

Graduate Medical Education: The Lifeblood of Military Medicine

The Stress Continues

A White Paper

Submitted by The Society of Medical Consultants
to the Armed Forces

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PROLOGUE:

The quality of medical care is directly related to graduate medical education (GME). This is considered to be axiomatic in university medical centers and throughout the civilian medical community. The quality of military medical care is equally a dependent function of GME. As an earlier SMCAF White Paper emphasized (1987),

"Graduate medical education (GME) is the keystone supporting the entire voluntary military medical structure for quality health care delivery in time of peace and war. The very existence of GME programs in the Department of Defense (DoD) is threatened by intrinsic and extrinsic forces."

These include advisory/directive actions reflecting Congressional phasing-down (right-sizing) the military budget without adjustments for the impact of inflation, the rising cost of medical care, and the cost of adding technology which is continuously coming on line. Readiness requirements are threatened by the downsizing of military hospitals toward dispensary or outpatient facilities, with loss of clinical practice and experience with the more severely ill. Of equal importance is the impact of active duty dependents and retirees being increasingly denied access to military medical facilities due to shortages of professional personnel, ancillary manpower, supplies, equipment and funding.

Most of these events are in direct opposition to the criteria for minimal educational experience recommended and required by the Accreditation Council on Graduate Medical Education in the training of medical and surgical specialists. The TRICARE initiative, accelerating externalization of health care, may further compromise provision of GME.

This report recounts the current status of the GME programs in the military services, provides a discussion of its problems and offers suggestions to remedy them. The authors (Society of Medical Consultants to the Armed Forces) have only one interest and that is to be certain that the interdependent contingency readiness and peacetime medical support be kept in balance and that the highest quality health care be assured those on active duty, their families and retirees. In the face of the profound changes in the organization of medical care in the United States – much of it disruptive and disturbing, it is more than ever vitally important that the stability of the military medical community be emphasized as much as possible, given this unique hierarchically ordered structure, so necessary to its vital role in defense.

SMCAF views with great concern the inordinate cuts in GME resources attendant upon the current DoD downsizing effort and the manifestly recurring illusion that exclusive attention to the specific requirements of combat readiness is all that is needed in military medical education programming.

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GRADUATE MEDICAL EDUCATION:
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Society of Medical Consultants to the Armed Forces White Paper

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GRADUATE MEDICAL EDUCATION: THE LIFEBLOOD OF MILITARY MEDICINE THE STRESS CONTINUES

Background

In 1987, the Society of Medical Consultants to the Armed Forces published a White Paper entitled "Military Graduate Medical Education Under Stress" authored by President Donald L. Custis and an *ad hoc* committee of the Society.¹ The impetus for the effort at that time was a threat to the viability of military GME occasioned by proposed and actual fiscal and personnel policy changes. The foremost recommendation in that report was;

"The cost economy effort must not vitiate GME, the main source of military medicine's structural and functional quality assurance."

Although the nature of the challenge has changed in the interim, the need for a strong and capable Military Health Services System (MHSS) is as compelling now as it was then and the importance of GME to that system is undiminished. The current threat to military GME is an outgrowth of the inevitable and necessary "right-sizing" of the military and military medicine that has followed the end of the Cold War. The Society is concerned that in response to pressures to civilianize and "out-source" functions, the central importance of GME to the military may be forgotten. This paper constitutes an effort to reaffirm the essential role of GME in guaranteeing the quality, if not the very survival, of military medicine.

Missions of Military Medicine

Physicians in the military must be prepared to meet two inseparable but sometimes competing demands. First, they must meet militarily unique requirements in preparation for military contingencies. This mission has now broadened to include operations other than war (OOTW) such as humanitarian efforts where the medical team actually becomes the "point of the spear." Second, they must provide state-of-the-art medical care for active duty personnel, their dependents, and retirees on a daily basis around the world. The skills needed in combat medicine often differ substantially from those required for civilian practice. To prepare for these dual missions, the breadth and depth of the trainees' curriculum and experience and the competence, tenure, and experience of their teachers must be of high quality. Military GME programs must meet all criteria established for civilian programs by the Accreditation Council for Graduate Medical Education (ACGME) and its constituent Residency Review Committees (RRCs) In addition, however, they must meet military unique objectives to prepare graduates for medical and surgical problems encountered in a wide variety of combat situations and other military contingencies.

¹ The summary and recommendations set forth in that report are included as Appendix A.

Alternatives to GME in the Military

Recruitment into the military of fully trained physicians who are both competent and highly skilled has often been problematic. Adequate compensation and a stimulating and intellectually satisfying environment are essential to both the procurement and retention of well qualified practitioners. Between World War I and World War II, neither of these conditions was met and physician staffing was inadequate. As a result, our ability to provide combat care was woefully lacking for the first year and a half after our entry into WW II.² The draft (including a specific physician draft) has been necessary in times of war but requires a substantial length of time (years) and a popular consensus before it can produce an adequate number of well-trained physicians for military duty.

History and Development of GME in the Military

Programs in GME were developed by the Services shortly following World War II, primarily to enhance quality of medical care in the military and to develop a stimulating educational environment in which talented physicians could work. The value of having residents on active duty and immediately available was demonstrated shortly thereafter when trainees were among the first physicians deployed in the Korean War.

In anticipation of the end of the physician draft in 1973, two programs were instituted by Congress in 1972 to help maintain the high quality of medical care for the Services. These were the complementary programs of the Uniformed Services University of the Health Sciences (USUHS) and the Health Professional Scholarship Program (HPSP), sponsoring undergraduate medical education in civilian medical schools. These programs were not instituted to counter the "Soviet Threat " Rather, they were enacted to assure the country that, in the future, there would be an adequate number of appropriately trained physicians in the Uniformed Services to provide for the two important missions of the Services: (1) acquisition of the medical, surgical, and organizational skills, knowledge and leadership required to meet the unique demands of the military and (2) the provision of medical care of high quality to all eligible beneficiaries and to the nation at large with special emphasis on public health and potential emergent needs of natural or civil disasters.

USUHS was established to provide a stable base of career physicians who would not only provide on-going medical care but also would be specifically trained and immediately available for combat or contingency missions should the need arise. As a complementary program, the HPSP provides needed manpower for the ongoing peacetime mission. In addition, graduates of these programs who train in military residencies are taught skills that may be applied in conflict if necessary. The interrelationship of the two programs also provides a continuing exchange of ideas and technological information between the civilian and military centers.

² Appendix B

To date, both programs have accomplished their objectives well. Most USUHS graduates are still on active duty (86% of those having completed their initial obligation, 93% overall³) as career officers in the military or the US Public Health Service. The HPSP has been essential for meeting the MHSS medical manpower needs while providing considerable flexibility in terms of numbers required to meet these needs. This exchange of education for obligation has benefitted both the students and the system. These programs have provided financial support for students at a critical time in their careers. They have also contributed to an educationally stimulating environment for trainees in the military and especially for the faculty responsible for their education.

All military graduates of USUHS have their initial GME on active duty in the hospitals of their parent or sister Services. Many of the HPSP students also have GME on active duty while others (Deferred HPSP) train in civilian residencies, depending on the availability of positions in the military and the needs of the Services for specific specialty training. In addition to the value of the military unique aspects of training to the physicians who have their GME in Army, Navy, or Air Force hospitals, experience has shown that retention of physicians is directly proportional to the extent of medical education obtained while on active duty in the military. The expected average duration of service for those whose undergraduate medical education is obtained (a) in the F. Edward Hebert School of Medicine of the USUHS with GME in the military is **18.5 years**, (b) under the HPSP with GME in the military is **9.8 years**, and (c) under the deferred HPSP with GME in civilian hospitals is **5.3 years**.⁴

Costs of Medical Education in the Services

Opponents of GME in the military have frequently focused on the issue of cost. Studies now suggest that arguments based on these considerations may be less valid than once thought. In recent years two cost analyses of medical education have been undertaken, one for the Congress by the United States General Accounting Office and another for the US Army Medical Department by Vector Research, Inc. In the former report, the costs per year of service were calculated as follows:⁵

Cost	USUHS	HPSP Regular	HPSP Deferred
Total Federal	\$181, 575	\$181, 169	\$231,501
Total DoD	\$176,236	\$149,969	\$124,801

Although DOD costs for deferred HPSP per year of service may be less than for USUHS or regular HPSP students having their GME in military, total Federal costs are substantially greater, largely due to the great extent to which the government subsidizes civilian medical education. Thus the apparent savings to DoD from the deferred program may actually represent a loss when viewed from the perspective of the Federal

³ Personal communication USUHS Office of University Affairs 8/1/97

⁴ GAO/HEHS-95-244 Military Physicians: DOD'S Medical School and Scholarship Program p 25

⁵ Ibid p. 31,33

government. The Vector study emphasized the uncertainties of estimates of costs for GME, especially for estimates of resident productivity, reduced patient care productivity of faculty physicians, and cost savings from direct provision of tertiary care associated with the presence of GME.⁶ The analysis estimated the physician cost to DOD per productive year to be approximately \$137,000 with current plans for GME. The study also estimated that if total government costs were considered (including savings attributable to GME by provision of tertiary care in-house, avoidance of Medicare costs, etc.), the net cost per productive year would drop to \$115,000, making cost of planned GME lower than it would be with no in-house GME.

Both the GAO and Vector reports note the fact that retirement costs (included in their cost analyses) were greater for USUHS graduates and for regular (in-house GME) graduates than for deferred graduates, i.e., most career physicians come from groups with in-house GME. Retirement costs are independent of the source of accession and are not a true accession cost. Their inclusion in cost analyses, therefore, tends to inflate costs attributed to USUHS and in-house GME artificially.⁷

The Vector report also refers to Experience mix, commenting: "the Medical Corps shortage of fully trained physicians with moderate experience (5 to 12 years) is alleviated somewhat by the presence of in-house GME. Elimination of in-house GME would reduce this pool by approximately 36% of its projected level, halving in-house GME would result in a reduction of approximately 21%."⁸

Current status of GME in the United States

A detailed analysis of national trends in GME is beyond the scope of this paper. However, some knowledge of the forces at work in the United States is useful to put the changes occurring in the military in perspective. A number of studies in the past have focused on a real or perceived impending surplus of physicians in this country. This has now become the consensus opinion as reflected in a recent Institute of Medicine study.⁹ The growth in the number of GME positions was identified as a major contributing factor to the surplus with current Medicare reimbursement policies serving as an incentive to sustain the growth. The Institute recommended reforming these policies and bringing the number of residency positions more in line with the requirements for the number of

⁶ Vector Research, Incorporated, *Quick Response Analysis of GME Costs*, May 31, 1995

⁷

<u>Cost (Excluding retirement)</u>	<u>USUHS</u>	<u>HPSP Regular</u>	<u>HPSP Deferred</u>
Total Federal	\$157,756	\$172,843	\$226,676
DoD	\$152,417	\$141,643	\$119,975

⁸ Ibid p. 18

⁹ Institute of Medicine, *The Nation's Physician Workforce, Options for Balancing Supply and Requirements*, National Academy Press, Washington, D.C., 1996.

graduates from U.S. medical schools. Other aspects of the physician oversupply were highlighted by the Pew Health Professions Commission.¹⁰ The Committee, among other recommendations, suggested that the impact of managed care on medicine be recognized by altering the mix of residency training positions to achieve a goal of 50% of positions devoted to primary care, and that more training be moved into ambulatory and managed care-based settings. Absent a national GME advisory panel empowered to establish binding policy concerning training positions, some of the recommendations of these reports can not be accomplished directly. However, market forces, changes in practice patterns and Medicare GME payment reforms and other national and state legislation will produce a similar result. The traditional home of GME, the academic health center, is at an increasingly competitive disadvantage and is facing major challenges.

Since military GME is independently funded through the Defense Health Program (DHP), it is somewhat protected from the direct impact of these changes. However, the training mix in the military, weighted as it is heavily toward surgical specialties, may invite scrutiny in the future. Of greater importance is the concern that military GME's traditional allies in academic and organized medicine may be faced with a choice between supporting their own programs or the military's in the future.

Current status of military GME

Downsizing of the military, changing practice patterns and managed care have all had an impact on military medicine. The number of beds in DOD facilities will decrease by 12,000 by 2001, 58 hospitals (35%) will close or be converted into ambulatory facilities, and the number of medical centers will decrease by 6 or 33%. Although initially protected by legislation, medical personnel authorizations have now also been substantially reduced albeit to a lesser extent than line positions. Of potential concern is the projection that most of the reductions in physician authorizations will be in GME. Of the planned decreases through 1999, 53% of Army and 56% of Navy positions will come from GME. The Air Force changes could be even greater with the decrease in GME actually exceeding the total number of reductions required by the new force structure. The reductions will bring the Services in line with the relatively new DOD "rule" that GME positions for the three Services collectively cannot exceed 25% of total authorizations.

Of even greater concern is the fact that there is as yet no agreement on the model that will be used to size medical forces in the future. There is general agreement that the primary driver will continue to be the readiness requirements. The issue is whether positions needed for sustainment and training will be sufficient to maintain a viable direct care system without which GME cannot survive.

An additional threat to military GME must also be recognized. The ability of the direct care system to continue to care for Medicare-eligible beneficiaries under DOD's managed care system, TRICARE, is still undecided. A pilot program of MEDICARE subvention

¹⁰ Pew Health Professions Commission, *Critical Challenges: Revitalizing the Health Professions for the Twenty-First Century*, the Third Report of the Pew Health Professions Committee, December 1995.

has been approved and will hopefully demonstrate the means to resolve this issue. It is clear, however, that the ability of the military to conduct GME would be severely compromised without access to the over-65 patients.

Discussion

The educational programs for military physicians, USUHS, HPSP and GME, all contribute to the maintenance of quality medical care in the military and to the preparedness mission. Any effort to diminish the commitment to these programs must provide satisfactory alternatives. None has yet been identified that could meet the dual requirements of providing physicians who are not only competent in all the conventional aspects of their specialties, but who also possess the special skills and ability to care for the illnesses and injuries encountered in an austere, hostile environment. Moreover, the need is for a robust GME system that encompasses the full spectrum of specialties. Traditional thinking about requirements for combat scenarios tends to disregard the training needs for the contemporary missions of OOTW and humanitarian interventions and thus fails to recognize many contemporary realities. For example, not only can pediatricians care for children inevitably trapped in areas of combat or disaster, but they also possess special skills in infectious disease and in caring for young adults that makes them ideal providers for a troop population. Not only are specialists in obstetrics and gynecology skilled surgeons who can with proper training extend the scope of their practice to assist in caring for war wounds, they are indispensable for caring for the 14% of the active force who are now women. Well trained internists with expertise in infectious disease, geographic-based preventive medicine and critical care are necessary not only for peacetime care but military contingencies as well. In combat, the prevention of illness and non-battle injury is essential to the maintenance of an effective military force in combat, and much disability and many preventable deaths have occurred in all wars because of inadequate attention to these problems.¹¹ Military medicine is not merely civilian medicine practiced in a tent.

The importance of GME in the military has been recognized by all who are thoroughly conversant with military medicine. In 1960, the late Surgeon General of the Army, Silas B. Hayes wrote, "With the advice and assistance given by the Society (SMCAF), primarily through its advisory board, the medical department established in 1947 the Army residency training program which marked an abrupt turn in the road to progress and recognition for military medicine."¹² A report of the Institute of Medicine stated: "Since passage of the Uniformed Services Health Professions Revitalization Act in 1972, the military services have become deeply involved in undergraduate as well as graduate medical education. The complete education of physicians depends on both undergraduate and graduate phases. With the evident improvement in the ability of the armed forces to attract and retain physicians, the military medical education programs should be geared to attracting and retaining talented students. Through the provision of graduate medical

¹¹ In World War II, 345,781,000 man-days were lost because of disease or non-battle injury, compared to 72,000,000 man-days lost to battle injury. Medical Department, United States Army, *Preventive Medicine in World War II*, Vol IV. p. 14

¹² Hays, SB., The Society of Medical Consultants to the Armed Forces, *Armed Forces Med J.* 11:38-48. 1960

education programs of high quality, both Uniformed Services University of the Health Sciences graduates and HPSP scholarship recipients can be prepared to operate medical departments that can be maintained at a high state of readiness and simultaneously provide high quality medical care to civilian beneficiaries in peacetime. The future challenges will be to select very talented students for the USUHS and the HPSP, to establish policies and procedures that will permit the services to offer career opportunities to those who demonstrate that they are the most capable and strongly motivated during the course of their undergraduate and graduate medical education, and to limit the service of those who are not as qualified. Graduate medical education in military hospitals provides important opportunities to evaluate the talents and qualifications of potential career medical officers. It should be an important phase in the development of career medical officers of the highest quality."¹³

Dr. Stephen C. Joseph, immediate past Assistant Secretary of Defense for Health Affairs, concluded that, "It's now clear to all who take a clear look at the data that having strong military GME in our teaching centers enhances readiness and fully returns the cost to the Defense Health Program. This assessment takes the productivity of trainees, the time of teaching faculty, and the tradeoffs in pay and potential retirement costs of senior people fully into account."¹⁴

Or, in the words of LtGen Edgar Anderson, Jr., immediate past Air Force Surgeon General:

"GME is our lifeblood." ¹⁵

¹³ Committee of the National Institute of Medicine. *Graduate Medical Education and Military Medicine*. 1981

¹⁴ Joseph, Stephen C. Opening remarks to the 1995 Joint Service GME Selection Board, November 28, 1995, Crystal City, VA.

¹⁵ Anderson, EA. Jr., Quoted in *U.S. Medicine*. 31 Nos.9&10, May, 1995, p.7.

SUMMARY AND RECOMMENDATIONS

- 1. Maintenance of strong and competent Military Medical Departments is essential to the proper care of the potentially large numbers of casualties in the event of military conflict or large scale natural or civilian disasters. History has repeatedly demonstrated that such events occur and recur whether expected or not, and that consequences of these events are much more severe if preparation is inadequate**
- 2. Programs in Graduate Medical Education serve a critically important role in the long term maintenance of the quality of the medical care for peacetime beneficiaries and for readiness for possible military conflict, major disaster, or other large scale emergency. The Uniformed University of the Health Sciences and the Health Professions Scholarship Program are essential programs that depend upon and contribute to effective programs in GME.**
- 3. No viable alternatives to the present educational programs which would accomplish these objectives have been identified.**
- 4. The Society of Medical Consultants to the Armed Forces urges the continued support and strengthening of programs in Graduate Medical Education in the Army, Navy, and Air Force as essential to the maintenance of effective health care of active duty personnel, their dependents, and retirees in peacetime and to the troops in time of military need.**

APPENDIX A

SMCAF WHITE PAPER, 1987

MILITARY GRADUATE MEDICAL EDUCATION UNDER STRESS

SUMMARY AND RECOMMENDATIONS

The Society of Medical consultants to the Armed Forces respectfully addresses this report to all authorities having an interest in and influence over the Graduate Medical Education programs within the Military Medical Services. It is our opinion that never before, since their original establishment following World War II has the integrity and vitality of these programs been in such jeopardy. Ironically, the apparent neglect of these program requirements comes at a time when the nation and the Department of Defense is in the greatest need of the proven benefits to be derived from a healthy GME pursuit.

Out-of-service graduate medical training although a needed and important adjunct, is no substitute for a sound and stable in-house effort. Cost accounting of military medicine should not be permitted to destroy military medical education. The latter cannot be replaced like equipment, and each cut-back may require years to recoup.

The personnel and dollar crunch to maintain the military's increased state of readiness is clearly appreciated as is the need for the Military Health Services System to share in resource restraints.

OUR FOREMOST RECOMMENDATION:

"The cost economy effort must not vitiate GME, the main source of military medicine's structural and functional quality assurance."

OTHER RECOMMENDATIONS

- Maintain full operability of Army, Navy and Air Force teaching facilities.
- Provide priority staffing with adequate ancillary support to assure the productivity of the facilities' health professional staff.
- Be attentive to ACGME staffing criteria Every possible means should be undertaken to ensure a stable academic faculty, particularly for the position of Program Director.
- Provide the teaching staffs of those facilities with the technology and tools to practice and teach "state of the art" medicine.
- Restrict with catchment areas of military teaching hospitals the exodus of beneficiaries to out-of-service medical care. Provide for and encourage the transfer of patients in need of tertiary care from outlying areas to military teaching facilities. Assure, by diligent monitoring, the effective function of CRI's "health finder" (gatekeeper) mechanism to provide all GME programs with proper patient mix. Make better use of ambulatory care format for teaching purposes.

- Do not permit the complete disassociation of primary and non-institutional care from GME programming.
- Disavow the specious argument that pediatricians, obstetrician/gynecologists, internists and family practitioners are not valuable assets for contingency readiness.
- Promote GME specialty program balance within military teaching facilities in conformity with ACGME's criteria for concurrent, accredited, mutually supportive training programs.
- Enhance opportunities for faculty and resident staff in individual research pursuit
- Optimize out-of-service training opportunities to supplement in-house GME effort, especially in subspecialty fellowship training. Seek legislative approval to implement both the Brandt Committee recommendation for a new Military Medical Reserve recruitment program as well as the Air Force proposal for a civilian GME stipend recruitment program.
- Clarify, or if need be legislatively modify Federal law (10 USC 1089) to assure FTOS personnel and inservice military residents rotating through civilian hospital teaching programs, the benefit of protection from malpractice liability.
- Pursue House Armed Services Committee's recommendations to extend medical officer mandatory retirement age from 62 to 67 years, and remove constraints on Medical Officers' Special Pay and promotions to selectively compete for the retention of high pay critical specialists.
- Seek, where feasible, affiliation arrangements with neighboring civilian medical schools.
- Continue to develop close liaison and coordination between military GME programs of all Services and USUHS medical school.

Seek legislative modification of 10 USC 1089 to provide protection from malpractice litigation for civilian medical consultants while providing professional service to patients in military hospitals. Although the provisions of Title 38 of the U.S. Code, treating the operation of Veterans' Administration hospitals and Title 10 of USC, governing the operation of DOD facilities, are generally parallel. DOD presently has no equivalent to 38 USC 4114. This statute specifically authorizes the Veterans' Administration to make temporary full time, part time, and without compensation appointments to the hospital staff. Persons so appointed enjoy immunity from tort liability for activities conducted on behalf of the VA. DOD should pursue a similar provision to Title 10.

Appendix B

BACKGROUND INFORMATION compiled by Robert W. Hopkins, M.D.

MEDICAL EDUCATION AND THE SOCIETY OF MEDICAL CONSULTANTS TO THE ARMED FORCES

The Society of Medical Consultants to the Armed Forces was founded in 1946 by a group of leading civilian physicians¹ who had served as consultants to the Surgeon General of the Army during World War II. As Dr. Chris J. D. Zarafonitis² recalled at the twenty-fifth anniversary meeting of the Society, "The society was unique in that it was organized simply in the hope that such a group, through the weight of its influence and its experience gained in military medicine, might be of benefit to the Army Medical Department in the years following the war." The Society was expanded shortly afterward to include consultants to the surgeons general of the Navy and, later, the Air Force. The Consultants recognized the severe deficiencies in the medical departments of the armed forces at the beginning of World War II and hoped to help prevent such a situation from occurring again.

HISTORICAL ASPECTS

As observed in the report on Graduate Medical Education and Military Medicine by a Committee of the National Institute of Medicine,³ "Before World War II, military medicine was relatively isolated from the mainstream of American medicine." Many of the World War II consultants found this to be only too true. They were especially concerned about the lack of preparedness of the medical services in the Army prior to the war. Writing in 1972 of his experiences as Chief Consultant in Surgery, North African Theater of Operations,⁴ Dr. Edward D. Churchill (Professor of Surgery, Harvard Medical School and Chief of Surgery, Massachusetts General Hospital) wrote: "It is still disturbing to recall how unprepared our nation was for war and the lack of knowledge that was displayed by the officers of the regular Army Medical Corps about the conduct of other wars." He observed⁵ that we could not begin to care adequately for significant numbers of casualties for more than a year and a half after we entered the war. With few exceptions before the war, the limited numbers of officers in the Medical Corps were concerned solely with the welfare of the relatively small cadres of soldiers and their dependents in widely scattered stations and were not well prepared for military conflict. The appropriate methods for dealing with war wounds had to be re-learned beginning with our first significant encounter with the battle casualties during the North African campaign late in 1942. Although usually phrased in diplomatic language, comments on the failure to remember and learn the lessons of past conflicts (not to mention progress and research relevant to the care of combat casualties) abound in the volumes of the histories of the Medical Department in World War II.

In the volumes on Orthopedic Surgery,⁶ Dr. Mather Cleveland (European Theater) wrote: "In World War I, the total orthopedic experience, combined with the far longer

British experience, resulted in the evolution of an [appropriate] method of management of injuries of the bones and joints . . . It would have proved extremely valuable had it been put to immediate use in World War II. It was not. Dr. Oscar P Hampton (Mediterranean Theater) wrote: "The [effective] regimen for the management of bone and joint injuries which was in effect at the end of the [second world] war was based upon a program of staged management which was applicable to all wounds and which had evolved from continuing experience. Such a program had been recommended . . . and employed in some cases in World War I. It was not until the spring of 1944, however, that the scope and timing of the program were fully developed in World War II and that it was universally applied. As Dr. Cleveland commented, "They who forget the past are condemned to repeat it."

The prevention of illness and non-battle injury is essential to the maintenance of an effective military force in combat, and many preventable deaths and much disability have occurred in all wars because of inadequate attention to these problems. The hazards of endemic disease, climactic and logistic conditions and other medically relevant problems, encountered under adverse circumstances in other parts of the world, require the acquisition of specific information and development of management policies which are not ordinarily a part of civilian medicine. In World War II, 345,781,000 man-days were lost because of disease or non-battle injury, compared to 72,000,000 man-days lost from battle injury.⁷ To identify and cope with these problems, the disciplines of Medical Intelligence and Military Preventive Medicine are essential. Prior to the war, Medical Intelligence in the Army did not exist as such. In a volume on Preventive Medicine in World War II, Dr. Gaylord W. Anderson⁸ wrote: "The Pearl Harbor attack, on 7 December 1941, found medical intelligence in the same state of unpreparedness that then characterized the entire early war effort of the United States. The program was at least two years behind the point at which it should have been."

In the foreword to the volume on Cold Injury,⁹ in which the loss of 7,514,000 man-days from this largely preventable injury was recorded (ibid., p 499), Army Surgeon General, S. B. Hays, commented: "It is a lamentable but incontrovertible fact that most of the serious losses which occurred from cold injury among the United States Army troops in World War II should not have occurred. These losses occurred . . . because the lessons of the past were not learned."

During each war, the principles of military psychiatry have had to be relearned in order to reduce the casualties of combat stress and provide for an early return to duty policy for such casualties. The enormous numbers of these casualties,¹⁰ at times greater than the battle injuries, required reinstating a policy of assigning neuropsychiatrists to the divisions.¹¹ In the foreword to volume I on Neuropsychiatry in World War II, LTG Leonard D. Heaton observed: "The Army Medical Department was confronted with the difficult task of dealing with an unprecedented incidence of psychiatric casualties from both combat and noncombat sources for which there had been little preparation in either organization or methodology or training psychiatric personnel." Civilian physicians, particularly psychiatrists, were not trained or experienced in dealing with such problems.

Considerable added training was necessary before they could provide effective medical support in the field.

POST WAR MEDICAL EDUCATION

Encouraging the development of educational activities in the services was an early component of the Society's activity. In 1960, Surgeon General of the Army, Silas B. Hays¹² wrote "The Society's members . . . recognized that if the Army was going to be able to train its own personnel and to induce capable young men to enter military medical service, it would have to offer a career that would provide full opportunity for professional work, postgraduate training and specialization. . . . With the advice and assistance given by the Society, the medical department established in 1947 the Army residency training program, which marked an abrupt turn in the road to progress and recognition for military medicine."

The need for educational programs within the Services was apparent to the Surgeons General and to physicians from the civilian academic centers who served in leadership positions during the War (including the founders of the SMCAF). They observed that, although there are many similarities, effective medical care for the Armed Services differs in many important aspects from that of civilian medicine.

For surgical care, some of the differences were well described in a leading surgical textbook published at the time¹³ and in a statistical review, "Battle Casualties,"¹⁴ For example, the contused, contaminated wounds encountered in battle differ from wounds encountered in the civilian population in numbers, in severity, in the availability of facilities and time, in the need for evacuation and management by differing groups of medical personnel, and therefore the need for standardization of care, etc.

"Traditionally, the military value of surgery lies in the salvage of battle casualties. This is not merely a matter of saving life; it is primarily [the measurable benefit] of returning the wounded to duty . . . but no measurement can be proposed for the benefit to the morale of fighting troops which derives from knowledge of the accessibility of first-class surgical care." (Battle Casualties¹⁴, p 216). Expert triage of patients is of critical importance in combat, so that (A) soldiers with minor injuries or illness may be treated and returned promptly to duty to maintain strength and effectiveness of the combat unit, and (B) those with more serious problems may receive effective initial care and prompt evacuation. This can be done only by those who are thoroughly familiar with the exigencies of the combat situation.

The endemic diseases often encountered in areas of conflict differ greatly from those encountered by most physicians in the United States, and knowledge of preventive and therapeutic measures for these is especially important to the military. Prevention of disease and non-combat injury with consequent loss of effective manpower requires expertise in the unique events and conditions of the combat environment.

The development of the organizational and physician skills necessary during war take time under the best of circumstances. It is unforgivably slow if the leaders are also unprepared. The need for this preparation and the body of knowledge required for prompt implementation in the event of combat require appropriate and unique education, most of which is not in the province of civilian medical education.

The Programs in Graduate Medical Education established in the Services - together with the Uniformed Services University of the Health Sciences and the Health Professions Scholarship Program - are essential to prevent the deterioration of the Uniformed Medical Services to the unfortunate and ill-prepared status that existed prior to World War II.

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