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UNITED STATES GENERAL ACCOUNTING OFFICE  
WASHINGTON, D.C. 20548

ENERGY AND MINERALS  
DIVISION

JANUARY 2, 1980

B-114858

The Honorable John D. Dingell  
Chairman, Subcommittee on Energy  
and Power  
Committee on Interstate and  
Foreign Commerce  
House of Representatives



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Dear Mr. Chairman:

Subject: [Alignment of Recommendations in EMD-79-105  
with Senate bill 885]. (EMD-80-35)

Your recent letter requested that we give our views on how Senate bill 885, the Pacific Northwest Electric Planning and Conservation Act, aligns with the recommendations made in our recent report. 1/ This report addressed three primary issues of House bill 3508, the unamended version of Senate bill 885. The three issues were:

- Could the legislation expose regional power consumers to more rate increases from construction cost overruns on non-Federal power plants backed by the Bonneville Power Administration? 463
- How would passage or failure of the legislation impact on Bonneville's direct service industrial customers?
- How would the legislation impact on runs of anadromous salmon and steelhead trout in the Columbia River system? 273

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1/"Impacts and Implications of the Pacific Northwest Power Bill," EMD-79-105, Sept. 4, 1979

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In addition, your staff requested that we present our views on the need for a Pacific Northwest regional power planning entity.

HOW THE SENATE-PASSED POWER BILL DEALS WITH  
THE PROBLEMS IDENTIFIED IN GAO'S REPORT

A brief examination of Senate bill 885 which passed the Senate on August 3, 1979, revealed various amended provisions relating to the three issues addressed in our review of the impacts and implications of House bill 3508.

Consumer exposure to cost overruns  
on non-Federal power plants

With respect to controls over the costs of constructing non-Federal powerplants, Senate bill 885 recognizes the importance of sound contracting and oversight practices, and but leaves the determination of what practices are necessary proper to the Administrator's discretion. This approach is set forth in Section 6 (i) as follows:

"(i) Contracts for acquisition of resources entered into pursuant to this section shall contain such terms and conditions as the Administrator finds necessary or proper to insure timely construction, scheduling, completion, and operation of new resources, to insure that the costs of any acquisition are as low as reasonably possible, consistent with sound engineering, operating, and safety practices, and to provide the means for the Administrator to exercise effective oversight, audit, and review of all aspects of such construction and operation."

Section (i) is a useful statement of purpose, but provides none of the specific contracting and oversight requirements recommended in our report. The serious management weaknesses disclosed by our review, together with the magnitude and continued growth of construction cost overruns, suggest to us that the Congress--if it grants Bonneville broad power purchase authority--may wish to help protect regional consumers from such financial risks by establishing specific contracting and cost control requirements in the legislation. Specific contracting requirements we recommended are:

- BPA's purchase commitment to any conventional thermal power plant be limited to \_\_\_ percent or less of the planned generating capability, and to \_\_\_ percent or less of actual construction cost or estimated construction cost at time of BPA's commitment--whichever is less--subject to approval by a representative regional power planning board, the Secretary of Energy, and the appropriate committees of the Congress.
- BPA's contractual rights in purchasing the energy capacity of generating plants or conservation programs provide that BPA representatives sit on all project planning, management, and evaluation groups and exercise authority commensurate with BPA's purchase of plant capability.
- BPA's contractual rights also include full BPA participation in: developing, reviewing, and approving project designs, operating plans, and safety procedures; establishing and monitoring construction management and financial management system, authorizing and negotiating settlement of contracts and contract change orders; selecting, inspecting, evaluating and approving payments for the work of architect-engineers, construction managers, contractors and subcontractors, plant operators, and independent management analysts.

Impacts on Bonneville's direct service industrial customers

Regarding Bonneville's direct service industrial customers (DSIs), Senate bill 885 provides that before July 1, 1985, the rates charged DSIs will be tied to the cost of certain new power purchases (Section 7 (c)(1)) and thereafter to a level which the Administrator determines to be equitable in relation to the retail rates charged by the region's public bodies and cooperatives to their industrial customers (Section 7 (c))(2)). Further, the value of credits which will be granted to DSIs for power interruptions is left to administrative determination by the Administration (Section 7 (c))(2)).

Our review indicated that there may be opportunities to improve (1) the energy efficiency of older production

DSI facilities and (2) the cost-effectiveness for providing various system reserves. We continue to believe that thorough exploration of these potentials and, where appropriate, actions to capitalize on them should be required before Bonneville is authorized to offer the DSIs new 20 year contracts. We specifically recommended that:

--BPA be authorized, when necessary, to gradually decrease the quantities of power allocated to a DSI customer until the plant receives only as much power as would be needed by a modernized plant of the same capacity and technology. This action would be taken by BPA only if voluntary conservation efforts by the DSI customer proved insufficient to meet commercial standards for production efficiency.

--Direct BPA to conduct a thorough analysis of the economic, environmental, and social costs of alternative means of providing system reserves including, but not limited to, interruptible power sales, load management and conservation techniques, power exchange agreements, pricing initiatives, and standby generating facilities. This study, complete with recommendations for action, should be submitted for review and approval by the Secretary of Energy.

#### Protection of anadromous fisheries

The enhancement of anadromous fisheries is recognized as a desirable objective in Senate bill 885, whereas House bill 3508 was silent on this subject. The Senate-passed bill provides that participation and consultation of fishery agencies are essential in development of regional plans and programs (Section 2 (b)). It provides that the regional power plan will give due consideration to the preservation and enhancement of fisheries (Section 4 (e)(1)), and calls for the regional electric power planning council to annually request fishery agencies to make recommendations for this purpose (Section 4 (h)). If the power planning council so recommends, the Administrator will (1) include in his annual budget funds for fisheries research and development and (2) meet his power supply responsibilities in a manner which will assist in the preservation and enhancement of the anadromous fisheries resource (Section 4 (h)).

We believe that the fisheries provisions in Senate bill 855 are desirable in their thrust, but insufficiently strong to assure survival of the upriver fish runs. To assure that the runs are preserved, we believe that prompt actions are necessary. As outlined in our report, such actions should include:

- Establishment within 1 year, minimum streamflows adequate to protect and enhance the fisheries.
- Installation, as rapidly as practical, of equipment at all main-stem dams to effectively reduce the mortality of migrating juvenile salmon and steelhead.
- Congressional receipt, within 6 months, of recommendations from the Secretary of the Interior on actions needed to consolidate and make more effective the efforts of numerous Federal agencies impacting on the anadromous fisheries.

Our review indicated that time is a critical factor for some upriver fish runs. We believe that prompt actions, such as those outlined above, are necessary to assure survival of these unique natural resources.

NEED FOR REGIONAL POWER  
PLANNING ENTITY

Our August 10, 1978, report 1/ pointed out the need for a regional power-planning board to exercise a region wide perspective over electricity management. In an October 16, 1978, letter to you we suggested the following wording for the Northwest power bill to establish a regional board.

3                   The Secretary of Energy shall establish a 9/2  
representative regional-power planning board  
to review and advise the Secretary of Energy;  
the Administrator of Bonneville; and the  
Governors of Washington, Oregon, Idaho, and

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1/"Region at the Crossroads--The Pacific Northwest Searches for New Sources of Electric Energy," EMD 78-76, Aug.10, 1978.

Montana on the development of power plans and policies. The board shall include, but not be limited to, representatives of Federal agencies, State governments, investor-owned and publicly-owned utilities, environmental groups, industry, and energy consumers, as well as a chairperson to be designated by the President or Secretary of Energy.

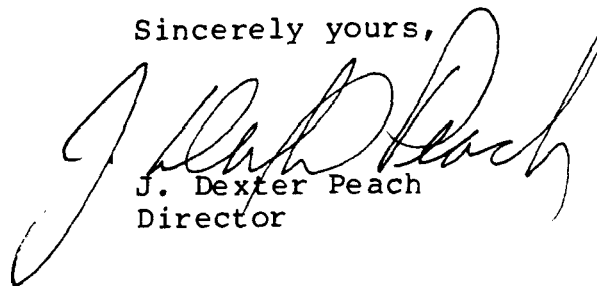
The board would have responsibility for planning and/or reviewing the regional power plan and conservation program. Specific functions should include: testing and evaluating load forecasts; reviewing decisions involving the selection of new supply sources; and reviewing conservation programs and proposals. In performing such review functions, the board shall have access to the Bonneville Power Administration for technical assistance, and capability to contract for further technical assistance.

The Secretary of Energy shall establish terms and conditions, including expenses, for members of the board, with such expenses to be repaid by proceeds from the Federal Columbia River Power System.

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We trust this report is responsive to your needs. If we can be of further assistance, please let us know.

Sincerely yours,



J. Dexter Peach  
Director

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JANUARY 2, 1980

The Honorable Patricia Roberts Harris  
The Secretary of Health, Education,  
and Welfare

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Dear Mrs. Harris:

Subject: [Greater Federal Efforts Are Needed to  
Improve Nutrition Education in U.S.  
Medical Schools] (CED-80-39).

Enclosed is a copy of testimony presented on Novem-  
ber 8, 1979, by the Director of our Community and Eco-  
nomic Development Division before the Subcommittee on  
Nutrition, Senate Committee on Agriculture, Nutrition,  
and Forestry, on the status of nutrition education in U.S.  
medical schools.

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We testified that, despite its importance to health,  
nutrition is not taught adequately in many medical schools.  
While current Federal spending for health programs totals  
about \$63 billion, in fiscal years 1972-79 the Bureau of  
Health Manpower spent less than \$3 million for nutrition  
education grants to 23 medical schools. In addition, no  
evaluations had been made of the results of 10 completed  
grants, nor are there plans to evaluate them or the 13 on-  
going grants that were funded at the end of fiscal year 1979.

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The Federal Government can and should do more to help  
improve the status of nutrition education in medical schools  
We recommend that you direct the Administrator, Health Re-  
sources Administration, to:

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- Evaluate the results of the Bureau's nutrition education grants to gain insight into how medical schools could most effectively incorporate nutrition into their curricula. Also, disseminate to all medical schools available information on existing effective nutrition education programs.
- Set up several 3-year demonstration projects at interested medical schools to show how nutrition curricula could be consolidated and emphasized. This could be done by engaging a physician as a focal point for nutrition. This physician would



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pull all nutrition training together and identify any weaknesses in nutrition instruction.

- Make the results of the demonstration projects known and, if outstanding projects are developed, consider packaging a nutrition education program for other schools' use.

We also recommend that you consider the following measures:

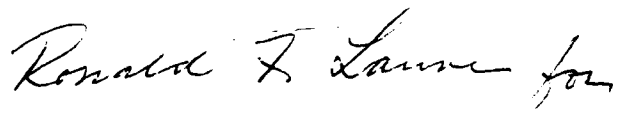
- Funding fellowships in the nutrition area. The Federal Government could help alleviate the shortage of physicians specializing in nutrition by providing grants to train recent medical school graduates to teach nutrition.
- 3/8 --Funding regional conferences of the Association of American Medical Colleges to discuss nutrition education. The conferences would be a step toward making Association members more aware of the physician's need for a sound nutrition education.

As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the Senate Committee on Governmental Affairs and the House Committee on Government Operations not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

We are sending copies of this report to the Director, Office of Management and Budget; the Director, Office of Science and Technology Policy; the Secretary of Agriculture; the Director, National Science Foundation; and the President, Association of American Medical Colleges.

We would be pleased to discuss these matters with you or members of your staff and would appreciate receiving your comments on the actions taken or planned. Should questions arise concerning this report, please contact Mr. William Gahr, Senior Group Director of our Community and Economic Development Division; he may be reached on 275-5525.

Sincerely yours,



Philip A. Bernstein  
Acting Director

Enclosure



UNITED STATES GENERAL ACCOUNTING OFFICE  
WASHINGTON, D.C. 20548

FOR RELEASE ON DELIVERY  
EXPECTED AT 9:00 A.M. EST  
THURSDAY, NOVEMBER 8, 1979

STATEMENT OF  
HENRY ESCHWEGE, DIRECTOR  
COMMUNITY AND ECONOMIC DEVELOPMENT DIVISION

ACCOMPANIED BY MURRAY GRANT, M.D., D.P.H.,  
CHIEF MEDICAL ADVISOR, GENERAL ACCOUNTING OFFICE  
AND  
LINDA SCHMEER, GAO AUDITOR

BEFORE THE  
SUBCOMMITTEE ON NUTRITION OF THE  
SENATE COMMITTEE ON AGRICULTURE, NUTRITION, AND FORESTRY  
FOR HEARINGS ON  
NUTRITION TRAINING OF HEALTH PROFESSIONALS

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE:

WE ARE PLEASED TO BE HERE TODAY TO PRESENT INFORMATION  
ON THE STATUS OF NUTRITION EDUCATION IN MEDICAL SCHOOLS.  
OUR PRESENTATION WILL INCLUDE INFORMATION ON WHAT THE FEDERAL  
GOVERNMENT HAS DONE TO FOSTER NUTRITION EDUCATION, AND  
SUGGESTIONS FOR WHAT CAN BE DONE.

ALTHOUGH NUTRITION IS IMPORTANT IN MEDICINE, IT IS NOT  
TAUGHT ADEQUATELY IN MANY U.S. MEDICAL SCHOOLS. AS A RESULT,  
MANY PHYSICIANS MAY NOT KNOW AS MUCH AS THEY SHOULD ABOUT HOW  
TO MAKE NUTRITIONAL ASSESSMENTS OR COUNSEL PATIENTS ABOUT  
DIET. MEDICAL SCHOOLS TRAIN PHYSICIANS PRIMARILY TO LOOK  
FOR AND TREAT NUTRITION-RELATED DISEASES AFTER THEY OCCUR  
RATHER THAN PREVENTING THEM THROUGH NUTRITIONAL ASSESSMENT  
AND DIETARY COUNSELING.

ENCLOSURE I

ENCLOSURE I

SIX OF THE TEN LEADING CAUSES OF DEATH IN THE UNITED STATES HAVE BEEN LINKED TO POOR NUTRITION: HEART DISEASE, CANCER, CEREBROVASCULAR DISEASES, DIABETES, ARTERIOSCLEROSIS, AND CIRRHOSIS. VARIOUS NONFATAL CONDITIONS HAVE ALSO BEEN TRACED TO POOR NUTRITION--DENTAL DECAY IS ONE EXAMPLE.

THE NEED TO TEACH PHYSICIANS MORE ABOUT NUTRITION HAS BEEN KNOWN FOR YEARS. THE AMERICAN MEDICAL ASSOCIATION (AMA) AND THE NUTRITION FOUNDATION SPONSORED A 1962 CONFERENCE ON TEACHING OF NUTRITION IN MEDICAL SCHOOLS, AFTER AN AMA SURVEY FOUND THAT "MEDICAL EDUCATION AND MEDICAL PRACTICE HAVE NOT KEPT ABREAST OF THE TREMENDOUS ADVANCES IN NUTRITIONAL KNOWLEDGE" AND "THERE IS INADEQUATE RECOGNITION, SUPPORT, AND ATTENTION GIVEN TO THIS SUBJECT IN MEDICAL SCHOOLS."

THE SITUATION HAS NOT CHANGED ACCORDING TO AN AUGUST 1978 SENATE COMMITTEE REPORT, ACCOMPANYING THE PROPOSED HEW 1979 APPROPRIATION ACT, WHICH EXPRESSED CONCERN "THAT PHYSICIANS AND OTHER HEALTH PROFESSIONALS BEING TRAINED IN THE NATION'S MEDICAL SCHOOLS AND OTHER INSTITUTIONS ONLY IN RARE CASES RECEIVE QUALITY INSTRUCTION IN HUMAN NUTRITION." THE REPORT CONSIDERED THIS A PROBLEM BECAUSE OF "GROWING EVIDENCE THAT DIET PLAYS A SIGNIFICANT ROLE IN HEALTH." THIS PROBLEM WAS ALSO STRONGLY STRESSED BY FORMER SECRETARY CALIFANO THIS SUMMER IN THE FIRST SURGEON GENERAL'S REPORT ON HEALTH PROMOTION AND DISEASE PREVENTION, ENTITLED "HEALTHY PEOPLE." THE COMMITTEE REPORT ADDED THAT "MOST AMERICANS TURN TO THEIR

PRIVATE PHYSICIANS OR TO THE MEDICAL CARE DELIVERY SYSTEM FOR GUIDANCE IN MATTERS OF NUTRITION WHICH LEADS TO THE CONCLUSION THAT THIS DEFICIENCY IN CURRICULA NEEDS TO BE REMEDIED."

A GREAT DEAL HAS BEEN WRITTEN ABOUT THE STATUS OF NUTRITION EDUCATION IN MEDICAL SCHOOLS. ALSO, CONGRESSIONAL HEARINGS AND MANY CONFERENCES HAVE BEEN HELD ON THE SUBJECT IN RECENT YEARS.

AFTER STUDYING MUCH OF THE EVIDENCE CONCERNING MEDICAL SCHOOLS' NUTRITION EDUCATION, WE DECIDED TO TEST THE VALIDITY OF THE EVIDENCE BY VISITING FOUR LOCAL MEDICAL SCHOOLS. OUR VISITS WITH THESE MEDICAL SCHOOL FACULTIES PROVIDED SOME INFORMATION ON THE TEACHING OF NUTRITION AND ON THE WAYS THAT GRADUATING PHYSICIANS USE THEIR KNOWLEDGE OF NUTRITION IN EXAMINING HOSPITAL PATIENTS. IN THE SCHOOLS WE VISITED, NUTRITION IS BEING TAUGHT PRIMARILY IN CONJUNCTION WITH OTHER MEDICAL SUBJECTS AND NOT AS A SPECIAL COURSE IN NUTRITION.

WHEN OUR MEDICAL ADVISOR, DR. MURRAY GRANT, REVIEWED RANDOM CASE RECORDS AT THE TEACHING HOSPITALS OF THREE OF THE MEDICAL SCHOOLS WE VISITED, THE PATIENT NUTRITION ASSESSMENT WAS VERY MIXED. IN MANY PATIENTS, NUTRITIONAL STATUS HAD BEEN CLEARLY CONSIDERED BY THE EXAMINING PHYSICIAN, WHILE IN OTHERS THERE WAS NO EVIDENCE THAT ANY ATTENTION HAD BEEN PAID TO THIS SUBJECT. THIS IS NOT TOO SURPRISING, SINCE THE PHYSICIAN HAS BEEN TRAINED TO RESPOND TO A SPECIFIC COMPLAINT OR DIAGNOSIS. IN A TEACHING HOSPITAL, IT IS PARTICULARLY IMPORTANT TO TRAIN FUTURE PHYSICIANS HOW TO ASSESS A PATIENT'S NUTRITIONAL

STATUS. A NUTRITION ASSESSMENT, INCLUDING THE TAKING AND RECORDING OF WEIGHT AND HEIGHT AND DETERMINING THE ADEQUACY OF A DIET, PROVIDES A BASIC UNDERSTANDING OF THE NUTRITIONAL STATUS OF ANY PATIENT.

ONE REASON FREQUENTLY CITED FOR INADEQUATE NUTRITION EDUCATION PROGRAMS IN MEDICAL SCHOOLS IS "WE DON'T KNOW WHAT TO TEACH." A 1975 OHIO STATE UNIVERSITY STUDY ATTEMPTED TO ADDRESS THIS PROBLEM BY IDENTIFYING 23 NUTRITION TOPICS THAT PHYSICIANS AND TEACHERS OF NUTRITION AGREED SHOULD BE INCLUDED IN MEDICAL SCHOOL CURRICULA.

IN NONE OF THE MEDICAL SCHOOLS THAT WE VISITED DID IT APPEAR THAT ALL OF THE 23 NUTRITION TOPICS IDENTIFIED BY THE OHIO STATE UNIVERSITY STUDY WERE BEING COVERED. HOWEVER, THE SCHOOLS REASONABLY CONSIDERED SOME OF THE TOPICS FOR INCLUSION IN PART OF THE CURRICULA. THE MAJOR WEAKNESS APPARENT IN FOUR OF THE SCHOOLS SEEMED TO BE IN TEACHING THE STUDENT PHYSICIAN HOW TO ELICIT AND EVALUATE A PATIENT'S DIET HISTORY, HOW TO ASSESS A PATIENT'S NUTRITIONAL CONDITION, AND HOW TO COUNSEL A PATIENT ABOUT DIET. IT APPEARS TO BE IN THESE AREAS THAT THE WEAKNESSES OCCUR.

THREE OF THE SCHOOLS WE VISITED DEVELOPED SPECIFIC COURSES IN NUTRITION, WHICH ARE ELECTIVE COURSES WHOSE ENROLLMENTS ARE LIMITED TO ABOUT TEN PERCENT OF THE STUDENT BODY.

THIS SITUATION COULD CAUSE TWO PROBLEMS. ONE IS THAT STUDENTS NOT EXPOSED TO NUTRITION MAY NEVER DEVELOP AN

INTEREST IN IT BECAUSE, AS WE LEARNED THROUGH DISCUSSIONS WITH MEDICAL SCHOOL REPRESENTATIVES, IF A SUBJECT IS NOT PROPERLY EMPHASIZED DURING THE FOUR YEARS OF MEDICAL SCHOOL, STUDENTS ARE INCLINED TO THINK IT IS NOT IMPORTANT. THE SECOND PROBLEM IS THAT STUDENTS WITH AN INTEREST IN NUTRITION MAY NOT HAVE AN OPPORTUNITY TO PURSUE THE INTEREST DUE TO LIMITS PLACED ON ENROLLMENTS IN SOME NUTRITION ELECTIVES.

THE NUTRITION ELECTIVE AT ONE OF THE SCHOOLS WAS A SEMINAR IN WHICH STUDENTS RESEARCH A DESIGNATED TOPIC AND PROVIDE MOST OF THE CLASSROOM DISCUSSION. BECAUSE OF ITS SEMINAR FORMAT, ENROLLMENT WAS LIMITED TO 30 STUDENTS, ALTHOUGH 60 STUDENTS HAD APPLIED FOR THE MOST RECENT COURSE. MANY OF THE EXCLUDED 30 STUDENTS AND MOST OF THE SCHOOL'S OTHER STUDENTS MAY NEVER TAKE A NUTRITION COURSE.

SOME NUTRITION INFORMATION FOR MEDICAL STUDENTS IS GENERALLY PICKED UP IN OTHER COURSES. THE TEACHING OF NUTRITION IN THE SCHOOLS WE VISITED WAS COMBINED WITH THE TEACHING OF BIOCHEMISTRY, USUALLY IN THE FIRST ACADEMIC YEAR, FOLLOWED BY CLINICAL (WITH PATIENTS) TEACHING OF NUTRITION AS A PART OF PEDIATRICS, INTERNAL MEDICINE, ETC.

THE AMA LOOKED AT THE WAY MEDICAL SCHOOLS ORGANIZE THE TEACHING OF NUTRITION, SENDING A QUESTIONNAIRE TO ACCREDITED SCHOOLS IN 1976 AND AGAIN IN MID-1978. OF THE RESPONSES TO THE LATER SURVEY, 25 PERCENT REQUIRED A COURSE IN NUTRITION, 70 PERCENT OFFERED ELECTIVE COURSES IN NUTRITION, AND 97 PERCENT TAUGHT NUTRITION AS PART OF ANOTHER COURSE. THIS

MEANS THAT THE MAJORITY OF NUTRITION INFORMATION TRANSFERRED TO MEDICAL STUDENTS IS NOT BEING TAUGHT BY A NUTRITION SPECIALIST. BETWEEN 1976 AND 1978 THERE WAS A SLIGHT INCREASE IN THE PROPORTION OF SCHOOLS REQUIRING A COURSE IN NUTRITION AND IN THOSE INCORPORATING NUTRITION IN ANOTHER COURSE.

ALTHOUGH VERY FEW SCHOOLS REPORTED A TOTAL LACK OF NUTRITION IN THEIR CURRICULUM, THERE IS STILL EVIDENCE THAT JUST HAVING AN ELECTIVE IN NUTRITION IS NOT ENOUGH. A MEDICAL SCHOOL MUST PROVIDE SUPPORT TO ITS NUTRITION PROGRAM THROUGH STAFF AND FINANCIAL RESOURCES IF THE IMPORTANCE OF NUTRITION IS EVER TO BE IMPRESSED UPON STUDENTS.

NONE OF THE FOUR SCHOOLS WE VISITED APPEAR TO PLACE HIGH PRIORITY ON NUTRITION, OR TO HAVE A PHYSICIAN SPECIALIZING IN NUTRITION RESEARCH AND TEACHING WHO COULD SERVE AS A FOCAL POINT FOR NUTRITION. IN EVERY CASE, HOWEVER, THEY DID HAVE ONE OR MORE DIETITIANS/NUTRITIONISTS, BUT THESE NON-PHYSICIAN PROFESSIONALS DO NOT SEEM TO HAVE SUCCEEDED IN SERVING AS FOCAL POINTS. PERHAPS THIS IS DUE TO THE COMPETITION FOR CURRICULUM TIME IN MEDICAL SCHOOLS AND THE LIKELIHOOD THAT MORE ATTENTION WOULD BE GIVEN TO THE VIEWS OF MEDICAL SPECIALISTS RATHER THAN NUTRITIONISTS OR DIETITIANS.

IN 1976 THE DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE CONTRACTED WITH A PRIVATE FIRM TO EVALUATE THE NUTRITION CURRICULA AT NINE MEDICAL SCHOOLS. THE EVALUATION ENCOUNTERED A MAJOR PROBLEM IN PINPOINTING WHAT WAS BEING TAUGHT BY EACH

DEPARTMENT BECAUSE NUTRITION WAS TAUGHT AS A PART OF OTHER COURSES. INTERDEPARTMENTAL RIVALRIES AND LACK OF COMMUNICATION INHIBITED EXCHANGE OF INFORMATION. ALSO, BECAUSE OF A SHORTAGE OF NUTRITION FACULTY WITH A BROAD EXPERIENCE AND KNOWLEDGE IN NUTRITION, THE ACTUAL RANGE OF NUTRITION TOPICS COVERED WAS DETERMINED BY THE SPECIAL INTERESTS OF FACULTY MEMBERS. IN SHORT, WHAT WAS TAUGHT DEPENDED ON THE FACULTY MEMBERS AVAILABLE. THERE WAS A LACK OF COORDINATION OF WHAT TO TEACH TO COMPLEMENT OTHER COURSES, AND WHAT NOT TO TEACH TO AVOID DUPLICATION.

WHAT MEDICAL SCHOOLS THROUGHOUT THE COUNTRY ARE TEACHING OUGHT TO BE REFLECTED IN QUESTIONS APPEARING ON THE NATIONAL BOARD EXAMINATION, WHOSE PURPOSE IS TO TEST STUDENTS ON WHAT THEY WERE TAUGHT. WE WERE INTERESTED IN FINDING OUT THE NUTRITION CONTENT OF A RECENT EXAM AND FOUND THAT THIS SUBCOMMITTEE EMPLOYED A PHYSICIAN-CONSULTANT TO REVIEW THE 1978 NATIONAL BOARD EXAM FOR THE QUALITY AND QUANTITY OF THE NUTRITION QUESTIONS.

THREE TO FOUR PERCENT OF THE QUESTIONS WERE ON CLINICAL NUTRITION; SOME OF THE QUESTIONS WERE CONSIDERED INAPPROPRIATE FOR MEDICINE IN THE UNITED STATES BECAUSE THEY DEALT WITH ACUTE NUTRITION DEFICIENCY DISEASES THAT ARE PRIMARILY A HEALTH PROBLEM IN DEVELOPING COUNTRIES. THE PHYSICIAN-CONSULTANT ALSO NOTED A LACK OF QUESTIONS ON A NUMBER OF NUTRITIONAL TOPICS, E.G., RECOMMENDED DIETARY ALLOWANCES AND NUTRITIONAL ASSESSMENTS.

THE SURGEON GENERAL REPORTS THAT ALTHOUGH EVIDENCE IS MOUNTING THAT CERTAIN FOOD FACTORS AND CURRENT DIETARY HABITS MAY BE LINKED WITH HEALTH PROBLEMS AS DIVERSE AS HEART DISEASE, TOOTH DECAY, OBESITY AND SOME TYPES OF CANCER, CONSUMERS OFTEN FIND IT DIFFICULT TO MAKE INFORMED CHOICES ABOUT FOOD. AS PEOPLE BEGIN TO REALIZE THAT GOOD NUTRITION IS NECESSARY FOR GOOD HEALTH, THEY WILL BE SEEKING MORE AND MORE ADVICE ABOUT WHAT TO EAT AND DRINK. PEOPLE GENERALLY BELIEVE PHYSICIANS TO BE THE MOST RELIABLE SOURCE OF INFORMATION ABOUT NUTRITION. BUT A PHYSICIAN WHO IS NOT INFORMED ABOUT NUTRITION OBVIOUSLY CANNOT CORRECTLY ANSWER A PATIENT'S QUESTIONS ON THE SUBJECT. CONSEQUENTLY, WE BELIEVE THAT PHYSICIANS SHOULD BE TRAINED TO DETERMINE A PATIENT'S NUTRITIONAL STATUS, AND ENCOURAGE A PATIENT TO MAKE CHANGES WHEN NECESSARY.

WE RECOGNIZE THAT THE MAKING OF WORKABLE DIETARY RECOMMENDATIONS IS A TIME-CONSUMING PROCESS THAT EVEN NUTRITION-MINDED PHYSICIANS MAY NOT HAVE THE TIME FOR. A POSSIBLE SOLUTION WOULD BE TO HAVE PHYSICIANS REFER PATIENTS TO DIETITIANS/NUTRITIONISTS FOR COUNSELING AFTER A PHYSICIAN'S NUTRITIONAL ASSESSMENT HAS SHOWN THE PATIENT TO HAVE A NUTRITIONAL PROBLEM. PHYSICIANS MAY NOT NECESSARILY DO THE DETAILED DIETARY COUNSELING OF PATIENTS, BUT THEY SHOULD BE ABLE TO DEVELOP A DIET PRESCRIPTION FOR SUCH NUTRIENTS AS CALORIES, PROTEINS, CARBOHYDRATES, AND FATS.



IT WOULD THEN BE THE DIETITIAN'S OR NUTRITIONIST'S ROLE TO TRANSLATE THE PHYSICIAN'S DIET PRESCRIPTION INTO SPECIFIC FOODS SINCE THEY ARE TRAINED TO ASSESS PATIENTS' EATING PATTERNS AND THE SOCIAL, ETHNIC, ECONOMIC, AND CULTURAL FACTORS THAT AFFECT FOOD SELECTION.

AS A MEANS OF OBTAINING MORE INFORMATION ON THE QUALITY OF MEDICAL NUTRITION TRAINING, WE REVIEWED 30 RANDOM PATIENT RECORDS AT 3 OF THE HOSPITALS AFFILIATED WITH THE MEDICAL SCHOOLS WE VISITED. WE FOUND A WIDE VARIATION IN THE AMOUNT OF ATTENTION GIVEN TO NUTRITIONAL STATUS. IN 7 PATIENTS, NUTRITIONAL STATUS HAD NOT BEEN CONSIDERED BY THE EXAMINING PHYSICIAN. EVEN SUCH OBVIOUS INDICATORS OF A PATIENT'S NUTRITIONAL STATUS AS HEIGHT AND/OR WEIGHT MEASUREMENTS WERE SOMETIMES OMITTED.

THE EFFECTS OF INADEQUATE NUTRITION EDUCATION IN MEDICAL SCHOOLS MAY BE EVIDENT IN THE WORK OF SOME PRACTICING PHYSICIANS. FOR EXAMPLE, THE HOSPITAL RECORDS WE EXAMINED ON ONE PATIENT WHO WAS OBVIOUSLY MALNOURISHED DID NOT LIST THE PATIENT'S NUTRITIONAL STATUS AS AN IMPORTANT PROBLEM AREA.

THE INITIAL PHYSICIAN'S REVIEW OF ANOTHER PATIENT DID NOT PRESENT A PICTURE OF THE PATIENT'S PHYSICAL APPEARANCE ALTHOUGH IT DID INDICATE THERE HAD BEEN NO WEIGHT LOSS. ONE COULD READ THE ENTIRE RECORD WITHOUT GETTING A CLEAR PICTURE OF THE PATIENT IN TERMS OF WEIGHT OR SKIN TEXTURE, TWO IMPORTANT INDICATORS OF NUTRITIONAL STATUS.

THE RECORDS ON A THIRD PATIENT WITH A LONG HISTORY OF HYPERTENSION INDICATED A "LITTLE WEIGHT LOSS," BUT NO WEIGHT MEASUREMENTS WERE SHOWN, EITHER PAST OR PRESENT AND THERE WAS NO INDICATION AS TO THE PATIENT'S CURRENT NUTRITIONAL STATUS.

ANOTHER PATIENT'S WEIGHT WAS RECORDED AS 165 POUNDS AT EACH OF THE PATIENT'S VISITS TO AN OUTPATIENT CLINIC. THE PATIENT'S HEIGHT WAS NEVER NOTED. THIS IS SIGNIFICANT BECAUSE ONE CANNOT DETERMINE IF THE PATIENT'S WEIGHT WAS APPROPRIATE WITHOUT KNOWING THE HEIGHT.

IN ANOTHER INSTANCE, A PATIENT'S NUTRITIONAL STATUS WAS NOT MENTIONED ALTHOUGH THE PATIENT WAS A DIABETIC ON INSULIN WHO HAD ENTERED THE HOSPITAL DUE TO ABDOMINAL PAIN AND VOMITING.

THE CHIEF OF CLINICAL DIETETICS AT ONE OF THE TEACHING HOSPITALS TOLD GAO OF PHYSICIANS AT THE HOSPITAL WHO HAD DIFFICULTY IN EVEN PRESCRIBING A BASIC DIABETIC DIET, AND WHO HAD BEEN KNOWN TO GIVE PATIENTS ERRONEOUS NUTRITION INFORMATION.

IN RECENT YEARS THE CONGRESS HAS HEARD MUCH TESTIMONY ABOUT NUTRITION EDUCATION IN MEDICAL SCHOOLS. FOR EXAMPLE, DR. C.E. BUTTERWORTH, JR., CHAIRMAN OF THE DEPARTMENT OF NUTRITION SCIENCES AT THE UNIVERSITY OF ALABAMA IN BIRMINGHAM, TESTIFIED ABOUT HOSPITAL MALNUTRITION IN SEPTEMBER 1978 HEARINGS BEFORE THIS SUBCOMMITTEE. HE SUMMARIZED HIS WORK WHICH SHOWED A CLEAR PATTERN OF DETERIORATION IN NUTRITIONAL STATUS OF HOSPITALIZED, MEDICALLY ILL PATIENTS. EVEN THREE-FOURTHS OF THE PATIENTS WITH NORMAL NUTRITIONAL STATUS WHEN THEY WERE

ADMITTED TO THE HOSPITAL, TESTED ABNORMAL FOR NUTRITION AT THE END OF THEIR HOSPITAL STAYS.

ALTHOUGH THE CONGRESS HAS DEMONSTRATED INTEREST IN NUTRITION BY HOLDING MANY HEARINGS, AND LEGISLATION SUPPORTING NUTRITION EDUCATION IN MEDICAL SCHOOLS HAS BEEN ON THE BOOKS FOR SEVERAL YEARS, THE ADMINISTRATION HAS NOT BEEN PARTICULARLY RESPONSIVE. CURRENT FEDERAL SPENDING FOR HEALTH PROGRAMS TOTAL ABOUT \$63 BILLION, YET HEW'S BUREAU OF HEALTH MANPOWER HAS SPENT LESS THAN \$1.4 MILLION ON SPECIAL PROJECT GRANTS FOR NUTRITION EDUCATION IN MEDICAL AND OSTEOPATHIC SCHOOLS DURING THE 6-YEAR PERIOD FROM FISCAL YEAR 1972 TO 1977. (THERE WAS NO PROGRAM IN FISCAL YEAR 1978.) THE RECIPIENTS WERE 10 SCHOOLS OF MEDICINE AND ONE SCHOOL OF OSTEOPATHY. BECAUSE THE BUREAU DID NOT FOLLOW UP ON THE RESULTS OF THE NUTRITION EDUCATION GRANTS, INSIGHT THAT WOULD BE VALUABLE TO MEDICAL SCHOOLS INTERESTED IN TEACHING MORE NUTRITION WAS LOST.

ALTHOUGH THE BUREAU HAS NOT EVALUATED THE GRANT RESULTS, GAO FOUND THAT THREE OF THE MEDICAL SCHOOLS RECEIVING FUNDING FROM THE BUREAU CURRENTLY HAVE A REQUIRED COURSE IN NUTRITION AND ALL BUT ONE OFFER NUTRITION ELECTIVES. THIS INDICATES THAT FEDERAL EFFORTS TO DATE, ALTHOUGH SMALL, HAVE BEEN A STEP IN THE RIGHT DIRECTION.

FOR FISCAL YEAR 1979, THE BUREAU ALLOCATED \$1.5 MILLION FOR INTERDISCIPLINARY TRAINING GRANTS IN NUTRITION TO EMPHASIZE THE TEAM APPROACH TO NUTRITIONAL CARE. THE OBJECTIVE IS

TO MAKE MEDICAL STUDENTS MORE AWARE OF AND MORE LIKELY TO USE THE SERVICES OF OTHER HEALTH PROFESSIONALS, SUCH AS DIETITIANS AND NUTRITIONISTS.

SIXTY-ONE APPLICATIONS FOR THE 1979 NUTRITION GRANTS WERE RECEIVED. EIGHTEEN APPLICATIONS WERE APPROVED FOR FUNDING BUT ONLY THIRTEEN WERE FUNDED BECAUSE OF LIMITED FUNDS. FOR FISCAL YEAR 1980, THE BUREAU IS REQUESTING \$1.5 MILLION TO EXTEND THE 13 PROGRAMS GRANTS OF 1979 FOR ANOTHER YEAR. BECAUSE THE NUTRITION PROGRAM FUNDS ARE AVAILABLE FOR ONLY ONE YEAR AT A TIME AND FOR ONLY A LIMITED NUMBER OF PROGRAMS, BUREAU OFFICIALS WORRY THAT NO ONE GRANT WILL BE LARGE ENOUGH TO HAVE A SIGNIFICANT EFFECT.

ONE OF THE GRANT APPLICANTS WE TALKED TO FELT THE SAME WAY. HIS SCHOOL'S APPLICATION WAS WRITTEN FOR A THREE YEAR PERIOD, ALTHOUGH AT THE TIME HE SUBMITTED IT THE BUREAU HAD FUNDING FOR ONLY ONE YEAR. WE BELIEVE SEVERAL YEARS OF FUNDING ARE NEEDED FOR DELIVERY OF FOCUSED AND ONGOING NUTRITION EDUCATION PROGRAMS IN MEDICAL SCHOOLS.

OUR CONCLUSION IS THAT WHILE SOME NUTRITION APPEARS TO BE TAUGHT IN MEDICAL SCHOOLS, STRENGTHENING OF THE NUTRITION CURRICULUM IS NECESSARY. ONE REASONABLE AND LOGICAL WAY TO DO THIS WOULD BE FOR EACH SCHOOL TO ENGAGE A PHYSICIAN AS A FOCAL POINT FOR NUTRITION, TO PULL NUTRITION TRAINING TOGETHER SO THAT ANY WEAKNESS IN THE TEACHING COULD BE IDENTIFIED. THIS FOCAL POINT SHOULD BE PLACED IN AN EXISTING DEPARTMENT OF THE MEDICAL SCHOOL AND SHOULD BE A PHYSICIAN WITH A SPECIAL

INTEREST AND CAPABILITY IN NUTRITION, AVAILABLE FOR TEACHING AND RESEARCH.

WE WOULD LIKE TO SEE THE FEDERAL GOVERNMENT TAKE THE INITIATIVE AND DISSEMINATE TO ALL MEDICAL SCHOOLS THE INFORMATION THAT MAY BE AVAILABLE ON GOOD AND EFFECTIVE NUTRITION EDUCATION PROGRAMS THAT CURRENTLY EXIST AT SOME MEDICAL SCHOOLS. ADDITIONALLY, THE FEDERAL GOVERNMENT SHOULD SET UP ONE OR MORE 3-YEAR DEMONSTRATION PROJECTS FOR NUTRITION EDUCATION IN MEDICAL SCHOOLS THAT ARE INTERESTED. THE PURPOSE WOULD BE TO DEMONSTRATE TO OTHER MEDICAL SCHOOLS HOW THEIR NUTRITION CURRICULA COULD BE CONSOLIDATED AND EMPHASIZED.

THE FEDERAL GOVERNMENT SHOULD ASSURE THAT RESULTS OF THE DEMONSTRATION PROJECTS ARE MADE KNOWN TO OTHER MEDICAL SCHOOLS, AND IF OUTSTANDING PROJECTS ARE DEVELOPED, THE POSSIBILITY OF PACKAGING A NUTRITION EDUCATION PROGRAM FOR OTHER INTERESTED SCHOOLS SHOULD BE CONSIDERED. WE WOULD LIKE TO SEE THE CONGRESS PUT A PRIORITY ON FUNDING THE PROJECTS BEGINNING WITH FISCAL YEAR 1981.

ALSO, THE FEDERAL GOVERNMENT SHOULD CONSIDER THE FOLLOWING MEASURES: (1) FUNDING OF FELLOWSHIPS IN THE NUTRITION AREA; THE FEDERAL GOVERNMENT COULD HELP ALLEVIATE THE SHORTAGE OF PHYSICIANS WITH A SPECIALTY IN NUTRITION BY PROVIDING GRANTS TO TRAIN RECENT MEDICAL SCHOOL GRADUATES TO TEACH NUTRITION IN MEDICAL SCHOOLS, AND (2) FUNDING OF REGIONAL CONFERENCES FOR THE ASSOCIATION OF AMERICAN MEDICAL

COLLEGES ON NUTRITION EDUCATION IN MEDICAL SCHOOLS. THE CONFERENCES WOULD BE A STEP TOWARD MAKING ASSOCIATION MEMBERS MORE AWARE OF THE NEED FOR A SOUND MEDICAL SCHOOL EDUCATION IN NUTRITION.

IN ADDITION, WE SUGGEST THAT INTERESTED GROUPS OUTSIDE OF THE FEDERAL GOVERNMENT INITIATE ACTION TO IMPROVE NUTRITION EDUCATION IN MEDICAL SCHOOLS. AN EXAMPLE OF THE TYPE OF CHANGE WE ARE SUGGESTING WOULD BE FOR THE NATIONAL BOARD OF MEDICAL EXAMINERS, RESPONSIBLE FOR PREPARING THE MEDICAL BOARD EXAMS, TO SEE THAT CLINICAL NUTRITION IS ADEQUATELY COVERED IN FUTURE BOARD EXAMS.

ANOTHER EXAMPLE OF WHAT A GROUP OUTSIDE OF THE FEDERAL GOVERNMENT COULD DO TO IMPROVE NUTRITION EDUCATION IN MEDICAL SCHOOLS WOULD BE FOR THE LIAISON COMMITTEE ON MEDICAL EDUCATION, THE GROUP RESPONSIBLE FOR ACCREDITING MEDICAL SCHOOLS, TO PROVIDE MORE EMPHASIS ON NUTRITION WITHIN THE MEDICAL CURRICULUM.

THIS CONCLUDES MY STATEMENT, MR. CHAIRMAN. WE WILL BE HAPPY TO ANSWER ANY QUESTIONS YOU MAY HAVE.

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