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THE FUTURE OF MILITARY GRADUATE MEDICAL EDUCATION

BY

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Military Graduate Medical Education (GME) has been a source of controversey ever since its inception. Great debate has swirled around its value and costs to the military. In spite of this, since its meager beginnings after WWI, it has grown steadily to now encompass approximately 30% of the physician staffing of the military. Most would agree that Graduate Medical Education is critical for retention and preservation of quality medical care. Nonetheless, the price is high in people and resources. The foreseeable future will bring great changes to the military. It is clear that the Medical Departments of the three services will be affected. Graduate Medical Education as it now exists will have to adapt to meet the changes. Manpower cut backs will potentially severely effect the number and kinds of GME that we can afford to maintain. The possibility of a National Health Insurance Plan would have a great impact. Centralization of GME under the Department of Defense is a concept that has been debated for years. Consolidation of military programs especially the high tech specialties such as cardiology and thoracic surgery will have to be considered. (Cont'd.)

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Affiliations with the Veterans Administration Teaching Hospitals and geographically located civilian institutions will need to be established at a much greater level then presently exists. In this manner GME can be continued in our teaching hospitals. Manpower constraints may limit how much of this GME is our own and how much is shared with other institutions.

USAWC MILITARY STUDIES PROGRAM PAPER

THE FUTURE OF MILITARY GRADUATE MEDICAL EDUCATION

An Individual Study Project

by

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ABSTRACT

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Military Graduate Medical Education(GME) has been a source of controversy ever since its inception. Great debate has swirled around its value and costs to the military. In spite of this, since its meager beginnings after WWI, it has grown steadily to now encompass approximately 30% of the physician staffing of the military. Most would agree that Graduate Medical Education is critical for retention and preservation of quality medical care. Nonetheless, the price is high in people and resources. The foreseeable future will bring great changes to the military. It is clear that the Medical Departments of the three services will be affected. Graduate Medical Education as it now exists will have to adapt to meet the changes. Manpower cut backs will potentially severely effect the number and kinds of GME that we can afford to maintain. The possibility of a National Health Insurance Plan would have a great impact. Centralization of GME under the Department of Defense is a concept that has been debated for years. Consolidation of military programs especially the high tech specialties such as cardiology and thoracic surgery will have to be considered. Affiliations with the Veterans Administration Teaching Hospitals and geographically located civilian institutions will need to be established at a much greater level then presently exists. In this manner GME can be continued in our teaching hospitals. Manpower constraints may limit how much of this GME is our own and how much is shared with other institutions.

INTRODUCTION

With the conclusion of the Cold War and the development of the new world order, the Congress and the American people no longer perceive the need for our Armed Forces to be maintained at the same levels as before. Although it is not clear as to what the structure of our forces should be over the next 10-20 years, we have embarked upon a program that will result in drastic cut backs from our present levels. The Army expects to reduce its size by approximately a third and this might be only the beginning. As the process continues, there will be many competing interests that have to be balanced to protect national priorities. As always, costs and budgets will play a major role in determining what is maintained and what is sacrificed.

One of the major issues that needs to be addressed is the future of the military health care system. No one will argue that we must have the best health care available for our troops and their families. We have also assumed the responsibility for an ever growing number of retirees and their dependents. The military health care departments have attempted to provide this care in spite of the dual mission that they have had; to "conserve the fighting strength" and to run the largest comprehensive health care system in the country. Time spent on preparing for war takes practitioners away from their patients and decreases productivity. Time spent in hospitals leaves

practitioners poorly prepared for their wartime mission. The Army alone is the country's largest comprehensive Health Maintenance Organization(HMO). Over the past 45 years, this work force, balancing the competing missions of the peacetime HMO and readiness, has been eminently successful as evidenced by the recent success in Southwest Asia. Nonetheless, it has been a continuous struggle to maintain the number, quality, and appropriate mix of physicians in the Armed Forces.

Over the years, many debates have taken place as to how to retain physicians in the military. Many studies have been done looking at why physicians make the military a career and why they leave at the earliest possible time. One of the mechanisms for retention that was developed after World War II was to utilize military hospitals as training centers for young physicians. Over the ensuing years, Graduate Medical Education(GME) has steadily grown, and presently takes up 25-30% of the military physician strength. In this paper I will attempt to review the history of military GME, summarize its present status, and then make an effort to formulate a plan for the future in the context of a reduced military force.

However, before a review of GME is begun, one must define terminology which will allow better understanding of the subject. Graduate Medical Education is the process of further medical training that takes place after graduation from medical school.

It can be limited to only one year - the internship - or can take many years depending upon the specialty or subspecialty chosen. By law, all physicians must complete at least an internship to obtain a license to practice in a state. Obtaining a license, however, says very little about the individual's expertise in a given field. The license only indicates that certain broad criteria have been met and that the physician can be an entrepreneur. The internship is one year and can be accomplished in many different ways. Most commonly, the graduate physician does either a transitional internship which gives broad experience in many different fields, such as medicine, surgery, and pediatrics, or a categorical internship which is limited to one field. Military internships are offered at 16 military medical centers and 14 large community hospitals.[1]

After completing the internship, civilian physicians can decide to practice independently or go on with further GME. Most do the latter. In the military, the young physician will either become a general medical officer(GMO) or be selected to directly enter further training. Each of the services handles this in a slightly different way. For instance, the Navy generally requires all its medical officers to do some general medical officer work before going on to further training. This policy is largely influenced by the necessity to have general medical officers aboard ship. The Army and the Air Force are less dogmatic about this and, on a competitive basis, allow significant numbers of physicians to go directly on to further

training. Which policy is better has been a subject of fierce debate by medical educators in the military. If military necessity is not a factor, academic, non-disrupted medical education is better. Furthermore, this is more in line with civilian standards. Nonetheless, many military physicians feel that although continuous uninterrupted training is better from an academic perspective, it may deprive the young physician from obtaining a better understanding of the organization he is supporting.

A residency is the next level of training. Depending upon the discipline, residencies can range from 2 to 6 years. Military hospitals offer 22 different types of residency training programs in 31 hospitals.[2] Upon completion of the residency, the physician is identified as a specialist in a specified field and is eligible to take the board certifying examination. This examination is rigorous and given by the American Board of Medical Examiners. It encompasses, at a minimum, a two day written exam and, in many disciplines, oral examinations as well. Each specialty develops its own examination. After successful completion, the individual is awarded a Board Certification in that specialty. Military residencies are filled by individuals just completing their internship, or those that did a tour as a general medical officer for one or more years. In the Army, all other factors being equal, preference is given to those who have completed a GMO tour.

The next level of training is the fellowship. This is accomplished in a relatively circumscribed field, and can take 2 to 3 years. Examples of this include cardiology or thoracic surgery. The services offer fellowships in 41 different fields at 14 facilities.[3] Further training incurs a greater military obligation.

Throughout the levels of medical training each progressive step builds on developing expertise. This allows more responsibility and more independent decision making as experience is acquired. A fine balance is created between didactic education and practical experience. Depending upon the specialty, large amounts of time are spent in the hospital placing a psychological and physical drain on the trainee. Continuous supervision is maintained by the staff and higher level trainees. This is a very labor intensive process. However, at the same time that the education takes place, the trainees are providing care to patients and contributing to the productivity of the institution.

Each of the training programs must be accredited by a civilian agency known as the Accreditation Council for Graduate Medical Education(ACGME). The ACGME gives its stamp of approval to a training program either directly or through a Residency Review Committee(RRC). The RRC consists of members of the American Medical Association and the appropriate specialty board.

There are 24 different residency review committees who, every 3-4 years, make site visits to determine the adequacy of the training program. The ACGME issues its report which can range from full accreditation to probation or withdrawal of its certification. Withdrawal of accreditation of a program would only come after a period of probation during which the suspect program may attempt to make the necessary corrections. Almost all military programs are fully accredited by the ACGME. Occasionally, a program has difficulty meeting the standards. This is often due to inadequate patient diversity, weak research programs, or instructor staffing shortfalls. It must also be kept in mind when reviewing the structure of military GME that programs at a given hospital are interdependent[4]. If a given hospital has a surgical training program, the ACGME requires that a sister program be established in internal medicine, family practice, or pediatrics. Generally, the RRC in surgery requires an internal medicine program to be present. Internal medicine, pediatrics, and surgery are required by the RRC to have an accredited Obstetrics and Gynecology program.[5] This dependency makes it difficult to make changes in one discipline such as closing an Obstetrics - Gynecology program without seriously affecting other programs in the same institution.

It is clear that providing an environment for GME is not easy and very costly. It is expensive in people, time, and money. Furthermore, it is not an efficient way to provide health

care irrespective of the fact that trainees generate workload. The obvious question then is why the military services, especially in this era of diminishing resources, continue to invest such energy in GME. To answer this question one must review the history of GME in the military services so as to understand why the program is critical to the future of military health care delivery.

HISTORICAL REVIEW

The relationship between medical education and the United States military, goes back to the beginnings of the country. In October of 1775, Dr. John Morgan, the founder of the Medical School of Pennsylvania, the first medical school in the colonies, was appointed as Chief of the Army Medical Department.[6] His reputation as a medical educator may have been influential in his obtaining this position. The relationship of military medicine and education was haphazard at best through the next 100 years. Except during times of conflict, military medicine has been generally isolated from the mainstream of American medicine. This traditional isolationism persisted until the post- World War II period.

In 1893, Surgeon General George M. Sternberg established the Army Medical School in Washington, D.C. This facility is now the Walter Reed Army Institute of Research. The first secretary of the school was Major Walter Reed.[7] This spurt of academic interest seems to have coincided with the move to improve education throughout the military as illustrated by the reforms of Elihu Root and others. There was little if any further development of medical education until World War I. During that

conflict, communication was established between civilian medicine and the military. A better understanding of the needs of the military was obtained by the leaders of the civilian profession. Upon termination of hostilities, the large number of physicians mobilized for military service quickly returned to their civilian practices. However, the cooperation and knowledge generated during the war created the movement for the establishment of an Army School of Nursing in 1918 and the initiation of Army internships in 1920.[8] The Navy followed shortly thereafter. The Army originally placed 6 interns at Walter Reed General Hospital and 1 at the Station Hospital at Fort Sam Houston, Texas. Within 3 years, 16 interns were admitted to these hospitals. The interns were selected from graduates of only Class A medical schools. The Flexner Report which graded U.S. medical schools as to their quality dramatically changed medical education in the United States. Class A medical schools were considered the best and the only ones that should continue to educate physicians. The internship program continued until 1937 when it was discontinued due to the Depression. Military medical GME ceased to exist until after WWII. Recruitment of medical officers appears to have been adequate as late as 1937, since income was higher in the military than in the civilian community.[9] It is questionable if graduate medical education was perceived at the time as a recruitment and retention tool.

The outbreak of World War II provided an impetus for closer

cooperation of the civilian and military medical communities. The Army and Navy initiated the Army Specialized Training Program and the V-12 Program respectively. These programs were developed to rapidly produce the number of medical professionals necessary to support the national mobilization. Between 1943-1945, 29,730 Army enlisted men went to medical, dental, and veterinary schools,[10] and many Army physicians were sent to civilian hospitals for refresher training. Civilian physicians came to military hospitals to train both officers and enlisted personnel. Things do not always go without difficulty and the *Journal of the American Association of Medical Colleges* in March, 1947, in an article on training and supply of doctors in the event of another war states:

> " We believe that the Armed Forces must learn how to make better use of medical manpower - all of our medical staff back from service emphasize the waste of medical officer personnel....Many of the losses in the quality of medical training during the past war would have been avoided had greater autonomy been granted to our universities and professional schools....Our firm conviction is that the Army should handle Army work and allow educators to handle education. We had a beautiful demonstration of people trying to do something with which they had no familiarity and making a mess of it. It will take years for us to wear down the unfortunate things that have cropped into premedical and medical education under the program of the last 3-4 years."[11]

This certainly did not bode well for the initiation of military sponsored GME in military facilities.

In spite of these concerns and the fear that the teaching staffs of military hospitals would be unstable due to frequent rotation policies, the Army and the Navy established residency

programs in 1947. The reasons for this were the following:

1. The well trained specialists in the Armed Forces during the war would be returning to civilian life.

2. The regular Army and Naval medical officers had in large measure been in command and staff positions during the war and for 4 years had not practiced medicine.

3. There were very few regular medical officers who were board certified prior to the war.

4. In order to give quality medical care, specialists must be trained from the source of regular medical officers.

5. Quality training programs were needed to attract other young medical officers - medical graduates and partially trained physicians - to the Armed Services.[12]

Surgeon General of the Army Raymond E. Bliss in a speech before the Society of United States Medical Consultants in World War II listed the following reasons for starting military residencies.[13]

1. To improve the professional environment.
2. To improve procurement.
3. To increase the number of specialists so as to deliver better high quality medical care.
4. To improve civilian relations.

The Society of US Medical Consultants in WWII was made up of influential civilian medical educators who had served on active duty during the war, and who were supportive of the establishment of the residency programs. They reviewed the applications for approval and lent their collective weight to getting the programs accredited. Once the residencies were begun, they rapidly increased. Internship spaces were increased from 100 in 1946 to 220 in 1948. Applications jumped from 54 in 1946 to 1014 in 1949. Between 1945 and 1948 approximately 200 regular Army medical officers became board certified.[14] By July, 1948 there were 381 residents in Army residency programs, and 155 in civilian residencies. Nine general hospitals were utilized to include Walter Reed, Fitzsimons, Letterman, Brooke, Madigan, William Beaumont, Army and Navy, Percy Jones and Oliver. By 1948, the Navy had used eight general hospitals to establish residencies to train 265 physicians. Budgetary requirements caused the reduction of several programs over the next two years, however, and a temporary decrease in trainees resulted. The outbreak of the Korean War found the military departments ill-prepared and short of physicians. Table 1 reviews the number of board certified physicians on active duty in the Army in March, 1950.

TABLE 1- BOARD CERTIFIED REGULAR ARMY MEDICAL OFFICERS, MARCH 1950

Specialty	Number
Internal Medicine	52
Radiology	28
Preventive Medicine and Public Health	23
Surgery	23
Orthopedic Surgery	15
Pathologic Anatomy	12
Dermatology and Syphilogy	11
Clinical Pathology	11
Otolaryngology	9
Psychiatry	9
Psychiatry and Neurology	6
Obstetrics and Gynecology	5
Ophthalmology	5
Pediatrics	3
Physical Medicine	3
Anesthesiology	2

Cowdrey, Albert E., THE MEDIC'S WAR, P. 34.

The expansion of graduate medical education has been justified on the basis of the comments of General Bliss, but proved to be of even greater value when the North Koreans crossed the 38th Parallel. The residency programs throughout the military were depleted to provide the combat units with medical support. Without this ready pool of trained physicians the Army, Navy, and Air Force would have been in far greater trouble then they were. GME showed itself to be a combat multiplier which proved critical to the early stages of the Korean conflict. Eventually, reserve units were activated and provided the necessary numbers and medical expertise required by the mobilized force.

Partially as a reaction to the success of the GME programs in support of the Korean War as well as the widely-held perception during the 50's and 60's that there was a doctor shortage in the country, military training programs continued to grow. In 1954, the Air Force, which had previously gotten its GME from Army and civilian programs, began its own medical education at Lackland Air Force Base Hospital. Later this facility became Wilford Hall Air Force Medical Center. By 1960, the Army had 700 medical corps officers in training, 21% of the entire work force. In 1970, the Army medical corps reached a high of 7300 physicians. By 1972 the number in training had risen to 1147.[15] The increase in physicians in training was well tolerated by the system since it was now only 16% of the physician strength.

Following the end of the Viet Nam War and the introduction of an All-Volunteer military, many of the same issues began to reemerge regarding the ability and necessity of the military to operate its own graduate medical education. In this instance, however, the attack did not come from civilians but from within the military itself. A Department of Defense/Department of Health, Education, and Welfare Study on Physician Requirements in an All-Volunteer Military was submitted in October. 1971. It stated that in an evolving national health care system, Congress could not tolerate two systems for the care of civilians.[16] A significant national health care system never materialized but

the concept of the incompatibility of parallel health care systems existing supported by tax dollars was raised as an issue. Since health care issues will be an important political issue during the 1990's, survival of an independent military delivery system will no doubt be a factor that Congress will address. Nonetheless, to the great relief of the military medical services, Congress passed in 1972 the Uniformed Services Health Professions Scholarship Program which authorized the military services to grant up to 5,000 scholarships per year in professional schools in exchange for service obligation on a year for year basis. This same law created the Uniformed Services University of Health Sciences.[17] The law had two motivations. It was felt that the military would be unable, in the presence of an all volunteer service, to recruit and retain sufficient physicians on active duty to support the force, and that severe shortages in some critical specialties would develop and continue for many years. As a result, instead of a decrease of GME in the services, it continued to grow throughout the 70's. Table 2 shows the growth of graduate medical education over the period from 1970 to 1980.

TABLE 2

GME TRAINEES AS A PERCENTAGE OF TOTAL ACTIVE DUTY PHYSICIANS

	Army	Navy	Air Force
1970	14	17	9
1980	39	30	19

Baxandale, P. 18.

In 1979, the Department of Defense issued a directive to the Surgeons General of all three services to limit the percentage of physicians on active duty in GME to not more then 20% by 1985. This was strongly opposed by all the services, and following a study by the Institute of Medicine, was withdrawn. At this point each of the services would adjust its own GME to meet the changing needs of each of the services. By 1989, the percentage of physicians in GME was about 27% for the military medical departments.[18] Table 3 reviews the growth in military GME programs and Table 4 reviews the numbers of individuals in Army GME from 1978 to 1991.

TABLE 3

GROWTH IN MILITARY GME PROGRAMS

	Accredited Spaces	Programs
1970	2,028	N/A
1975	2,598	N/A
1980	3,522	243
1989	3,661	275

Baxendale, p. 20.

TABLE 4

AMEDD GRADUATE MEDICAL EDUCATION

TOTALS IN GME AS OF 1 JUL 78-91

	1978	1979	1980	1981	1982	1983	1984
Interns	392	412	406	373	368	350	355
Residents	902	1045	1132	1136	1130	1052	1080
Fellows	159	204	258	253	233	213	243
Totals	1453	1661	1796	1762	1731	1615	1678

	1985	1986	1987	1988	1989	1990	1991
Interns	363	341	336	354	369	401	379
Residents	1105	1091	1134	1076	1148	1153	1173
Fellows	252	243	240	272	287	320	326
Totals	1720	1675	1710	1702	1804	1868	1878

Office of Army GME 2 Jan 1991.

THE PRESENT SITUATION

Graduate medical education has continued to grow and thrive over the past 40 years in spite of numerous attacks and questions about its quality and validity for the Armed Forces. In fact, since the late 70's, GME has been the "glue" that has kept the military medical departments together. It is accepted by those involved in health care delivery that one of the most significant benefits of GME is the development of an environment that is conducive to excellence and scientific inquiry. The Department of Defense External Civilian Peer Review Program has found the quality of care in the military to be extremely high.[19] Unfortunately, there is no civilian equivalent review program at the present time that would allow comparison. Since most of our physicians are military trained, it is safe to assume that the GME programs are producing practicing physicians who have contributed to the overall quality.

Several reviews of why physicians enter and remain in the military list quality training and the opportunity to continue their education as important factors. It is clearly a critical factor for students who are accepted for the Health Provider Scholarship Program (HPSP). A study done by the Air Force Surgeon General's Office in 1985 revealed that physicians who

trained in the military were four to five times as likely to stay in the military beyond their initial obligation than those trained in civilian programs. Many of these physicians who elect to remain in the service have completed sophisticated training and represent a segment of the professional pool that is impossible for us to recruit from the civilian medical market.

An added benefit of GME is the patient care that is generated. While being educated, the trainees known as houseofficers, provide significant levels of care that would be otherwise difficult for us to provide with the manpower available. Colonel Paul L. Shetler in his War College paper in 1987 estimates that three GME students are equivalent to two staff physicians in generating care.[20] Others have estimated this to be somewhat less and the ratio to be 2:1. Regardless of the specific ratio, GME has provided a great deal of care to our beneficiaries. Improved efficiency has been touted as another benefit of military GME.[21] Physicians training in military facilities become familiar with the military system and are more facile with the system when they become staff physicians in our clinics and community hospitals. Physicians coming from civilian training must go through an education process to learn the unique aspects of the military health care delivery system. Examples are the air-evacuation system, medical hold, quarters, medical boards, line of duty determinations among others.

One of the most important benefits of GME is its readiness missicn. Ever since the Korean War, trainees have been a ready pool of physicians to support the combat mission. As mentioned earlier, this was critical in Korea and somewhat less so since that time to include the recent conflict in Southwest Asia. Nonetheless, both staff and trainees, particularly the former, were the backbone of many of the early deployed medical units. Furthermore, it is unlikely that we would have been able to continue the level of peacetime care during Desert Shield/Storm, prior to the arrival of the reserve physicians, if the trainees had not been present. Another benefit of military GME is the specialized wartime training. This occurs throughout the training cycle and includes the Combat Casualty Care Course(C3), the Combat Casualty Management Course, and training in Chemical injuries. All interns are required to attend the C3 Course and are trained in Advanced Trauma Life Support. Under the auspices of the Uniformed Services University of the Health Sciences (USUHS), a military curriculum has been developed that is tailored to the needs of the service and the specific medical discipline. This specialized training, melded with more traditional medical training, has been shown to improve readiness.

At present, the three services operate 312 graduate medical education programs at 34 different sites. There are approximately 3700 physicians in these training programs. Table 5

shows the different disciplines offered, distribution by service, and the number of physicians being trained in each area.[22] Most of these programs (93%) are in major medical centers. A General Accounting Office study has defined a major teaching center as ones with an intern:bed ratio of 0.25 or greater.[23] Using this ratio, Table 6 shows the military facilities by service who meet this standard. Table 7 reveals the remaining teaching facilities and are identified as minor teaching facilities. Approximately 500 active duty physicians are being trained in civilian programs as shown in Table 8. The total number of 4200 physicians in training constitutes 31% of the total DOD physician work force and is not appreciably different from the percentage in 1980.[24]

TABLE 5

Training Program	Number of Trainees Air Force	Army	Navy	Total
Allergy	5	12	-	17
Anesthesiology	32	62	66	160
Critical Care - Anesthesia	1	1	-	2
Neuro-anesthesia		1		1
Dermatology	9	30	21	60
Immunodermatology	-	1	-	1
Emergency Medicine	28	62	24	114
Family Practice	118	160	156	434
Faculty Development	-	5	-	5
Internal Medicine	118	206	133	457
Cardiology	12	37	18	67
Critical Care - Medicine	2	6	0	8
Endocrinology	4	9	4	17
Gastroenterology	5	18	10	33
General Internal Medicine	-	4	-	4
Hematology-Oncology	9	19	12	40
Infectious Disease	3	9	8	20
Nephrology	6	17	2	26
Pulmonology	7	19	8	34
Rheumatology	4	7	-	11
Neurology	8	23	12	43
Child Neurology	-	4	-	4
EEG/EMG	-	1	-	1
Neuro-ophthalmology	-	1	-	1
Neurosurgery	-	7	6	13
Nuclear Medicine	1	7	4	12
Obstetrics-Gynecology	57	106	73	236
Gynecological-Oncology	-	3	-	3
Maternal-Fetal Medicine	-	2	-	2
Reproductive Endocrinology	-	2	-	2
Ophthalmology	9	33	24	66
Retinal Surgery	-	1	-	1
Orthopedics	20	114	52	186
Hand Surgery	-	3	-	3
Otolaryngology	8	39	44	91
Pathology	17	48	32	97
Cyto-pathology	-	1	-	1
Forensic Pathology	-	0	-	0
Hemato-pathology	-	-	1	1
Neuro-pathology	-	0	1	0
Pediatrics	67	79	67	213
Adolescent Medicine	-	5	2	7
Developmental Pediatrics	-	3	-	3
Pediatric Endocrinology	-	3	-	3
Pediatric Gastroenterology	-	2	-	2
Pediatric Hematology/Oncology	-	5	2	7
Pediatric Infectious Disease	-	3	-	3
Neonatal-Perinatal Medicine	5	4	-	9

Physical Medicine	-	10	-	10
Plastic Surgery	5	8	-	13
Preventive Medicine				
Preventive Med/Aerospace Medicine	28	-	10	38
Preventive Medicine/Public Health	-	13	-	13
Preventive Medicine/Occupational	-	3	-	3
Psychiatry	48	89	54	189
Psychiatry-Addiction	-	0	-	0
Psychiatry-Child	-	13	-	13
Psychiatry-Liaison	-	1	-	1
Radiology-Diagnostic	38	101	68	207
Angiography	1	1	-	2
Imaging	-	0	-	0
Neuro-Radiology	-	2	-	2
Radiation Therapy	-	6	-	6
Surgery	92	148	114	354
Critical Care - Surgery	-	1	-	1
Thoracic Surgery	1	6	-	7
Vascular Surgery	-	2	-	2
Transitional Internship	28	129	54	211
Urology	10	29	24	63
Totals	804	1747	1105	3656

Pierce, Table II

TABLE 6

ARMY GRADUATE MEDICAL EDUCATION - MAJOR TEACHING HOSPITALS

FACILITY	LOCATION	TRAINEES	BEDS	PROGRAMS
Walter Reed AMC	Washington,DC	417	754	53
Brooke AMC	San Antonio,TX	272	455	26
Fitzsimons AMC	Aurora, CO	165	449	21
Madigan AMC	Tacoma, WA	190	340	21
Tripler AMC	Honolulu, HI	182	455	14
William Beaumont	Ft. Bliss,TX	123	385	11
Eisenhower AMC	Ft. Gordon, GA	120	358	8

NAVY GRADUATE MEDICAL EDUCATION - MAJOR TEACHING HOSPITALS

National NMC	Bethesda, MD	256	494	24
NH San Diego	San Diego, CA	339	556	22
NH Portsmouth	Portsmouth, VA	196	501	14
NH Oakland	Oakland, CA	147	263	12

AIR FORCE GRADUATE MEDICAL EDUCATION - MAJOR TEACHING HOSPITALS

Wilford Hall AFMC	San Antonio, TX	373	1000	31
David Grant AFMC	Travis AFB, CA	105	255	7
Wright Patterson	Wright Patt,AFB,OH	99	220	6
USAF MC Keesler	Keesler AFB, MS	90	290	5

AMC - Army Medical Center
NMC - Naval Medical Center
NH - Naval Hospital
AFMC - Air Force Medical Center

Pierce, Table IV

TABLE 7

ARMY GRADUATE MEDICAL EDUCATION - MINOR TEACHING HOSPITALS

FACILITY	LOCATION	TRAINEES	BEDS	PROGRAMS
Darnell ACH	Ft. Hood, Tx	22	155	1
DeWitt ACH	Ft. Belvoir, VA	18	78	1
Hays ACH	Ft. Ord, CA	22	113	1
Martin ACH	Ft. Benning, GA	33	214	1
Womack ACH	Ft. Bragg, NC	33	219	1

NAVY GRADUATE MEDICAL EDUCATION - MINOR TEACHING HOSPITALS

NH Pensacola	Pensacola, FL	40	117	2
NH Bremerton	Bremerton, WA	14	98	1
NH Camp Pendelton	Camp Pendelton,CA	37	151	1
NH Charleston	Charleston, SC	37	184	1
NH Jacksonville	Jacksonville, FL	39	178	1

AIRFORCE GRADUATE MEDICAL EDUCATION - MINOR TEACHING HOSPITALS

Malcolm Grow AFMC	Andrews AFB, MD	37	270	2
AFMC Scott	Scott AFB, IL	26	160	2
Robert Thompson AFH	Carswell AFB, TX	24	100	1
Elgin AFH	Elgin AFB, FL	16	145	1
Bergguist AFH	Offutt AFB, NE	6	70	1

ACH - Army Community Hospital
NH - Naval Hospital
AFMC - Air Force Medical Center
AFH - Air Force Hospital

Pierce, Table IV

TABLE 8

PHYSICIANS WITH

SERVICE SPONSORED CIVILIAN GME

SERVICE	NUMBER
ARMY	109
NAVY	208
AIR FORCE	200*

*Estimate

Pierce, Table V

THE FUTURE OF GME

As we have seen, military graduate education is beneficial to the quality of health care in the military and provides many other services. Over the years it has been able to withstand the criticism of detractors and continued to flourish. However, with the victory in the Cold War and the dramatic shrinkage of the military that is taking place, can we continue to afford GME as we now know it? At present, Congress has directed that in spite of dramatic cuts in the services, there should be no significant decrease in the medical departments. This is an economic decision since care in the direct health care system is much cheaper then can be purchased in the civilian market under The Civilian Health and Medical Program of the Uniformed Services (CHAMPUS). Needless to say, a stable medical department is very difficult for the services to accept. At present, the medical departments are already a significant percent of the work force. In the Army, for instance, the medical department is approximately 19% of the officer corps. Although protected for the present, one must assume that the medical departments will have to join the rest of their services in a smaller Department of Defense. One must also assume that graduate medical education

will continue in some capacity in the medical departments as it is critical for retention and quality care. Given both of these assumptions, how do we plan for GME in the military over the next several years?

It would appear that we can no longer continue in our present situation as if nothing has changed. Paradigms must be broken and new concepts developed and implemented. Several factors impact on this evaluation. The first is the potential for national health insurance becoming a reality in the not too distant future. The second is the already implemented Defense Health Council and the possibility of a Defense Health Agency. Clearly, the health care system in this country is broken and needs to be fixed. Over 30 million people have no health insurance and perhaps 80 million are inadequately insured. We are the only western industrialized nation in the world that does not have some kind of universal health insurance for its citizens. At the same time, we spend more then any other country for health care. Health related issues will become an important topic for the 1992 election. The Democrats are pushing for major reforms to potentially include a national health insurance plan. Other intermediate steps are related to the expansion of insurance for working people and tax subsidies for lower economic groups. It is a small step to have this extended to many more categories including military retirees and other DOD beneficiaries. As noted earlier, elected officials have already

questioned the need for military medicine for non active duty beneficiaries in the milieu of a national health system. It would also introduce the potential for integrating the Veterans Administration Hospital System into a national program. It is unlikely, if this were to transpire, that Congress would continue to support a parallel system such as CHAMPUS or the direct care system. Most of our beneficiaries, retirees, dependents of retirees, and family members of active duty personnel would probably be directed to receive care under this national system. The direct care system would no longer exist as we know it and would be unable to support any significant military GME. Graduate medical education would have to be done exclusively in civilian hospitals or in coordination with the Veterans Administration(VA). Most of the teaching institutions that the VA supports are closely aligned with civilian medical schools who would then control the selection process and curriculum of the programs.

The military medical system would no longer have any significant HMO responsibilities and would be used almost exclusively to support the wartime mission. This brings into question how the force would look and how it could retain its skills in peacetime. The manning documents for this force already exist. For the Army, they are included in the Tables of Organization and Equipment.(TOE) Unfortunately, these tables are heavily oriented toward the surgical disciplines and as seen in

the recent conflict in the Middle East, do not lend themselves easily to the support of routine non-surgical care. Clearly, these tables need to be reworked to more accurately reflect modern day medicine. The specifics of the manning documents are not germane to this discussion. The numbers and distribution of types of physicians are what is important. The recent experience in Desert Shield/Storm indicates that we can support a force of over 500,000 troops with approximately 2,000 physicians from all the services. The Army TOE calls for about 2,000 physicians. It is conceivable that with adding another 2,000 physicians from the other services we could support partial mobilization with about 4,000 physicians. Without GME as an attraction to keep these physicians in uniform beyond obligation, we would have a constant rotation of people paying back time and then leaving the military. Little institutional memory would be retained unless we could keep a cadre of physicians who would be the leaders and managers of the system. This is potentially achievable but a system would have to be developed to allow this cadre to intermittently be "retooled" in their medical specialty. Furthermore, the physicians on active duty during peacetime, especially in CONUS, would have to have some place to work. The primary care deliverers would be working in the troop medical clinics and be keeping up their skills. However, it must be kept in mind that family practice and internal medicine skills are not kept current on healthy young men and women. The surgeons would even be in a more difficult situation as they would have

relatively few individuals in uniform to maintain their skills on.

Isolated CONUS facilities and overseas requirements would have to be staffed by uniformed physicians as appropriate. The other physicians would have to be placed in civilian facilities or the VA where they could continue to practice as needed to maintain their clinical expertise. Agreements could be worked out with the appropriate institutions to allow for this. Presumably, these facilities would be nationally identified centers of excellence which would have significant GME. This could go a long way in potentially adding to retention if the uniformed physicians could be involved with teaching. All GME in support of the military would be done in civilian institutions. Physicians trained under this system at government expense would have the same obligation that exists now for those trained in the direct care system.

The above scenario presumes a national health system being developed that captures our present beneficiary pool. Although there will probably be major changes in the health care system over the next few years, an all encompassing insurance plan such as exists in Canada may be farther away then would appear. The new changes discussed in the media, short of a national insurance plan, would not significantly affect our present military system. Another potential sequence of events seems much more likely and is partially already upon us. The concept of joint activities is

presently being emphasized and will become increasingly so with the shrinking military. For many years people in Congress and other places have looked upon the military medical system as an ideal place for the implementation of a "purple suited" program. After all, medicine is medicine and why do we need competing, parallel military medical delivery systems. Many of the people who are most vocal in this regard are people who have little understanding of the mission to conserve the fighting strength. They see the peacetime health care delivery system as a monolith. Most would agree that in peacetime, there is no significant difference between the service hospitals. Clearly, the color of the uniform is not of any meaning and the uniform itself has no medical relevance. The reason that the purple suited concept has been flawed from the beginning is the wartime mission of the three services. The health care delivery system in support of the combat mission is decidedly different for the three services. The Army must plan for and support the evacuation of injured from the foxhole to sophisticated hospitals. The Air Force thinks in terms of evacuation that only goes from the flightline to hospital. They have major emphasis on aviation medicine. The Navy has to think in terms of medical support over, on and under the sea. They also support the Marines whose problems are similar to the Army. If we were to go to a unified system, it is my opinion that we would quickly break down into three segments that would support the needs of the three services. All we will have accomplished is the creation of another layer of

administration.

A Defense Health Agency in control of all military medical resources would remove from the services a combat multiplier that would no longer work directly for them. Until the present, the leaders of the military have clearly seen the need to have their own delivery system so that they can go to war with their own resources. However, in this environment of limited resources and continually dwindling personnel, this might be the time when the services would be no longer willing to fight for their own medical departments. This would be especially so if the DOD medical department did not count against their troop strength.

In view of the realities of the present political situation, it is clear that we cannot put our heads in the sand and hope that we can continue in our traditional way of doing business. If we are not aggressive, someone else will direct us to implement a plan that is not to our liking and potentially destructive to military medicine. Given the pressure for sharing and merging of resources, it would appear that graduate medical education is an ideal place to start. This could be done without major destruction of the medical departments as we know them. Major efforts have to be undertaken to determine the needs of the services in the 90's and into the next century. DOD should undertake the lead in determining how many of any given discipline that the military is expected to need in the future. Obviously, many issues impact on this such as what will be the

beneficiary pool. For discussion purposes, one must assume that the beneficiaries will not significantly change. An estimate of the needs of specific disciplines is beyond the scope of this paper. Nonetheless, consolidation and sharing would have to take place. This is a very valuable process since in some of the more esoteric disciplines, each of the services has trouble developing and retaining the right mix of staff needed to meet the RRC requirements.

It is important to group GME into two general categories. Primary care training and the more specialized training which tends to necessitate more sophisticated faculty and resources. Table 6 lists the major teaching hospitals of the three services. All of these hospitals have the primary residencies in medicine and surgery. Most have pediatric and OB-Gyn residencies as well. As much as possible, these primary care programs should be maintained and supported. The presence of subspecialty training programs such as cardiology and plastic surgery are not needed to maintain excellence in any given institution. Anesthesia and orthopedic programs could also be continued as appropriate. Scattered around in these medical centers are a mix of subspecialty training programs that are probably inappropriate. The RRC in medicine has established the criteria that if there are to be any subspecialty training programs in an institution, there must be three programs. Needless to say, the services have adjusted to this requirement but are left with institutions where

there are teaching programs with only one or two fellows at each level. This is not very efficient. It is recommended that all training programs above the primary care level, not including anesthesia and orthopedics, be centralized at three centers of specialized treatment under the auspices of DOD. These three centers would be in Washington, D.C., San Antonio, Texas and San Diego, California. The Army would be the executive agent for the training in the Military District of Washington(MDW), the Air Force for the training in San Antonio and the Navy in San Diego. Washington and San Antonio present problems as there are already existing tertiary care hospitals from competing services in the same geographic area.

To make this work, DOD would have to direct that the Navy and the Air Force give up their independent training programs in MDW. That is not to say that Bethesda National Naval Medical Center would no longer have interns and residents. However, all the training programs would originate from Walter Reed Army Medical Center and Bethesda and Malcolm Grow AF Medical Center, would for training purposes, be affiliate hospitals of Walter Reed. A certain percentage of trainees would be guaranteed for each service as determined by DOD and selected by the program directors at WRAMC. The staff at each of the other facilities would be affiliate or associate program directors and be on the faculty of WRAMC. This should certainly take place for all subspecialty training. It may be necessary to continue primary

care training at each institution if the programs are so large that amalgamation is proven to be inefficient. Obviously, the same thing would take place in San Antonio where Brooke Army Medical Center would for training purposes be subordinate to Wilford Hall. All trainees in San Antonio would be assigned to WHAFMC and then rotate to Brooke as appropriate. In some programs such as medicine, surgery and pediatrics a large proportion of the training would be done at one hospital or the other. Again, as mentioned above, the primary care programs of medicine and pediatrics might be too large to efficiently merge and could continue as independently accredited programs. The San Diego center would not have the same problems. This amalgamation of GME leaves the command and control structure intact. This would avoid the complication that developed during the attempt to form the Joint Military Medical Command - San Antonio. This has to a large degree been abandoned, as it should, but it was not totally without merit if it had been handled in a different manner.

If these centers of specialized treatment were not able to absorb the merged programs, then efforts should be made to enlist the aid of the VA Training Centers and civilian medical centers that are geographically co-located. Military trainees at the VA or local civilian programs would rotate through the military institutions and still provide service as needed. It should be possible to work out agreements with the VA and other programs

that will allow HPSP delay trainees to be selected for their programs. The HPSP program has been very competitive over the past several years and selects medical students who are very good academically. If the military pays for these slots, it should not be too difficult to establish agreements of understanding. Presently, the military cannot pay for education if the individual is not on active duty. Regulations or laws may need to be passed to allow for this to happen. The issue is that the GME positions should not count against the ceilings of troop strength determined by Congress. If manpower issues related to the shrinking military become the overwhelming criteria then more and more training will have to be done in the VA or other civilian institutions. However, this same plan can be used. Affiliations with geographically contiguous civilian medical centers would allow the military facility to become a part of the civilian medical center for training purposes. A prototype of this is presently being considered at Fitzsimons Army Medical Center in Colorado. The pediatrics program is being phased out at Fitzsimons, and an affiliation is being established with the University of Colorado Medical Center to allow the pediatrics housestaff to rotate through Fitzsimons which will become an affiliate hospital. A similar program exists in El Paso, Texas where William Beaumont Army Medical Center and Texas Tech Medical School share an orthopedics training program. Military obligees would be given delays for training but only at certain centers that have associations with military hospitals. If housestaff

still are present, although not officially our own, then the impact on work load and costs would be kept to a minimum. Furthermore, the retention issue would also be potentially dampened as the environment of the teaching center would be maintained.

As the manpower issues become more acute, value judgements as to what GME is maintained in DOD facilities will have to be made. Concurrent with this is the pressure generated to cut costs. Many programs are underway to attempt to minimize costs and decrease the CHAMPUS expenditures. The Army is committed to a "Gateway" program that attempts to bring as much of the federally funded health care into the direct care system. Inpatient service costs have been held fairly stable over the past several years and the greatest increase in expenditures have been in the outpatient arena. For outpatient care, nonavailability statements have not been necessary to obtain CHAMPUS payment. The Gateway Program attempts to control this by making the medical treatment facility commander responsible for all care, including CHAMPUS, in his catchment area. What can be done in-house will obviously be done and what needs to be provided through the civilian market will be provided through agreements and partnerships. Much of the success of this program is dependent on the availability of primary care physicians who can act as gatekeepers and try to control the use of expensive outpatient procedures. If we do not train as many primary care

physicians as possible, then the new process is doomed to failure. It is prudent that if we prioritize GME training, we sacrifice the more sophisticated training to the civilian institutions. Excellent quality care and academic standards can be maintained with less sophisticated programs. If we cannot train enough of the subspecialists either in house or in civilian institutions then we will have to provide the service through contracts and partnerships with private programs. We may have to consolidate such services as heart surgery and transplantation at only a few DOD centers such as the three locations described above.

It is proposed that the Assistant Secretary of Defense for Health Affairs with the concurrence of the Defense Health Council develop plans for an integrated DOD wide GME system. A position of Director of Military GME should be established. This individual working with the three service GME directors should rapidly develop a plan for the future. Contingency plans will have to be made for the smaller military of the future and how GME can be protected in this environment. Some of the ideas outlined above could be a starting point for discussion. It has been suggested by David S. C. Chu, Assistant Secretary of Defense for Program Analysis and Evaluation, that the USUHS charter be amended to give it oversight and rationalization of all GME Programs.[25] This is not a new idea and has been discussed in the past but never actively pursued. I do not think that this

proposal is without merit but do not believe that USUHS at this time is capable of assuming this mission. Up until the present, USUHS has dealt exclusively with undergraduate medical education. Although supportive of GME, it has not had the responsibility and experience of developing and managing GME programs. I do not believe that the faculty has the experience to supervise all military GME. Since USUHS is now under the umbrella of ASD(HA) it would be feasible for this to occur if so directed. The important issue here is not whether DOD itself or USUHS acts as the coordinator of military GME, but rather that there be a central coordinator with sufficient influence to direct the needed changes.

CONCLUSIONS

Graduate Medical Education is critical to the military in terms of retention of medical corps officers and the continued provision of quality care. Every effort should be made to continue GME to the greatest degree possible using the direct care system. The Army way of providing GME would appear the best. It attempts to use the direct care system to the maximum extent possible to support GME.

In the milieu of a shrinking military, paradigms need to be broken. We can no longer operate under the delusion that business is as usual. We will have to be innovative to create an environment which will allow military GME to continue to flourish. GME lends itself to the concept of merging and sharing resources. OSD(HA) should take the lead in shaping the future of military GME. Perhaps a "Blue Ribbon Commission" can be convened to make recommendations for the years ahead.

Primary care GME should be emphasized and supported. Every effort should be made to continue these training programs in the numbers that presently exist and even to expand them if possible. Sophisticated subspecialty training should be consolidated at three specialized training centers. Each of the three services

would have executive agency over one of these centers. The services would have to be directed to combine programs as needed. The output of these programs would be directed to each service as appropriate. If inadequate numbers are produced, civilian training would be used as an adjunct.

If the pressure to down-size continues and precludes supporting in-house GME, then partnerships must be established with Veteran Administration Teaching Centers and geographically located civilian medical schools to assure the rotation of trainees through the direct care system. In this manner, retention, work load and quality can hopefully be maintained. HPSP and USUHS graduates would be directed to train in civilian and VA training centers which have partnerships with the direct care hospitals. The USUHS could play an important role in this endeavor by coordinating and consulting through DOD. This would also be helpful in shoring up the importance of USUHS in the view of Congress.

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14. Whelan, P. 268.

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