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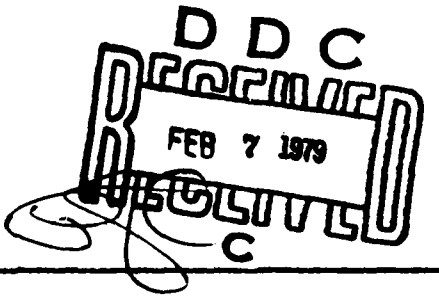

NATIONAL HEALTH SERVICE AND MILITARY MEDICINE IN GREAT BRITAIN

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This report describes similarities and differences between U.S. and British military medicine, with emphasis on preventive medicine. British National Health Service has apparently had remarkably little effect on the mission, organization, and practice of military medicine in the United Kingdom. The major problem for the British military medical services is identical to that for the US: recruitment and retention of physicians.

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NATIONAL HEALTH SERVICE AND MILITARY MEDICINE IN GREAT BRITAIN

The original purpose of this study tour was to learn the influence of National Health Service (NHS) on delivery of health care to British military personnel and military beneficiaries. Such knowledge might be of value in planning the future role of military medicine in the United States (US) as we move towards programs of National Health Insurance and/or National Health Service. As the study progressed, it became apparent that there are areas of preventive medicine apart from health care delivery in which recent British developments have important implications, not only for the military in the United Kingdom (UK) but for our military as well. These areas are considered under topic headings of the RESULTS AND DISCUSSION section of this paper.

This report is not concerned with the general history and organization of the NHS. These, although of great relevance, are well treated in both British (Wade, 1974; Donaldson, 1977; Abel-Smith, 1976, 1978; Ashton, 1978) and American publications (Roemer, 1976; Jonas, 1977; Simanis, 1978). Nevertheless, in studying the NHS, it was important to remember that although the system was officially created in 1946 and actually implemented in 1948, it was not a sudden, radical phenomenon. In fact, a compulsory National Health Insurance Act had been passed by the British parliament as long ago as 1911 (Levitt, 1977).

The NHS was revised administratively in 1974, resulting in essentially a cleaner chain of command downwards from the Secretary of State for Health and Social Security (Donaldson, 1977; Brown, 1978). This revision has caused an understandable fear of over-administration on the part of consultants (senior specialists) whose influence on policy is considered threatened (Jones, 1978; Barnard & Lee, 1977). The reorganization has also stimulated serious reconsideration of how and whether the system has in fact accomplished its original goals: universal and comprehensive health care, removal of financial barriers, elimination of inequality in geographic and socioeconomic distribution of care, financing from general revenues, and preservation of physicians' professional independence (Committee on Child Health Services, 1976; Owen, 1976; Walsh, 1978).

MATERIALS AND METHODS

The author spent approximately two months between September and November 1978 in England as an Office of Naval Research Liaison Technologist. Except for a visit to British naval installations at Portsmouth, most of this time was spent in London or within close vicinity.

Through the courtesy of many helpful individuals, both British and American, it was possible to arrange visits, tours and/or discussions with personnel involved in many functional areas of the NHS and of the military care system. A list of these persons, who so generously shared their time and experience, is in Appendix i.

Each individual contacted was queried as to function and background. Particular attention was paid to relationships with the military or military beneficiaries. Since interpretation of results of visits were essentially subjective, topics are both described and discussed under the same heading in the RESULTS AND DISCUSSION which follows. A most important caveat, in addition to the subjectivity mentioned above, is that individuals and installations visited cannot be considered representative of entire populations or systems. The author's interpretations are thus based on what may, inadvertently, have been biased samples. Topics themselves were chosen as having eventual or actual relevance to military medicine in the US.

RESULTS AND DISCUSSION

Major Differences Between the UK and the US

The reader will ultimately be impressed by the similiarity of problems confronting military medicine in both Britain and the US. Although not specific to the Armed Forces, however, differences in medical practice and policy between the US and the UK must be also considered when comparing the two. Some of these differences will be treated under separate topic headings, but a few generalizations may be in order as follows:

a. Role of general practitioners: In the UK an estimated 40% of all MDs are GPs (Simanis, 1978), while a maximum of 25% of US physicians consider themselves such despite the recent popularity of family practice as a recognized specialty (Jonas, 1977). More importantly, most American GPs maintain some form of hospital privileges and practice. In England, GPs are entirely removed from hospitals, although most patients, except in emergencies, cannot be hospitalized without referral from a GP.

b. Importance of physicians in setting policy in the UK: In the UK, physicians are clearly leaders of the health care system. There is consensus that policy-setting powers by physicians have eroded in recent years, but physicians' organizations essentially control and speak for the profession. For example, the British Medical Association (BMA) is the bargaining group for civilian and even military medical pay (British Med. Assoc., 1968). Although social workers and health visitors are often administratively separate (the section of government responsible for the NHS is DHSS, which means Dept. of Health and Social Services), the physician, in the end, is the one who determines diagnosis and treatment. Under NHS, dentists, opto-

metrists, and pharmacists may maintain their own practices and be paid directly rather than on salary or via the physician, but their patients must be referred by an MD. In the US, there is growing desire for certain groups, including psychologists, nurse practitioners, and health educators to operate professionally and economically independent of the physician. In fact, non-physicians already hold independent leadership roles in medical research and administration, and federal intervention to create and support "schools of allied sciences" portends even greater influence for these groups.

c. Lack of alternatives in the UK: A typical British citizen has only two options in seeking medical care--NHS or private. In fact, more than 4 million persons in the UK are covered by some form of private health insurance or co-insurance. A military dependent or retiree may (depending on geography and bed availability) have a third option in use of the military medical services.

In the US, increasingly more citizens have the option of choosing to subscribe to private, prepaid Health Maintenance Organizations (HMO) (Roemer, 1976). In addition, purely aside from medicaid and medicare, almost one sixth of the US population is already eligible for free medical care in a federal system as noted in Table I.

It is noteworthy that many of the beneficiaries listed in Table I do not use the federal medical facilities they may be entitled to, partly because they are unaware of their eligibility or because they receive some form of insurance through current employers. Thus, an American may have the option of one or more of the following: direct fee for service or hospitalization; care by a federal medical officer or hospital; joining a prepaid plan (for example, Kaiser-Permanente); joining a group insurance plan (Blue Cross); purchasing private health insurance as an individual; medicare if over 65; medicaid if indigent; or charity.

d. Until very recently, the British military did not have a high-level tri-service medical office which at least for planning purposes transcends the three services. Each Surgeon-General (or Director-General as they are called) reports directly to a line officer. A tri-service planning office has, however, recently been established, and there is every indication that it will be more effective than the Office of the Assistant Secretary (Health Affairs) has been in the US.

There are also several fundamental differences in both the traditional and present peacetime missions of the military medical departments of Great Britain and the United States. The requirements for a well-trained cadre to serve as the nucleus for a greatly expanded corps during mobilization are similar; so are the provisions of direct

TABLE I

Number of Possible* Beneficiaries of Federal Medical Systems in the US

Federal Medical System	Estimated Beneficiaries
Armed Forces	6,000,000
US Public Health Service Hospitals and Dispensaries	330,000
Indian Health Service	527,000
Veterans Administration Facilities	25,000,000
Other (State Dept., Dept. of Interior)	50,000
Total	31,907,000

* There are theoretical restrictions for some groups, such as service-connected illness and/or means tests presumably required for veterans.

medical and preventive services for active duty personnel and their dependents overseas. In Great Britain itself, however, there are no legal nor even historical (except for Air Force and Army) reasons to treat dependents. Except overseas, retirees and their dependents have never been legally entitled to military medical care which has traditionally been limited to an insignificant number of retired officers. Parenthetically, neither is there the equivalent of a Veteran's Administration Medical Department, so retirees and their dependents quite logically now seek their medical care from the NHS.

In the US, medical care for retirees and their dependents, as well as for active duty and their dependents, is the legal responsibility of the military medical departments, whether directly or by reimbursement of other providers through CHAMPUS.

The total peacetime population to be served by military medicine is thus almost ten-fold larger in the US than in the UK (Table II). Although not apparent from Table II, this US beneficiary population is also aging, with consequent heavier medical demands (although persons over 62 are presumably covered by medicare and hence no longer legally the responsibility of the military services).

The Jarrett Report

The report of a committee chaired by Sir Clifford Jarrett and reported out in 1973 (Ministry of Defence, 1973) has influenced the future of military medicine in Great Britain, since many of the Committee's recommendations have been accepted by both the MOD and the DHSS. The Committee investigated a variety of problems, including closure of hospitals, recruitment and retention of physicians and other health professionals, and amalgamation of the Armed Forces medical departments.

Some of the Committee's major findings and recommendations appropriate to this study were:

(1) Despite a very small physician requirement (approx. 1500) and a medical student subsidy program similar to the US Health Professions Scholarship Program (HPSP), the British military has problems in recruitment and retention of physicians. In a survey, 77% of those interviewed considered themselves doctors first and military officers second and were concerned about lack of postgraduate educational opportunities in the military and apparently lower prestige in the medical community.[1]

[1] Although the Committee did not strongly recommend pay incentives, every medical officer I interviewed stated that when pay was higher in the military than civilian life (about 15 years ago), there were no recruitment or retention problems.

TABLE II

Comparisons of Major Beneficiary Populations and Resources, US and UK Military Medical Departments (Exclusive of Overseas Beneficiaries) FY 1976*

Beneficiaries	Britain	US
Active Duty	300,000	1,349,588
Dependents of Active Duty	369,000	2,122,524
Retirees	unknown	657,424
Dependents of Retirees	unknown	1,555,949
Total		5,685,030
Resources		
Physicians on Active Duty	1,288	8,110
Contract (Civil Service Physicians)	150	unknown
Military Hospitals	15**	132
Total Hospital Beds	2,798	36,881

* Does not include USPHS resources nor beneficiaries. The US numbers for all but active duty are conservative estimates provided by the Office of the Assistant Secretary of Defense for Health Affairs and may be understated by as much as 5%. The data for Britain was kindly provided from several services by the Liaison Officer, Directorate of Medical Policy and Plans, Ministry of Defense.

** Three Royal Army hospitals have been closed since 1976.

(2) Most medical officers (80%) and the Committee recommended more tri-service cooperation. In fact, the recent creation of a Medical Planning & Policy Directorate (roughly equivalent to the US Assistant Secretary of Defense for Health Affairs) headed by a military medical officer was stimulated by the Jarrett Committee.

(3) The Committee recognized the need for a Defence Medical Service separate from the NHS because of special defense mission requirements. Furthermore, they opposed amalgamation of the three armed forces medical departments into a single ("purple suit") medical service, because there were few perceived advantages and many obvious disadvantages.

(4) Approximately 80% of medical officers surveyed (p. 72) "would like to see a closer relationship with the NHS, because more secondments into civil hospitals might thus be possible and, conversely, more NHS patients might be admitted to military hospitals." The Committee recommended that each service hospital be permitted to admit between 20% and 30% NHS patients in addition to dependents. It was recommended that the Army and Air Force continue to treat dependents, but not use contract doctors for this purpose (at the time of the Committee report, approximately 50% of Army and Air Force dependents received care in military facilities, and the Army was using most of its 110 contract civilian physicians for this purpose).

Recruitment and Retention of Military Medical Officers

The Jarrett Report was followed in 1974 by a Royal Army working party which considered recruitment and retention of Army medical officers. Their report is restricted, but it concluded that immediate resolution of retention problems would only occur when military medical officers are paid at least as much, and preferably slightly more, than their civilian colleagues.

Thus, recruitment of military physicians is a problem for Great Britain as it is for the US. Approaches have been similar (including the equivalent of an HPSP). Recruitment, in principle, should be more successful in the UK because:

(a) the absolute and relative numbers of military physicians needed are smaller;

(b) British HPSP students ("cadets") must repay five years for three years of sponsored training, instead of four years for four years as in the US;

(c) there is an opportunity for mid-career retirement with pension in the UK after 16 years service, versus a requirement for 20 years in the US;

(d) in the Army, there is far better chance for attaining advanced rank in the British military. Thus, in the Royal Medical Corps in 1975 there were 12 Brigadiers, 7 Major Generals, and 1 Lieutenant General in a total MD force of only about 600. (There are, however, only 4 Admirals in the Royal Navy Medical Service. Flag rank data for the RAF was not available.)

Why, then, should there be recruitment and retention problems? Pay has been listed as probably the most important item. In fact, between 1967 and 1969, when military medical officer's pay was frozen after the government had just approved a raise for NHS physicians, the military was "black-listed" by the British Medical Association because of the resultant disparity in pay (BMA, 1968). Lack of professional growth for military physicians in Britain is also cited for those involved in military medical manpower planning, as is the desire of newly appointed medical officers to receive uninterrupted specialty training.

Private Practice in the UK

Private practice has been mentioned previously as being the only alternative to NHS available to most Britons. There is every indication that private medical care, and insurance to pay for it, are increasing. In recent years, the major private medical insurer, British United Provident Association Ltd. (BUPA) has enrolled more than 2,000,000 new subscribers and built 30 entirely private hospitals.

Why should anyone seek expensive private care, when free care is available under NHS? It is easy to conjure visions of oil-rich sheiks being treated in palatial surroundings, but, in fact, private patients come from all walks of life, and most are native-born citizens of the UK. Avoidance of the medical bureaucracy and of long waiting periods for elective surgery are probably the most important reasons for successes in the private sector, but comfort, privacy, convenience, and dignity are also mentioned. All private patients are cared for by consultants (specialists) who usually have NHS duties (in fact, they could not have reached the status of consultants outside the NHS system). Private hospitals reputedly do not pay higher wages for nursing and support personnel, but do often provide important "perks" such as housing. In fact, morale at the one private hospital I visited (Fitzroy Nuffield) was high, administration effective albeit autocratic, and the facilities immaculate and quite comfortable. It is worth mentioning that some British military dependents (usually

officer's wives) use the private medical system, and that many referrals of US military beneficiaries in the UK are to private consultants.

There are striking similarities between private hospitals and military hospitals in the UK: Short waiting lists for patients, spotless and comfortable accommodations, high staff morale, impeccable grooming of attendants and nurses, and a much quieter atmosphere. The crowded "zoos" or "pits" often associated with military hospitals in the US were conspiciously absent. The lack of crippling strikes by support personnel, as experienced on an almost continuous basis within the NHS hospital system, is another feature shared by both private and military hospitals. In fact, on more than one occasion the similarities between private and military medicine in the UK were pointed out, with pride, by military officers.

Careers in General Practice and in Hospital Medicine

The independent role of General Practitioners (GPs) in the UK has been mentioned. In fact, primary care is essentially synonymous with GP, there being no specialty of familty practice as there is in the US (Fry, 1978). Unlike their hospital-based colleagues, GPs are contractors with, not employees of, the NHS. As the largest professional group (about 40% of practicing physicians), they are competitive in exacting adequate remuneration from the NHS under a complicated scheme which includes far more than capitation payment based on patient lists (DHSS, 1974). Thus, GP is an attractive field which many young doctors aspire to join (Royal Commission, 1960). Fairly rigorous training requirements have recently been published under the Vocational Training Act, and by 1983 it is likely that GPs will have spent two years in hospital rotation and three years under a "trainer." At the end of this period, the physician may become a "principal" with a list and practice of his or her own.

By contrast, hospital-based physicians in the UK follow the traditional path to clinical specialty certification which is typical of the US. However, grades of specialization vary from junior registrar to registrar to consultant; and there are finite numbers of billets available at each stage unlike the essentially open-ended situation in the US. Perhaps, not surprisingly (and as in the US), a disproportionate number of junior hospital-based physicians are Foreign Medical Graduates (FMGs).

With the important exception of those who specialize in occupational medicine, each British military doctor is inevitably influenced on a personal basis by the GP and hospital systems of the NHS. His or her prestige in the medical community, and his or her potential for a second career depend upon strictly professional "tickets."

While the military overtones are not ignored, there is growing acknowledgement that medical officers in the military must be trained, busy, and productive in either general practice, in a hospital specialty, or in occupational medicine (see below).

There is concrete evidence that in the UK the Armed Forces medical departments are making genuine efforts to provide the professional milieu needed to attract and retain young physicians. Perhaps because of smaller overall physician requirements, but thanks also to enlightened leadership, attempts are made to create and to man training billets. For example, the Royal Navy has seconded GP aspirants to civilian practices, and all three services provide postgraduate training at the Royal Army Medical College. Attempts are made to tailor career assignments to individuals. There is a refreshing acknowledgement that most military doctors deserve and expect second careers. Thus, it is admitted that 80% of cadets (HPSP students) leave the military after five years to become GPs under NHS contract. Against this background, it is not surprising that military hospitals welcome NHS beneficiaries and dependents to provide experience with patients of all ages and both sexes. The Queen Elizabeth Army Hospital had 70 of about 400 beds occupied by NHS patients and the Hasler Navy Hospital reported that almost half of its admissions were for such patients. These patients, along with dependents, provide the patient mix necessary to keep medical officers proficient in their clinical skills. Furthermore, since the hospitals themselves can decide who is admitted and when, acceptance of such patients does not impose a mandated burden on resources. Mobilization potential remains since military hospitals can refuse admission to any but active duty patients with little or no advance notice.

Community Health as a Specialty in the UK

In the UK, preventive medicine does not now exist as a specialty. Rather, there is a Faculty of Community Medicine in most medical schools and there is, since 1973, provision for the equivalent of board certification in this specialty. Since the goals and organization of the NHS are basically population-based, and since there are no formal schools of public health, the need for and value of such a specialty is perhaps appropriate. In fact, the requirements for membership in the Faculty of Community Medicine (1973) are almost word for word what we expect of candidates for board certification in general preventive medicine in the US.

As defined by Lathem (1976), community medicine (p. 18) in the US is the "assessment of health needs and provision of health care to defined population groups, as distinct from the prevailing system of care based on the individual patient." In his article, Lathem rather sarcastically points out that the recent popularity of depart-

ments or programs of community medicine in US medical schools is mostly a political response to student and governmental pressures for helping those in need (p. 19) and "a conscious or unconscious attempt to assuage feelings of guilt issuing from being part of a privileged class." According to Lathem (1976), most such responses have been ineffectual and amateurish, because the real life delivery of care is to individuals and because most medical schools' programs are directed at too small a population (often that of the neighborhood in which the school is located). Shortcomings of the congressionally-mandated neighborhood health center program reinforce the notion that community health has not yet come of age in the US (Comptroller General, 1978).

By contrast, it would seem that the US military, and Veteran's Administration, medical care systems would be admirably suited for the practice of community medicine since the beneficiary population is enormous and since there is presumably little incentive for an individual approach to medical care (Farber, 1978; Ginzberg, 1978).

British military medicine has, by and large, attempted to conform to guidelines set for the new specialty of community health, including efforts of the incumbent in the chair of Army Health at the Royal Army Medical College at Milbank. However, the need for and role of community health specialists in the British military are much less clear than in the civilian NHS. As a matter of fact, one suspects that the specialty--at least as practiced in the UK--is entirely a creature of the NHS.

The London School of Hygiene and Tropical Medicine, which in many respects functions as a school of public health, was apparently instrumental in setting the academic quidelines for this "new" discipline of community medicine. These guidelines, along with creation of a two-year Masters degree (Master of Science in Social Medicine) were designed to train physicians for billets created in the reorganized NHS (as of 1974), particularly those of district, area, and regional medical officer. The reorganization essentially did away with the traditional public health officer (DHSS, 1977). An obvious question arises: "What happened to those who were, before reorganization, public health officers?" Apparently some elected to retire, but others were given founder-member status in the new community medicine specialty and encouraged to refresh their skills in epidemiology statistics, and demography. Those seeking to enter the specialty since 1973 must have the MSc Social Medicine and pass appropriate examinations.

It is difficult for one unaccustomed to the system to determine what is really different about a community health specialist in Britain, and, say, a physician board-certified in general preventive medicine

in the US. Perhaps, naively, one suspects that the major difference is that the former are expected to fill defined, administrative jobs within the NHS. In fact, there is good reason to suspect that, if the pejorative connotation could be removed, socialized medicine equals community medicine. It is significant that the British concept of community medicine specifically excludes clinical medicine. In the US, medical administration is increasingly complex and increasingly considered the realm of non-MD, so-called "medical administrators." Physicians in administration are usually older, and most profess to dislike both the "paper shuffling" and attendance at committee meetings which go along with it. In a subtle way, the British may have decided that medical administration is too important to leave to the administrators and that medical administration, at least at the higher levels, should be by physicans themselves.

This concept of physician administrators, of course, is not foreign to the US military, although one must acknowledge recent (in my mind, ill-advised) moves to "get the physicians back to seeing patients" and to funnel MSC officers to handle major administration. In fact, this is one of the few areas of my investigation which seemed to indicate that the US and the UK are following divergent paths.

Occupational Medicine in the UK

Occupational medicine was formally recognized as the newest medical specialty in Britain in April 1978. Although occupational medicine had obviously been practiced for many years, the impetus to recognize it as a separate specialty arose from a series of circumstances dating from about 1973. One was the 1974 reorganization which, as described below, essentially failed once again to incorporate occupational medicine into the NHS (Health and Safety Commission, 1978). Another was creation of the specialty of community medicine: where occupational medicine had formerly been loosely associated with preventive medicine, there was no room for it in community medicine as conceived in the UK. Finally, legislation leading to new regulations governing health in the British work-place, similar to our Occupational and Safety Health Act, was enacted about that time.

Curiously, occupational health thus joined military medicine as the only major medical area not amalgamated into the NHS in 1948. Traditionally, most practitioners of occupational medicine had been industry and factory-based and were privately financed; government efforts were centered in the Ministry of Labour (now Employment). The military medical departments were involved to the extent that all military medicine is essentially occupational health (the military being composed of occupational groups) and more specifically by providing occupational health services in such areas as munitions manufacturing and shipyards.

This separateness of occupational health prevails to the present, although the regulatory powers of the Health Executive of the Ministry of Employment have been greatly strengthened and the Executive has been somewhat expanded (Gracey, 1973). Except for shipyards, which are handled by the Royal Navy Medical Department, most occupational medicine services for MOD are provided by Civil Service physicians assigned to the Procurement Executive of MOD. Senior medical officers concerned with occupational health within MOD, representing the major components of that Ministry (Army, Navy, Air Force, and Procurement), meet periodically.

British military medicine's perception of occupational health apparently depends on the branch of service. The Royal Navy believes that aviation medicine, diving medicine, shipyard health, and submarine (both conventional and nuclear) medicine are all subsets of the new specialty of occupational medicine. This is apparently not true for the other uniformed services at present.

The role of occupational medicine as a specialty for military medical officers in the US is probably no more clear than it is in the UK. Some of us believe that "operational medicine" of the US Navy is, or should be, occupational medicine. The future of aviation medicine as a viable specialty in the US is still uncertain, but at least in the US these specialties are all part of the American Board of Preventive Medicine.

Having decided on the policy of encouraging medical officers interested in the abovementioned subset disciplines to join the Faculty of Occupational Medicine, the Royal Navy has lost no time in implementation. There is a Naval Professor of Occupational Medicine-elect who will join only two other such colleagues: a Naval Professor of Medicine and a Naval Professor of Surgery. All three are joint appointments with the prestigious Royal Colleges. By contrast, the Professor of Army Health in Britain is allied with the Faculty of Community Medicine. The Royal Navy's moves in this direction seem appropriate: there is long-standing naval expertise in occupational medicine as evidenced by impressive past and ongoing work at the Naval Institute of Medicine in Portsmouth; there is "freedom" from the NHS since occupational medicine is separate from that organization; and there is much current activity of naval interest in this field as a result of development of the North Sea oil fields.

A possible problem arises in recruitment, since most prospective occupational medicine candidates wish to move directly into one of the subsets (i.e., diving medicine) and may not wish to pursue the necessary academic curricula (leading to a MSc in occupational medicine) or "general" occupational practice necessary as prerequisites.

Additionally, since the trend in the UK is towards lengthier training (an average of eight years after graduation from medical school), there is an understandable desire for young physicians to get on with their specialty training and not "waste time" in practice that does not count towards specialty certification. In a small cadre, such as the Royal Navy's medical department, the needs of the services are often incompatible with uninterrupted training towards a specialty.

The end result is that uninterrupted specialty training, which is as much of an incentive for recruitment and retention in the British military as it is in our own, may not be possible in all cases. A second result is that, except for founder members, dual specialty certification is not a viable goal.

CONCLUSIONS

The role of military medicine in the event National Health Service (NHS) becomes a reality in the US is, of course, purely conjectural at this point. However, it would be foolish to ignore the experience of others, particularly when recent history is so readily available from Great Britain.

Information gathered during this study of the British system suggests that the role of the US military medical departments would not be greatly altered by enactment of a NHS in this country. My conclusion is based on findings listed in this paper and which may be summarized as follows. First, the missions of military medicine, particularly overseas, are unique so that there is little fear that medical practice in the military will be eliminated. Second, although many beneficiaries presently "entitled" to military medical care would probably be encouraged to seek services elsewhere under NHS, it is doubtful whether this would happen to any significant degree. There would be no advantage to the patient, and, as noticed in the discussion above, little to the military. The advent of a NHS might actually strengthen the need for military physicians to be involved with such beneficiaries whether for accreditation, preparation for second careers, or prestige. In fact, military medicine might provide one of the very few alternatives to NHS, depending on how private practice is treated.

A logical question is to ask: "What is different about the British uniformed services medical departments because of NHS?" This question may be answered, in part, as follows:

(1) They are smaller. However, whether this is because of NHS is debatable. Establishment of NHS in 1948 corresponded with the end of WWII demobilization, so that shrinkage of the military medical departments in terms of staff, facilities, and funds may be an

independent event. Logically, the decreasing size of the military medical departments may be proportional to the decreased active duty population.

(2) They are not legally responsible for care of other than active duty personnel, but welcome dependents and civilians. Again, as noted previously, there is ample reason to question as to whether this is solely because NHS now has this responsibility. However, the military, not NHS, is responsible for the care of military dependents overseas, and within the UK another reason for welcoming such patients is to provide an adequate patient mix for military doctors.

(3) They cannot attract and retain sufficient numbers of physicians. This problem is described in the Jarett report and elsewhere, as noted under RESULTS AND DISCUSSIONS above, and is of particular relevance for those of us in the American military. The two major reasons are better pay and better educational opportunities under NHS.

(4) They are under some constraints in planning new facilities or closing old ones. For planning purposes, all changes in facilities for medical care in the UK should be coordinated with the NHS. In several instances, such coordination, on the part of the military, has been overlooked. Details are not germane to this report, but it is doubtful whether future military medical planning could or should be independent of the NHS.

(5) They must conform to NHS standards. Professional standards are not set by NHS: usually these are decided by consensus of the various faculties (specialty boards) or by the British Medical Association. Nevertheless, their acceptance by the NHS gives them status. Thus, for example, in British hospitals only anesthesiologists administer anesthesia. If the military were to attempt to use nurse-anesthetists or corpsmen for this purpose, they would run afoul of "what is customary practice."

An immodest volume of this report has been devoted to developments in preventive medicine in the UK. While justification may not be needed, it is worth pointing out that health care delivery is one of the four areas of expertise expected of contemporary preventive medicine officers in the US. The British changes in both nomenclature and perceived duties of specialists in this field are thus worthy of consideration, although possibly moot to this report because of our current shortage of trained military preventive medicine officers. The American military medical disciplines of military medicine, executive medicine, operational medicine, aviation medicine, amphibious medicine, submarine medicine, and occupational medicine are all products of military needs (albeit sometimes with civilian counterparts)

and of perceptions of military incumbents. Thus, for example, submarine medicine may rightly be described as what a submarine medical officer does. However, such descriptions are untidy at best and, at worst, are not conducive to setting quality standards or educational requirements. The British military medical establishment is much smaller than ours, but has also had to wrestle with these problems since its members are ultimately influenced by the monolithic NHS. In order to retain credibility with civilian medicine, a preventive medicine officer in the UK must choose to train for and practice in either occupational medicine or community medicine. It is not difficult to foresee the time when members of the US uniformed services medical departments will face such a choice.

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Abel-Smith, B. *National Health Service the First Thirty Years.* London: Her Majesty's Stationary Office, 1978, 66 pp.

Abel-Smith, B. *Value for Money in Health Services.* London: Heinemann Educational Books Ltd., 1976, 230 pp.

Ashton, J.R. R.A.W.P. and the Achievement of Equity in the National Health Service. Publ. Hlth., London 92: 1978, p. 190-6.

Barnard, K. and Lee, K. (ed.). *Conflicts in the National Health Service.* NY: Prodist, 1977, 252 pp.

British Medical Association. *Memorandum of Evidence to the National Board for Prices and Incomes on the Remuneration of Medical Officers in the Armed Forces.* 9-page mimeographed report, Feb. 1968.

Brown, R.G.S. *The Changing National Health Service, 2nd ed.* London: Routledge & Kegan Paul, 1978, 109 pp.

Committee on Child Health Services. *Fit for the Future.* Vols. I & II, London: Her Majesty's Stationary Office, 1976, Vol. I, 448 pp; Vol. II, 222 pp.

Comptroller General. *Are Neighborhood Health Centers Providing Services Efficiently and to the Most Needy?* Washington: U.S. Gov't Accounting Office, 1978. Pub. HRD-77-124, 45 pp.

Dept. of Health and Social Security. *National Health Service Super-Annuation for England and Wales.* London: Her Majesty's Stationary Office, 1974, 48 pp.

Dept. of Health and Social Security. *Priorities in the Health and Social Services the Way Forward.* London: Her Majesty's Stationary Office, 1977, 52 pp.

Donaldson, R.J. *The New Health Service in Britain its Organization Outlined.* London: Royal Society of Health, 1977, 27 pp.

Faculty of Community Medicine, Royal Colleges of Physicians. *Regulations for the Examination for the Diploma of Membership of the Faculty of Community Medicine.* Mimeographed, Oct. 1973, 6 pp and 2 appendixes.

Farber, S.J. The Future Role of the VA Hospital System: A National Health Policy Dilemma. NEJM 298 (11): 1978, p. 625-628.

Fry, J. Content and Process Problems in Primary Care: A British Viewpoint. Ann. N.Y. Acad. Sci. 310: 1978, p. 150-157.

Ginzberg, E. The National Academy of Sciences Report on the VA: How Not to Offer Congress Advice on Health Policy. NEJM 298 (11): 1978, p. 623-625.

Gracey, M. Employment Medical Advisory Service. Brit. J. Industrial Med. 30: 1973, p. 92-94.

Health and Safety Commission. *Prevention and Health Occupational Health Services the Way Ahead.* London: Her Majesty's Stationary Office, 1978, 26 pp.

Jonas, S. *Health Care Delivery in the United States.* NY: Springer Publishing Co., 1977, 492 pp.

Jones, F.A. Getting the NHS Back on Course. Brit. Med. Journal, July 1978, p. 5-9.

Lathem, W. Community Medicine: Success or Failure? NEJM 195 (1): 1976, p. 18-23.

Levitt, R. *The Reorganized National Health Service, 2nd ed.* London: Croom Helm Ltd., 1977, 254 pp.

Ministry of Defence. *Report of the Defence Medical Services Inquiry Committee.* London: Her Majesty's Stationary Office, 1973, 96 pp.

Owen, D. *In Sickness and in Health the Politics of Medicine.* London: Quartet Books Ltd., 1976, 178 pp.

Roemer, M.I. *Health Care Systems in World Perspective.* Ann Arbor: Health Administration Press, 1976, Chapter 11. The British National Health Service and its Recent Changes. p. 104-105.

Royal Commission on Doctor's and Dentist's Remuneration. *1957-1960 Report.* London: Her Majesty's Stationary Office, 1960.

Simanis, J.G. *National Health Systems in Eight Countries.* Wash., D.C. Gov't Printing Office, 1975, p. 91-102.

Wade, L. *Europe and the British Health Service.* London: Bedford Square Press, 1974, 94 pp.

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