SB

6/6

COMMITTEE REPORT

SENATE

FURTHER: Finance

1/11/82

Date: _____

Mr. President:

The Committee on HEALTH, EDUCATION AND SOCIAL SERVICES has had SB 316 under consideration and (a majority of the committee) (the committee) reports it back with the following recommendations:

making a capital appropriation to the University of Alaska for design and construction of phase I of a School of Medicine and teaching hospital

[ ] do pass [ ] do not pass

[ ] do pass with attached amendments(s)

[ ] replace with CS for _____ [ ] same title [ ] new title

and recommends _____

[ ] AND attaches a "Letter of Intent" [ ] New Fiscal Note

[ ] reports it back without recommendation

[ ] referred to the _____ Committee

MEMBERS SIGNING DO PASS

MEMBERS HAVING OTHER RECOMMENDATIONS:

_____

CHAIRMAN

S 60 (Rev. 12/78)

Contents:

HB 615 - 616

Information presented by Dr. Wayne Myers, Director WAMI program

"In summary, it appears to me that a medical school is Alaska might be justified about ten years in the future. Development of a medical school takes seven to ten years. In the interim, certain steps might be taken which are entirely justified on their own merit and could eventually contribute components of a medical school in Alaska."

Information presented by Mr. Gary Dunn, Assoc. Dean, N. Dak. School of Medicine. Dunn has been instrumental in the development of Rural Oriented medical schools in three states, and here, with familiarity, outlines a progressive developement of a medical school in Alaska. He suggests the Area Health Education Centers Model for this state.

Information presented by Dr. J R Schofield, Assoc. of Amer. Medical Colleges AAMC is the accrediting agent for medical schools.

Mr. Schofield outlines the general requirements for the development of a new medical school and the controls exercised by the national accrediting authority.

Testimony: University of Alaska position on SB 615 -616

State and educational strategies to improve Rural Health Care (From WICHE) The graduate medical education national advisory committee estimatie a surplus of 70,000 physicians by 1990, however, the surplus will not resolve the problem of rural health providers. The information attached outlines some approaches which states are using to address this problem.

Department of Health and Social Services on SB 615 - 616

Health Scien ; Newsletter

This article outlines the number of Alaskans applying to the WAMI program and those being Accepted

STATISTICAL INFORMATION

Staff Statistics on Physicians in Alaska

Staff Statistics - Table showing distribution of Doctors in Alaska

Federal Map indicating Designated Medical Care Shortages in Alaska

Physician Distribution Analysis

1980	Alaska State Population	400,481
	Juneau Subarea HSA Population	24,686
	Anchorage Subarea HSA Population	173,017
	Fairbanks Subarea HSA Population	53,983
	Population Outside Tri City Area	148,795 or 37.2%

Physicians Practicing Outside Tri City Area

Private Practice	55 of 412	
U.S.P.H.	40 of 102	
Military	7 of 73	
Federal	7 of 16	
Municipal State	0 of 20	
Total	119 of 623	or 19.1%

Source: U.S. Department of Commerce, Bureau of Census, 1980 Census of Population and Housing, Alaska PHC80-V-3.

Alaska State Medical Association, Physician Distribution in Alaska, October 1980.

Jasper L. McPhail

Native of Mississippi

B.S. Degree in 1952 - Mississippi College

M.D. Degree in 1956 - Baylor University College of Medicine, Houston Texas

Internship and Residency in Surgery - 1956 to 1962, University of Mississippi, Medical Center

Cardiovascular Fellowship - Baylor Affiliated Hospitals, Houston Texas

1962-1966 - Hea of Department of Cardiothorcic Surgery - Christian Medical College, Nellore, India

1966-1967 - Fellowship with Dr. DeBakey and Dr. Cooley in Houston Texas

1967-1969 - Associate Dean and Associate professor of Surgery, University of Arkansas for Medical Sciences

1969-1975 - Director of the School and Health Sciences (Medicine, Nursing and Allied Health)

1967-1975 - Chairman of State health Manpower Planning Committee

1975 - Consultant to King Faisal Specialty Hospital in Saudia Arabia

1975-1981 - Vice-President and Dean of American Indian School of Medicine, Phoenix Arizona

1981 - Chairman, Department of Surgery, Oral Roberts University School of Medicine

- Chief of Surgery at City of Faith Hospital, Tulsa, OK

MAJOR AWARDS

1. Outstanding Young Men of America - 1962
2. Golden Apple Award as best Medical School Teacher - 1969
3. Outstanding Educator of America Award - 1973
4. Golden Scapel Award - 1978, 1979, 1980 as Outstanding Teacher in Surgery

HEALTH SCIENCES NEWSLETTER

SPRING 1982

I. One of the most frequent questions advisors in the health professions are asked concerns the students chances of admission. What is the competition? The answer is very difficult to give in an accurate and meaningful manner. Alaskan advisors are particularly at a disadvantage because students who apply for programs sponsored by this state may have attended educational institutions almost anywhere. Until recently it appeared that some of the best Alaskan students studied outside this state and only made application for professional programs either at or near the end of their preparation. The receipt of such an application from a student attending school outside of Alaska is usually the first indication an Alaskan program has of the students interest. To prognosticate how many students will be applying in any given year is sheer guess work. Over the past five years the applicants for medical school, as an example, have ranged from the majority having attended school out-of-state, down to only a handful.

The only data that this office shares with students when answering the "chances" questions are those of the previous years application pool. The following data were published by the Committee on Admissions of the University of Washington School of Medicine and are shared here for your information and use as you see fit.

> The total number of applicants for the University of Washington School of Medicine (including the University of Alaska WAMI Medical Education Program) was 1,715. Of that total 926 were requested to complete applications, 499 were interviewed and 201 were offered positions.
>
> Students who specifically qualified for application to the University of Alaska WAMI Medical Education Program numbered 42. Of that number, 29 were interviewed, and 10 of the interviewees were offered a position in this program. All 10 accepted the position; therefore, none of the alternates were admitted. The Admissions Committee usually appoints several alternates in the event offered positions are not accepted.
>
> Based on credentials at the time of application, the cumulative grade point average of this years entering class was 3.57 with the BCPM (biology, chemistry, physics, math) grade point average being 3.54. Average MCAT scores were 10.52 in biology, 10.61 in chemistry, 10.22 in physics, 10.43 in science problems, 9.61 in reading skills analysis and 9.62 in quantitative analysis. Students entering our medical program continue to have a somewhat higher grade point and MCAT score average than the overall student body accepted into medical schools.

State and Educational Strategies to Improve Rural Health Care

The focus of WICHE's effort has been to search out innovative or coordinated mechanisms developed by states to specifically address the need of rural communities. A number of strategies are available and several may be used by a state--depending on the particular needs and resources of a particular state (see Index on page 9).

OFFICES OF RURAL HEALTH

As the unique needs of rural communities have become more visible in recent years, there has been a trend for states to create a centralized office responsible for coordinating rural health programs. The strongest and best known office of rural health is probably that of North Carolina; it has served as a model for many states developing programs designed to improve rural health care delivery.[2] Six of the thirteen WICHE states have some type of centralized office. The Colorado Office of Rural Health was established by executive order and is administered through the lieutenant governor's office. Nevada's office is based in the School of Medicine, and the Wyoming legislature during its 1981 session authorized the creation of an Office of Rural and Community Health within the University's College of Human Medicine. Utah's Network of Rural Health Programs, based in the University Medical Center, is seen as a precursor to a state office of rural health. Oregon's office, created by the legislature, is based in the State Health Planning and Development Agency (SHPDA). The Rural Health Division of the California Department of Health Services serves in many ways as an office of rural health for the nation's most populous state.

Although these offices differ in the ways they were created and in their positions within the structure of state government, the roles they play are similar. Generally the functions of the offices include coordination of programs and resources directed at rural needs, provision of technical assistance to local communities, and the improvement of communication linkages.

RECRUITMENT, PLACEMENT, AND RETENTION

Since recruiting physicians, nurses, and other types of health professionals is a major problem for most rural communities, this appears to be an appropriate place for state intervention. The mission of four offices of rural health (Colorado, Wyoming, Nevada, and Utah) specifically reflect program activities aimed at recruiting health personnel for rural areas. In Alaska and New Mexico the state medical associations operate physician placement programs. The New Mexico Health Resources, Inc., has recently been formed as a nonprofit corporation by members of the Governor's Task Force on Rural Medical Practice to assist rural communities in recruiting and retaining health professionals.

Small towns and hospitals often lack adequate resources or expertise to successfully recruit needed personnel. A coordinated state network for recruitment and placement can be an efficient mechanism to help meet the needs of many rural communities, provided that the centralized system is working with the appropriate leaders at the local level. It appears that some types of interstate cooperation could further increase the efficiency of recruitment networks and their ability to successfully match providers with communities. For instance, the National Health Professional Placement Network, based at the University of Minnesota, has centralized the computerized matching of dental professionals with dental opportunities.

STATE HEALTH DEPARTMENTS

As noted earlier in the Introduction, state departments of health play an important role in providing health services to rural areas. This inventory briefly describes some of the department programs that appear to be unique in their rural focus. For instance, the public health nurses in Alaska play a particularly crucial role in care delivery because of the remote nature of many communities. In California the Rural Health Division of the Department of Health Services coordinates several rural health programs, including a new Program to Preserve Rural Hospitals.

MEDICAL EDUCATION AND RURAL NEEDS

There are basically two ways in which medical schools can try to prepare doctors for rural practice. Some research indicates that students from smaller towns and with certain other background characteristics are more likely to eventually choose to practice in rural communities.[3] Thus a school may give some preference to rural residents in its admissions process or undertake special efforts to recruit qualified students from rural areas. WICHE did not identify any admissions programs in western institutions designed to favor rural applicants, although some may exist. It may be that selective admissions are too difficult to implement, too controversial, or are more likely to operate informally. Some states do, however, have special programs to recruit and retain minority students.

The curriculum itself offers the major way that schools influence the student physician. The most common approach used by medical schools to sensitize students to community needs is to decentralize the educational process by sending students away from the academic center for part of their training. The preceptorship experience requires a student to spend a certain amount of time with an M.D. in his/her practice setting. This learning experience provides students with different role models (specifically nonacademic), an opportunity to see "real" patients, as well as a chance to practice various clinical skills. Virtually every medical school has a preceptorship program; however, these programs vary according to whether they are required or elective, the length of placement, and the timing of the preceptorship (during pre-clinical or clinical training). Some schools offer preceptorship placements in all different types of communities, but a few specifically require all students to take a placement in a rural setting. Some schools require a primary care clerkship which encourages placement of students in rural practices. Other medical schools have decentralized the more traditional clinical training of students into community hospitals and clinics. The WAMI program (see page 69) provides a leading example of decentralization; students may choose to take clerkships (in internal medicine, pediatrics, psychiatry, obstetrics/gynecology, or family medicine) operated at seventeen community clinical units located in rural or semi-rural areas within a four-state region (Washington, Alaska, Montana, Idaho). In other states (California, Colorado, New Mexico) the federally sponsored Area Health Education Centers help to provide and coordinate the extramural placements of medical and other health professional students. The basic philosophy underlying extramural education is that exposure to the realities of rural practice will help prepare students and encourage them to eventually settle in a rural community.

There is no agreement about what unique knowledge, skills, and attitudes are particularly important to the successful rural practitioner--or if they are in any way different from those of an urban practitioner. Thus there have been few attempts to modify the standard content of the medical school curriculum to focus on rural needs. The new Primary Care Curriculum being offered by the University of New Mexico School of Medicine (see page 58) is probably the most innovative approach to preparing students for rural community practice. This program basically restructures the educational process, emphasizing small-group problem-based tutorials and lengthy, repeated community experiences. The curriculum is based on a certain picture of the rural practitioner: that the rural M.D. must be a generalist, able to operate independently without extensive back-up; that the rural M.D. should have strong clinical reasoning skills and the characteristics of

a lifelong learner (being motivated and having the skills to seek answers to new problems); that the M.D. must be able to comfortably cope with rural lifestyles.

Aside from the New Mexico curriculum, some medical schools have a course or portion of a course--usually taught by Departments of Preventive Medicine, Community Health, or Family Medicine--that focuses in some way on rural issues. For instance, Stanford University offers a brief elective course that provides an overview of rural health care delivery (see page 27).

FAMILY PRACTICE RESIDENCY PROGRAMS

Nearly all of the WICHE states, including those without their own medical schools, have developed Family Practice Residencies. These programs are designed to address both the problem of geographical maldistribution and the problem of specialty maldistribution by producing more primary care physicians who are somewhat likely to practice in non-urban settings.[4] Some of these programs try to select residents who were reared in rural communities and who are particularly interested in rural practice. Many family practice residencies are actually located in semi-rural communities and are therefore able to provide residents with exposure to the needs and realities of rural towns, and to encourage their graduates to eventually practice in surrounding communities. There is evidence that location of the last training site (e.g., the residency program) is an important factor in determining where the new practitioner will decide to practice.[5]

NURSING EDUCATION AND RURAL NEEDS

Nursing educators have responded to the particular needs of rural areas in several ways. In order to better prepare nurses already practicing and to help retain these nurses in rural communities, several schools have developed outreach baccalaureate programs (e.g., Intercollegiate Center for Nursing Education in Spokane, Washington; Montana State University; University of Oregon; University of Southern Colorado). The School of Nursing at Weber State College in Utah has developed an Associate Degree Program for delivery in rural areas. A two-year Masters Outreach Program is taught by faculty from the University of Colorado School of Nursing at a rural site on the basis of local demand. At least two schools have developed special masters degrees with a rural health emphasis (Nursing Specialist for Underserved Rural Areas at Montana State University and Graduate Program in Rural Family Health at the University of Wyoming). There are other graduate-level programs in the region which also prepare nurses for rural practice (e.g., Nurse Clinician and Practitioner Programs and Nurse Midwives Training). Some schools of nursing operate continuing education programs that focus on the educational needs of rural nurses (e.g., Arizona, Colorado).

Many schools of nursing offer the opportunity to take a preceptorship experience in a rural setting. In contrast to medicine, almost none of the schools seem to require a rural preceptorship. In some states, the placement of nursing students may be coordinated through an Area Health Education Center. California has a unique Rural Clinical Nurse Placement Center that arranges rural clinical placements for senior student nurses from any of the more than eighty nursing programs in that state.

DENTAL EDUCATION AND RURAL NEEDS

As in medicine and nursing, the preceptorship is used to expose dental students to the needs of the community. The University of Colorado School of Dentistry operates a Rural Preceptorship Program that offers rural experience for students at various stages in their training. The rural emphasis of this school's curriculum has probably resulted from the fact that the need for this school was originally justified on the basis of the lack of dentists practicing in rural areas of the state; the school's Tuition Payback Program is unique, requiring students to repay the state for their education by taking one of two service options (see page 38). The University of Southern California operates a service program called the Dental Ambassadors in which dental students provide free care to low income children by holding clinics in many rural locations. The

School of Dentistry at the University of Washington is developing a regional program in which students will have an option to take part of their clinical training at a clinic in the student's home state.

OTHER EDUCATIONAL PROGRAMS

Various other programs exist that specifically train personnel to meet the needs of rural communities. Arizona State University offers training in Multicultural Rural Mental Health. The curriculum of the Graduate School of Social Work at the University of Utah is being redesigned to emphasize rural needs, and in particular those of energy-impacted areas. Rural community health workers are trained in Alaska (Community Health Aide Program) and in Washington (Community Health Advocate Program at the University of Washington). The Institute of Rural Environmental Health at Colorado State University provides education and technical assistance and conducts research in the areas of rural occupational health, chemical use, and man-animal related diseases.

PROFESSIONAL ASSOCIATIONS

State associations--particularly the medical, nursing, and hospital associations--often play a role in focusing on the particular problems of rural practitioners and providing resources to meet those needs. Continuing education is the service most often provided by professional associations, sometimes in cooperation with local institutions of higher education.

FINANCIAL INCENTIVES

For many years states throughout the country operated medical student loan programs; students were allowed to repay their loans by practicing in an underserved rural area or by simply paying back the money (often without interest). The latter option was often elected, and many of these state loan programs were displaced by the federal National Health Service Corps. Nevertheless, during recent years the concept of loan forgiveness in return for service in rural or other underserved areas has received increasing attention from some states. WICHE identified three examples of states currently using this kind of mechanism, and others may exist. Arizona's Student Loan Board awards loans to medical students willing to commit themselves to at least two years of service in rural underserved areas of Arizona. The New Mexico Commission on Postsecondary Education provides loans for medical and osteopathic students who agree to practice in health professional shortage areas in the state. The Tuition Payback Program at the University of Colorado School of Dentistry (page 38) offers students (all of whom are state residents) a choice between two ways of repaying their service commitment to the state. California has had a loan forgiveness program that has recently been discontinued because 94 percent of the physicians who obtained the loans failed to serve in a medically underserved area. The state has now decided to put this money into a loan program to establish practices in underserved areas.

The California legislature has enacted two innovative programs designed to improve the delivery of care to rural and inner city areas. The Health Manpower Pilot Project allows for the demonstration and evaluation of new health professionals (see page 24). Several aspects of the Song-Brown Family Physician Training Act (see page 25) are very innovative: it requires that every trainee enrolled in a program funded by this act be involved in an approved experience in an underserved area; it requires that family practice residents, nurse practitioners, and physician assistants receive team training; the act makes further state funding of a program conditional on outcome--that program graduates are actually practicing in underserved areas.

REGIONAL EDUCATION AND OUTREACH NETWORKS

The WAMI Program, based at the University of Washington, is perhaps the best-known example of a regional medical education network (see page 69). Four states (Washington, Alaska, Montana, and Idaho) share the resources of one medical school. Students receive their first year of training at a cooperating university in their home state and have the option to take part of their clinical training at a Community

Clinical Unit. The resource sharing brought about by WAMI was designed to prevent duplication of medical school facilities and to help address the problem of physician maldistribution. The program also has provided continuing education benefits to practitioners in communities involved with the WAMI program.

The Area Health Education Centers provide important examples of how urban educational resources can be made available to rural practitioners (e.g., the Statewide Education Activities for Rural Health Program in Colorado; the Area Health Education Consortium of Treasure Valley, Idaho; and the Navajo AHEC in New Mexico). These networks address the problems of health manpower recruitment, retention, and maldistribution by providing decentralized educational experiences for health professional students and continuing education and other back-up services for local practitioners.

Another example of regional education is provided by the new Extended Master of Public Health Program at the University of Washington (see page 75). This experimental program is designed to provide educational opportunities for employed professionals. Relatively little of the student's time is spent in residence at the University in Seattle; the remainder of the coursework is accomplished through directed study, seminars, and transfer credit.

In other instances regional consortia of schools have been formed to provide services to meet rural needs. In Arizona, four community colleges joined together to form a consortium (SARAHELP) (see page 21) to train allied health workers for rural communities in the area. The Outreach Baccalaureate Program (see page 73) in Washington is operated by a consortium of four nursing schools. Another consortium of nursing schools in Colorado (see page 36) was developed to teach physical assessment skills to nurses at community sites in Wyoming and Colorado. Several states have Family Practice Residency Networks (e.g., New Mexico, Washington, California) which provide residents with exposure to various sites during the course of training.

Resources will continue to be located in urban areas and in educational institutions. In order to help rural communities recruit and retain health professionals--and thereby improve the access of rural citizens to quality health care--it is crucial to develop and implement strategies that link available resources with rural needs. This inventory presents some examples of how the western states are addressing this issue.

NOTES

1. "Panel, Predicting Physician Surplus by 1990, Proposes a 17-Pct. Cut in Medical Enrollment," The Chronicle of Higher Education, 6 October 1980, p. 13.

2. Scott Seymour, Rural Health Services: A Sample of State Efforts, Innovations (Lexington, Ky.: Council of State Governments, 1980).

3. Sandra Weitz Wilson, An Analytical Study of Physicians' Career Decisions Regarding Geographic Location, The Digest of the Final Report on Contract No. HRA 231-77-0088 (Palo Alto, Calif.: American Institutes for Research, June 1979).

4. U.S., Department of Health and Human Services, Geographic Distribution Technical Panel, Report of the Graduate Medical Education National Advisory Committee, vol. 3, DHHS Publication No. (HRA) 81-653 (Washington, D.C.: U.S. Government Printing Office, 1980), p. 85.

5. Henry Mason, "Medical School Residency and Eventual Practice Location," Journal of the American Medical Association 233 (1975): 49-52.

Inventory Index

TYPE OF RURAL HEALTH PROGRAM	STATES												
	ALASKA	ARIZONA	CALIFORNIA	COLORADO	HAWAII	IDAHO	MONTANA	NEVADA	NEW MEXICO	OREGON	UTAH	WASHINGTON	WYOMING
Area Health Education Center (AHEC)			•	•		•			•				
Community Health Worker Programs	•											•	
Continuing Education													
Schools of Medicine				•	•				•	•		•	
Schools of Nursing		•		•									
Professional Associations				•						•		•	
Executive Branch Initiatives				•					•				
Family Practice Residency		•	•	•		•		•	•	•	•	•	•
Incentives													
Loan Forgiveness		•	•	•					•				
Training Funds Available to Programs			•										
Minority Career Programs	•	•			•			•					
Office of Rural Health			•	•				•		•	•		•
Other Educational Programs		•		•		•				•	•	•	
Outreach Degree Programs													
Nursing				•			•			•	•	•	
Public Health												•	

TYPE OF RURAL HEALTH PROGRAM	STATES												
	ALASKA	ARIZONA	CALIFORNIA	COLORADO	HAWAII	IDAHO	MONTANA	NEVADA	NEW MEXICO	OREGON	UTAH	WASHINGTON	WYOMING
Preceptorships/Clerkships													
Medicine		•	•	•	•	•	•	•	•	•	•	•	•
Nursing		•	•	•					•		•	•	
Dentistry				•									
Osteopathy			•										
Professional Associations													
Medicine	•		•	•					•	•		•	
Nursing										•			
Hospital Association				•								•	
Recruitment/Placement													
Medical Societies	•								•				
Consortia				•					•				
Regional Networks and Consortia													
WAMI - Washington/Alaska/Montana/Idaho	•					•	•					•	
SAHP/HELP - Southern Arizona Regional Allied Health Education Linkage Program		•										•	
RDEP - Regional Dental Education Program												•	
ICNE - Intercollegiate Center for Nursing Education													
Service Delivery Linked to Education/Universities													
Mountain Plains Outreach Program (MPOP)				•									
Central Nevada Rural Health Consortium								•					
Dental Ambassador (USC)			•										
Presbyterian Medical Services									•				
Special Degree Programs in Rural Health							•						•
State Health Department Activity in Rural Health	•	•	•						•				

UNIVERSITY OF ALASKA

February 19, 1982

Bill Zyboch
Re Friends Bldg -

The Honorable Charles H. Parr
Chairman, Senate HESS Committee
The Alaska State Senate
Pouch V
Juneau, Alaska 99811

RE: Senate Bills 615 and 616 - Medical School

Dear Senator Parr:

The University of Alaska has reviewed the potential impacts of establishing a medical school in Anchorage and has concluded that although such establishment may be justifiable in the future, at the present time, it is not.

Wayne Myers, M.D., Director of the WAMI medical education program on the Fairbanks campus, will present testimony at the hearing today indicating how medical education, health research and health care delivery services can be augmented through the University over the next ten year period. He will also consider the demand for physicians nationwide and in Alaska, the high cost of medical training and the trends nationally in medical school operation. His testimony, supported by a representative from the University of Washington Medical School, will indicate that it is not in the best interests of the University of Alaska or the State to consider establishment of a medical school at this time.

Sincerely,

George C. West
Vice President for
Academic Affairs

0018

LINE TERMINATED - CP

The University of North Dakota
SCHOOL OF MEDICINE

University Station, Box 80
Grand Forks, ND 58202
(701) 777-3017

January 29, 1982

GARY F. DUNN
Associate Dean for
Administration

Mr Bill Zybach
c/o Senator Parr
Pouch V
Juneau, Alaska 99811

Dear Mr. Zybach:

If I had it to do again I would modify our arrangement in the following ways:

1) Designate a community hospital as the teaching hospital and enter into a long-term contract with them which would allow your departmental chairmen in medicine, surgery, OB/GYN, pathology, psychiatry, neurology, orthopaedics, and pediatrics to be chiefs of those services. Offer residencies in the above disciplines along with the third year clerkships at the designated hospital.

2) Establish micro medical centers which would include a family medicine residency and a core faculty from your basic disciplines to teach residents and fourth year medical students.

In looking at your situation I would suggest:

1) Teach the first year of basic science at the university in Fairbanks.

2) Teach Year 2 basic science and third year clerkships at your teaching hospital site - perhaps Anchorage; also establish your clinical research base there.

3) Establish micro centers for teaching family medicine residents and student electives in Juneau, Ketchikan and Fairbanks.

4) Admit no more than 40 students - from Alaska - per year (elite).

5) Limit your first year residency enrollment to 3 per discipline.

6) Limit basic science faculty on state funds to 4 per discipline - (6 in pathology) (22).

7) Limit full-time clinical faculty on state funds:

5 in surgery 8 in medicine 5 in OB/GYN 4 in pediatrics
3 psychiatry 3 neurology 3 orthopaedics
5 family medicine (36)

8) Dean's office and staff in Anchorage (or wherever hospital is) plus assistant deans at Juneau, Fairbanks and Ketchikan.

9) Place all full-time faculty on a medical service plan which will return a high percentage of practice income to the school.

10) Emphasize excellence in research when selecting both your basic science and clinical faculty - with the exception of family medicine.

I hope this sketchy outline along with the documents enclosed will be helpful to you.

I am reasonably familiar with Alaska and its people and would very much enjoy helping you get your school "off the ground".

Sincerely,

Gary F. Dunn,
Associate Dean

GFD/klb

Encs.

LIAISON COMMITTEE ON MEDICAL EDUCATION

Council on Medical Education
American Medical Association
535 North Dearborn Street
Chicago, Illinois 60610

Edward S. Petersen, M.D.
LCME Secretary, 1981-82
(312) 751-6310

Association of American Medical Colleges
One Dupont Circle, N.W.
Washington, D.C. 20036

J.R. Schofield, M.D.
LCME Secretary, 1982-83
(202) 828-0670

January 29, 1982

Senator Charles H. Parr
Pouch V
State of Alaska
Juneau, AK 99811

Dear Senator Parr:

In response to your request I am sending you a brief synopsis of the general requirements for the development of a new medical school and the controls exercised by the national accrediting authority, the Liaison Committee on Medical Education over such developments.

The information which follows is derived from a very careful study of the development of the last forty-four medical schools, all of which enrolled their first class of beginning medical students in the U.S.A. and Canada between 1960 and 1980. All of these data and a detailed analysis thereof are being pulled together for publication in a book which I hope will emerge sometime about the end of the calendar year.

Time Table:

First of all, it is important to understand that the development of anything so complex as a medical school requires a very substantial period of time. The general preparation of the authority for the medical school, the feasibility studies necessary, and the beginning accumulation of the essential resources for such a school has ordinarily required an average of five years in the cohort of forty-four experiences we have studied. In some circumstances, the time span for early preparation has been less than five years but this usually was in a situation where there were a great many resources already available which were given to the medical school for its use. In a situation where all resources must be developed, more than five years may be needed.

After the early planning, feasibility studies and preliminary movement of resources has been well under way for some time; it is necessary for the sponsoring institution to select a founding Dean for the school. After the founding Dean, (hopefully, a person of considerable experience in the development and a subsequent management of medical schools) has been appointed, another three to five years may be needed for the Dean to use his professional expertise in recruitment of a faculty and their development of the remainder of the technical and professional resources essential for the opening of school for the first wave of instruction of medical students.

Under these circumstances, it would appear appropriate for Alaska to begin at any time the long process of consideration of the development of a medical school, but on the basis of the forty-four prior experiences throughout North America, I would caution against any attempt to move precipitously toward the opening of a school before the necessary ingredients for it have been carefully assembled.

Resources Needed for the Development of a New Medical School:

1. University Sponsorship:

With rare exception, all of the medical schools in the United States and Canada are active components of an existing major university. The best environment for the development of a medical school is the university which is sufficiently comprehensive that it has a substantial enrollment, including graduate study in at least the science areas and in addition, operates other professional schools such as Law, Business, Engineering, Architecture, and other areas which would complement the development of the program of medical education leading to the M.D. degree.

2. Financial Support for Operations:

During the 1979-80 fiscal period, the mean expenditure for basic educational operations of these 126 schools in the U.S.A. amounted to twenty-five million dollars. A new school should expect to need around ten to fifteen million dollars per year at the time the first class is enrolled and would require increased expenditures upward from that starting point, the degree of expansion being dependent upon the complexity of the educational program, the prior availability of resources and other variables.

3. Capital Financing for Basic Teaching Facilities:

The forty-four new medical schools built a variety of buildings and a summary of details of these will be presented in the book which I am preparing. However, it might be adequate now to suggest that a new medical school proposed at this time would need a minimum of 100,000 square feet NET for the housing of the basic science teaching activities of the school of medicine, i.e., those subjects found in the first couple of years of the Curriculum, which require class rooms, student and faculty laboratories, library, faculty offices, administrative areas, auditoria, facilities for student amenities, and other basic supporting areas. Additionally, space must be made available as an extension of this basic teaching building or elsewhere for the housing of the clinical faculty to be mentioned hereafter as well as for animal facilities to support research activities for the faculty. It is difficult to estimate what the cost of the basic building would be in Alaska, but 100,000 square feet net as a minimal target could be calculated in terms

of cost per square foot if one accepts the fact that approximately sixty percent or less of the gross square footage of a building becomes the net usable available space.

I would suggest that the matter of sponsorship ought to be well established early on and that the State government ought to decide whether or not it has the sustained interest to finance the project at the magnitude set forth above with the careful notation that these estimates are in 1980 dollars.

4. Faculty:

After the Dean has been appointed, his principal task will be to recruit the members of the faculty. It is unlikely that the university sponsoring the medical school will have on hand already a surplus of faculty members who could be assigned to duty in the medical school. Therefore, the medical school will find it necessary to attract from other universities all of the faculty needed for its educational programs. The forty-four new schools we have studied by and large built the number of full-time faculty members to the level of around 125 FTE by the time that the first entering class rose to the fourth year of studies and was ready to be graduated. The full-time faculty are substantially assigned to the basic science areas and to administration while the clinical faculty needs a hard core or critical mass of full-time people to organize the clinical teaching activities: the efforts of this latter group sometimes may be supplemented by such contributions as may be made voluntarily by the local physicians or by some of that cadre of practicing physicians who may be able to devote part-time on salary to the functions of the school. In view of the long standing shortage of physicians in Alaska, it is doubtful that the currently practicing physicians have a great deal of surplus time to devote to a new school of medicine.

5. Clinical Teaching Resources:

This is probably the most difficult area to be addressed in the development of a new medical school. A well established formula has been in use for the last half century with regard to the number of hospital beds needed per clinical clerking student in the third year of the normal curriculum. By that, I mean that approximately eight to ten general hospital beds are needed for each student in the class, i.e., if the class of students totals fifty, then the need for hospital beds, preferably in one institution, would run four to five hundred hospital beds. Additionally, the medical students during the final two years of their study have to observe a sufficient number and variety of patients receiving expert care to introduce them to the full spectrum of methods of modern diagnosis and therapy. The other requirement which the hospital must have before medical students can be assigned to it would be programs of graduate medical education, that is, residency training programs in the various specialties. I would suggest that first

attention be given now to the feasibility of developing a residency program in Family Medicine with the ultimate intent of expanding into programs of graduate medical education in the fields of Internal Medicine, Pediatrics, Obstetrics/Gynecology, etc.

In addition to a substantial teaching hospital resource, medical students require some experience, probably in the fourth year, in ambulatory clinics. These can be located at some site away from the primary teaching hospital described above but are a significant component of the education of a physician in these times.

Housing for clinical faculty and teaching space may be needed on the hospital site if school and hospital are not immediately adjacent -- a much to be desired arrangement.

6. Adequate Supply of Students for the Study of Medicine:

An effort should be made early on to determine the population of college students in Alaska who opt for the study of medicine and who during the past five years have been applicants to medical schools and additionally, the number of premedical students who have indeed been admitted to medical studies.

These students may require financial support for the pursuit of an educational program extended through premedical college days, medical school and then the residency program subsequent to that.

7. Scholarly Research Activities:

Every medical school has to develop the capacity for adding to the body of knowledge and the development of a climate of learning which would facilitate the development of attitudes of life-long study in the students enrolled therein. It would seem to me that one of the things which could be done in the near future in anticipation of a medical school would be for the State to support the development of certain research activities in the general area of public health. By this, I mean that qualified persons should be supported in the study of the special health problems in Alaska. These I assume (from far away) have to do with some of the fundamental areas of the maintenance of health such as sewage disposal and water purification for the various communities as well as prevention of infectious diseases and special diagnostic and treatment facilities for such problems as alcoholism, drug abuse and any other special areas where medicine and social behavior come together.

8. I would suggest that some attention be given by appropriate persons early on to a study of the use of physician extenders for the delivery of medical care throughout the State. By a physician extender, I mean a physician's assistant, a nurse practitioner, or some other category

of health care provider who is not a physician, who would not be given independent prerogatives of the practice of medicine and who would always perform under guidance of a licensed physician, or a group of physicians, preferably. I refer you to the experience of the Australians in providing some form of supervision, by radio, of persons trained to deliver a limited amount of medical care in the "outback" central area of Australia. It is quite possible that some areas of low population, in remote places in Alaska, may never be able to attract a physician, full time; thus, other methods should be explored. (This may be done already.)

During the period of feasibility studies and early development of a new school of medicine in Alaska, it would appear prudent to continue relationships with the University of Washington, which has long demonstrated its interest in and capacity to aid in development of educational programs at sites far distant from Seattle.

Accreditation is a public statement which provides assurance to society that graduates of the accredited school are achieving reasonable and appropriate national standards, assurance to the students that they receive a useful and valid educational experience, to the institutions sponsoring the medical school that their efforts and expenditures are suitably allocated and to the licensure authorities of the fifty states and five jurisdictions that the graduates of the medical school are worthy of licensure. The Liaison Committee on Medical Education through its staff, Dr. Petersen and myself, are very interested in your proposals and would welcome further inquiry from you as this consideration may be continued in the future. We should like to know of early commitments for a school, results of feasibility studies, etc., as these emerge. Upon request, we can provide significant consultation on all of the many tasks to be performed.

Sincerely,

J. R. Schofield, M.D.

JRS:jp

cc: Edward S. Petersen, M.D.

Contents:
HB 615 - 616

Information presented by Dr. Wayne Myers, Director WAMI program

"In summary, it appears to me that a medical school is Alaska might be justified about ten years in the future. Development of a medical school takes seven to ten years. In the interim, certain steps might be taken which are entirely justified on their own merit and could eventually contribute components of a medical shcool in Alaska."

Information presented by Mr. Gary Dunn, Assoc. Dean, N. Dak. School of Medicine.

Dunn has been instrumental in the development of Rural Oriented medical schools in three states, and here, with familiarity, outlines a progressive developement of a medical school in Alaska. He suggests the Area Health Education Centers Model for this state.

Information presented by Dr. J R Schofield, Assoc. of Amer. Medical Colleges

AAMC is the accrediting agent for medical schools.

Mr. Schofield outlines the general requirements for the development of a new medical school and the controls exercised by the national accrediting authority.

Testimony: University of Alaska position on SB 615 -616

State and educational strategies to improve Rural Health Care. (From WICHE)

The graduate medical education national advisory committee estimatie a surplus of 70,000 physicians by 1990, however, the surplus will not resolve the problem of rural health providers. The information attached outlines some approaches which states are using to address this problem.

Department of Health and Social Services on SB 615 - 616

Health Sciences Newsletter

This article outlines the number of Alaskans applying to the WAMI program and those being Accepted

STATISTICAL INFORMATION

Staff Statistics on Physicians in Alaska
Staff Statistics - Table showing distribution of Doctors in Alaska
Federal Map indicating Designated Medical Care Shortages in Alaska

Physician Distribution Analysis

1980	Alaska State Population	400,481	
	Juneau Subarea HSA Population	24,686	
	Anchorage Subarea HSA Population	173,017	
	Fairbanks Subarea HSA Population	53,983	
	Population Outside Tri City Area	148,795	or 37.2%

Physicians Practicing Outside Tri City Area

Private Practice	65 of 412	
U.S.P.H.	40 of 102	
Military	7 of 73	
Federal	7 of 16	
Municipal State	0 of 20	
Total	119 of 623	or 19.1%

Source: U.S. Department of Commerce, Bureau of Census, 1980 Census of Population and Housing, Alaska PHC80-V-3.

Alaska State Medical Association, Physician Distribution in Alaska, October 1980.

Back_ und Information for
SB 615-616
(Medical School)

1. Alaska medical students

1978:	46	(8 WAMI)
1979:	44	(10 WAMI)
1980:	46	(10 WAMI)
1981:	49	(10 WAMI)
1982:	52	(10 WAMI) estimate

2. Cost Survey of Western Medical Schools
   a. Operating Costs $32,500 per student on the average (nationally [public] 79-80, $28,000 per student)
   b. Facilities - Western Medical Schools withou' Hospital 500 to 550 square feet per student, cost has been about $75,000 per student ($150/sq. ft.).

3. Average Class Size is 150 students nationwide, but there are 13 schools with a class size less than 75.

4. Under WICHE Student Exchange Program and WAMI (University of Washington):
   a. Alaskans have access to 16 medical schools

Arizona:	U of Arizona
California:	Loma Linda, U., Stanford U., UC Davis, UC Irvine, UCLA, UC San Diego, UC San Francisco, USC
Colorado:	U of Colorado
Hawaii:	U of Hawaii - Manoa
Nevada:	U of Nevada - Reno
New Mexico:	U of New Mexico
Oregon:	U of Oregon
Utah:	U of Utah
Washington:	U of Washington (WAMI)

   b. Alaskan Attendance (1978-79 through 1982-83)

Institution	1978-79	1979-80	1980-81	1981-82	1982-83
U. of Arizona	-	-	-	1 (1)	1
Loma Linda U.	-	-	1 (1)	3 (3)	4
UC San Diego	1	1	1 (1)	-	
UC San Francisco	-	1 (1)	1	1	1
U. of Colorado	3	2	1	1	
U. of Hawaii	1 (1)	1	1	2 (1)	1
U. of Nevada	1	1	1	-	
U. of Oregon	1	1	1		
U. of Utah	-	-	-	1 (1)	1
U. of Washington	1	-	-	-	
WAMI	38 (8)	37 (10)	39 (10)	38 (10)	39*(10)
	46 (9)	44 (11)	46 (12)	49 (16)	52*(15)

( ) = freshmen * = estimate

c. WICHE Costs:

(i) Support Fees

Year	Fee	Total Cost
1978	$12,000	$96,000
1979	$13,000	$91,000
1980	$14,200	$99,400
1981	$16,300	$179,300
1982	$18,700	$243,100

(ii) Administrative Cost (1981-82): $46,300 Compact Dues

d. WAMI Cost 1981-82:

(i)

Student Level	Per Student Fee
1st Year	At Fairbanks
2nd Year	$24,171
3rd Year	$23,874
4th Year	$16,111

(ii) Administrative Cost

Overall Program Administration	$ 84,283
Clinical Site Cost (Travel)	45,024
Teaching Assistance	43,189
	$172,496

5. Arizona Sample Cost (1981-82)

a. Medical Operating Cost - $20,458,900 (State Funds)

b. Enrollment:

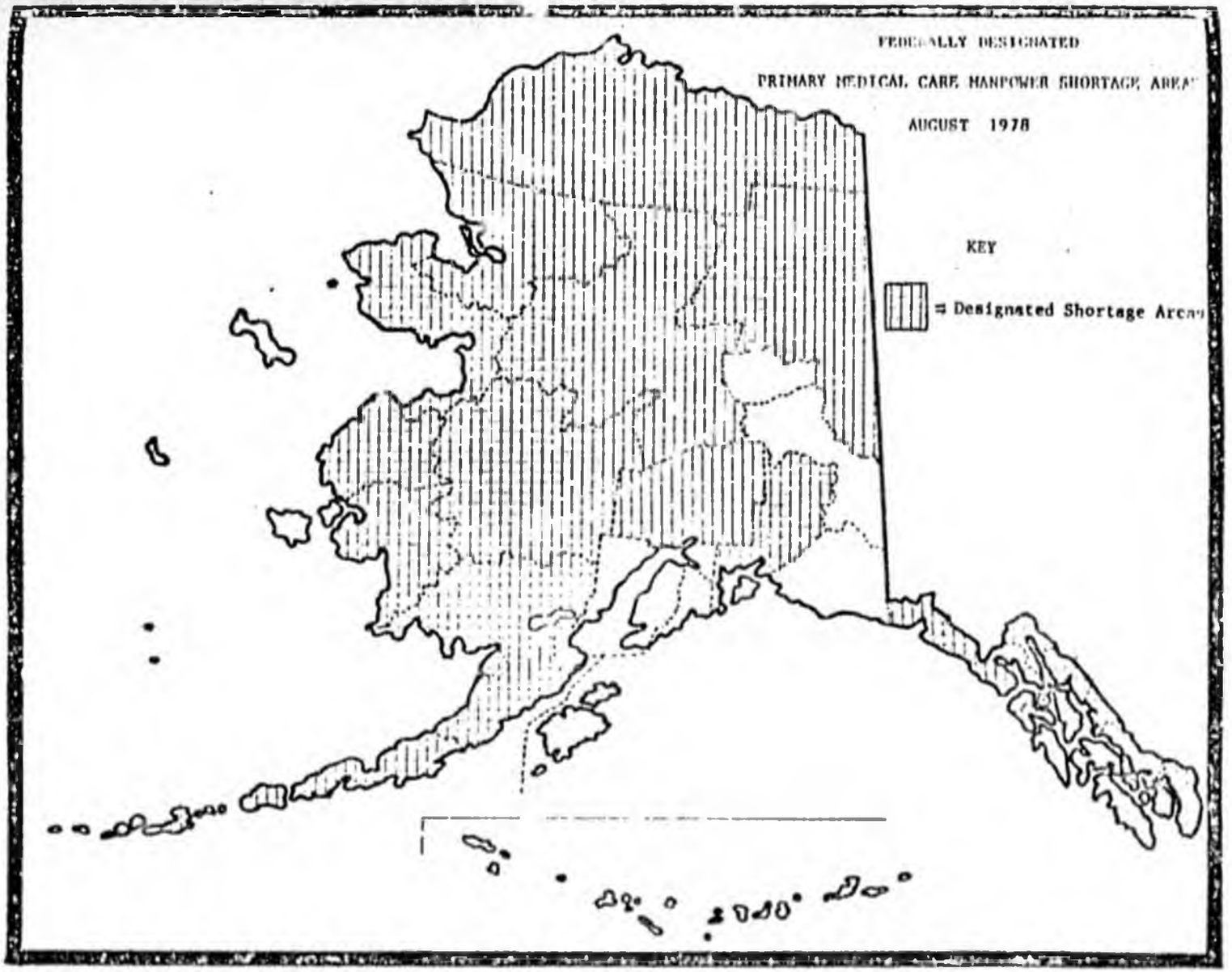
Total 360 students
Class 90 students

c. Operating Cost Per Student: $56,830

d. Teaching Hospital (300 bed)

$10,217,000	state funds
36,459,100	client fees
1,465,200	other
$48,141,300	

Figure V-11



Source: Bureau of Health Manpower, Health Resources Administration, U.S. DHEW, Unpublished list, 1978.

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      Colorado: U of Colorado
      Hawaii: U of Hawaii - Manoa
      Nevada: U of Nevada - Reno
      New Mexico: U of New Mexico
      Oregon: U of Oregon
      Utah: U of Utah
      Washington: U of Washington (WAMI)
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Loma Linda U.	-	-	1 (1)	5 (3)	4
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UC San Francisco	-	1 (1)	1	1	1
U. of Colorado	3	2	1	1	
U. of Hawaii	1 (1)	1	1	2 (1)	1
U. of Nevada	1	1	1	-	
U. of Oregon	1	1	1		
U. of Utah	-	-	-	1 (1)	1
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WAMI	38 (8)	37 (10)	39 (10)	38 (10)	39*(10)
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POSITION PAPER/Department of Health & Social Services

POSITION PAPER
CS FOR SENATE BILL NO. 615 and 616

CS for SB 615 is "An Act providing for the planning of a Medical and Health Services School in the University of Alaska at Anchorage."

CS for SB 616 is "An Act making a special appropriation to the University of Alaska for development of a plan for a Medical and Health Services School at Anchorage; and providing for an effective date."

The first Bill CS for SB 615 requires the University of Alaska prepare a plan for the planned development of a Medical and Health Services School to be located in Anchorage. The plan is to include five points that will cause the program to enhance health care to Alaskans.

The second bill CS for SB 616 provides for the sum of $100,000 to fund a study and resultant plan to create a Medical and Health Services School at Anchorage.

The Department feels this proposed study and the time schedule laid out to accomplish the program, coupled with the five areas to be approached will produce a plan that will enable an informed decision to be made.

We support the passage of Senate Bills 615 and 616.

Recommended by: E. S. Rabeau

E. S. Rabeau, M.D., Director
Division of Public Health

Date: 3-22-81

Approved by: Helen D. Beirne

Helen D. Beirne, Commissioner
Department of Health & Social Services

Date: 3/22/82

THE LEGISLATURE OF THE STATE OF ALASKA
TWELFTH LEGISLATURE

FISCAL NOTE

I. REQUEST
Bill/Resolution No. CSHB NO. 615 and 616
Title "An Act establishing a school of medicine and teaching hospital in the University of Alaska at Anchorage....."
Requested by Commissioner's Office Date 3/22/82

II. FISCAL DETAIL
Agency Affected Department of Health and Social Services
Program Category Affected Health/Public Health
BRU, Program, Or Subprogram(s) Affected
(Note: If more than one budget component is affected, separate line-item amounts and funding for each component in the analysis section.)

EXPENDITURES (Thousands of Dollars)

	FY 82	FY 83	FY 84	FY 85	FY 86	FY 87
100 PERSONAL SERVICES	0	0	0	0	0	0
200 TRAVEL	0	0	0	0	0	0
300 CONTRACTUAL	0	0	0	0	0	0
400 COMMODITIES	0	0	0	0	0	0
500 EQUIPMENT	0	0	0	0	0	0
600 LAND & STRUCTURES	0	0	0	0	0	0
700 GRANTS,CLAIMS,ETC.	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0

FUNDING (Thousands of Dollars)

GENERAL FUND	0	0	0	0	0	0
FEDERAL FUNDS	0	0	0	0	0	0
OTHER (Specify Source)	0	0	0	0	0	0

POSITIONS

FULL TIME	0	0	0	0	0	0
PART TIME	0	0	0	0	0	0
TEMPORARY	0	0	0	0	0	0

III. ANALYSIS (See Fiscal Note Preparation Instruction, Section III)

IV. DATE 3/22/82 PREPARED BY David Bruce
AGENCY Health and Social Services
PHONE 465-3090

Original: Legislative Finance
cc: Budget and Management
Prime Sponsor (First Legislator Named)
33-001 (Rev. 12/81)

POSITION PAPER

SENATE BILL NO. 615

"An Act establishing a school of medicine and teaching hospital in the University of Alaska at Anchorage and for a limitation on expenditures for design and construction."

Senate Bill No. 615 creates a school of medicine at the University of Alaska-Anchorage, authorizes the construction of a university hospital and sets a limit of 100 million dollars for the design and construction.

The advantages are many in having a medical school and university hospital within the State. Some are:

(a) the quality of care provided is improved;
(b) opportunities for continuing medical education are improved, especially for providers in the rural areas;
(c) total medical care could be provided within the State;
(d) the University competency is broadened and strengthened; and
(e) research opportunities directly related to Alaska medical problems will be enhanced.

The choice of Anchorage as a location is wise. In Alaska, with its small population, a medical school and university hospital would by necessity have to be located in a large population center and transportation hub.

The size of a university medical facility or center is more than the size of a similar sized community hospital. This is because of the need for large numbers of research laboratories, faculty offices, specialty clinics and large ambulatory care clinics, and specialty construction required for a teaching hospital. In order to be a viable university hospital - that is covering all medical specialties - a minimum of 300 beds would be required.

As such a "certificate of need" is required by both State and Federal regulations. A 300 bed facility would be the largest hospital in the State, increase the number of available beds in Anchorage by approximately 50% and would thus most likely be refused approval. Two possible solutions to this dilemma would be: 1) negotiate with the Alaska Area Native Health Service Hospital in Anchorage to close and then contract with them to handle their patient load; 2) class the university hospital as a "statewide" or "at-large" facility with a certain percentage of beds obligated to referrals from outside the Anchorage area.

It is felt the maximum amount of funding - $100,000,000 is not adequate. In general a community hospital has about 1,000 square feet of space per bed. For a combined medical school-university hospital the ratio is approximately 1500 square feet per bed. Taking the cost per square foot of recent construction of an addition to the Palmer Hospital ($292.5/sq. ft.) we calculate the cost for planning and construction to be $292.5/sq. ft. times 1500 sq. ft. times 300 rooms or $131,625,000 in 1982 dollars. Documents we have obtained indicate hospital construction takes from inception to 3.4-8.9 years until

the first patient is received. At 10% annual inflation this could mean costs of $159,266.250 (3 years) to $256,499,888 (8 years).

While we realize costs will increase drastically we would urge the legislature to delay the project by one year and to commission a study of the feasibility of such a project and the costs. It is estimated the cost of such a study would be $150,000. The population may be too small to afford the broad clinical spectrum of patients so necessary for teaching purposes.

The Department supports the concept of a medical school and university hospital but we feel a thorough study should be completed before commencing this project.

Recommended by: E. S. Rabeau M.D.
E. S. Rabeau, M.D., Director
Division of Public Health

Date: Feb. 1, 1982

Approved by: Helen D. Beirne
Helen D. Beirne, Commissioner
Department of Health and
Social Services

Date: 2-1-82

THE LEGISLATURE OF THE STATE OF ALASKA
TWELFTH LEGISLATURE

FISCAL NOTE

I. REQUEST
Bill/Resolution No. Senate Bill No. 615
Title "An Act establishing a school of medicine and teaching hospital in the University of Alaska at Anchorage....."
Requested by Commissioner's Office Date 2/1/82

II. FISCAL DETAIL
Agency Affected Department of Health and Social Services
Program Category Affected Health/Public Health
BRU, Program, Or Subprogram(s) Affected
(Note: If more than one budget component is affected, separate line-item amounts and funding for each component in the analysis section.)

EXPENDITURES (Thousands of Dollars)

	FY 82	FY 83	FY 84	FY 85	FY 86	FY 87
100 PERSONAL SERVICES	0	0	0	0	0	0
200 TRAVEL	0	0	0	0	0	0
300 CONTRACTUAL	0	0	0	0	0	0
400 COMMODITIES	0	0	0	0	0	0
500 EQUIPMENT	0	0	0	0	0	0
600 LAND & STRUCTURES	0	0	0	0	0	0
700 GRANTS,CLAIMS,ETC.	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0

FUNDING (Thousands of Dollars)

GENERAL FUND	0	0	0	0	0	0
FEDERAL FUNDS	0	0	0	0	0	0
OTHER (Specify Source)	0	0	0	0	0	0

POSITIONS

FULL TIME	0	0	0	0	0	0
PART TIME	0	0	0	0	0	0
TEMPORARY	0	0	0	0	0	0

III. ANALYSIS (See Fiscal Note Preparation Instruction, Section III)

IV. DATE 2/1/82 PREPARED BY David Bruce
AGENCY Dept. of Health & Social Services
PHONE 465-3090

Original: Legislative Finance
cc: Budget and Management
Prime Sponsor (First Legislator Named)

33-001 (Rev. 12/81)

POSITION PAPER/Department of Health and Social Services

POSITION PAPER

SENATE BILL NO. 616

"An Act making a special appropriation to the University of Alaska for design and construction of Phase I of a school of medicine and teaching hospital at Anchorage and providing for an effective date."

Senate Bill No. 616 appropriates $30,000,000 to begin Phase I of the University of Alaska-Anchorage school of medicine and teaching hospital.

In a position paper on SB 615 we recommended the proposed project be delayed one year to allow for the completion of a feasibility study. It is recommended that action on this bill be delayed pending the completion of the referenced study.

The Department of Health and Social Services supports this project in concept, but does not recommend passage of SB 616 at this time.

Recommended by: E. S. Rabeau M.D.
E. S. Rabeau, M.D., Director
Division of Public Health

Date: Feb. 1, 1982

Approved by: Helen D. Beirne
Helen D. Beirne, Commissioner
Department of Health and
Social Services

Date: 2-1-82

THE LEGISLATURE OF THE STATE OF ALASKA
TWELFTH LEGISLATURE

FISCAL NOTE

I. REQUEST
Bill/Resolution No. Senate Bill No. 616
Title "An Act making a special appropriation to the University of Alaska for design and construction of Phase I of a school of medicine...."
Requested by Commissioner's Office Date 2/1/82

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Agency Affected Department of Health and Social Services
Program Category Affected Health/Public Health
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500 EQUIPMENT	0	0	0	0	0	0
600 LAND & STRUCTURES	0	0	0	0	0	0
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FUNDING (Thousands of Dollars)

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OTHER (Specify Source)	0	0	0	0	0	0

POSITIONS

FULL TIME	0	0	0	0	0	0
PART TIME	0	0	0	0	0	0
TEMPORARY	0	0	0	0	0	0

III. ANALYSIS (See Fiscal Note Preparation Instruction, Section III)

IV. DATE February 1, 1982 PREPARED BY David Bruce
AGENCY Dept. of Health & Social Services
PHONE 465-3090

jcc

Original: Legislative Finance
cc: Budget and Management
Prime Sponsor (First Legislator Named)

33-001 (Rev. 12/81)

Population Distribution of Doctors in Alaska*

Borough	Population	# of Doctors	% of Population	% of Doctors
Anch	173,017	365	43	59
Fbnk	53,983	101	13	16
Juneau	19,528	32	5	5
Ketch	11,316	20	3	3
Kenai	25,282	17	6	3
subtotal	283,126	535	70	86
Other	117,355	88	30	14
Total	400,481	623	100%	100%

*Information from the US census bureau and the Alaska State Medical Assoc.

PROFESSION	RATE PER 100,000 POPULATION BY YEAR							
	1950	1965	1970	1970	1975	1979	1979	1981
	U.S.	U.S.	U.S.	AK.	U.S.	U.S.	AK.	AK.
PHYSICIAN	134.0	139.9	148.7		166.7	185.1	113.0	140.0
PHYSICIAN ASS'T								12.0
R.N.	218.1	317.6	363.9		448.1	520.8	689.6	831.0
L.P.N.						252.0		238.3
PSYCHOLOGIST							5.1	15.2
CHIROPRACTOR						10.0	8.0	11.0
OPTOMETRIST	9.6	8.8	8.9	5.5	9.3	9.7	6.2	6.3
DENTIST	49.8	46.5	47.1	42.0	50.3	54.0	47.3	49.1
PHARMACIST	56.6	52.5	54.4	46.0	56.2	62.4	56.4	43.1

All figures from DHEW Statistics except 1981 Alaska statistics which I took from the Division of Occupational Licensing(removing all non-residents from figures).

Figures are based on all licensed professionals, excluding those residing out of state and those not in active service.

Information from Senate HESS 1981-1982 Interum Report

Doctors

623 live here

365 In Area

101 In Jobs

30 Jamaica

Petition

General Practice / Biggest Need

OB/GYN

UNIVERSITY OF ALASKA, FAIRBANKS
Fairbanks, Alaska 99701

February 5, 1982

The Honorable Charles Parr
The Senate
Alaska State Legislature
Pouch V, M/S 3100
Juneau, AK 99811

Dear Senator Parr: Re: S.B.615 & 616

The attached materials are submitted as background for Senate HESS Committee Hearings on Senate Bills 615 and 616 on February 19.

In summary, it appears to me that a medical school in Alaska might be justified about ten years in the future. Development of a medical school takes seven to ten years. In the interim, certain steps might be taken which are entirely justified on their own merit and could eventually contribute components of a medical school in Alaska.

These include development of a family medicine post-M.D. specialty training program, expansion of medical student training in Alaska through the WAMI Program and strengthening of applied health research closely tied to medical education.

Sincerely,

Wayne W. Myers, M.D.
Director, WAMI Program

WWM/bm
Attach.

MEDICAL EDUCATION NEEDS

Basic Questions

The question of whether Alaska should establish a medical school can be addressed in two ways:

a) Should we move directly and immediately?

b) Should we begin laying the groundwork now, setting up a system of immediately needed health personnel training and research programs which can at the appropriate time become components of a medical school?

Physician Supply

Alaska now ranks approximately 40th in the nation in physicians per capita. These national comparisons omit federal physicians which are relatively numerous in Alaska. Hence we probably rank in the 30s nationally. The relative youth of Alaska's population and the extensive use of physician extenders, such as village health aides, lets our physician supply take care of more people than would physicians in a state with a more elderly population and no physician extenders.

Substantial numbers of physicians are migrating to Alaska. In the first 9 months of 1980, 58 M.D.s took out new Alaska licenses, for an annual in-migration rate of 70-80 per year. We do not have out-migration figures since many doctors leave the state after 2-3 years of military or PHS duty but keep their Alaska licenses in force.

Future Physician Needs

Drs. Chase and Rosenblatt of the University of Washington have used two different methods to project the number of family physicians, general internists and pediatricians which will be required in the WAMI states

in the next 20 years. One approach, "demand/utilization" assumes that people will use medical care as they currently use it in regions which are well supplied with doctors. The "needs" approach estimates the number of physicians which would be required to provide as much care as the medical profession feels should be provided.

Both approaches suggest Alaska needs more primary care physicians; right now at least 100 more family physicians, 20-30 more general internists and 20-40 more pediatricians. A similar increment should be added over the coming 20 years.

Nationally a surplus of physicians is expected to develop in the coming decade. Unfortunately the surplus will be in the specialty areas which are already oversupplied. The primary care specialties will be marginally supplied.

These factors suggest that a family medicine specialty training program should be developed in Alaska in the very near future.

Access to Medical Education

In 1980, 16 Alaska residents entered medical school. The WAMI Program accepted 10; other state medical schools accepted 2, and 4 entered private medical schools. Last year these 16 successful applicants were chosen from 45 candidates. Alaska ranks 50th in the nation in the number of state residents entering medical school per 100,000 population, and approximately 36th in the number entering per 1,000 baccalaureate degrees earned each year.

These modest figures represent a marked increase since the late 60s when Alaska was generating only 2-3 applicants per year. Major factors have been the WAMI Program which made admission to medical school a realistic aspiration for Alaskans by providing 10 openings per year

reserved for Alaskans, and the general improvement in higher education opportunities for Alaskans.

Nationally the number of first year medical school openings has increased from 9,700 to 17,200 in the past 15 years as 19 new shcools opened and most existing schools expanded their classes.

The number of medical school applicants nationally peaked in 1974 at 42,600 with a success ratio of 1:2.8. In 1980, 36,000 applicants had a success ratio of 1:2.1. This decline in the number of applicants has not taken place in Washington, Alaska, Montana or Idaho where the number of applicants continues to climb.

Feasibility of an Alaskan Medical School

Medical schools require a large number of faculty to adequately cover the required curricular breadth. National experience suggests that 40 entering students per year is the bare minimum for a cost-effective operation. Of 126 U.S. medical schools only six are this small and at least three of these are in an early growth phase. For Alaska to admit 40 students per year from its present population of 400,000 we would have to accept 10 students per 100,000 population per year. This figure is exceeded by only four states; New York, Nebraska and North and South Dakota. Hawaii, Kansas and Maryland approach this figure with 9-10 per 100,000 per year.

If we aspire to give Alaskan applicants the national average chance of admission to medical school of approximately 1:2, the number of Alaskan applicants would have to double to fill a class of 40 students.

Last year approximately 1,100 Alaskans earned baccalaureate degrees, (two-thirds of them 'outside') or 2.75 degrees per 1,000 population.

This figure is far below the national average of 4 per 1,000 but it is increasing very rapidly at about 15% per year. It will probably surpass the national average because an unusually large proportion of Alaskans are of college age. (Alaskans' median age is 22 years versus the national median 28 years).

If the current growth in the number of Alaskan residents earning bachelor's degrees is sustained, we might be able to justify a medical school of minimal size in as little as six years. If a portion of this growth is a "post-pipeline" transient phenomenon, more modest educational growth should bring us to this point within 10 years.

The planning and development of a medical school in a site without an existing teaching hospital typically has taken seven years. Ten years is not unusual, and is probably a realistic figure for Alaska given our current reliance on "outside" centers for highly specialized care.

Medical School Finances

I have asked Dr. James Schofield, Director of the Department of Institutional Development of the Association of American Medical Colleges to send financial information directly to Sentor Parr.

In general terms, capital instruction costs of recently developed schools have ranged from 30 to 100 million dollars depending on whether construction of a new teaching hospital was required.

In FY1979 the median operating cost of the U.S. medical schools was $43,000,000. The median level of state support was $10.5 million but the averaging process included private schools, some of which receive little state support. Furthermore, in this period of contracting federal participation, this figure is expected to rise.

EXISTING MEDICAL EDUCATION RESOURCES IN ALASKA

Preclinical Education

The WAMI Program teaches the first year of medical school in Fairbanks to approximately 12 students per year, with the equivalent of 6 full time faculty positions divided among 18 individuals.

Clinical Education

WAMI Community Clinical Units in Anchorage teach family medicine, psychiatry, and obstetrics and gynecology. Each unit is staffed by local physicians and trains students per six week blocks of instruction.

Postgraduate Education

There are currently no organized internships or residency training programs in Alaska. We are the only state lacking such programs.

Research

The WAMI Program in Fairbanks and the UAF Division of Life Sciences conduct a modest research program concentrating on environmental hazards (cold, air pollution, asbestos, protazoan diseases) and on health service delivery studies. Total health research budget is approximately $300,000.

The UAA School of Nursing, Center for Alcohol and Addiction Studies, and Departments of Biology and Chemistry conduct research in a variety of fields including hypothermia, traditional Eskimo healing practices, basic nerve physiology and microbiology.

The strongest and best established biomedical research unit in Alaska is the U.S. Center for Disease Control Field Station in Anchorage. This small (6 member) unit is internationally recognized particularly for its work on hepatitis and cancer among Alaskan Natives. President Reagan's budget proposals include, in various drafts, profound budget

cuts (35-57%) for CDC. These cuts will probably mean closure of the Alaskan operation. This is most regrettable. The CDC now serves an important function in guiding public health efforts in Alaska and would be a major building block in assembling an academic medical education/ public health unit in Alaska.

Teaching Hospitals

Providence Hospital in Anchorage is the largest hospital in the State and is a major potential resource. The medical staff in 1978 voted to continue to permit WAMI medical students to be trained there. The staff, however, defeated a motion to explore the feasibility of establishing residency training.

The Alaska Hospital and Medical Center expressed serious interest in both undergraduate and graduate medical education in 1977.

The Alaska Native Medical Center has several teaching programs in collaboration with other schools and has expressed interest in expanding this role.

Fairbanks Memorial Hospital and its medical staff have been extremely supportive of the WAMI Program and its students.

RECOMMENDATIONS

1) The feasibility of establishing a medical school in Alaska should be studied in detail with a projected date of opening of 1991. Such a study would cost approximately $100,000.

2) A Family Medicine residency training program should be established in Alaska with an opening date of July 1984. Initial operating costs would come to approximately $700,000 per year rising to $1,000,000 per year when the program was full at three years. Remodelling costs for a required family medicine practice center would approximate $600,000. A major portion of the operating budget is traditionally recoverable from participating hospital revenues and from family practice center patient revenues. Eventually this program-generated revenue might total one half the operating budget. These levels of support, however, take four to five years to develop.

3) The present fourth year medical school offerings in Anchorage should be expanded to an entire year's curriculum with a targeted opening date of July, 1983. This can be accomplished without new construction with an operating budget of approximately $250,000 per year.

4) Negotiations should be opened with the University of Washington to increase the number of Alaskans admitted to the WAMI Program with a target of 13 slots in September 1983. Incremental cost would be approximately $10,000 in FY84, $80,000 in FY85, $140,000 in FY86, $200,000 in FY87 and thereafter.

5) The University's health research base should be strengthened. An

An initial step would be the adoption of the U.S. Center for Disease Control laboratory in Anchorage This would cost approximately $600,000 per year.

6) Finally, the development of a medical school should not be permitted to eclipse the need for more modest health personnel training and research needs outlined in previously submitted materials.

Table 1

Supply vs. Requirements For Physicians in 1990

(1978 Supply shown for comparison)

	Supply	1990			
	1978	1990	Requirements	Surplus or (Deficit)	Supply as % of requirement
Primary Care Specialties					
General/Family Practice	67,900	88,250	84,000	4,250	105
General Internal Medicine	48,050	73,800	70,250	3,550	105
General Pediatrics	23,800	37,750	30,250	7,500	125
Surgical Specialties					
General Surgery	30,700	35,300	23,500	11,800	150
Orthopedic Surgery	12,350	20,100	15,100	5,000	135
Ophthalmology	11,750	16,300	11,600	4,700	140
Urology	7,100	9,350	7,700	1,650	120
Otolaryngology	6,100	8,500	8,000	500	105
Neurosurgery	3,000	5,100	2,650	2,450	190
Plastic Surgery	2,000	3,900	2,700	1,200	145
Thoracic Surgery	2,100	2,900	2,050	850	140
Obstetrics and Gynecology	23,100	34,400	24,000	10,400	145
Psychiatry (general)	23,100	30,500	38,500	(8,000)	80
Child Psychiatry	3,000	4,100	9,000	(4,900)	45
Anesthesiology**	14,000	19,450	21,000	(1,550)	93
Radiology**	16,500	27,800	18,000	9,800	155
Pathology	12,000	16,850	13,500	3,350	125
Emergency Medicine	5,000	9,250	13,500	(4,250)	75
Medical Specialties					
Hematology/Oncology	3,000	8,300	9,000	(700)	90
Gastroenterology	2,[illegible]	6,900	6,500	400	105
Cardiology	7,700	14,850	7,750	7,100	190
Dermatology	5,000	7,100	6,950	450	105
Neurology**	4,000	6,650	5,500	3,150	155
Pulmonary Diseases	2,800	6,950	3,600	3,350	195
Nephrology	1,450	800	2,750	2,197	175
Infectious Diseases	850	3,250	2,250	1,000	145
Allergy/Immunology	2,100	3,900	2,050	1,850	190
Endocrinology	1,400	3,850	2,050	1,800	190
Rheumatology	1,007	3,000	1,700	1,300	175
Pediatric Specialties					
Hematology/Oncology	n/a	750	1,800	(1,050)	35
Neurology	n/a	700	1,300	(600)	55
Cardiology	600	2,000	1,150	(1,150)	85
Allergy	650	900	900	0	100
Endocrinology	n/a	250	800	(550)	30
Nephrology	n/a	500	350	(1,150)	55
Preventive Medicine	5,100	5,550	7,300	(1,750)	75
Nuclear Medicine**	n/a	n/a	4,000	n/a	n/a
Phys. Med. & Rehab. **	2,000	2,400	3,700	(1,300)	75
All other and unspecified	14,000	8,[illegible]		n/a	n/a
All Physicians	364,000	535,750	466,000	69,750	115

* Supply includes residents, but DHEW/HRC estimated that residents provide direct health services of approximately 20% of the level of a full time practicing physician. Thus, the actual supply of physicians in 1990 will be 513,750

** Requirements in this specialty were estimated crudely and await application of the full DHEW/HRC modeling methods

Planning for Graduate Medical Education, An Institutional Effort

by John D. Chase, M.D., and Roger A. Rosenblatt, M.D.

If economics is known as the dismal science, health manpower planning defies polite characterization. Although economists rarely achieve consensus—and are rarely right—money, the subject of their discourse, commands our rapt attention. Trying to determine the appropriate mix of various types of health manpower personnel is to enter a morass where you are unlikely to be right—and will certainly not be loved.

The University of Washington School of Medicine has undertaken an effort to determine which physician specialties are most likely to be needed in the years ahead by the four state area: Washington, Alaska, Montana and Idaho.* Theoretically, by first determining the optimal mix of physician manpower and then contrasting this ideal state with the current and projected supply of physicians, we should be able to determine the existing deficits and surpluses of physicians by their respective specialties. Since the School of Medicine has under its jurisdiction more than 600 residency and fellowship training positions, ideally it could shape the future supply of postgraduate educational opportunities to match the demonstrated needs.

Unfortunately, although the progression of physicians from medical school through residency, postgraduate training and into practice may have some of the linear aspects of a stochastic chemical reaction, the resemblance is tenuous. Furthermore, while the theoretical process for predicting future manpower requirements is straightforward, the individual steps in this deceptively simple equation are fraught with imprecision. In its most skeletal form, the problem can be stated as follows: (1) Determine the amount of health services required by a defined population; (2) Determine the optimal mixture of various types of health personnel needed to provide services to the population; (3) Project the future change in population demography, and from this determine the numbers of various types of health professionals that will be required. Some have then suggested that by manipulating the educational, licensing and reimbursement systems the future supply can then be brought into harmony with the future need.

This rather pristine projection founders immediately on the concept of need. There does not exist, unfortunately, an Avogadro's number describing the number of physicians required to provide health care to a given population. Need is a relative concept, and it is impossible to reduce need to an absolute measure. All one can do is describe the assumptions used in determining the yardstick and proceed from there.

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*Methodological design and statistical analysis provided by Ms Jeanette Abrams

Dr. Chase is associate dean for clinical affairs and professor of medicine. Dr. Rosenblatt is director of the research section and assistant professor of family medicine.

The previous paper has described the methodological tools available to the health manpower planner. The crux of the issue revolves around the determination of the number and type of health professionals needed to care for a population of known size and demographic composition. This issue itself has two major components: first determining the number of encounters with the health care profession that will, or should, be generated by the population under discussion, and then partitioning these encounters among the wide variety of health professionals who minister to the public, often proferring services that overlap. Both components of this conundrum require that value judgements be made, and it is essential that these value judgements be made explicit in order to evaluate the recommendations that emerge.

However, as muddy as the problem may appear to those familiar with the more precise biomedical world, it is both the responsibility and privilege of the medical school to delve into these perilous waters. To abstain from attempts to determine and influence the future medical manpower of the region we serve is to accept as correct the highly arbitrary interplay of external forces that determines the distribution of specialty training opportunities in our facilities. Our clinical and educational facilities are limited, and it only makes sense to harness the efforts of our diverse and decentralized faculty and clinical institutions to train physicians who are both capable and willing to fill the real needs of the people they serve. Moreover, national policy is moving rapidly towards increased central control over the production of various physician specialists, both through inducements to provide training slots and by attempting, with less success, to change the reward system encapsulated in the mechanism of third-party reimbursement. Just as WAMI has demonstrated the ability of this medical school to create a decentralized regional system of medical education, the school should grapple with the difficult but important task of helping to determine into which specialties our students will flow as they complete postgraduate training and enter practice.

In light of these considerations, Dean Robert L. Van Citters appointed a Graduate Medical Education Advisory Committee to examine the issue of residency training in the WAMI area and to make recommendations as to possible changes in the residency mix, after determining as best as possible the future need for physicians in the WAMI area. This paper draws upon early work and presents some of the statistical information from which the eventual recommendations will be drawn.

Current Physician Supply for the United States and WAMI

The number of medical schools and medical students has expanded rapidly in the last two decades; the growth in student positions is now being reflected in a growing number of practicing physicians, both in absolute numbers and numbers relative to the population they serve. From 1963 to 1976, the number of licensed physicians in the United States expanded from 276,000 to 409,446; during this period, the University of Washington doubled its class size, largely through the creation in 1969 of the WAMI Program in regionalized medical education. Available residency positions have grown apace, and the University of Washington Affiliated residency positions have grown from 140 in 1960 to 500 at present.

The most pronounced growth has occurred in the disciplines of family medicine, internal medicine and pediatrics, the so-called primary care specialties. As depicted in Figure 1, all the specialties have shown some growth during the decade from 1968 to 1978, but primary care residency slots have more than doubled. This growth pattern can be attributed to the creation of the discipline of family medicine and increasing emphasis in general medicine and pediatrics—a deliberate societal and professional response to he widespread perception that many people lacked access to personal health care in an era of growing subspecialization.

Although this increase in the availability of primary care residency opportunities demonstrates the responsiveness of the School of Medicine to needs articulated both by the public and by the profession, it is difficult to determine the extent to which these modifications have been successful in meeting the needs of the region. Moreover, no yardstick exists for determining further changes. The purpose of this paper is to attempt to estimate future requirements for the primary physician specialties, and compare these estimates with the current supply of physicians by specialty in each of the WAMI states.

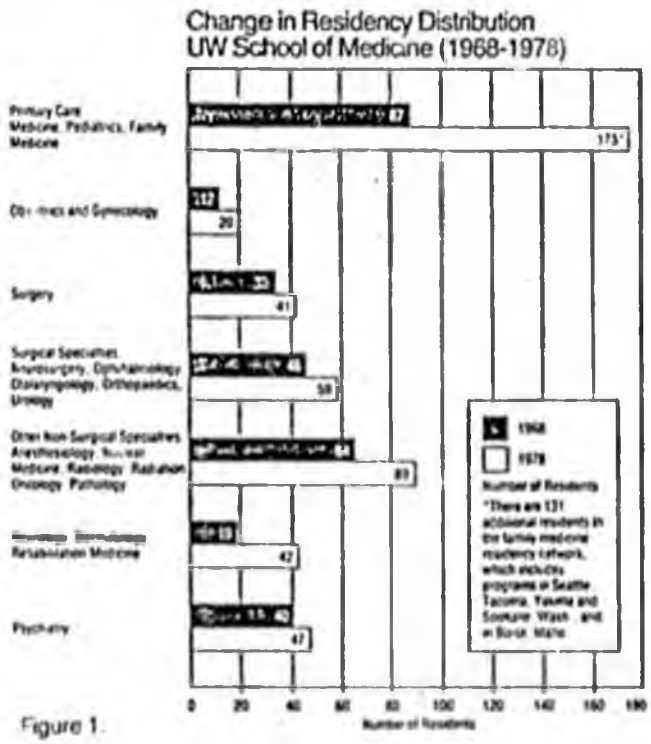

Figure 1.

The Advisory Committee formulated a set of assumptions in order to make the scope of the problem manageable. Although the assumptions are of themselves controversial, they at least allow one to proceed. The most significant assumptions were: (1) The fee-for-service system will continue to be the major vehicle by which people obtain medical care; (2) The use of physician extenders and physician surrogates will not have a major impact on the number of physicians required; (3) Although major technological changes may either increase or decrease the public's demands for physicians, such factors will be ignored for the purposes of this study; (4) In addition to the commitment of the School of Medicine to assure an adequate supply and appropriate mix of physicians for the WAMI population, the school also has an obligation to provide adequate graduate training opportunities for local students graduating from our medical school. In actuality, although these assumptions may themselves be arguable, they had relatively little impact on the process of comparing needs and supply which is described below.

Health manpower planning is exquisitely sensitive to the data sources used. There is no shortage of data available to project both the supply and demand sides of the manpower equation; unfortunately, the sources of data are multiple and at times contradictory, a clear indication of the general theoretical murkiness with which the field is afflicted. However, in order to understand the figures presented here, it is necessary to have at least a passing acquaintance with the data sources themselves.

Data on population are provided most accurately by the decennial census—current lawsuits notwithstanding. Since the 1980 census data are not available at the time of this writing, we have used the most recent population projections generated either by the states themselves or by the Census Bureau. The population of the WAMI area is growing rapidly, chiefly because of the influx of people into the state of Washington. Figure 2 graphically depicts the population projections for each of the WAMI states.

Physician population has also grown, and grown more rapidly in the WAMI states than the population itself; this is reflected in Figure 3 which presents the population-to-physician ratio for each of the states and for the country as a whole. The source of the data is the American Medical Association, which despite a built-in reporting lag, has probably the best existing data system for tracking physician supply. It should be noted that the figures exclude federal physicians but include physicians in training, since, in 1977, 12.8 percent of all non-federal physicians in Washington were in training. In addition, since many of these training positions were created relatively recently, the rapid fall in the population-to-physician ratio in Washington is somewhat overstated. All of the WAMI states have fewer physicians per thousand population than does the nation as a whole: Washington ranks 14th among the states by

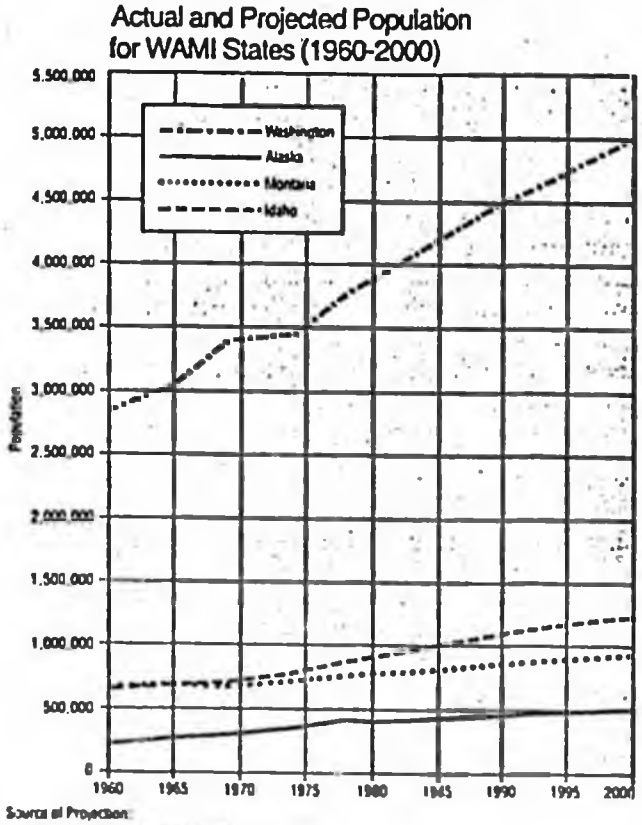

Figure 2.

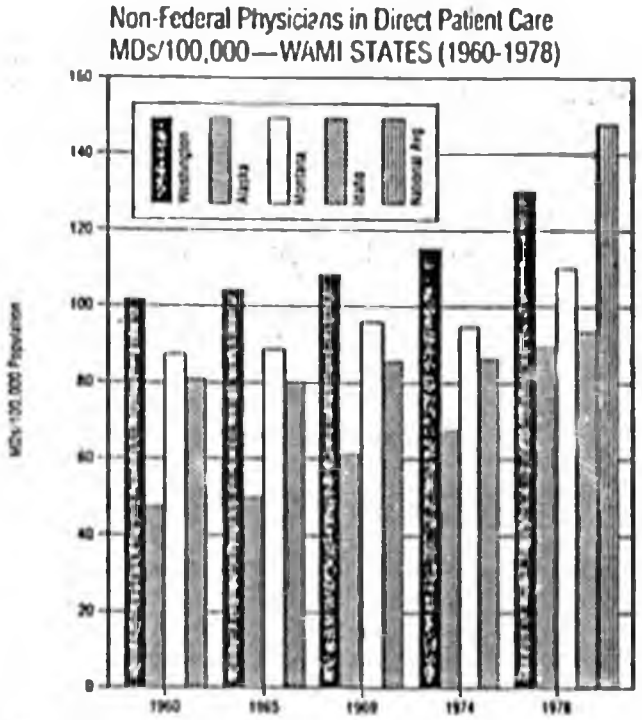

Figure 3

population-to-physician ratio, while Alaska, Montana, and Idaho are 46th, 38th, and 48th respectively.

Table 1 presents the distribution of physicians by specialty in the WAMI states with respect to the populations they serve and compares these figures to those prevailing in the nation as a whole. The figures for Washington closely resemble the national figures: 39 percent of the physicians are in the three major primary care disciplines, with the majority of physicians in narrower medical, surgical or ancillary subspecialties. The pattern is similar for each of the other states, except that the aggregate supply of physicians relative to population is significantly smaller.

It is clear from these figures that the medical profession in the United States consists predominantly of non-primary care specialists and of subspecialists. This finding is particularly striking when one considers the recent trends in the supply of the major primary care disciplines. The number of general and family practitioners has fallen from 30 percent of all physicians in 1960 to 15 percent in 1977 during a period where total numbers of physicians increased rapidly, a trend reflected in the statistics for the Northwest. During this same period, there has been an appreciable increase in both the number of general internists and pediatricians with respect to the population, although not sufficient to balance the overall total loss of primary care physicians available to the public. Given a national goal that 50 percent of all graduating physicians will enter the primary care disciplines of family medicine, general internal medicine, and pediatrics, the available statistics would indicate that in the country at large—and in the WAMI states in particular—we are short of the goal. In addition, we must take into consideration the age of those physicians currently in practice. Today's active general and family practitioners are for the most part members of an aging cohort of physicians who began practice in the 1940s. The average age of family physicians in the WAMI area is about 53 years, and a substantial number of those currently practicing will be lost to death or retirement over the next decade. In the same area, the average age of internists and pediatricians is 47.

Determining the Future Needs For Physicians in the WAMI Area

While our data as to the current supply of physicians are quite adequate, our tools for projecting and quantifying the need for different categories of physicians are quite imprecise. Data sources are plentiful, but the interpretation of those data sources is extremely sensitive to the assumptions made about how medical care is provided. We can ascertain with some precision the number of people in the population who will have myocardial infarctions during the coming year; we have

Table 1

Non-Federal Physicians in Direct Patient Care

MDs/100,000 Population/1977

	Washington	Alaska	Montana	Idaho	U.S.
All Primary Care					
GP/FP	31.9	26.7	29.4	31.5	24.1
Internal Medicine	19.5	12.9	12.5	9.4	24.1
Pediatrics	8.2	6.2	5.6	4.5	9.6
TOTAL	59.6	45.8	47.5	45.4	57.8
Surgical Specialties					
General Surgery	12.0	8.2	10.6	9.1	13.7
OB/Gyn	9.2	6.7	6.6	6.1	10.0
Neurosurgery	1.6	0.8	1.2	0.8	1.3
Ophthalmology	5.5	3.9	4.6	4.6	5.1
Orthopedics	6.6	7.0	6.1	5.3	5.3
Otolaryngology	2.9	2.8	2.3	1.6	2.5
Plastic Surgery	1.2	0.8	0.7	0.8	1.1
Colon/Rectal	0.2	0.0	0.0	0.0	0.3
Thoracic Surgery	0.7	0.2	0.5	0.4	0.9
Urology	3.4	1.7	3.2	2.9	3.1
TOTAL	43.3	32.1	35.8	31.6	43.3
Medical Specialties					
Dermatology	2.2	0.0	1.9	1.3	2.1
Ped. All. and Card.	0.3	0.0	0.3	0.1	0.4
Cardiovascular	2.7	0.6	1.5	1.8	2.7
All other Int. Med. Subspec.	2.6	2.0	1.6	1.2	3.5
Neurology	1.8	1.1	0.9	1.0	1.7
Psychiatry	10.6	5.3	4.1	2.9	10.6
Phys/Rehab & Other	9.0	6.5	3.5	3.7	7.8
TOTAL	29.2	15.5	13.8	12.0	28.8
Ancillary					
Anesthesiology	7.9	2.5	4.9	2.8	5.8
Pathology	4.4	2.5	3.6	2.5	4.4
Radiology	7.8	4.2	6.9	5.7	7.3
TOTAL	20.1	9.2	15.4	11.0	17.5

Population 1977. U.S., 216,500,000; Washington, 3,527,000; Alaska, 355,900; Montana, 754,600; Idaho, 831,300

much more difficulty determining what kind of physicians should take care of them or what proportion of the physician's time will be spent in this endeavor. Yet when reduced to its element, that is the problem that we must deal with if we are to make any meaningful projection about manpower needs.

The simplest way to determine the future need for physicians is to derive a population-to-physician ratio for each specialty discipline and apply this ratio to the projected total population for the time period in question. There are several sources for such a ratio. One of the most used is that developed by *Medical Economics* and published in that magazine in 1973. These standards are professionally derived, a numerical consensus among health providers stating what the optimal level of physician supply should be to assure optimal health care. The advantage of this approach is its relative simplicity; once consensus has been hammered out among the participants, projecting future supply is quite straightforward. The disadvantage of the approach is that it tends to enshrine current patterns of care delivery since the professionals involved in the effort tend to start from a base of their own world outlook and experience. One can also question whether health professionals themselves are sufficiently dispassionate about the future of their respective disciplines to produce numbers based on logic rather than emotion or self-interest. Participating in such exercises helps physicians state explicitly their expectations about how health care should be provided but offers us relatively little in the way of assistance in the determination of actual future need for physicians' services. The recently released estimates made by the Graduate Medical Education National Advisory Council (GMENAC) used a modification of this approach. Their "adjusted needs model" used a population-based estimate of medical need, submitted to professional review and judgement at several steps in the process.

The Demand/Utilization Model

In our pluralistic medical system—a sometimes bewildering hybrid of private fee-for-service medicine, numerous third-party insurers, and overlapping federal, state, and local agencies—it is useful to look at what care people seek as an index to what care should be provided. Two basic data sources indicate which physician's services people actually use. The first is the National Ambulatory Medical Care Survey (NAMCS), an actual random sampling of what happens in the offices of private practice, fee-for-service physicians. NAMCS provides information on the demographic breakdown of patients seeking medical care, the illnesses prompting patient visits, as well as the workload and productivity of various types of physicians. It is only a partial picture, however, because it ignores hospital practice and does not account for the teaching, administrative, and research activities of physicians. It also excludes the increasingly large number of physicians working in organized settings such as health maintenance organizations, public institutions, or occupational clinics. Extrapolating from the NAMCS data alone seriously understates the number of physicians needed to fulfill their multiple societal roles.

The second major national source of data about health care utilization comes from the Health Interview Survey (HIS). HIS collects its information from a random sample of the population—not only that segment of the population that uses physicians—and thus provides a much more accurate reflection of the actual illness experience of the population, as well as another method of gauging the utilization of health services likely to be a better reflection of the actual utilization of health services—since it collects information from patients who use physicians who work in all kinds of settings—and gives us some way to begin to assess the degree of unmet need. Information from the HIS survey indicates that 15 percent of all illnesses deemed to be medically serious by the respondent are never treated; 50 percent of all illnesses never result in physician consultation. It is important to recognize that segments of our population do not receive adequate medical care because of a variety of barriers including poverty, cultural disparities, and an inadequate supply of physicians in some rural and inner-city locations. Although increasing the aggregate supply of physicians will not of itself eliminate these barriers, projections of the number and types of physicians who should be produced ought to take account of these unmet needs.

Some very interesting information about the relative productivity of different types of physicians comes from comparing the utilization data gleaned from the Health Interview Survey with the actual relative supply of physicians. Although general and family physicians had dwindled to 15 percent of physicians by 1977, the Health Interview Survey showed that 51 percent of all physician visits in that year were to physicians identified by the respondent as G.P./F.P.; in contrast, general internists, whose numbers have been growing slowly over the last two decades and who now nationally comprise 14 percent of all physicians, accounted for only 11 percent of patient visits. However, it is not at all certain that patients can make a clear cut and accurate identification of their physician's specialty using identical terms. It is also noted that the data indicate a higher rate of hospital visits for the internists, and a greater frequency of care of the critically ill. These observations may in part explain this apparent wide variation in productivity. But it is very clear that the fiscal and numerical consequences of manpower planning will be highly dependent on whether family physicians or general internists assume the majority of care for adult patients. Parenthetically, pediatricians represent about five percent of all physicians and deliver about ten percent of

all patient visits. Table 2 adapts the HIS utilization data to the WAMI states and projects the number of physicians needed in the three major primary care categories for 1980, 1990, and 2000, using our best current data on population trends and adjusting the requirement to reflect needed time for hospital visits, practice management and other non-direct patient care requirements of practice. The technique used to calculate the number of physicians needed is relatively straightforward. The population is broken down into segments by age and sex; for each demographic "slice," the number of visits per year to each kind of physician is calculated from the survey data. Since we know the population pyramid for the WAMI states, we can sum up the expected utilization for each of the specialties and then divide the figure by the respective productivity of each kind of physician, i.e., the number of actual patient visits seen per year for each specialty. The result gives us the number of physicians needed to care for our growing population in the future, based on current patterns of utilization by patients and the maintenance of the status quo in the way medical services are delivered.

Table 2

Estimated Requirements for Primary Care Physicians for the WAMI States
Using a Demand/Utilization Approach
(Based on the Health Interview Survey)

	General/ Family Physicians	General Internists	Pediatricians
WASHINGTON			
1980	2,038	816	179
1990	2,426	984	220
2000	2,700	1,124	248
*Current Supply (1978)	1,043	535	248
ALASKA			
1980	202	72	35
1990	243	90	41
2000	275	104	41
*Current Supply (1978)	102	37	23
MONTANA			
1980	419	168	63
1990	476	196	64
2000	529	224	65
*Current Supply (1978)	225	96	44
IDAHO			
1980	474	182	75
1990	581	222	84
2000	692	275	97
*Current Supply (1978)	256	74	35

*Figures include only office- and hospital-based physicians

The data give us some insight into where the major disparities exist between the current supply of physicians and that which is needed to take care of patient loads given the current level and pattern of patient demand for physician services. There is a continuing and sizeable deficiency of primary care physicians who are occupied in direct patient care in all four states, with the exception of pediatricians in the state of Washington. Using this method as applied to the four-state area, we should almost double the number of general and family physicians and general internists, and have half again the number of pediatricians.

It is important to note that these numbers are very sensitive to the data source used; using data from the National Ambulatory Medical Care Survey gives much lower numbers in all categories for the number of physicians required. However, we consider that the Health Interview Survey data, which recognize the existence of sites of practice beyond private offices, reflect much more completely and accurately the actual behavior of the entire population. Thus we favor using this data in calculating physician need based on current patterns of utilization.

Projecting Physician Requirements Based on Need

The major flaw in the demand approach to manpower planning is that it perpetuates past solutions to the problems of medical care delivery. It does not describe an ideal or even necessarily a desireable model. If large segments of the population currently do not receive care because of an inadequate supply of the specific physician specialty, these inequities will persist if we use the demand model.

Establishing norms for medical care is a difficult proposition, however. How much medical care do people need? Which health services make a difference in helping people achieve an optimal state of well being? And once we have determined that ideal level of services, who should deliver them? These are very important questions, and it is both appropriate and essential that we ask them. However, unlike the more pristine world of the physical sciences, there are no preordained physical constants waiting to be discovered. Health services research, as a field of quantitative scholarly en-

deavor, is much too primitive a science to give unequivocal results to these fundamental questions. Ultimately, our opinions and our values will determine the framework in which these questions are asked and answered.

As part of this attempt to project the need for physicians, a measure was developed which has been termed "treated health needs." This method allows us to combine the most useful elements of the NAMCS and the HIS data bases. From NAMCS, we are able to determine what physicians usually do for a particular illness, e.g., how many times the patient is seen in the office setting. From the HIS survey, we have a fairly accurate idea of the distribution of illnesses and complaints in the general population. By melding these two data sources, we are able to determine the number of physician visits that would be generated if people sought medical attention for all conditions which usually result in physician consultation. By allocating these visits among the three major primary care specialties according to their current market shares and dividing by their relative productivity, one can derive an estimate of the number of physicians "needed" to adequately attend to the full range of illnesses reported by the general population. These figures for the WAMI states are presented in Table 3.

It is evident that determining optimal physician supply based on some estimate of "need" produces much higher figures than projecting numbers based on current level of utilization. A certain amount of skepticism is more likely in order. Although there are undoubtedly segments of the population who would be better off if they went to physicians more frequently, there probably are other segments of the population who would benefit from a little more distance from the medical establishment. Perhaps of more significance to the School of Medicine is that at this moment it is really immaterial which method is used if the point of the exercise is to determine which categories are deficient and which are in surplus. Although the ratios vary, the conclusions are very much the same for the demand model and for the needs model. Primary care physicians continue to be needed in appreciable numbers.

Discussion

The University of Washington School of Medicine, through the WAMI program and its network of affiliated postgraduate training programs, is having a direct and increasing impact on the number and type of physicians that practice in the states of Washington, Alaska, Montana, and Idaho. Although physician migration is an important factor in practice location, an institution with some measure of control over more than 600 postgraduate training positions should be able to influence the mix and distribution of physicians practicing in this area. Since the school exists primarily to serve the medical care needs of the people of this region, it is our responsibility to tailor our training opportunities to the needs of the population.

This preliminary effort to project the needs for primary care physicians in the WAMI area over the next 20 years is the first step in developing the data base that will enable us to make deliberate choices about how we channel our resources. We have started with the disciplines of family medicine, general internal medicine, and pediatrics because this group accounts for nearly

Table 3

Estimated Requirements for Primary Care Physicians for the WAMI States Using a "Needs" Approach

	General/ Family Physicians	General Internists	Pediatricians
WASHINGTON			
1980	3,139	692	307
1990	3,734	808	372
2000	4,813	940	397
*Current Supply (1978)	1,043	535	248
ALASKA			
1980	336	59	72
1990	399	70	82
2000	436	77	86
*Current Supply (1978)	102	37	23
MONTANA			
1980	645	147	139
1990	702	168	142
2000	804	185	146
*Current Supply (1978)	225	96	44
IDAHO			
1980	641	130	135
1990	793	161	142
2000	954	195	182
*Current Supply (1978)	255	74	35

*Figures include only office- and hospital-based physicians

three-quarters of all patient visits, yet represents a minority of the physician population. It is the general consensus of the major professional organizations and the public in general that the public will be served best by augmenting the ranks of primary care physicians. There is less consensus about which of the primary care disciplines deserves the most attention.

In the exercise described above, national surveys of office-based physicians and studies of the way in which the general population used medical resources were used to project the requirements for primary care physicians in the WAMI states over the next two decades. These projections assume that the patterns by which medical care is now being delivered will remain relatively stable and that population growth will continue. It is interesting to note that it is really unimportant whether current demand or assumed need is used as the benchmark by which to determine future physician requirements. Although the magnitude of the results differs, both methods predict continued large deficits for primary care physicians in the four-state area. The current supply of office- and hospital-based pediatricians appears to be adequate in Washington, but inadequate in Idaho, Montana and Alaska.

The School of Medicine has already initiated significant new programs that will have an impact on these situations. The creation of the Family Physician Pathway in 1968 and the creation of a network of family medicine residencies over the subsequent decade have greatly increased the number of students selecting and the number of residents completing training in family medicine. The more recent creation of primary care tracks in internal medicine and pediatrics has increased the sizes of both these residency pools and is channeling increasing numbers of students into generalist careers. Preliminary results show that the graduates of these programs tend to remain in the WAMI area; whether the production is sufficient to meet the need will await further data. It is obvious that this planning effort is in its infancy. We have not even dealt here with the numerous subspecialty training programs and the requirements for the graduates of their programs in our region.

It is extremely difficult to change the patterns and proportional efforts of postgraduate training. Our current residency and postdoctoral programs are the creation of years of work by dedicated clinicians, teachers and researchers. Clinical services are often predicated on adequate housestaff in certain disciplines. Medical school teaching is performed largely in the clinical years by residents. To perturb this system is to intrude on ground hallowed by tradition. Change will not come easily.

But change is necessary, and much is to be gained by generating that change from within the institution. Rather than being saddled with arbitrary dictates from external forces, we have the opportunity to mold our own destiny. We should continue to develop the best data and the best tools so that we can do it in as rational and dispassionate a manner as possible.

ADDITIONAL READING

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