanding of the social, economic, cultural, and political implications of nutritional problems through introduction of the behavioral sciences to nutrition training programs; (3) introduce administrative and management concepts to strengthen the students' potential for input into the decision-making process; and (4) provide field experiences with real problems of communities, allowing the student not only to define and analyze problems but also to develop solutions under actual conditions.

Traineeship grants for student assistance are awarded to institutions which, in turn, make the individual student awards. These trainees normally enter the graduate program with a sound preparation in clinical dietetics or nutrition. Their graduate experience is designed to prepare them as specialists in concepts of public health nutrition, as managers of extensive nutrition programs, and as contributors to the decision-making process in health services systems. Graduates are prepared to function in a variety of settings, including State and local health departments, voluntary health agencies, medical centers, health planning groups, health insurance organizations and other health services systems.

The PHS Act also authorizes programs to support the training of allied health professions personnel as dietitians and dietary technicians through Special Improvement Grants, Special Project Grants, and traineeship Grants for Advanced Training.

Through the special improvement grants, nearly seven million dollars have been awarded for dietetic training since 1967. There are 37 baccalaureate and associate degree programs now receiving support through that grant program for the education of dietitians and dietary technicians.

In the first two years that the Special Project Grants program has been implemented, there have been 8 projects funded that relate to dietetic education. The projects include development of new teaching methods and materials, curriculum enrichment in areas of current importance—such as community-oriented health services and teacher training, establishment of new training programs, providing special support for improving training opportunities for minorities, and strengthening the coordination between academic and clinical training.

Examples of these grants include projects at Kansas State University to develop a coordinated curriculum in a semi-rural setting; New York State University College at Buffalo to implement a new coordinated curriculum in an urban, university setting which does not have a medical center; and the University of Missouri to implement a coordinated undergraduate program in a medical center.

Training of teachers, administrators, supervisors and non-research specialists for the allied health professions has been a high priority concern. Since the Allied Health Professions Traineeship Program for Advanced Training was initiated, more than 866 dietitians have received traineeships to enable them to undertake advanced training at the masters and doctoral levels for leadership positions. In addition, more than 275 dietetic trainees have received specialized advanced training in educational, administrative and supervisory methods and techniques through training institutes of less than an academic year.

FOOD AND DRUG ADMINISTRATION

The Food and Drug Administration is working in several ways to provide consumers with more information about the nutrient content of the food available in today's market so that he may make better choices of the items necessary for a well-balanced diet. These efforts are, in fact, basic elements of nutrition education.

With the modern trend to processed and formulated foods, the amounts of nutrients that were usually present in adequate amounts in foods which were prepared at home are not necessarily present today in the same proportions or quantities. In order to increase the nutritional information about modern packaged foods available to the consumer, FDA has proposed a program to assure that this health-related information will be furnished to the consumer in a form understandable and useful in planning the family food budget and seeing to the proper nourishment of our population.

On March 30, 1972, a proposal was advanced to develop standardized labeling for packaged foods which will provide the consumer with understandable information about the nutritional contents of these products. The final order is planned for publication in the Federal Register this month. Participation by individual food companies in the nutrition labeling program will be strictly voluntary. However, any manufacturer that decides to adopt the program must use a standardized format so that listings of individual nutrients will be uniform, in terms that the consumer can understand, learn quickly, and use when making shopping decisions and value comparisons. The information would be easy to locate and identify on the package. It would be carried on the label under the heading, "Nutrition Information", and would be based on commonly accepted serving sizes or units such as a cupful, tablespoonful, or slice and on a greatly simplified set of Recommended Daily Allowances. The weight of the serving may also be expressed in grams.

Information would include statements expressing quantities of calories; fat, carbohydrates, and protein; and five vitamins and two minerals which may be inadequate in the diets of persons who, through ignorance or poor dietary habits, do not eat "balanced" diets.

Nutrition specialists feel these seven vitamins and minerals are "key" nutrients, and that a person who eats foods containing adequate amounts of all seven will be likely to obtain the necessary amounts of the many additional vitamins and minerals considered essential to health.

Although participation in the nutritional labeling program will be voluntary, it is now clear that major segments of the food industry intend to participate extensively. The laboratory capability to measure all of the nutrients involved is available and we do not anticipate any difficulties in monitoring labeling claims.

In establishing the labeling format, three basic systems were tested on consumers—numerical percentages, adjective descriptions, and pictorial representatives of nutrients. Consumers generally were able to make informed nutritional judgments using all three; but lower income groups, without a high school education, did better with a numerical percentage. Accordingly this system was incorporated into the nutrition labeling proposal.

Another step taken by FDA to assure the consumer that his foods are of nutritional significance is the publication of a series of nutritional guidelines to the food industry for various definable classes of foods. The FDA's first proposed nutritional guideline, developed under contract with the National Academy of Sciences—National Research Council's Committee on Food Standards and Fortification, covers precooked, frozen, "heat-and-serve" dinners, and was published in the *Federal Register* last December 23. The guideline proposes specified amounts of protein, vitamin A, thiamin, riboflavin, niacin, and iron for each one hundred calories of the product.

The NAS/NRC Committee has recommended a second nutritional guideline for frozen, canned, and dried products defined as "main dishes"—such as frozen pot pies, canned beef stew, and dry macaroni-and-cheese mixes. Additional classes under consideration include meal replacements, breakfast cereals, baked cereal-based products, juice drinks, and products containing simulated meats prepared with protein from soybeans or other vegetable sources.

Foods which meet the requirement of the guidelines could claim on their labels that they did so, but foods of the same kind which did not meet the guideline requirements could still be marketed as long as no such label claims

were made. As with the case of the nutrient labeling program, participation in the nutritional guideline program is voluntary, and again, there is strong evidence of major industry desire to participate.

The FDA is currently involved in the final decisionmaking process on other actions which have nutritional impacts. Among these are:

1. Defining the protein quality which must be attained when vegetable-based proteins are used as meat replacers and extenders.
2. Voluntary labeling of the cholesterol and polyunsaturated fatty acid content of foods which contribute significant amounts of fat to the diet.
3. Defining the proper use of amino acids as additives to vegetable-based foods to improve protein quality.
4. Simplifying the labeling and improving the composition of dietary supplements of vitamins and minerals.

All of these approaches will include informative label statements designed to improve consumer understanding of the nutritional quality of the food he purchases.

Social and Rehabilitation Service

ADMINISTRATION ON AGING

Nutrition education is included as an integral component in the nutrition projects funded by the Administration on Aging and is a natural complement to the group meals program. The framework of the program affords an excellent opportunity to provide food and nutrition information and education since meals served in group settings teach by example the importance of a nutritionally adequate diet and what is essential to such a diet.

The basic purpose of the education component is to help older people understand the importance of good eating habits to total well-being; to motivate them to practice good eating habits in their everyday lives; and to encourage personal responsibility for making good food choices by giving guidance on how to plan and provide for adequate food intake apart from the project meal.

Plans for nutrition education sessions take into consideration the food preferences that participants have established. The program focuses on already accepted foods, using to the best advantage the eating patterns that people have developed. The program is based on the realities of the participants' life situations: the amount of money they have to spend for food; their physical condition as it relates to mobility; and their living conditions, i.e., availability of kitchen facilities and accessibility to shopping.

Most projects provide special diet counseling and interpretation which is done under the supervision of a qualified dietitian.

HEW NUTRITION COMMITTEE

As you can see Mr. Chairman, most of HEW's operating agencies are involved in one way or another with nutrition education. To provide a central focus for nutrition activities, including nutrition education in the Department, Secretary Richardson recently assigned to my office lead responsibility in the area.

To implement this function, we are currently in the process of establishing a nutrition coordinating committee which will be chaired by Dr. Robert Laur. Although the committee has not yet started to function formally, activities which the committee may undertake are:

Making Department-wide policy recommendations to the Secretary regarding nutrition.

Making recommendations regarding the substance and emphasis of specific nutrition programs and research projects, and initiate recommendations to fill gaps in Department activities relating to nutrition.

Coordinating activities which involve several agencies, establish uniform nutritional standards wherever necessary, and provide guidance for long-term planning.

Coordinating the research segment of the Department with the program segment so that relevant research findings are utilized in program implementation and that research is done in areas where the program designers have a need for knowledge.

Working toward integration of nutrition services in preventative and health maintenance programs.

Moreover, we believe this committee will improve our ability to effect a liaison with other departments and agencies with nutrition activities, and encourage inter-departmental cooperation in the implementation of any overlapping or supplementary activities.

Collectively, these ongoing and planned actions of the Department represent a broad-based effort to assist the consumer in making a more informed judgment in the selection of his diet and improving the nutritional quality of the foods which he consumes.

Cites Responsibilities of Other Units

I have departed here from the text, Mr. Chairman, with your forbearance. We have a number of units within the department that have responsibilities in these areas, and as I have indicated already, they are rather exhaustively outlined in the text. I will simply mention the units and give a couple of examples of each so as to give a stimulus to such questions as you may wish to pursue.

In the Office of Education, under the Vocational Education Amendments of 1968, Federal funds are allocated to State departments of education for consumer and homemaking education. In addition, there are fellowships to colleges and universities to help prepare teachers in food and nutrition which comes from the Office of Education.

In the Office of Child Development, overseeing project Head Start, which provides food to children in the program and it uses the foods given to these children as a teaching tool. Second, it has a big effort in the production of motion pictures, television films and materials for public distribution.

Within the U.S. Public Health Service, the Health Services and Mental Health Administration undertakes major nutrition surveys in order to identify the groups that are at the highest risk. Secondly, examples include specific nutrition education programs for the high-risk groups such as Indians, Alaskan natives and migrant workers. Thirdly, I would mention in this unit as an accompaniment, we introduce nutrition education as part of the Maternal and Child Health, Children and Youth, and Maternal and Infant Care projects that are operated by those units.

Also, the U.S. Public Health Service in the National Institutes of Health the National Heart and Lung Institute sponsors now the lipid research clinics which, as you undoubtedly know, are being set up around the country to encourage and foster the diagnosis and interpret the significance of the hyperlipidemia because of the apparent relationship to arteriosclerosis and hypertension that hyperlipidemia apparently represents. The results from these clinics are being produced in material form and distributed to health professionals.

We operate large research programs in the National Institute of Child Health and Human Development, in the National Institute of Arthritis, Metabolism and Digestive Diseases, in the National Institute of General Medical Sciences, and the National Institute of General Research; and the basic research characteristics of nutrition and its importance from the viewpoint of organ and total body health.

Nutrition Education Training Programs

In the area of manpower training, we operate and support allied training programs including those for dietitians and nutritionists.

We also help support the training of nutrition teachers and faculty members, one example of which, as you well know, is your own very excellent program at the Public Health School of the University of Michigan.

In the third unit of the Public Health Service—the Food and Drug Administration—we have recently undertaken nutritional labeling. I know that you will want to come back to that a little later—nutritional labeling as opposed to an ingredient labeling.

Secondly, FDA has been deeply engaged in the publication of a series of nutritional guidelines that have been arrived at by the National Academy of Sciences National Research Council as to those that may be pertinent to the precooked, frozen, "heat-and-serve" dinners; and, more recently, the guideline for frozen main dishes.

The Social and Rehabilitation Service Division of HEW is learning how to combine nutrition education with nutrition projects within the Administration on Aging. We will have more to say on that if you wish. We have, of course, in that unit, diet counseling for the disabled, the chronically ill, and all such persons institutionalized as two examples of their efforts.

New HEW Nutrition Coordinating Committee

As you can see, Mr. Chairman, most of HEW's operating agencies are involved in one way or another with nutrition education. To provide a central focus for nutrition activities—including nutrition education in the department—Secretary Richardson recently assigned to my office lead responsibility in this area. To implement this function we are currently in the process of establishing a nutrition coordinating committee which will be chaired by Dr. Robert Laur, on my left.

Although the committee has not yet started to [illegible] activities which the committee may undertake are:

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Coordinating activities which involve several agencies, establish uniform nutritional standards wherever necessary, and provide guidance for long-term planning;

Coordinating the research segment of the department with the program segment so that relevant research findings are utilized in program implementation and that research is done in areas where the program designers have a need for knowledge; and,

Working toward integration of nutrition services in preventive and health maintenance programs.

Moreover, we believe this committee will improve our ability to effect a liaison with other departments and agencies with nutrition activities, and encourage interdepartmental cooperation in the implementation of any overlapping or supplementary activities.

Collectively, these ongoing and planned actions of the department represent a broad-based effort to assist the consumer in making a more

informed judgment in the selection of his diet and improving the nutritional quality of the foods which he consumes.

Mr. Chairman, my colleagues and I are here for the rest of the morning, at your disposal for such questions as you may wish to pursue

QUESTION OF NUTRITION EDUCATION SPENDING

Senator HART. Thank you very much.

I was going to ask whether you were aware at yesterday's hearing, that a recommendation was made by several witnesses that we spend in the range of $130 million a year on nutrition education. Their testimony was not that we spend that much but that we *should* spend that much. I guess I have two questions. Do you know how much we do spend; and second, do you think we should spend $130 million?

Dr. DUVAL. We did not anticipate a question of that magnitude, Mr. Chairman, and we would prefer to accurately answer rather than guess, and if you do not mind we will attempt to make an estimate as to how much is spent. It may prove to be surprisingly large. It may even be larger than the amount suggested.

Senator HART. All right. We will see the answer to both questions when they are forwarded.[1]

You described both your recent assignment and the assignment recently assumed by Dr. Laur. Perhaps for the record we could get that a little clearer. Who is responsible for nutrition education within the Office of Education, for example? Who is the coordinator of nutrition education services for the Office of Education?

Dr. DUVAL. It is a shared responsibility and I am going to ask Miss Schneider on my right to identify the names of the two individuals. There are two persons who jointly have responsibility for this in the Office of Education.

Miss SCHNEIDER. Yes, I share the responsibility with Dr. Mary Hunt, who is in Vocational Education. The new name of their group is Occupational Technical Education.

Senator HART. Well, what programs are underway now?

Miss SCHNEIDER. Under the Vocational Education Act of 1968, there are a great many programs underway and details are described in the testimony. I can go over that if you want me to. In the remainder of the offices—as you know, decisions about what goes into the curriculum materials are made at the State and local level. Even though moneys are available to support curriculum development; for example, whether nutrition is included would be a local and State decision. In many instances, nutrition is given some high visibility; and, in other instances, it is not. The Office of Education does not have a policy, nor can it mandate that nutrition education be included in any program.

Senator HART. Perhaps the easiest way to describe what I have in mind is to say: Is there any inspector in the field to find out what kind of nutritional education programs are, in fact, going on?

Miss SCHNEIDER. In a selected number of programs, I suppose that that would be true. Follow Through, for example, requires nutrition education as well as food services. We are part of the program. We have a limited number of demonstration projects in health and nutri-

[1] See Part 2A—Appendix.

tion services in the programs. Nutrition education is a part of that and we know what is going on. Vocational education people know. Generally, for example, under Title III of the Elementary and Secondary Education Act of 1965 broad health education would be supported. It would not be possible, however, to find out what has happened in nutrition education under Title III. At least there has been no concentrated effort to do this.

Senator HART. Do I—and I ask this with an acknowledgment of the lack of information that is involved—do I understand that the Office of Education and HEW itself cannot require in elementary schools the inclusion of nutrition education? Is that correct?

PROGRAM RESPONSIBILITY LIES WITHIN THE STATES

Miss SCHNEIDER. The Congress has indicated that the responsibility for determining what goes into the curriculum, who should teach it, how it should be taught, and qualifications of teachers, lies with State and local governments.

Senator HART. Well, unless Congress says something like that we are shot dead, I suppose. What do you do about a State or local system that does not do anything about nutrition?

Miss SCHNEIDER. State authorities work with different parts of the Office of Education. We might nudge these State authorities a bit, but I don't think we have any authority to really enforce any curriculum. I think there are many pressures put on the schools for a variety of subjects. If everything were mandated or required, it would really be almost impossible to carry on the kind of a program which meets the local needs. Schools would really take care of all kinds of subject matter that many people would put in the curriculum.

Senator HART. We would agree, would we not, that often the suggested basis for allowing local judgment to be paramount—namely, understanding local needs—really does not apply to the business of nutrition education? Whether you are on an Indian reservation or in downtown Detroit, the need is there.

Miss SCHNEIDER. I think one of the helpful things is that people, generally, are beginning to recognize the importance of health. Nutrition is an important aspect of health. Through the Head Start programs and all kinds of operating programs, people are beginning to gain more insight into the desirability of pushing good nutrition. So I think that is beginning to happen.

Also, health education has been stimulated by a number of groups, including the President's Committee on Health Education. It is bringing to the forefront the desirability and the necessity for including nutrition education in the curriculum, all the way through. The School Lunch and the School Breakfast programs invite nutrition education. So I think there are a lot of things happening. There is more going on daily in the schools than I think a great many people would acknowledge.

The American Association of School Boards, the American Association of School Administrators, the National Education Association, the American School Health Association—a whole group of organizations—feature nutrition education at their meetings and in their publications. There really is an indirect kind of push; also, the direct push

for having schools take greater responsibility for helping young people make decisions which are going to influence their lives in a favorable direction.

There is more and more emphasis on examining alternatives open to one, and then making decisions within one's own value structure. That is illustrated by the fact that many, many schools are trying to include children in menu planning—having them decide what kind of foods they will eat. Schools are paying attention to cultural desires and desires of different age groups. A lot of in-service education is taking place utilizing the agencies, as Mr. Lyng pointed out, that are working with the Department of Agriculture. There is close liaison between Agriculture and education, food service people and educators.

Emphasis Will Be on Good Food

So I think in the next 1-to-4 years, you will see great advances being made. The emphasis is going to be on food that is good. Most of the people in this room, if they have had any nutrition education, have been taught that food is good for you. Of course, that turns people off. But by talking about what food is good and looking over a broad selection of things that are possible, young people are really becoming interested in making decisions. They are also learning to be more perceptive about what they hear, read and see in relation to food claims. They are getting to be very bright consumers in consumer buying.

Senator Hart. Now, you mentioned Secretary Lyng. I am told by reliable sources that there is an interagency committee on nutrition education. Do you, as the coordinator of nutrition education service in the Office of Education, have a role on that committee?

Miss Schneider. Yes. I have been a member of that committee for a long time. So is Dr. Hurt a member of that committee, as are many other people from within HEW and other Government agencies. We also serve in an advisory capacity on the National Advisory Committee that Secretary Lyng mentioned.

Senator Hart. How do you, for the Office of Education—and perhaps others for HEW might be involved—coordinate with the Department of Agriculture and the Food and Nutrition Service on the educational aspects of nutrition?

Miss Schneider. I work closely with the people that are planning the projects mentioned in Secretary Lyng's testimony. Recently, we reviewed some material that they have. We plan to cooperate even more in the future. Other people in the office also are involved. Title I people have worked cooperatively with the FNS and other parts of USDA. Office of Education is beginning to play a strong role, which is very rewarding for both our office and the Department of Agriculture.

Senator Hart. On that subject, several years ago, HEW advised this committee that a memorandum of agreement was approved between the USDA and HEW which would ensure—or sought to ensure—greater coordination of nutritional efforts between the two agencies. We have not received copies of the annual reviews of this agreement for the years between 1969—when we understand it was entered into—and now. Would you be able to furnish those for us?

No Actual Agreement Between USDA and HEW

Dr. DuVal. Mr. Chairman, underneath that, or as a subsequent series of events to the earlier agreement between Secretary Hardin and Secretary Finch, I don't think the actual agreement was ever ratified within the two agencies and no annual reports have been made.

In point of fact, most of us have taken for granted that the special subcommittee of the Domestic Council would achieve the purposes for which this agreement was made. In fact, we have had rather excellent development of interpersonal relationships between the people who are, themselves, involved in the professional programs.

If this is not sufficient for the objectives you are interested in achieving—obviously we want to serve the same objectives—and get some other mechanism. But, I am impressed—as Miss Schneider has just said—in a Government that is organized taxonomically—in this instance for very practical and good reasons of management. Nonetheless, there are programs that must, by necessity, interdigitate and create a circumstance whereby there is going to be either duplication or possibly lack of relationship between departments—that are defined by the very taxonomy that was selected in the first instance.

One of the proposed solutions that many people have for this taxonomy is to break it down into identifiable units and move it back into a new organization. We have even heard it suggested that nutrition ought to be pulled out of all the places it is now and put together somewhere else. It is a very rational, very palatable, and appealing suggestion; but, the penalty for doing that is extremely great. Under the circumstances, one has to find the means to accommodate to the taxonomy that has been developed in the administrative structure. At the moment we are moderately content that it is developing rather well within the taxonomy this Government has.

We do have one suggestion for improving it, of course, and that has been proposed to you, by the President, as the Department of Human Resources.

Senator Hart. Would the performance be better, if the agreement had been ratified?

Dr. DuVal. I cannot answer that, Mr. Chairman. It would be speculation. I suspect there may have been some performance that would have been better, but there may have been some that might not have gone well—I say that as objectively and as sincerely as I can. It has not been tested; therefore, one can only conjecture.

Why Was Agreement Not Ratified?

Senator Hart. Why was it not ratified?

Dr. DuVal. At the time that it was called upon to be ratified we didn't know precisely how to put it together—how to get together the necessary pieces to carry it out. As you well know, as a very experienced chairman of this committee and in the Congress, we have a circumstance on the receiving end, so to speak, of your legislation where we must put in place your legislation—within the taxonomy that is given to us. Under the circumstances, we do not have the opportunity for the flexibility and development of certain relationships outside that taxonomy. Certain legislation comes to us from certain committees and it must arrive in certain departments and be carried

out a certain way. That is both permissive, but, at the same time, it is restrictive—depending upon the structure within which it falls.

All I can say is: In the effort to try to accommodate to that policy, for example, the intradepartmental committee in HEW was recently established. We will now have a focalizing point to coordinate what we do. That will now make it much easier to coordinate what we do with other departments.

Senator HART. Let me crowd you just a little further, not argumentatively, but in an effort to have understanding. Why isn't the analogy valid, in the situation we are talking about, as in relations between nations? Is it not generally assumed that if nations can enter into an agreement, that suggests less friction between them than if they have to rely on the continuing good will of the heads of nations? If HEW cannot enter into an agreement with USDA, does that not suggest that tensions and frictions are greater than if you could have entered into an agreement? This is the way we look at our international relations.

Dr. DUVAL. There is, of course, one substantial difference in the establishment of an international agreement, in that each nation is autonomous and independent. The governmental department within a government branch is not. Under these circumstances the analogy, I think, would break down.

But, with the point you are trying to make I have great sympathy. I am not attempting to be argumentative, either. The issue here is that we believe it is possible, within the constraints under which we operate, to achieve the same objective by working on a person-to-person basis—as we do between governmental departments. The day we find this is not achieving our objective, together, we should pursue a better answer.

Senator HART. Moving to a less sensitive area. How many professionals are assigned the responsibility—either full or part time—of supporting your coordinator role?

NONE ASSIGNED RESPONSIBILITY AS COORDINATOR

Dr. DUVAL. Actually, as of today, none. Technically, that is the answer to your question. The Secretary of HEW—Secretary Richardson—only created the coordinating mechanism within the last 2 or 3 weeks, and it has not actually been put in place.

We have numerous units nominating candidates to serve on the group and we have not yet determined how it is to be staffed. So no professional assignments have been made beyond the selection of the chairman.

Senator HART. How about budget?

Dr. DUVAL. The operating budget, as is necessary, will come from the supporting agencies behind the individual representatives on the committee. Then, I might add, that such projects, reports, what-have-you—as it may wish to put out—sponsor and otherwise oversee what can be done by the agencies themselves—for which the representatives are representative.

Senator HART. Would you be able to supply for our records[1] the answer to these questions I have just voiced—once the thing falls in place?

[1] See Part 2A—Appendix.

Dr. DuVal. Yes, sir.

Senator Hart. How many people, what allocation of money?

Dr. DuVal. I would be happy to.

Senator Hart. If you are in a position to tell us now or, otherwise, later for the record—perhaps you have enumerated a good many in your prepared testimony—what nutrition and health services pilot projects are now in existence?

Dr. DuVal. I think that probably is in the domain of the HSMHA unit of the U.S. Public Health Service, and I will ask Dr. Laur to begin the description of those elements.

Dr. Laur. I would be pleased to, Dr. DuVal.

There are a number, as we pointed out in the testimony, Mr. Chairman. A first set falls in the domain that you alluded to earlier in your questioning—which has to do with how a local community knows what its nutrition needs are, in specific enough terms so that they can be addressed by the schools or by other educational resources. So a combination of resources within the Health Services and Mental Health Administration are now looking at that question.

As a follow-up to the Ten-State Nutrition Survey, which this committee was so instrumental in inaugurating, we have now included in the HSMHA routine programing a 2-year repetitive survey of the health and nutrition status of the American population. That is done on the most scientifically sound basis we can design; and, it is our intent to be able to show local communities where their nutritional needs are. As you and the committee are well aware, there are both regional and local variations that should be dealt with. That survey is now being mounted.

In addition to that, special surveys have been done of high-risk population groups. Now, the next step is to include that information in some delivery system arrangement. We naturally turn to the Maternal and Child Health Service, which our agency administers, where a number of nutrition education projects are carried out for expectant mothers and their young children. Similarly, the Indian Health Service—which has the responsibility to serve Indians residing on reservations and Alaskan natives—has the responsibility to deal with the population group which is at risk in terms of nutritional disorders. Thus, it has included pilot projects in nutrition education—again working with the Office of Education, the Department of Agriculture, and with the Center for Disease Control, which is a part of our agency.

Migrant Health Projects

A third place where pilot projects can be found is in our migrant health projects—projects we fund to provide health services to migrant agricultural workers. That is a population group that, because of its mobility, has difficulty obtaining services from local community resources. So we have included nutrition education services in those migrant health projects by support of a variety of approaches—using community outreach workers or indigenous workers who know well the problems of migrants and their families—to help them build nutrition education into those projects.

There are many more. I think—to stray a little bit from our own agency's activities—the interest of the National Institutes of Health in cardiovascular diseases, and hypertension are two areas, among many,

where we are now exploring how we could include—and we are exploring this through pilot projects—better nutrition education for their patients and their families in relation to those disease problems. Perhaps I should ask Dr. Burton if he would like to respond further to this.

Dr. BURTON. If I may flesh this out a little bit and be concrete about it; there has been a major push, led by the National Heart and Lung Institute, for correlating the nutrition content of what you might call the typical American diet with a rather high rate of heart disease and hypertension.

BOOKLETS FURNISH PREVENTIVE INFORMATION

As a result, ever since 1971 and 1972, a series of major projects along that line has been activated. These are not merely research projects. Of course, this is the main basis behind them, research for a causal relationship between diet and certain blood vessel-related diseases. On the other hand, literally speaking, hundreds of thousands of people go through these clinics and are furnished with preventive information on the basis of what we know now. Over 2 million copies of the booklets which I have in front of me here, which is titled "The Dietary Management of Hyperlipidemias" [1]—the various states of abnormal high blood fat in the population. They are being distributed and are being distributed not only from "on high"—from the physicians who see the patients—but also, on an outpatient basis by the allied health professionals—the dietitians and the nurses. That, in itself, is probably a tremendous single effort in nutrition education which probably you will not be able to find in an organizational chart, but it is there accompanying a major research effort.

In a similar fashion, another of the National Institutes of Health with which I am affiliated—the National Institute of Arthritis, Metabolism, and Digestive Diseases—has felt for 12 years that in addition to being a major focus for the Government's human nutrition research, it should share the results of research with the public—for whom all of this research is being conducted. It has distributed in large quantities a booklet called "Facts About Nutrition," [2] which addresses itself to normal rather than disease-related nutrition. This is probably the most fundamental of our preventive approaches to nutrition-related diseases or abnormal states like obesity—the cardiovascular diseases and hypertension included among them.

Likewise, if I may digress to the oral cavity, our National Institute for Dental Research for years has been involved in nutrition-related research and felt that the fruits of that research must be shared with the public. It has a series of booklets of which I will only mention one with your indulgence, "Nutrition in Dental Health," [3] which is distributed by the hundreds of thousands. Again, usually through dentists' offices or individual public health clinics in the States, or they can be obtained either directly or through the Superintendent of Documents

[1] Retained in committee files. Request directly from U.S. Department of Health, Education, and Welfare, Public Health Service, National Institutes of Health—DHEW Pub. No. (NIH) 72-110; request also Type I through V Diets, DHEW Pub. Nos. (NIH) 73-111 thru 115.

[2] Facts About Nutrition. U.S. DHEW, Public Health Service, NIH; SupDocs. U.S. Government Printing Office, Washington, D.C. 20402; price 35 cents.

[3] Nutrition and Dental Health. U.S. DHEW. Public Health Service, NIH; SupDocs, U.S. Government Printing Office, Washington, D.C. 20402; price 30 cents.

of the Government Printing Office. Again—indirectly, without being a mandated nutrition education effort—this does its share of good in caries prevention.

Dr. DuVAL. The Office of Child Development also operates some pilot projects, if I could call on Mr. Collins.

Mr. COLLINS. OCD has a variety of activities bearing on nutrition education, some with particular reference to the role of the parent in nutrition education and trying to strengthen that role.

VARIOUS HEAD START PROGRAM PHASES

For example, in our experimental project Home Start—the central thrust of which is to enhance the parents' role in the child's education and overall development—we emphasize nutrition education. A home visitor will go out and work with the parent and with the child. One of the significant emphases in the Home Start program design is enhancing the parents' understanding of the importance of nutrition as part of a comprehensive pattern of home services. The Home Start approach reflects an extension into the home of Head Start comprehensive services.

Another effort, in this regard, is our Health Start experimental project where we are attempting to provide health services. There is an emphasis in this—although I must say more modest than, I think, in retrospect, that we feel there should have been—on the relationship between nutrition education as a part of the overall health program.

A third effort is the Children's Bureau Education for Parenthood project, which is an attempt in cooperation with the Office of Education to develop a model curricula directed at high school youth and focusing on their future roles as parents. A significant aspect of this curricula is nutrition education as an aspect of the overall development and health of the child.

Finally, there are a limited number of research projects focused on project Head Start that are intended primarily to experiment with various ways strengthening the parents' role in nutrition.

DO PACKAGED LABELS INFORM SHOPPER

Senator HART. Let's assume that there are many people who, as a result of these efforts, are now better informed as to nutritional values—the foods that should be sought, and under certain circumstances those to be avoided—and those people then go into a supermarket. Now, at the vegetable counter they have a fighting chance, assuming they can identify the lettuce and beets. At the meat counter, perhaps they are on as sound a basis as they are on vegetables. But—if I'm wrong on this, correct me—then you get into the package business. Unless the label tells them, how can they use their education profitably in making their purchases? Do the labels tell even the informed shopper what nutritional values are in that box?

Dr. DuVAL. I think the only answer to that, as of this date, is both a "yes" and a "no" answer—with a somewhat bigger emphasis on the "no." Your question obviously is based on the premise which you have already conceded, and that is that the shopper is relatively sophisticated and knows how to interpret what we put on the label. But, as you know, with the Food and Drug amendments, we have now moved

into the area of mandated ingredient labeling so that one can tell what is actually in the can. In fact, I think your question reflects that you would like to draw the distinction, that ingredient labeling and nutritional labeling are not only *not the same* but they are *not necessarily translatable* one into the other—even by a sophisticated consumer. Consequently, I share your concern that when I'm living in Washington as a bachelor and buy such-and-such a TV dinner, I'd like to know whether or not it is an adequate meal.

Areas of Nutritional Labeling

However, we have recently—with the enormously conscientious voluntary help of industry—moved into the area of nutritional labeling and have conducted surveys offering three different ways—adjectives, pictures and so forth—of trying to find out, from the viewpoint of marketability and acceptance; and, what the public might accept in the viewpoint of nutritional labeling. We have some answers from these surveys and we are moving in this area now.

Dr. Johnson is overseeing this effort right now from FDA and I would welcome his amplification of my comments.

Dr. Johnson. As you are aware, Senator Hart, one of the groups that helped us was Giant Foods. We had, under your guidance, a meeting and we have come a long way since that time. What we have been trying to do is to make sure that nutritional labeling is helpful to those who understand it and, therefore, we have done a series of studies.

We reviewed these and the 3,000 comments following our first proposal in March of this year. Many industries are interested in moving ahead. Here is an area in which the industries are showing some real interest. We have permitted some manufacturers to proceed, so there are, in the marketpplace today, on a very limited basis—some products that do identify the nutritional qualities.

We also are moving forward with a document—a tentative final order on nutritional labeling, that will appear in the next few weeks and will outline our final decision—which will provide a voluntary procedure for nutritional labeling.

We do not feel, at this time, we have the authority to make it mandatory. But my feeling is—based on a series of discussions with almost every industry—that the competitive market will bring about nutritional labeling on a large percentage of products. This will permit the nutrition educators to call attention to nutritional qualities in products that aren't familiar, that aren't conventional, that aren't typical.

Establishing Guidelines for Nutritional Labeling

We have something else which we are doing which fits into this because there are some problems with putting information on the label. When you have a product that ought to have a certain basic nutritional quality, just putting numbers there is not enough, and we are moving towards establishing a type of standard—nutritional guidelines on products—so that certain products that we expect to be major contributors of nutrients—whether they are fabricated from new in-

gredients or even from some of the newer types of formulated products—still provide basic nutrition.

We have always taken this position in relation to something such as an infant formula where this becomes the sole source of nutrition. We think this ought to be true for other products that make contributions or assume to make contributions—a full meal or a product which is suggested as the replacement for some more conventional products. So, in addition to labeling, we are establishing nutritional guidelines or standards which will also provide the educator with a means of identifying certain foods that you can expect to have basic qualities.

Senator HART. You do have legislative authority to establish minimum standards for foods.

No Authority To Establish Nutrition Standards

Dr. JOHNSON. In relation to certain special dietary areas, yes.

But this is not in terms of all food products. We can move in this direction on a voluntary basis. We do have authority in the basic act—if a manufacturer uses such labeling or such guidelines and calls attention to them, then he must conform to them. He cannot misbrand his product. We do not have authority to require minimum standards for foods—with some exceptions—to have good nutrition. We have to define a clear health problem such as with infant foods. We cannot do this on every formulated food.

Senator HART. I understood you to say that you do not have statutory authority to require nutritional values to be placed on the labels on all food?

Dr. JOHNSON. No, we do not.

Senator HART. Would it not be desirable?

Dr. JOHNSON. The commissioner has, on a number of occasions, suggested that we first would like to gain some experience in this area. One must remember that as we move into nutritional labeling and make it mandatory, it will require the change of every label on every food product. We would like to have some experience as to which products perhaps need a differet kind of information.

We have tried market surveys and this gives you a little bit of information, but, as was stated by Dr. DuVal, there are 10,000 items in the market. Three or four items in a study does not give you a chance to evaluate what happens to the consumer in a marketplace where there are all sorts of pressures. We would like to have several years of experience with the voluntary program—which, we feel, will give us the background to see what ought to be required. We are hesitant to make anything mandatory right now, when we are moving into a field that is essentially brandnew, with almost no historical background to build on.

Senator HART. Are you aware of any nutritional educators who suggest that it would not be desirable to have nutritional values on the label?

Dr. JOHNSON. Among some of my friends in the area of nutrition, there are some who feel it would be too complex. I have stated, on a number of occasions, that if we are talking about nutritional labeling and then walking away from anything else, I would agree that some people will not be able to utilize it as I think they could. What we

were looking for in our studies, basically, was tied into the idea "will people be able to identify, with a minimum amount of education, the differences between products." We found out that using very classical procedures, in the lowest income groups—inner-city groups in which populations that we were studying had less than a high school education—in fact, many had no high school education, were capable of distinguishing products.

Must Have More Than Numbers on Labels

What we are proposing now is an ongoing program of nutrition education using nutritional labeling as sort of a little textbook associated with it. My feeling is, in 5 or 10 years, we can build up a population that does understand food, and the nutritional quality of food. Then there are some that I call nonuse benefits. Manufacturers are becoming more interested in nutrition; and they are becoming very interested in the nutritional qualities of their products—when they have to go on record and state: "My product contains certain nutrients." I am encouraged with my discussions with various food companies, both very small and very large, that they would like to get involved in education so that their products—and all products that fall into the general diet—are correctly identified and people know how to understand them. I think we can build a total program that will make nutritional labeling useful. By itself, with no other backstopping, I think—some of my friends have a point—that we must do more than just put numbers on a label.

Senator Hart. Well, this reminds me of a problem we had in Detroit, not too many years ago. They said that safety wouldn't sell. That is why they did not worry about safety.

Are you suggesting that it is possible that the manufacturers of food products will find that nutrition will sell? That you will not have to wait until we have mandatory Federal standards. That they will do what Detroit did not do—until we did legislate mandatory standards?

Dr. Johnson. I will go out on a limb and say I think it will, for two reasons:

1. They are as concerned about the lack of nutrition in products since they will not sell in competition with other products. We do have a far more sophisticated population moving into the supermarket. They are asking questions. They are being stimulated, by the press and others, to ask more questions. The food industry is beginning to be far more responsive than they ever have been to these kinds of demands.

2. Since I am in a position where many food manufacturers come to me, I am, quite frankly, impressed by the number of companies in the last 2 years that have collected a large body of information they did not have before in the area of nutrition, because they feel it is important.

Opinion as "The Loyal Opposition"

Dr. DuVal. Mr. Chairman, I frankly come down somewhat on your side of this question, but there is a very interesting point here. I would like to bring out an alternate side for a moment as a "devil's advocate."

I happen to believe that a safe automobile, perhaps, should be mandated; and, I might prefer to see nutritional labeling mandated. I would prefer, however, to get there by evolution rather than by putting it in place very quickly. I am enormously concerned with the track record of the American public which illustrates that they have some faith in regulatory agencies. If you tell them they have manufactured a safe automobile, they will really believe they are in a safe automobile. They will also believe if you mandate nutritional labeling that they are now buying nutritious foods.

Everything is relative. One only buys nutritious foods to the extent one entices that which constitutes a balanced diet. The fact that a particular ingredient is labeled is not sufficient. So there is a possibility of false oversell, if you get there too fast.

I have only registered that as a concern, not to disagree at all with the points you are trying to make.

Senator HART. I was not here yesterday, but I am told that sharp criticism was directed at certain food manufacturers because of the massive advertising campaign directed at young children which was described as lacking any relationship to nutritional qualities or factors.[1]

Now, Dr. Johnson, do your discussions with these manufacturers and food processors lead you to believe that they are moving rapidly in the direction of making nutritional values generally known to their potential customers? Do you know whether they are the fellows who are engaged in the massive Saturday morning commercials on television directed at the 10-year-olds?

ADVERTISING IS MAJOR QUESTION

Dr. JOHNSON. I think the advertising area is one which—while the FDA does not have the responsibility—is a major part of this question. There is no question that nutrition education in the United States, by and large, is an end product of our advertising. Many of these companies, I think, are beginning to recognize this. We, in fact, were talking to the people about the overall program. We do have informal discussions with the Federal Trade Commission. The Federal Trade Commission is just as concerned as some of the people that have spoken about this aspect in the past week.

We are interested in utilizing some of the same concepts in identifying qualities of foods so that advertising of these qualities will bear relationship to the actual nutritional content of the food, and how it is used in the diet. This is something which will have to be discussed with the FTC. I think there is a concern that the actual nutritional quality of the food and how it is used in the diet, ought to be clearly defined before one starts making broad nutritional claims about the products—sometimes called "puffery" on television advertising.

Dr. DUVAL. Mr. Chairman, I just checked a fact because I was not absolutely sure whether my memory was correct. It is not in my interest, as I am sure you know, to discredit in any way, shape, or manner the testimony given yesterday—because, in substance, I am in

[1] See Part 1—Overview—Consultants' Recommendations.

agreement with it. However, I think that it will not stand alone; it must be examined in perspective.

I would submit, for example, that if you label a cucumber as having no nutritious value, you would still sell cucumbers. The point is: That you can sufficiently make a package attractive, and you can sufficiently promote something with no value; and, then label it with complete integrity as having no value. You will not solve the problem by that device—that you and I are interested in solving—and I would like to see it perceived in that context.

Total Diet Confused With Quality

Dr. Johnson. I would like to add one thing. This is the area that Dr. DuVal has reference to in terms of the total diet. We do have a problem that people confuse the quality of individual foods with the total diet. This is something that nutrition education will have to build into programs because people are eating new foods. They are eating foods that will become their total diet, which is an interesting change—a product that looks like a candy bar or glass of milk becomes a total diet.

Senator Hart. Starting from scratch, it follows that this testimony has been helpful to me. These hearings have been organized by the very able staff on this committee. I often think if we had one rule change around here that might improve the performance of Senators, it would be to let the Senators keep quiet and let the staff conduct the hearings.

With that introduction, I will ask Mr. Quinn to sharpen this record.

Mr. Quinn. Thank you, Senator.

I just have one question, Dr. DuVal. I wonder if you have any idea how many people are being reached by the aggregate of HEW's nutrition education programs? How many people are involved?

Dr. DuVal. It is rather like the question that the chairman asked on dollars. We have it represented in so many units, Mr. Quinn, that I would have to beg off and say we will do the addition for you and submit our best possible estimate for you for the record. There is no way I could give it to you this morning.

Mr. Quinn. Could I just ask you this then: "Is it your impression that, by and large, most of those programs are aimed at low-income families?"

Dr. DuVal. That is also an awkward one to answer, but I would have to say, since you inserted the word "most," the answer is probably "no."

Now, if you want me to take time to qualify this, obviously I can start by saying that when one mounts a program, for example, whether it is a child program and so forth and so on, the minute you put it in place you start cutting across all sorts of different economic ranges. The issue then is, can you take another slice in another direction and come up with whether or not most of those served were, so to speak, economically poor or otherwise underserved. I think in the aggregate, the answer would still be no, but that is only a best guess.

ECONOMIC BREAKDOWN OF POPULATION GROUPS SERVED

Mr. QUINN. If possible, when you supply the committee with those figures for the record,[1] I wonder if you could provide some kind of economic breakdown on the participation.

Dr. DUVAL. I think we would be happy to supply such information as we can on the point. The issue, again, is judgmental as to what constitutes underserved, poor, and so forth. But we will try to supply it in such a way that you can derive your own judgments.

Mr. QUINN. Thank you.

Senator HART. Dr. DuVal, and those with you, thank you very much for your time and effort for your appearance here.

Senator HART. We will resume now to review comments from the Department of Agriculture and as Secretary Lyng indicated earlier, the testimony will be presented under the direction of Dr. Ned Bayley, the Director of Science and Education of the Department.

We have heard from Dr. Bayley many times before and welcome him back.

If you will identify for the record those who are with you, please.

STATEMENT OF DR. NED BAYLEY, DIRECTOR, SCIENCE AND EDUCATION, USDA; ACCOMPANIED BY NANCY LEIDENFROST, DEPUTY ASSISTANT ADMINISTRATOR, EXTENSION HOME ECONOMICS; DR. RUTH LEVERTON, SCIENCE ADVISER, AGRICULTURAL RESEARCH SERVICE; PHILIP OLSSON, DEPUTY ASSISTANT SECRETARY, MARKETING AND CONSUMER AFFAIRS; ISABELLE KELLEY, ASSISTANT DEPUTY ADMINISTRATOR, FOOD AND NUTRITION SERVICE; DR. DANIEL ROSENFIELD, DIRECTOR, NUTRITION AND TECHNICAL SERVICES STAFF, FNS; AND DR. LEONORA MARAGNE, DIRECTOR, NUTRITION EDUCATION AND TRAINING, FNS

Dr. BAYLEY. Mr. Chairman, we greatly appreciate the opportunity to meet with you and discuss our efforts in nutrition and research in regard to nutrition education in the Department of Agriculture.

At the outset I would like to introduce my colleagues at this hearing. To my immediate right is Nancy Leidenfrost, deputy assistant administrator, Extension Home Economics. To my immediate left, Dr. Ruth Leverton, science adviser, Agricultural Research Service. Both of them will present short statements in addition to my own.

We also have as resource personnel with us to engage in the discussion, as it may be required, Philip Olsson, deputy assistant secretary, Marketing and Consumer Affairs; Isabelle Kelley, assistant deputy administrator, Food and Nutrition Service; Dr. Leonora Maragne, director, Nutrition Education and Training, FNS; and, Dr. Dan Rosenfield, director, Nutrition and Technical Service staff, FNS.

Improving the nutritional level of American families has been a major activity of the Cooperative Extension Service since it began. This nutritional information has been supported by research of the land grant universities and other sources of authority.

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[1] See Part 2A—Appendix.

We recognize it is through nutrition education that the benefits of scientific research on goods can be made available to the entire population; and, that a major cause of poor diet and malnutrition is lack of knowledge and skill in choosing and preparing foods.

Everyone Needs Nutrition Education

In making my presentation I would like to respond briefly to each of the questions you have raised for our consideration. You asked: "Who needs nutrition education?" Everyone needs nutrition education. There is a need for nutrition education among *all income and ethnic groups*, according to current research dat

Here is what the 1965 nationwide food consumption survey showed:

1. Of all persons in the United States, 20 perc had diets that supplied less than two-thirds of the allowances recommended by the National Research Council, for one or more nutrients.
2. Of the households with income of $3,000 or less, 36 percent had less than adequate diets.
3. Only 9 percent of those receiving poor diets were from households with incomes of $10,000 or more.

This survey clearly establishes the priority of the low income for nutritional information, but also shows how the problem cuts across all income levels. The low-income group includes 5.5 million families out of approximately 50 million families, in the 1970 census.

Specific Groups Needing Nutrition Education

YOUNG FAMILIES INCLUDING PREGNANT MOTHERS AT ALL INCOME LEVELS

The mother's role is important in providing children food they need and will eat because food habits and attitudes formed in the early years last throughout life. Approximately 30 percent of the families now enrolled in the Expanded Food and Nutrition Education Program are young families.

CHILDREN AND YOUTH

After preschool years, there are other strong influences on children- and youth-eating habits which require continued educational and motivational effort. The Extension Service has programs doing this through County Home Extension agents working with mothers, 4–H Club leaders and 4–H agents working with 4–H members; and in recent years, the expanded role of volunteers working with youth in the Expanded Food and Nutrition Education Program. Approximately 1.6 million youths are being reached now in these programs.

The sooner a child is surrounded with influences that encourage good *food* habits, the better are his chances to develop desirable eating habits. And, the teen years are a critical time when food habits need to be improved—regardless of the income level of the parents.

OLDER ADULTS

The elderly especially need guidance in adjusting eating habits in relation to changing lifestyles. Also, older adults influence the food practices of others by their actions and attitudes.

MIGRANTS

When groups migrate in large numbers to new environments another type of food-habit situation develops. Critical problems include availability and cost of acceptable foods in the new location. A change in living patterns often results in radical change in food habits.

Who Can Teach Nutrition?

The Extension Service is the educational arm of the USDA and was one of the first Government agencies to teach the public about food and nutritional needs.

The over 163,000 leaders annually helping teach foods and nutrition to adults and youth is one of Extension's great strengths. Sixty-three thousand leaders, mostly from the low-income ranks, have been added to reach families and youth enrolled in the EFNEP. These, like the Program Aides for the EFNEP program, are trained by Extension's professional home economists.

The present Extension staff, working with people on the nutritional problem, includes 125 State nutrition specialists and over 3,300 local professional Extension workers. There are about 9,000 paraprofessional program aides working in about 1,500 locations with low-income families. Consumer education and other Extension specialists also contribute to this effort.

Extension spends over 35 man-years of time in work with paraprofessionals of other agencies—making over 127,000 contacts. Doctors, nurses, caseworkers and other professionals attend noncredit courses taught by Extension staff.

Extension reported in 1972 that:

1. 360,000 program homemakers were enrolled in the Expanded Food and Nutrition Program with a family membership of 3.6 million persons located in 1,500 selected areas.
2. 129,000 other EFNEP homemakers were participating but not formally enrolled.
3. 800,000 members of study groups or Homemaker Club members;
4. 740,000 youths were in the ongoing 4–H Food and Nutrition Program; plus,
5. 866,000 youths from low-income areas in 4–H-type nutrition education programs.

Every State shows many different special efforts with special audiences—i.e., in Ohio, Extension personnel have been called on and have conducted in-depth training for over 400 elementary teachers on nutrition and methods of presenting it. Leader packets are made available by specialists to any organization in at least half the States. Reports show these are extensively used by the Homemaker Club leaders and other women's organizations.

Just one TV series in Connecticut trained 10,000 professional and law lay leaders. Much work has been done with migrants and the elderly.

Extension is now beginning to program a nutrition television series of six TV programs, aimed at the youth audience but with potential for teaching nutrition concepts to a wide range of ages and back-

daily. The 7 percent of program homemakers whose diets met minimum requirements in March 1969 increased to 27.9 percent 2½ years later. Those reporting at least one serving from each of the four groups increased from 51 percent to 81 percent during the same period.

We have already mentioned the youth component, which was added in fiscal year 1970. Through this program, volunteers are trained and supervised by youth professionals to reach youth of low-income families with nutrition education. Some 51,000 volunteers helped reach 866,000 youths during fiscal year 1972. In many sites, program aides have proven to be a vital link for the volunteer conducting the youth program. Aides have recruited youth of program families, have backstopped in many teaching experiences, and have been instrumental in organizing groups—all this for better nutrition education.

Fifty-two percent of EFNEP participants are from minority groups—38.4 percent black, 11.5 percent Spanish American, 2 percent Indian, less than 1 percent Oriental.

Recognizing that food habits develop along ethnic patterns and food likes and dislikes are often established in early childhood, much attention is placed on reaching homemakers with young families. Thirty percent of the homemakers enrolled are less than 30 years of age.

Although the aging are not the primary target audience, 30 percent of our clientele is over 50 years of age.

A fact of major interest is that a total of 20,000 aides have been employed in the program, while currently about 9,000 are in the field. The turnover is not a total loss by any standard; the aides' training is a net gain to their communities.

Economic Research Service Socioeconomic Study

A study which examines the socioeconomic characteristics and work-related experiences of the aides was conducted by the Economic Research Service, USDA.

The results showed that aides and their families received significant benefits from their employment in the program. Direct monetary gains were made through increased income. Many who were previously unemployed were provided an opportunity to work. The proportion of aides on welfare and receiving USDA food assistance declined after they were employed in EFNEP

Indirect benefits were measured in terms of nutrition, nutrition-related subjects, and personal characteristics. The greatest progress was reported in greater feeling of dignity and respect, and personal worth. Aides felt that they had fostered progress on the part of program families. Thus, the EFNEP program may be termed successful for both program families and families of aides.

An important aspect of the program has been its effective evaluation system. A national reporting system has provided periodic evaluation, and has served as a tool for measurement of management operations at the national, State and county levels.

Annually, Economic Research Service has been contracted to conduct studies and evaluate progress. These studies have been concerned with the impact of the program on the participants, characteristics of program aides, progression of program families, and an evaluation of the youth phase.

Also, at the outset of the EFNEP in late 1968, we employed Synectics Corporation of Allison Park, Pennsylvania, to do a series of in-depth evaluations in the program. This activity served as a crosscheck on our own evaluation. It also gave us an objective probe into critical areas of the program which are not readily tapped in our own evaluation system. For example, we were able to get information from other agencies and from local community leaders in each of the communities in the evaluation sample to determine their perceptions of the program's effectiveness and of how well our people worked with other groups to bring multiple resources to bear on needs of low-income families.

Results of the in-depth evaluation were used to sharpen the program operation at all levels. Information was fed back to local and State programs through summary reports and through briefings at regional conferences.

As reported by Dr. Bayley, the EFNEP is being conducted in about 1,500 of U.S. counties and independent cities.

In many of these counties, the county Extension home economist has simply added the EFNEP to her existing responsibilities. She is still conducting a general home economics program, and at the same time is training and supervising program aides who are carrying out expanded food and nutrition education programs with families.

In the other 1,600 counties, more attention is also being given to nutrition education as a result of the new teaching materials being introduced by EFNEP. We have noted real progress in the amount of time devoted to nutrition education. While 10 years ago clothing education received most of home economics time and food nutrition ranked second, today nutrition is far in front with one-third of the total time reported by professional home economists in food and nutrition.

In addition to the EFNEP, the Extension Service directs a traditional nutrition program which reaches homemakers, volunteer leaders, 4–H Club youth, Extension Service staffs, and professionals and paraprofessionals of other agencies and organizations.

Available Nutritional Education to Segments of Society

While attention is presently centered on the poor, nutrition education needs of other segments of our society are not forsaken. Educational programs in food and nutrition for the general public continue through short courses, use of trained volunteers, correspondence courses, television, radio, and other mass media.

Let me give you examples from several categories of our audiences, realizing there is no single approach to reach any audience.

GENERAL POPULATION

Mass media is used extensively by Extension personnel to reach large audiences with food and nutrition information. A 30-minute weekly broadcast on a network of 12 radio stations in Iowa, Minnesota, Nebraska, Oregon, Indiana, Missouri, Michigan, and the District of Columbia is now in its 10th year. TV is also widely used in many States. Extension conducts nutrition education programs on public service time.

YOUNG FAMILIES

A nutrition series for young homemakers was a cooperative activity of the *Minnesota* and *Wisconsin* Extension services. It was aimed at increasing understanding of need for adequate nutrition, and built-in consumer protection. Responses were so favorable that the series will be continued.

CHILDREN AND YOUTH

In addition to the EFNEP youth component, about 700,000 youths are enrolled in the ongoing 4-H Food and Nutrition program. It is estimated that 125,000 volunteers are involved in the traditional nutrition education programs.

Iowa—100 teenage girls with weight-centered problems were taugh nutrition information at a camp experience in two areas of the State.

Many children are also reached indirectly through Extension-conducted workshops or courses for professionals of other organizations who in turn teach the children.

OLDER CITIZENS

More than 25 percent of the State Extension Services provided educational instructions on foods and nutrition for older citizens through lessons, special interest groups, and in-[illegible]ch training.

Massachusetts—Extension home economists developed a program for occupants of a hi-rise for handicapped people of all ages. About 63 percent of occupants attended. The program consisted of informal talks on basic nutrition, psychology of living and eating alone, food buying for one, food preparation and storage, food faddism. The success of the program led to a similar series for three hi-rise apartments for the elderly. These programs led to development of a 1-hour program designed to encourage the elderly to assess nutritional needs and upgrade nutrition. Two thousand older citizens have been involved in this program in 1972.

MINORITIES

Extension not only works with minorities on a one-to-one basis but it also trains workers of other agencies to teach nutrition to minority groups within their program.

California—Extension specialists conducted training sessions in improved nutrition with 53 people representing 19 organizations—half of them working with Indians.

At least 300 children, teachers, and mothers in migrant schools and Head Start programs received training from *Ohio* [illegible]unty Extension home economists in basic nutrition, food selection and buying, meal planning, food preparation and serving for improved diets and better health.

Today, Extension depends more than ever on trained volunteers to multiply the program impact.

Massachusetts—Extension responded to a request from the Women's Auxiliary of the Medical Society and set up nutrition courses for 90 auxiliary members enrolled in four courses in four areas of the State. The purposes: To provide women with up-to-date nutrition informa-

tion and explore possibilities for women to serve as *volunteers* for nutrition education in their communities. As a result, the Women's Auxiliary has taken nutrition as a national project for 1972–73 and has developed and made available "Package Program in Nutrition Education" for State groups.

On behalf of thousands of workers in the EFNEP at all levels, I would like to express my appreciation for this opportunity to report to the Senate Select Committee on Nutrition and Human Needs upon the current status of the program.

Dr. BAYLEY. Mr. Chairman, with your permission, we now will have a statement from Dr. Ruth Leverton, regarding the research related to nutrition education.

Senator HART. Fine.

STATEMENT OF DR. RUTH LEVERTON

Dr. LEVERTON. Mr. Chairman and members of the committee: The department appreciates the committee's interest and concern about the role of nutrition education in the fight against hunger and malnutrition wherever it exists. Granted that we must always seek more detailed and precise information through continuing research in each of the many areas involved in human nutrition and food economics, we must recognize also that much more knowledge is available in these fields than is now being used to solve our present-day problems. Nutrition education is the bridge over which the findings of the research laboratory travel and are interpreted to the expediter who is in touch with the ultimate consumer.

We view the objectives of nutrition education as (1) to inform; (2) to motivate; and, (3) to adapt the message to the special needs and interests of the recipient.

To accomplish such objectives of nutrition education, we need research in the social sciences to tell us:

1. What are the food choices being made—this tells us the preferences being expressed;
2. Why are these choices being made—in short, the "why of the what";
3. How to motivate modifications in food behavior in each target group—by age, socioeconomic status, education, cultural ties, goals and aspirations; and,
4. How to reinforce and/or sustain desirable habits. Because, believe it or not, there are some desirable habits among many of our people who are eating regularly.

We also need research in the physical and biological sciences to give us: Updated figures for new types of food in order to evaluate the nutritional quality of foods in the marketplace; and continuing supplies of data on nutrient requirements and what influences requirement and utilization at each age in the life cycle.

Now to present some highlights of research projects in nutrition as related to nutrition education needs:

FROM THE COOPERATIVE STATE RESEARCH SERVICE

There are five regional projects in the human nutrition research program of the State Agricultural Experiment Stations and nine projects in the program of the cooperating institutions that will contribute

directly or indirectly to developing guidelines for nutrition education. The information gained will be basic to identifying aspects of nutrition for which education is needed, including channels of access to food, nutrient/cost benefits, changes in food practices and feasible approaches to improving food choices and nutritional status. Collectively, the projects in the Cooperative State Research Service program comprise a national nutrition research program with many components that relate to nutrition education.

From the Agricultural Research Service

For the past 6 years, the Agricultural Research Service has had a modest program in extramural research focused on the subject of what people do in food selection and why. To enumerate:

THE HOMEMAKERS STUDY

Its purpose was to describe the knowledge, practices, and opinions of homemakers regarding food and nutrition, and, to investigate the relationship of various demographic variables to nutrition knowledge, food practices, and opinions.

The implications of the preliminary findings were:

1. In households where the homemaker was satisfied that everyone was eating as he should, only 63 percent were actually receiving a full assortment of food for an adequate diet. Where the homemaker was not satisfied, the figure was 58 percent.

2. Those who were not satisfied that all family members were eating a good diet were asked what they did about it. 15 percent of all homemakers recognized a problem, a little more than 50 percent of them took no action, about 25 percent substituted another food. Less than a 25 percent said they encouraged the family members to eat. Thus, little or nothing is done in the home to encourage eating the assortment of foods necessary to provide a good nutritional foundation.

3. When homemakers were asked if they wanted more information, 39 percent expressed a definite interest, about 30 percent might or might not be interested, and another 30 percent would either not be interested or probably would not be interested.

Tentative conclusions:

a. Homemakers know more facts than they apply. Therefore, education should be geared to attitudes and habits.

b. Even when she is not satisfied that all family members are eating a desirable diet, she does little or nothing about it—even from community agencies.

c. Food selection seems to be a highly individual matter—the fact that a good assortment of food is available in the home is no assurance that family members will choose to eat it. Nutrition education must be geared to all family members—attitudes, habits, then information.

FACTORS INFLUENCING FOOD HABITS OF URBAN LOW-INCOME FAMILIES IN KANSAS CITY

Frequency of use of foods is being used to develop categories of core foods, secondary foods, peripheral foods, and ceremonial and

excluded foods. Such information is useful in developing teaching materials and planning motivating approaches.

FACTORS THAT INFLUENCE FOOD ACCEPTANCE AND CONSUMPTION, ESPECIALLY AMONG ELDERLY IN MILWAUKEE

This includes different socioeconomic groups but it is not far enough along for us to have any definitive results.

FACTORS INFLUENCING ACCEPTANCE OF FRUITS AND VEGETABLES BY ELEMENTARY AND HIGH SCHOOL STUDENTS

This study has provided some clues and trends: Parent's knowledge and attitude toward food and their children's behavior at the table exerted some influence on the acceptance of fruits and vegetables by the children; children seemed to prefer fruits over vegetables, the texture of raw fruits and vegetables over the cooked and processed, and the sweet-tasting vegetables over the tart or bland vegetables. The rejection of some fruits and vegetables by the children appeared to be based upon the prejudice or a closed mind and was related to such factors as:

1. Early negative conditioning;
2. Rejection of "baby foods";
3. Faulty generalization from a single unfavorable attitude such as texture, color, shape, odor, or fortuitous associations.

Those children who had experienced a wide exposure to fruits and vegetables seemed both to accept and like a great variety of fruits and vegetables.

The acceptance or rejection of fruits and/or vegetables by children can result from any one or any combination of the factors. Whatever the reason, acceptability influences household consumption of fruits and vegetables since most mothers were inclined to limit fruits and vegetables served to only those widely accepted by their families.

ATTITUDES AND BELIEFS ABOUT FOOD IN HEALTH AS FACTORS INFLUENCING FOOD CHOICES

(Cooperative Study of Eight Federal Agencies)

Preliminary findings on a nationwise sample indicate that: The majority of respondents thought extra vitamins and minerals were of value in preventing colds, staying healthy while reducing, keeping from getting sick, giving one more pep and energy, and for staying generally more healthy.

Statements relating lack of vitamins and minerals and ill health were more frequently believed by those with low education and income.

Many had doubts about the healthfulness of the food supply, especially as related to use of chemical sprays, the processing and refining of foods and long-distance shipment and long-term storage of food.

Doubts about food healthfulness were generally more prevalent in the less educated and lower income respondents.

These examples have not been exhausted by any means. They have given you a sense of direction in which the Agricultural Research

Service is moving. The Food and Nutrition Service has studies which are program-oriented to evaluate the effectiveness of their program and to give them indications and leads much as those we have obtained in this fruit and vegetable study and all of the work goes together very well and there is coordination.

Mr. Chairman, I trust these few highlights will indicate to the committee the department's concern for research in nutrition education and our intention to press ahead to secure more answers to the what and to the why.

Thank you, Mr. Chairman.

Senator HART. Thank you, very much. Those examples were interesting.

Dr. BAYLEY. Mr. Chairman, in addition to these presentations, we have brought for the use of the committee copies of the study on the impact of the nutrition education program on program participants, copies of materials used to train the aides and copies of educational materials used in our youth nutrition program. They are available to the committee for their use.

Senator HART. Thank you. I will ask the staff to identify those that are appropriate for printing.

Dr. BAYLEY. With that, Mr. Chairman, we thank you for the opportunity of making our presentations and we will be glad to respond to any questions you may have.

Senator HART. I was struck by many of the things that Dr. Leverton told us, and you explained, Doctor, that these studies produced sort of tentative conclusions.

FINDINGS OF STUDY NOT YET EVALUATED

Dr. LEVERTON. Mostly this is true, because our final findings have not been evaluated. We have been in this field a relatively short time and in order to fully control a study, it takes quite some time.

Senator HART. One of the things that struck me—and I am sure this is what the manufacturers of food would include in their arguing against any mandatory labeling—you said you find that homemakers know more facts than they apply: therefore, education should be geared to the attitudes and habits. So we should not surrender to the temptation of assuming if we could just get information into the minds of purchasers and buyers, that then all would be well.

Dr. LEVERTON. I think this also indicates, Mr. Chairman, that nutrition education is not anything that can be done in a vacuum. An effective program is geared to the clientele and to the objectives of a certain program or agency. Therefore it seems most logical that many different areas in government need to be in this field of nutrition education, as you have been hearing this morning, that it is something you don't teach out of context, like you might be able to teach some of the moon shots.

Senator HART. Dr. Bayley told us that everyone needs nutritional information, everybody needs education. The need expands to all income and ethnic groups.

Then you say that 20 percent of everybody in this country had diets that provided less than two-thirds of the recommended allowances for one or more nutrients.

The next two figures also struck me. 36 percent of the households with incomes of $3,000 or less had less than adequate diets. Only 9 percent of those receiving poor diets were from households with incomes of $10,000 or more.

Would it be fair to conclude that, money income level, more than knowledge, was responsible for that?

Dr. BAYLEY. Income level provides the opportunity to have the knowledge, an opportunity which many of the low-income people don't have.

Senator HART. Or having it to act on; it works both ways.

Dr. BAYLEY. Yes, sir, both. Oftentimes, particularly when we use mass media for the education of the people, it is much easier for people of high income to respond to the information than it is for the people with low incomes.

In fact, our experience with nutrition education for low-income people shows very definitely that they need specific information on how they can meet the requirements of nutrition; and they don't have the multiple choices that a person with a high income has.

CHOICES OF FOOD RESTRICTED WITH LOWER INCOME

Miss Schneider from the Office of Education mentioned that the theme should not be that "nutrition is good for you," but that "foods are good." She was thinking about the choices one can have among a large number of foods. These choices tend to be restricted as your income is less.

Senator HART. Certainly. That is the matter of ability to exercise judgment, not the lack of information.

Dr. BAYLEY. That is right. It is the opportunity to exercise judgment and this is less for low-income people.

Senator HART. It strikes me that there is greater knowledge and management skill and ingenuity and responsibility in the 36 percent of those who had households with less than $3,000 income that had less than adequate diets. That means a substantial majority of those—do I read it right—with incomes of less than $3,000, did have adequate diets.

What is 36 from 100? Sixty-four percent of those households eat it even on less than $3,000 a year. That ought to remind us that we make assumptions about the ability of the poor people, too often we assume that there is some genetic effect or some classy alibi for their being less affluent than ourselves. Implicit in this figure is the suggestion that if I were getting less than $3,000 a year, I am sure I wouldn't have an adequate diet. That means I am not as smart as 64 percent of those people who do make it at that level.

This has very little to do with this subject matter; but, it has an awful lot to do with the attitude about how to eliminate poverty. It is suggested that if you give them money you have eliminated poverty; and that it would be a lot better than some of the programs with which we have been funding.

Have I made my point? You are telling us 64 percent of the families with less than $3,000 a year income manage to come up with adequate diets. That speaks, I think glowingly, of the inherent ability of very poor people to be responsible and effective.

Dr. BAYLEY. I certainly agree with that, Mr. Chairman.

Our nutrition education program is based on the premise, that a large number of people with low incomes do have this ability and if provided with the right information, they will make the right judgments. This is the whole premise of our nutrition education program for low-income persons.

Senator HART. This testimony should be submitted to the Finance Committee, when it considers welfare reform.

Dr. BAYLEY. We would like to think, sir, that this is one type of program that helps people get out of the welfare situation, because of the kinds of information we can provide to them.

Senator HART. Having said all of that, the tools that will enable you to act upon your good information remain an essential—even though 64 percent manage to provide an adequate diet with too few tools.

In the Federal programs that you administer—the Federal food programs—how much education is in the program, as distinguished from delivering food and hopefully nutritional value?

Dr. BAYLEY. You are talking about the Food Service programs. How much education did they have involved in those programs directly; is that what you are asking?

Senator HART. The very harsh comments, that many qualified people have directed against the fortified breakfasts, is what gives rise to the question.[1]

An example is the high sugar, high fat, high calorie foods. If there is education in food delivery programs, "that is a lousy education" must be the theme of it.

Now, do we learn from these programs?

PURPOSE OF PROGRAMS

Dr. BAYLEY. Let me say this, that whether they are Food Service programs or whether they are Extension programs, our purpose is to identify the combinations of foods which they can have for breakfast, for example, to give them an adequate start in the day. And we rely on their choice, based on that information.

Now I am sure that if I turned to Mr. Olsson, he could tell us how the Food and Nutrition Service handles this in the structuring of their foods that they provide.

Senator HART. Then, I think it would help Mr. Olsson to have more clearly in mind, the particular criticism about the fortified breakfasts diets.

Dr. BAYLEY. We will come back to those products a little later.

Mr. OLSSON. Yes, Mr. Chairman I think your question relates to the nutrition education and delivery systems of the Food and Nutrition Service. And, in particular, what sort of example is provided when the Department of Agriculture allows the use of an engineered food—in this case a fortified cake product—in a child feeding program.

Clearly there has been criticism, and we hear this criticism of the fact that a fortified breakfast cake, which has been approved to be served in conjunction with a half pint of milk, which provides in conjunction with that half pint of milk 25 percent of the Recommended

[1] See Select Committee on Nutrition and Human Needs, Part 10—Micronutrient Supplements for School Lunch Program, hearing of Dec. 7, 1971.

Dietary Allowance, does look like other things that constitute the normal breakfast. This has been criticized.

The fortified breakfast cake itself arose in response to another set of criticism. It was that the food industry was not using the technological capacity—that has put men on the moon—to answer the feeding problems that appear in both urban ghettos and in rural areas.

A food company put together a product which would provide 25 percent of the RDA in conjunction with a half pint of milk. They did that because the combination of milk and cake could be served easily in a school that had *absolutely* no food service facilities. They did it because there would be no labor costs associated with it; it would be a way of using their technological capabilities.

Standards Set in Answer to Criticisms

So in answer to criticisms of industry inaction, they put together a product. In recognition of the product, the Food and Nutrition Service put together a set of standards which said that this company, or anyone else who can meet these product specifications, can come in.

The product then generated criticism. I think we would stand behind the possibility of innovation, of engineered foods. However, we wouldn't dispute the individual technical criticisms of knowledgeable experts.

Dr. Bayley. Dr. Leverton can respond to the principle of the issue you raise.

Senator Hart. Before you go, Doctor, let me acknowledge—in discussions with other individuals in the Senate, also interested in increasing food programs that would insure the elimination of hungry children in school—I took the side of the engineered package for many of the reasons you have enumerated. Lack of feeding facilities to handle other than small packaged food; children throwing pieces of food at others, the debris that produced in the school; with the counterproductive effect on those who were trying to be persuaded to expand the program.

I am mindful of the desirability of responding to all these arguments that are run into when we go to a school board and try to sell these programs. That item did seem to me, on balance, to make sense. Otherwise you are left for many years waiting for central feeding facilities to go into these schools. This is the hard dilemma with which you are stuck.

However, since then, I have been lectured to try to persuade us that it would be possible to have this compact cake—but without the presence of such a high factor of the items that contribute to overweight, tooth decay, diabetes and heart disease.

What do you say to that?

Mr. Olsson. I think perhaps either Dr. Leverton or Dr. Rosenfield, from the Nutrition and Teaching Service staff, would like to comment.

Dr. Leverton. Many of these things, I think, have been developed as stopgap measures; and, I think, that it goes into the broad field of nutrition education. Is the feeding of a schoolchild something that is to be done with the least possible effort, the least possible money, and in the least possible time; or, are we eventually going to get the educational system of the States to recognize the physical condition and environment of the entire child is equally important.

Well-Nourished Children Better Our Society

I do believe much of our problem with our school feeding has been that we have not sold the idea that a well-nourished child is one who is a better student and a better society member.

In relation to these engineered foods—which are being developed rather rapidly, for a great many different purposes—I think each one is interesting. Each one has some advantage; but I think it is very easy for us to get away from the basic concept of what food is for, and that food is really good.

For instance, when a food nutrition board of the Academy set the Recommended Dietary Allowances—and only enumerated a portion of the nutrients we know to be essential for living and growing—it said very definitely, when they set forth these nutrients, that it was assumed when these nutrients were supplied by a varied diet that the other less known and less well understood nutrients, such as trace minerals and some of the vitamins that we have not yet been able to isolate, then these will be supplied in adequate amounts.

I think the tendency is very easy for the lay person and the public and some of the technologists to think that as long as they have the nutrients that the Academy listed, then they have a nutritious and a complete food—and nothing could be more erroneous.

So, it again comes to a matter of balance. If a child is going to have breakfast, and you can give him something in the nature of a toast—preferably, than a cake—that will carry a fair share of the nutrients, then you take the lesser of several evils. He either doesn't have anything, or he has something—it may have less nutrient value. Then there is some justification to it. But this is not an end in itself; it is only a stopgap.

Senator Hart. I am aware that the use of the Section 10 money, which both of you have discussed, has given rise to some hauling and tugging.

The question—I guess bluntly put—is the 1 percent that is sought to be used for developmental projects has been used largely for the Extension Service. Am I correct in that?

Dr. Bayley No.

Mr. Olsson. I think, Mr. Chairman, I might——

Senator Hart. Then it is the Section 6, 1 percent money, that has been used largely for Extension Service. Am I wrong in that?

Dr. Bayley. The Extension Service program is primarily based on appropriations directly to the Extension Service for nutrition education.

Section 6 Money Allocations

Senator Hart. To what extent does the Extension Service allocate or participate in the allocation decisions on Section 6 money?

Mr. Olsson. Mr. Chairman, I think what you are getting at here is the way the Department of Agriculture is organized. The Food and Nutrition Service is a delivery organization for family food programs and child feeding programs. There are child feeding funding authorities for surveys and studies, this sort of thing.

Dr. Bayley, who is Director of Science and Education, has responsibility for the Agricultural Research Service, and the Extension

operative Extension Services. Assistant Secretary Lyng has already discussed the work of the Food and Nutrition Service. In addition to this, the Farmers Home Administration has home supervisors located in 10 States that help their loanees improve their nutrition, food production, preparation and preservation, and money management.

As Dr. DuVal has indicated, nutrition education is available from many other agencies, organizations and institutions, both government and private. The public schools provide nutrition education for many of our youth. Industry, the schools of home economics, and the medical schools provide a contribution to nutrition education. This multiplicity of groups participating in nutrition education is essential to obtaining as full coverage as possible of the potential clientele.

The Extension Service works with all these groups. The training of public school teachers and of public health personnel in the States by Extension, which is conducted on a request basis, is evidence of the way local and State agencies are working together and utilizing fully the existing expertise in their several efforts.

Carrying Out and Coordinate Nutrition Education

Within the Federal Government, nutrition knowledge is exchanged through the Interagency Committee on Nutrition Education, established in the 1930s.

Governmental organizations, working in this field, share knowledge of nutrition education through this Interagency Committee and provide a forum for discussion of problems and programs related to nutrition education. They stimulate efforts to improve the well-being of people through education. They periodically sponsor national training meetings about current nutrition topics on relevant needs. They identify areas of needed research.

The Department of Agriculture provides the secretariat for this national committee. Similar interagency efforts exist at the State level in several States. State Extension Nutrition specialists cooperate with and give strong support to these educational coordinating groups.

Nutrition Education Policy of the Administration

Although not explicitly stated as a set of policy statements, the President and White House Conferences—such as the one in 1967 on Food, Nutrition and Health—stressed in their recommendations that "every American should have access to knowledge of nutrition and its relation to health as well as means to assure food to meet his nutritional needs."

Overall Federal Role in Nutrition

It would seem to us that the overall Federal role should be to define goals, to coordinate existing programs, to avoid unnecessary duplication, and to create an effective national nutrition education program.

Service, and is also the education authority in the Department of Agriculture.

So in allocating these funds, those of us on the Marketing and Consumer Services side, and that includes the Food and Nutrition Service, would defer to the expertise which Dr. Bayley and his Science and Education staff have.

Dr. Bayley. In regard to projects developed under those authorities, they come to my office. They are reviewed by the Research and Extension people as appropriate, and then the coordination is worked out with the FNS.

These funds are not necessarily placed with Extension Service, but with such institutions which we mutually identify as the best recipients of them in order to get the job done.

Senator Hart. For the record—if you have it; and, if not, it can be supplied—what allocation or allocations have been made of the Section 6 funds?

Dr. Bayley. We will supply that for the record,[1] Mr. Chairman.

Senator Hart. And prospectively too—to the extent you are in a position to indicate, and where the title you will use to respond to the question doesn't include this information—have any of those funds been made available to the States for experimentation?

Dr. Bayley. We will make sure that is involved in the data we provide.

Senator Hart. Now, on the Section 10 money, some States are reported to believe that very little, if any, money has been made available for nutritional education projects to them.

Is this impression correct or not?

3. Provision of an exchange of information on nutrition education for all population groups—agency to agency; State to State.
4. Maintenance of an inventory of present programs concerned with food nutrition.
5. Maintenance of an inventory of unmet needs of population groups related to food and nutrition; make recommendations to State governments, industry, research centers for educational programing and for research studies.
6. Promotion of State, regional, national and international workshops and seminars for purposes of delineating problems and outlining procedures for solution.
7. Provision of a national food and nutrition resource center—information resource personnel and materials.
8. Development of guidelines and plans for supervision for federally-funded programs such as EFNEP, School Lunch and Food Stamps.
9. Continuous surveillance of nutritional status.
10. Special consideration of vulnerable groups.
11. Improvement of nutritive values of foods.
12. Provision of current nutrient food values, standards and tolerances, and so forth.

Summary

This is a listing also of activities in which the Federal Government could provide leadership.

We recognize that nutrition education must be a long-term effort which must constantly reach more people more effectively as new knowledge and new foods become available.

Studies made by the USDA show that good and poor diets appear at all income levels and among all ethnic groups. The lack of knowledge of our people regarding nutritive content of foods or nutrient requirements is, in many ways, appalling and fosters the prevalence of misinformation. Our objective is to help families achieve a satisfying healthful pattern of eating. The abundance of our food supply, the people of different cultural backgrounds who comprise the population, our rather vast geographic area, and the widely differing economic status of families—which overshadows availability of food in eating pattern formation—are all recognized as factors in our work.

With your permission, I will now turn to Nancy Leidenfrost for her presentation of the Extension activity.

STATEMENT OF NANCY LEIDENFROST

Miss Leidenfrost In the field of nutrition education an *expanded* new effort is being made through the Extension Service in 50 States,

of past procedures or policies, without enough effort on innovative new directions. However, I do believe that it is true that in both Section 10 and Section 6 funding, we can have nutrition education and training and demonstration projects.

We have moved rather carefully. On the basis of the first 25 years of the School Lunch Program—generally concluding that the educational aspects of the program certainly never reached their potential—we were trying to concentrate on new and innovative ways.

I think as we are moving ahead, within the funding made available by the Congress, we are moving much more rapidly now than we did the first 2 years, particularly the first year.

Dr. Rosenfield. I think, perhaps, the way we use Section 10 funds is they offer special development projects and are not for nutrition education per se; though they can have a nutrition education component.

Many of the projects that we did receive or the proposals were solely nutrition education. And based on a reading of Public Law 91-248,[1] we thought these types of money should be used under Section 6. So I would like to make that point.

Senator Hart. We will get the specifics on the funding, but to be positive, is or is not the 1 percent on Section 6 available to States?

Dr. Bayley. It is not necessarily available to States.

Miss Kelley. Not necessarily.

Senator Hart. Can you use it or can you send it to a State?

Ways of Using Funding

Miss Kelley. There are a variety of ways. We can use it directly; we can use it by contract with a State university or other competent

Expanded Food and Nutrition Education Program. It was initiated by the Department of Agriculture and Cooperative Extension Service in November 1968 to improve diets of low-income families through education.

Now operating with a budget of $50 million—$7.5 million of which is earmarked for 4-H-type professionals to reach urban youth, and $2.5 million for program evaluation and to fund innovative pilot programs—to date we have reached more than 750,000 families with an average cost of $68 per family per year.

Funded in November 1968 with $10 million from Section 32 funds, it was so successful in its pilot project that the President provided and Congress approved $20 million in 1969; $30 million in 1970; $50 million in 1971; and $50 million in 1972. The cooperative nature of Extension is illustrated by the States providing a total of $6.8 million during fiscal year 1972.

The Expanded Food and Nutrition Education Program has brought a new approach to nutrition education, *namely* that *para*professional work with low-income families individually in their homes or in small groups. The paraprofessional program aides are trained and supervised by professional Extension home economists. Since the launching of this program in 1968, more than 20,000 aides have been trained and employed in about 1,500 counties and independent cities. A large percentage of aides have been recruited from among homemakers who first were recipients of Expanded Nutrition Education. They were chosen because of abilities and leadership that would enable them to work as teachers among families in circumstances similar to their own—often in their own neighborhoods. They provide instruction and dispense practical knowledge of good nutrition and related problems such as how to make best use of limited food budget, how to get enrolled in food assistance programs, or how to buy wisely with food stamps and to use donated foods.

All told, program aides have enrolled 750,000 families, with a total of 3.6 million family members. In addition, well over 1 million girls and boys have been involved in youth phase. In the adult phase the educational effort has required 18 to 24 months to bring about the improvements and changes which are documented with each enrolled family.

The program families report every 6 months on a 24-hour food intake to measure the change in diet resulting from their educational involvement in the program.

Analysis of food recall shows marked improvement in nutrition patterns over a period of time. Using the daily requirement of two servings of milk and of meat and four servings of fruits/vegetables and of bread/cereal, improvement of the diets was observed within 6 months from time of entry into the program. One of the most significant increases has been the amount of vegetables and fruits consumed

Senator HART. Moneys available under Section 6 and Section 10—the 1 percent factor—if not expended either directly by you or through contract or by transmittal to the States, then where does that revert?

Miss KELLY. On the Section 6 funding, we do not fund it as a 1 percent reserve. It seemed to us, particularly in view of the recent efforts of the Congress to guarantee minimum rates of assistance under the School Lunch Program—Section 4 and Section 11—to be an unnecessarily complicated way.

FUNDS CARRIED OVER UNTIL EXPENDED

So what we have is a line item in our appropriation request, each year, for Section 6 funds. We are funded for this fiscal year at about $1 million. And we have utilized all of the funding that has been approved under that line appropriation, or if it were not utilized, it would be like any other unutilized School Lunch fund. It is carried over for the purposes of the National School Lunch Act until expended.

The 1 percent under Section 10 was designed to give the State a choice as to whether or not—out of its program funds—it would reserve 1 percent of the money made available for research in demonstration projects.

So that, in the case of the Section 10 funds, if the State elected not to utilize any of its funds for demonstration projects it could use them for reimbursement—the purchase of equipment, or whatever purpose it received the program funds.

Senator HART. If I understood you, Dr. Rosenfield, most of the applications from the States for Section 10—1 percent Section 10 money—appear to you, and those reviewing them, as not experimental?

Dr. ROSENFIELD. That is correct. They were for projects which

of projects and I personally could not identify the details of either of the two you mentioned.

Child Nutrition Money for Nutrition Education

Mr. Quinn. Do you think—in light of the attitude that the department has towards the use of those funds—that this committee should recommend to the Congress additional spending authority to the States for the area of nutrition education?

Miss Kelley. I am not sure I get the import of your question there.

Mr. Quinn. Several States, right now, want to use child nutrition money for nutrition education efforts. They are being denied the opportunity to do so because of *someone's* interpretation of the law as it now stands. They feel that the States, as opposed to the Extension Service, should run in-school nutrition education programs.

Thus, do you feel that this committee should recommend to the Congress that the law be changed such that the States, henceforth, will be able to use child nutrition money for nutritional education purposes?

Miss Kelley. I am not sure, at this particular moment, that I could make that recommendation because I would need to go back and check on the projects, and the nature of the projects that have been turned down, and why—in order to comment.

It may be a question of whether or not one would increase the administrative expenses of the State agency, that kind of consideration, or other legislation——

Dr. Bayley. I think we can give you a much better answer to that question if we give it further consideration and report back.

Senator Hart. We would ask that you do that.[1]

Mr. Quinn. I only have one other question, which is in the form of your thoughts on another recommendation.

You are aware that Public Law 92–433 [2] contains the so-called vending machine provision. I would like to ask what effect, if any, you see that provision—which allows nonnutritious food to be sold in competition with school lunches—having on the educational components that we hope the child nutrition programs have?

Miss Kelley. First, Mr. Quinn, I would say that it is our view that the legislative history of that provision of P.L. 92–433 was not intended to result in the complete elimination of the regulation on competitive foods, but to move the responsibility for that regulation from the Federal Government to State educational agencies and to local school systems. And I feel confident that the regulations that the department will issue in proposed forms to implement the additional parts of P.L. 92–433 will reflect that intent. Therefore it will be a matter of placing the responsibility for the regulation at other levels of government rather than the Federal. So that to the extent that the State and local people accept that responsibility, I would suggest that it does not necessarily mean it would have any impact on nutrition education at all.

Mr. Quinn. Do I understand your interpretation to mean that the States will be required to accept that responsibility? What happens in the event of a refusal by a State or a local school authority to involve themselves?

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[1] At time of publication in February 1973, no reply has been received.
[2] See Part 2A—Appendix.

Miss KELLEY. I think that was the import of the provision of law that was passed by the Congress. They did not want a uniform Federal application; they wanted to move it back to those levels of government. It was the intent to eliminate the Department of Agriculture's ability to regulate in this field. Therefore if a State chose not to, or chose varying methods, I think that that must be their decision. That was the intent of the legislation that was passed.

Mr. QUINN. With that being the intent—and recognizing that as you get closer to the local situation, the pressure becomes more intense—let's say, you don't feel that this will have any adverse effect on the educational components of the School Lunch Program?

Miss KELLEY. No, I said—I think I said—that I assumed that the decision to move the regulatory function back toward the State and local levels was based on the judgment that that was a more effective place to have it. Therefore if that judgment held true, and State and local governmental agencies and school systems effectively exercised this responsibility, I did not see how it would have any effect on nutrition education.

Mr. QUINN. Thank you. That is all I have.

Senator HART. What you are saying is: We do not know yet whether our judgment was sound. Is that right?

Miss KELLEY. Yes. In essence.

Senator HART. Dr. Bayley and ladies and gentlemen, thank you, very much.

Dr. BAYLEY. We thank you sir.

Senator HART. The committee is in recess, subject to the call of the Chair.

(Whereupon, at 1 p.m., the Select Committee was recessed, to reconvene at the c. l of the Chair.)

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