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SOUTHEAST ASIA OPERATIONAL AEROMEDICAL SUPPORT: LESSONS LEARNED

December 1975

USAF SCHOOL OF AEROSPACE MEDICINE
Aerospace Medical Division (AFSC)
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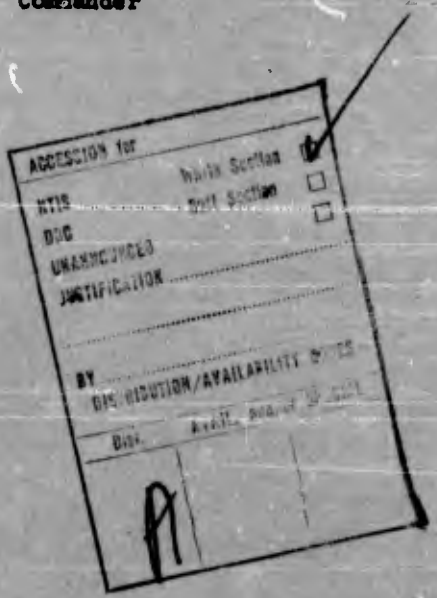

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This review summarizes the observations made during a symposium on operational aeromedical support in Southeast Asia, conducted at the USAF School of Aerospace Medicine in February 1974. Areas discussed during the symposium include operational medical support, staffing, facilities, equipment, aeromedical evacuation, environmental health, and management and administration. The review represents one aspect of continuing education in aerospace medicine for the flight surgeon and also provides assistance for medical planning.

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PREFACE

In February 1974 a seminar on Southeast Asia Operational Aeromedical Support was conducted as a part of the Operational Aeromedical Problems Course presented at the USAF School of Aerospace Medicine. A series of presentations was followed by a panel discussion, at which time questions and comments were solicited from all attendees. During the seminar, both the participants and attendees noted the desirability of having a written summary of the proceedings. This review represents a compilation of the observations and comments made as well as selected items from previously published material. Only the principal speakers at the seminar had the opportunity to review transcripts of their comments; consequently only these speakers are identified by name. If a speaker is not specifically identified by name, either in the text or by reference, he was an attendee who was not one of the principal speakers. The statements, observations, and recommendations do not represent official guidance or policy. Although action has been taken to correct some of the problems noted, documenting the significance of these problems is considered appropriate. It is hoped this publication will be of benefit to those involved in planning for or providing aeromedical support to USAF operations.

CONTENTS

	Page
OPERATIONAL MEDICAL SUPPORT	5
Introduction	5
Combat Flying by Flight Surgeons	5
General	5
Amount of Combat Flying	5
Crew Rest	6
Squadron Living Quarters for Flight Surgeons	7
Provision of Care for Isolated Units	7
Attachment of Nonflight Surgeons to Squadrons	8
Medical Activities During Buildups	8
Operational Research	12
Medical Support of Survival Training and Life-Support Activities	12
STAFFING	12
Physician Staffing	12
Experience Level	12
Graduates of the Residency in Aerospace Medicine Training Program	13
Nonflight Surgeons	13
Specialty Requirements	13
Other Staffing	15
Experience	15
Bioenvironmental Engineers	15
Dental Officers	15
Noncommissioned Officers	16
Excessive Staffing	16
FACILITIES	16
Modular Structures	16
Revetments	17
Design Deficiencies	18
Referral Hospitals	18
EQUIPMENT AND SUPPLIES	19
Ambulances	19
Communication Equipment	19
Specialized Medical Equipment	20
Exposure to Environmental Extremes	20
Supply Stock Levels	21

AEROMEDICAL EVACUATION 21

Dust-Off Operations 21
Air Force Aeromedical Evacuation 21
General 21
Operational Control 22
Patient Care During Aeromedical Evacuation 23
Abuse by Users 24

ENVIRONMENTAL HEALTH 24

Surveillance 24
Infectious Disease Control 24
Malaria 24
Rabies 24
Veterinary Medicine 25
Bioenvironmental Engineering 25
Housing Arrangements 26

MANAGEMENT AND ADMINISTRATION 26

Authority, Command, and Control 26
Command Structures 27
Continuity of Experience and Information 28
Medical Records Location 28
Relationship to Other Branches 29
Publications 30
Notification of Required Actions 30

SUMMARY 31

REFERENCES 31

SOUTHEAST ASIA OPERATIONAL AEROMEDICAL SUPPORT: LESSONS LEARNED

OPERATIONAL MEDICAL SUPPORT

Introduction

The mission of the Air Force is to fly, and a major portion of the Air Force Medical Service's mission is to support the flyer. The flight surgeon is trained, and the Aerospace Medicine Program is designed, to provide operational medical support. As noted by Hertz (5) in an earlier presentation, " . . . the long established Aerospace Medicine Program . . . meets the requirement for medical support in the combat theater with little adaptation required." This theme was echoed by the seminar participants throughout the session.

Combat Flying by Flight Surgeons

General--Davis (2) commented, "There has been a lot said and written by line people, by physicians, by flight surgeons, and I guess by Congressmen, about the role of the flight surgeon in flying combat missions. . . . It is my opinion that first of all, as I think we all agree, the flight surgeon, in combat or in peacetime, cannot adequately support a flying organization unless he flies the real world missions of that squadron. If he does not understand what they are doing, he cannot make judgments on grounding or on medical disposition or administrative disposition of a flyer."

Amount of Combat Flying--In some instances, flight surgeons had difficulty in obtaining flying time and, in other instances, problems developed because flight surgeons spent too much time flying. During the conflict, a directive was published at one time that all combat missions flown by flight surgeons would be in-country combat missions. This stopped combat missions for the flight surgeons assigned to Thailand since no in-country combat mission existed there (8). On occasion, the decision regarding combat flying by flight surgeons was placed on the wing commander. As noted by the panel participants, this put the wing commander in an extremely tenuous position in that he alone was responsible should any problem develop with the flight surgeons' flying combat missions. The loss of a flight surgeon in an operational accident at Cam Ranh Bay, at the same time as publicity occurred over a few flight surgeons who had accumulated an excessive number of missions, led at one time to the 7th Air Force Commander's restricting flight surgeons from flying in combat at all (8).

It was several months before that policy was reversed, and then the policy of their flying two sorties a month was instituted.

Brannon (1) previously had noted that a practical and profitable compromise must be achieved between too much and too little combat flying by flight surgeons. During Brannon's tour, a tentative monthly limit of two combat sorties per month was established for each flight surgeon within 7th Air Force. This level of activity was reexamined after 10 weeks for possible modification, and the policy was relaxed to permit one combat sortie weekly when intense hostile fire was not a significant possibility.

As one attendee emphasized, it was difficult, if not impossible, to function as a squadron flight surgeon for a tactical flying squadron without flying at least once a week with that particular squadron. It was essential for the flight surgeon to fly often enough to be identified by the pilots as a physician who was sincerely interested in the crews, one who understood their mission and who flew often enough to remain current in the particular systems of the assigned aircraft. The flight surgeon must observe environmental and physiological stresses in his crewmember position if he is to provide effective aeromedical support. Only through such flights can the Air Force have the valuable asset of a fully informed and accepted flight surgeon, one who has experienced the actual aeromedical stresses involved in conducting combat operations and can recommend methods of reducing or controlling these stresses. It was recommended that the panel go on record stating that all flight surgeons should fly in the typical flight environment of the squadron to which they are assigned (8).

Crew Rest

One attendee observed that crew duty time and crew duty day in the combat zone posed significant problems. Due to shortage of personnel, illnesses, delay in replacements, and numerous other factors, people often were scheduled outside of the Air Force guidelines for crew rest. In addition, problems existed because a pilot would fly in the daytime on one day, in the evening of the next day, and in the early morning hours of the third day. The circadian rhythm effects never really had the opportunity to adjust to the duty cycle of the pilot. One participant noted that he had had very limited experience but happened to be associated with one particular flying group during the Southeast Asia conflict. He found that, in regard to crew rest and combat flying situation, the combat role was used to justify expediency in scheduling. A significant amount of crew rest and scheduling problems were apparently overlooked or written off because of the combat commitments.

Definitive guidance specifically for the combat situation should be established at command levels, and the medical factors involved should be considered in establishing such guidance. Continuing command emphasis is essential to preclude unnecessary risks due to fatigue.

Squadron Living Quarters for Flight Surgeons

Many of the seminar participants noted that the flight surgeons at their bases were not only attached to various flying squadrons to provide medical support but also had living quarters at the squadrons they supported. By living with the squadrons, the flight surgeons were able to develop a higher degree of rapport with and knowledge of their patient population, and thus provide much more effective aeromedical support, than would otherwise have been the case. As Davis (2) remarked, "One of the principles . . . that we found to be quite valuable was that of having the flight surgeons live with their squadrons and identify heavily with them. . . . I think this was one of the best examples of the classical description of the flight surgeon and . . . it really worked well."

Allowing the flight surgeons to live with their squadrons also facilitated dispersal of medical personnel. Most medical personnel should live near the hospital so they do not have to expose themselves to get to the hospital during any attack. If all medical personnel live in the same area, however, a single hit could destroy the medical capability. When flight surgeons are spread over the base, they can provide instant care for casualties in their vicinity. At the same time, risk of losing the entire physician force is reduced (4).

Provision of Care for Isolated Units

A problem described by participants involved providing care for personnel at detachments and dispersed units (4, 7, 8). This problem involved flying as well as nonflying personnel. For example, at one time there were some 50 forward-air-controller locations with no flight surgeon available to provide medical surveillance and care (7). As a result, some flyers no doubt were taking medication, provided by site medical technicians, that should have precluded flying duties. In some instances, this may have resulted in an aircraft accident.

"Circuit-riding" flight surgeons represented one effort to solve the problem (4, 7). Although continuous monitoring was not possible, the flight surgeon could visit the area, discuss the problems with enlisted medical personnel, become acquainted with the crews, and

perhaps most important, become established as a physician who could be contacted if a problem or question arose. Hansen (4) described one such operation: "This is about the time we began 'circuit-riding' to the outlying bases. We should have started it sooner because it worked out very well for everyone. We could utilize for transport the turnaround of aircraft that went up and back for maintenance. You could send a flight surgeon up-country for two days; he could fly a mission with the people up there, get to know them, take care of any medical problems they had at that time, and more importantly, provide them with a source that they could call on the telephone if they had a problem later. Thus they had contact with a friendly flight surgeon. Then this flight surgeon would come back to Tan Son Nhut and another would go. This worked out very well. It worked out so well we started doing it with our bioenvironmental engineers (BEEs), our dentists, and everyone else who could conceivably benefit an up-country base. We sent them out to these areas to keep them busy but also to provide medical care in areas where we had pulled out the sole remaining dentist, BEE, or flight surgeon."

Attachment of Nonflight Surgeons to Squadrons

A program which some found of value was attachment of nonflight surgeon physicians to nonflying squadrons (2, 8). This action increased the morale of the physicians and improved their identification with the mission. This was particularly effective when physicians were assigned to such units as the Security Police. The physician was able to spend his free time with the unit, visit members of the unit while they were on duty (in the same way chaplains visited the perimeter guard stations at some bases), and provide a contact point for squadron members should they need care at the medical facility.

At some bases, dentists as well as physicians were attached to squadrons. In these instances, dentists were assigned to provide support to both flying and nonflying units. All involved appeared to benefit from these assignments as squadron dentists.

Medical Activities During Buildups

In January 1972, the staff at Guam was advised to prepare to resume bombing operations. A gradual buildup began on the base, and by June 1972 the military population had increased from 4,000 to over 12,000. A portion of the people were placed in metal buildings, and support was obtained from PACAF in the form of Harvest Eagle kits. These kits were designed for bare base operations and included tents. Farmer (3)

provided insight into medical activities during this buildup for Bullet Shot and Linebacker operations:

"They brought in two of these kits to house about 2,200 men in tents . . . we had tents initially with grass floors, with coral under that, and they were rather uneven. We got involved in this, medically, in the very beginning. They did not situate a tent or locate a latrine, they did not locate a water faucet or laundry or anything of the kind, without our BEE and our flight surgeon (who was chief of Military Public Health) on the scene participating in the design and location. We thought that this was very important, and it played a long-term role in our success in this particular area. We had problems with the tents, not the least of which was that they were quite hot during the day. A lot of our people were working night shifts, of course--we were working 24 hours a day, around-the-clock shifts--and they were fairly uncomfortable. It happened that the Naval Communication Station had a contract to have several buildings refurbished. We found out about this and negotiated with the Navy that if they would postpone the contract, the Air Force would pay for the penalties involved. We moved quite a number of the people living in tents to this Communication Station. This created some other problems (but not insurmountable ones) as far as transportation and one thing or another was concerned. We also put on order a set of Butler buildings. They turned out really fairly well; we built concrete block outhouses, and situated these Butler buildings and put men in them. They were not quite as big as the tin cities that we had, but they did suffice and most folks were relatively satisfied.

"We had a great operation from the Navy Seabees and the civilian construction contract that we got, but especially from the Seabees who came in and really worked like bees. In 90 days they built additional parking spaces and ramp space and poured concrete in many areas for support of the aircraft. They prepared a lot of this from the ground and coral up, which isn't all that easy to work with. It included a 12,000-foot runway, 150 feet wide, which is some task. We had a lot of cooperation from a lot of folks. The Prime Beef teams came in and put up our tents and built our latrine buildings and later came back and helped put up the Butler buildings. A lot of people supported this operation.

"Let me give you the background of my operations at the clinic and the medical service throughout Operation Bullet Shot. We were well staffed prior to Operation Bullet Shot; we were in good shape. We had a Flight Surgeon's Office with three flight surgeons assigned, the general therapy clinic, a psychiatrist, a pediatrician, a very active dental clinic with several specialists, a vet, a BEE--everybody that you need. We also had a construction project under way, and I'll talk a good deal

about this as we go along because it really helped us in some ways and in other ways was quite a headache. As we began to expand with Operation Bullet Shot, we really didn't have to do very much. We could take on the additional people without that much assistance. We did get in one additional flight surgeon and two or three 901's. We changed some of our hours, some of our attitudes, if you will. We got along all right. We kept getting larger, though, and in April with more aircraft coming in, we needed some additional help to take care of the eventual 12,500 people. While we needed additional help, we found that we didn't have sufficient space for them. If I had added a doctor it wouldn't have done me much good because I didn't have anywhere for him to work. So we went to shift work. I had 10 medical officers working in the clinic: five of them worked from 0700-1600, three worked from 1600-2300, one worked from 2300-0700, and one was always off because of the number of days he worked. We worked six days a week at this shift work; and whenever John finished, Joe took his office. We distributed the workload because we had sick call practically 24 hours around the clock. We adjusted and got the people to come in better for us, but when these troops first started this, they hadn't been accustomed to working six days a week, 12 hours a day, going to work at 0600; we had to accommodate them, and we did quite well.

"The dental clinic had the same sort of problem. The dental clinic was faced with a lot of people who needed dental care and who hadn't had it because they had been PCS to Southeast Asia and had neglected their teeth or had been TDY two or three times. So we said at the very beginning that if we were going to take care of them we would take care of them as completely as we possibly could. The dental clinic had only so many offices, and dental work is such that there is only so much you can do in a day's time. It's not practical to have a dentist working 12 hours a day. So we went to shift work with the dentist.

"We were dependent . . . on somebody else for our hospitalization. This has some advantages and a number of disadvantages. I personally think that more clinics should have some beds. If the Surgeon General's Office or command surgeon wants to write out some specific guidelines about when they will be used, by whom, and how, etc.; that suits me fine, because I don't want people over there with bleeding gastric ulcers and diabetic coma. But I think we need the beds because we are still providing at our bases for from a few hundred to several thousand unaccompanied male and female airmen, whom I believe are neglected. The airman, when he gets sick, is too sick to go to the barracks, climb up and down the stairs, make his way to the dining hall and back; but he's not sick enough for the U.S. Naval Hospital on Guam, or the Air Force Academy, or Wilford Hall, or wherever it is you are sending a patient, to accept as a sick patient. . . . But we addressed this; we knew we had the

problem. The construction people had just finished to the point that we thought we could accept a part of the new construction; the addition to the building which was eventually to be the physical exam center. We took over and put in eight beds; in fact we even had a private room for the ECG room. We worked this way for several months, talking at the same time to the Navy people who would come to visit, and eventually we had our own ward and our own people working in the Navy hospital to take care of these people. I think we prevented an awful lot of unnecessary loss, men sent home . . . through this means.

"We had, by now, 1500 B-52 crewmembers and an additional 400 or so to total about 2,000 people in reconnaissance, headquarters, and staff positions to take care of. Our flight surgeon spent 90% of his time taking care of the primary crewmembers. We had a fairly high grounding rate--but short-term groundings. . . . You think, I guess, that if you are in a fighter outfit, you get to know the guys pretty well; and you think, contrary, in a big outfit with 1500 guys, you don't. This was not our experience, because we flew flight surgeons regularly. They saw the guys fairly often; we got to know them pretty well. . . .

"We participated as flight surgeons in the briefings and debriefings, and we were just as anxious as everybody else to count the aircraft or to know the number of aircraft that were coming back; those that didn't come back, what happened to them? Had they gone to U-Tapao because they were shot up or had they been shot down? Some were just shot right out of the sky; and we figured most of them, if not all, were KIA, but this happened only a few times. A number of crews did bring their aircraft back although the aircraft was counted a loss. There were several very successful bailouts over a friendly territory, and recovery, and I think that Kress Lochridge was up at Nakhon Phanom (NKP). NKP was responsible for a number of our people for a while, picking them up and going out and getting them and taking care of them medically."

Farmer further noted that the flight surgeons often aided in relieving tensions by conducting ventilation sessions. "We had a number of guys who would come by just to talk with the flight surgeon for 5 or 10 minutes just to say, 'Here is the way I feel--boy! if I get up there, you talk about tight pucker strings, the SAM starts going.' Well, I guess this is a pretty normal reaction and not unhealthy at all. The guy just needs somebody to talk to, and I think that we served a useful purpose."

Operational Research

One attendee commented on the difficulty in conducting operational research. Within the first few months of this physician's tour, he submitted a research proposal concerning an operational medical problem, in accordance with Air Force directives. After several months' delay, he received a reply stating that the proposal would be considered at a later date. The date for consideration was within one month of the end of this flight surgeon's tour, so the project could not be completed. Base-level flight surgeons do have the opportunity to conduct studies which may directly benefit aircrews. Proposals should be elevated more expeditiously so a decision can be made in sufficient time to allow the project to be completed.

Medical Support of Survival Training and Life-Support Activities

Davis (2) described the need for improved support of survival training and life-support operations. "I don't think any of us doubt that going through the Regional Survival School at Clark was of great value for the flyers and flight surgeons who were going to SEA. We did that, and it was important for our own survival; but in my own case, I know we failed to follow up in one very important aspect. That aspect is that a part of going through that school is not just for our own survival training, but it is for us to continue as flight surgeons teaching flight crews the medical aspects of survival; and I didn't do that. I don't know whether you did or not, but I think it's something that should be very much built-in; it becomes awfully important to a lot of the crews. We should have been frequently helping them with medical aspects of survival in that environment. Along that line, we also failed in that we were not active enough in the Life Support Shop on the base. They were down there and we dropped down and visited and knew them, but we didn't do anything really useful in the Life Support Section; and I think we should have done more in the way of supporting and consulting with those people."

STAFFING

Physician Staffing

Experience Level--Repeatedly, participants noted the need for assignment of experienced, career officers as Directors of Base Medical Services and as staff officers at higher headquarters. As Brannon (1) observed in a separate document, "A combat zone is no place to assign inexperienced 'two-year' medical officers as base surgeons." This

observation was echoed by members of the seminar throughout the session. It applies during the buildup as well as subsequent phases. Certainly, inexperienced physicians can provide effective support, but an experienced physician must be available to provide continual guidance and assistance.

Graduates of the Residency in Aerospace Medicine Training Program--Graduates of the Residency in Aerospace Medicine proved particularly effective in providing operational medical support. Schafer (7) commented, "I will say one thing that saved us were the RAMs. They gave us the capability . . . of running most of the facilities over there in a knowledgeable way, even though for most of the RAMs that went over, it was their first base-level or management-level function; and they really performed in an outstanding manner." The capabilities and achievements of the RAMs were not surprising in view of the fact that much of their training is directed toward management of resources and provision of operational support--areas of particular concern in a combat environment. Davis (2) added, "Some of us didn't think too much of Phase IV of the Residency [assignment to the Republic of Vietnam] until we got there and found out . . . that everything we've been trained for we could use in that area--operational support of the line mission, preventive medicine, occupational medicine, tropical medicine, environmental sanitation, physical standards for the flyer, waiver actions--everything that the RAM had trained for."

Nonflight Surgeons--Although nonflight surgeons provided effective medical support, it was noted that some of these physicians in particular experienced significant morale problems (2). Unlike the flight surgeon with "his" squadrons with which he could identify, the nonflight surgeon often identified with no one on the base except medical personnel. Various actions, such as the previously discussed attachment to nonflying units, were taken to try to overcome the identity problem, but were not completely successful. As Davis (2) emphasized, it would perhaps have been more effective for all physicians, whether partially or fully trained specialists, who were assigned to a position in the combat environment to also be flight surgeons on flying status. A flight surgeon can take care of nonflying personnel in a combat environment, whereas the converse is not true. Through identification with the operational squadrons, the flight surgeon can identify with the mission, even if his primary medical activities are in one of the clinical specialties, and thus provide more effective support to that mission. The identity and sense of satisfaction obtained can aid in preventing morale problems otherwise experienced.

Specialty Requirements--Another aspect concerns composition of the specialties represented. Partially or fully trained internists and surgeons were desired, even by facility commanders who did not have surgery

capabilities (2, 8). The need for providing initial care in the case of trauma from either combat or accident continuously existed. During an attack or severe weather conditions, aeromedical evacuation might not be possible. Physicians with surgical training would be particularly valuable at such time. Similar concerns exist for management of medical emergencies. Of course, during normal operations, physicians with medical and surgical training can manage many of the problems in their specialty area and thus avoid referral to specialty clinics with loss of patient time. Davis (2) provided these specific observations: "The remainder of the staffing at Phu Cat was standard, as it was for everyone else; but there were a few glaring areas that worried me, and I don't know whether they were worries for any of you or not. One of them was that although we had an adequate emergency room and emergency room techs, we had no emergency surgery capability. We had no anesthesia capability and no surgeon. All of us operated with the very nice assumption that we could depend on the Army Dust-Off system to come in and pick up our emergency cases in event of an attack or any other kind of accident and fly them 20 miles down to the Army Evac hospital; and that worked out well. But I lay awake nights wondering what would happen if we had a situation where the Dust-Off system were completely saturated or the Pedro H-43 system were completely saturated with workload--if we had an all-out regional attack, if the evac hospital were saturated, if weather kept the helicopters out. It never happened, but I worried all the time. It just seems to me that it would be nice, if possible, to have at least one of those nurse slots as a nurse anesthetist to set up some kind of emergency anesthesia capability and to have one of our flight surgeon slots set up for a partially or fully trained surgeon. Then, of course, you are left with the problem of their proficiency, surgically; and it seems to me that it could be handled by letting them have whatever time was necessary at the nearby evac hospital to spend a day to a week in the OR."

The need was also noted for a partially or fully trained psychiatrist at medical facilities (2, 8). Psychiatric problems, many of a relatively minor nature, comprise a significant portion of the workload. At isolated bases, such conditions have been listed as a leading cause of noneffectiveness. If a physician at a base can conduct a psychiatric clinic, he can manage the majority of psychiatric problems and only have to refer the more complicated cases to consultation centers. The capability to provide rapid care at the assigned base can prevent progression of the condition and thus result in improved individual care. Staff planning for operational bases should include a physician with psychiatric training. As Davis (2) emphasized, "Besides the surgical deficiency, the other area of concern, I think to all of us, was the lack of base-level psychiatric support. And, of course, for us at an isolated base with 6,000 men, the leading cause of noneffectiveness was

psychiatric disorders. I was lucky again, and I think a lot of us were lucky, in the kind of people that happened to be assigned us over there. We were lucky to have one flight medical officer who had had a year of psychiatry residency, loved the specialty, and wanted to be our base psychiatrist; and the man did an outstanding job. We referred cases to him and he handled the referral of the tough ones out to Cam Ranh Bay, and he ran his own psychiatry clinic and did a tremendous job. Now, my point is that in psychiatry we did have an interested, partially trained physician; and it just so happened that one of our flight medical officers was a D-level surgeon and helped us and backed us up in that area. But both of these [specialty capabilities] were left to chance, and it seems to me that these are areas which should not be left to chance; that you might happen to get such people on your staff, but they should be included in the planned staffing for a combat area dispensary."

Other Staffing

Experience--As with the physicians, other experienced personnel are essential for effective operations (1, 2, 7, 8). This applies particularly in the areas of administration, nursing, supply, veterinary services, dentistry, environmental health, and pharmacy.

Bioenvironmental Engineers--Significant problems concern assignment of bioenvironmental engineers. During the buildup phase, the need for such personnel is apparent. However, even after permanent facilities are available, bioenvironmental engineering problems will continue to exist. As Schafer (7) commented, "Another problem involved the bioenvironmental engineers, and this was during the time period that I was in Vietnam. Somebody at higher level thought that once we were well established and had well-running bases and were firmly intrenched in permanent facilities . . . that we no longer needed a BEE at every base, I think that at almost every base we still needed a BEE, and I think the bioenvironmental engineering problems didn't necessarily go away. I think we needed them over there more than they did in the U.S., and I think that staffing should have been kept up. I could cite the problems that would occur from time to time on a permanent base--unforeseen problems in which we really needed these people. I think one BEE to the whole command was just ludicrous, and I think it would have been a benefit had we had those assigned."

Dental Officers--Additional staffing problems exist in such areas as assignment of dental officers. Dental officers arrived at some locations in the early stages of the conflict with no work area and no equipment (1). Dental officers were authorized on the manning documents, yet programming for the base did not include a dental facility. Personnel

assignment and facility establishment were not properly coordinated at command levels. Closer liaison is required between the responsible action agencies to preclude such malassignments.

Noncommissioned Officers--At one time, slots for all chief and senior master sergeants at dispensaries had been deleted because it was believed these facilities did not need such senior personnel. Schafer (7) summarized the problems which could result as follows. "One of the problems with staffing at base level. . . had to do with some of the senior noncommissioned officers. Prior to my arrival in Vietnam, somebody had decided to cut out the manpower slots for all chief and senior master sergeants at dispensary level on the basis that dispensaries didn't need that senior a man, and of course I disagreed with that position totally--I thought that was where we should have had the senior experienced man. I didn't care if he was going to get out in two years or not, we needed the benefit of that experience because as a rule we had a junior medical administrative officer, and as a rule most of us were experiencing something for the first time and needed the benefit of some of these people. I think that was a very significant staffing error, cutting out those people. The senior non-com really could contribute much more than most of us will probably ever realize."

Excessive Staffing

In a situation of rapid buildup, excessive staffing can develop. Such excesses may continue even in the face of shortages elsewhere. Excessive staffing was reported particularly at the headquarters and referral facilities. One triservice surgeons' office reportedly had 72 persons assigned, and some facilities did not have sufficient desks for assigned personnel. Such excesses can, of course, result in lack of sufficient work to do and create significant morale problems (7).

By contrast, during the later stages of the conflict, staffs, particularly at headquarters, would be reduced without notifying an incumbent or his commander (4). This posed obvious problems when expected replacements did not arrive or transfer orders were unexpectedly received.

FACILITIES

Modular Structures

The modular structures posed a number of difficulties for the users. These included such problems as leakage in the heavy rains and lack of

windows to provide circulation when the air conditioning failed (4, 8). Since repair parts might be at distant locations, a facility might go for days without ventilation. The buildup in temperature and odors soon affected efficiency dramatically.

Of even more concern was failure to include a flight surgeon's office in the modular facility (1, 2). It is remarkable that a facility designed to provide operational support should have such a deficiency, but the problem existed. In some instances, a physician's office was designated as an administrative area for a flight surgeon's office, and records as well as waiting patients were placed in this location (2). A well-defined waiting area for flight crews, an administrative area for aeromedical personnel, and a flight surgeon's office space, with ready access to the flight line ambulance, were needed.

The modular facilities posed numerous maintenance problems of the type Hansen (4) described. "Facility maintenance was a continuing problem. The modular facilities we had were apparently designed to last about four years, and they did to the day. I got them the fifth year. The locals had cut out all the copper pipes under the facilities because they could be sold, and so we replaced them with galvanized pipes which didn't sell so well. The only problem was that the galvanized pipes rusted out rapidly, and there was not a day that went by that we didn't have to shut the water off in the hospital somewhere to fix a leak. You can't run a modern hospital without water. We should have used plastic pipe originally. We gave these facilities to the Vietnamese when we left. I had a letter from Doctor Boi, who took over the Tan Son Nhut hospital, and he is having tremendous problems. He doesn't have money to pay for the electricity to run the air conditioners, and the facilities, as you may know, have very few, small windows. They are hotter than hell in the summer if the air conditioner goes out. He has no one to repair or to obtain parts for the air conditioners. We should not have given these facilities to the Vietnamese, because when they got our modular facilities they gave up the old French hospitals that have a veranda all around the hospital to shade them from the sun. When there is any breeze the older facilities are more comfortable--stark as they are--than a modular, sanitary facility without air conditioners or with no water. I think we made a mistake in planning to turn these over to the Vietnamese."

Revetments

A medical facility has to be properly protected so it can continue to function during an attack. In some cases, revetments were only constructed by self-help activities after weeks or months of attempting to have civil engineering construct them (2, 4, 8).

Even when revetting was accomplished, problems existed at some bases. The revetting at some facilities was not high enough so that people could stand while working on a patient (4). Instead, care had to be provided while lying on the floor or crouching over the patient. Such a requirement compromises the process of good care irrespective of the capabilities of the staff. A medical facility must continue to be able to operate during an attack. Critical care cannot be delayed, and these facilities should be as protected as mission-essential units.

Design Deficiencies

In addition to the problems considered above, other facility problems existed. Brannon (1) previously documented some of these as follows:

a. An x-ray room would not accommodate the machine programmed for the facility.

b. Litter patients could not be maneuvered into the treatment room.

c. Additions had to be built at six of eight facilities because the original plans did not include space for such areas as dental services, veterinary medicine, medical supply, and environmental health.

d. Water supply for such items as dental drills and x-ray film processors may not be sufficient for the sophisticated equipment provided.

Referral Hospitals

Schafer (7) discussed the Air Force's referral hospital at Cam Ranh Bay. He noted that in the 1969 time period, the hospital was overstaffed and underworked. This was due in part to the fact that the Air Force did not have a significant number of battle casualties brought to it, and the problems that did occur from an occasional rocket attack were not sufficient to require a hospital of the size of Cam Ranh Bay. Schafer saw a number of smaller hospitals, approximately 150-bed size, as an alternative to the single, large referral hospital. These smaller units could be put with each casualty staging flight to insure that a basic staff and capabilities existed which could respond to the needs of the casualty staging flight as well as requirements due to base operations. On more than one occasion, people who had been brought to the casualty staging flight developed serious problems and had to be sent back to the referring hospital because they required the more extensive capabilities at the referral hospital. Such action negated, to a certain

extent, the whole intent of the staging flight. Had each staging flight been associated with a 150-bed hospital with the basic core specialties staffed, then the patients could have received better care without having to be moved to a more distant location when they developed problems in the staging flight.

EQUIPMENT AND SUPPLIES

Ambulances

Brannon (1) noted that the requirement for ambulances must be included in the basic support package, and he emphasized that at least two ambulances are required per operational base. Ambulances were sent to Vietnam without sufficient spare parts to assure continued reliable services. These vehicles should be supplied with adequate spare parts as well as certain essential auxiliary equipment, including radio, resuscitator, shovel, axe, wire cutters, portable lights, and similar items. Brannon also observed that the initial base vehicle authorization list should include jeeps or pickup trucks for the base surgeon, environmental health, and medical supply personnel. Transportation is absolutely essential for these medical personnel and is not readily available during the early buildup of a new base. Hansen (4) commented that ambulance armor was never developed, so his personnel had to go out in ambulances only wearing flak jackets. A slide-in ambulance armor of the fiberglass type that helicopters have, would provide protection for mortar and rocket attacks. Since ambulances have to respond during attacks, they should have the same type of armor as other vehicles actually taking part in operations during attack situations.

Communication Equipment

Operational bases in combat situations face the threat of disaster due to hostile action as well as disasters due to accidents. While necessary in a peacetime setting effective medical communication equipment is absolutely imperative in a combat setting (1). During an attack or accident, physicians need dual-channel capability (medical and fire nets). Each ambulance has to be provided a radio, and portable units also have to be available. A master unit must be in place at the medical facility. Telephone communications with the base or wing command post can become nonexistent during an attack as all extensions at the command posts come into use (1, 8). Portable radios can then be the only source of communication between the medical facility and command posts.

Specialized Medical Equipment

Requirements existed to have specialized equipment such as renal dialysis units and hyperbaric units. However, in some cases no team was present to operate the equipment. Schafer (7) described one such situation as follows: "We had an overcompression chamber, and I can remember getting into a situation one time in which we were asked to get an urgent aeromedical evacuation to the chamber. The people who ran the battalion were very good about giving me a call on such urgent cases. This wasn't required by regulation or anything else, but we got them in the habit of doing this; and they were very good about calling and asking what we thought. I got a call one night about a man who had gas gangrene, and they wanted to send him to the overcompression chamber at Vung Tau where there was a small Army contingent at the time. They said they were sending him down, and I said, 'You just really can't because I don't think there is anyone in the country who can operate the thing.' I called a young doctor down at Vung Tau and asked him if he was going to accept this patient. He said, 'Yes, we are going to put him in and we are going to turn the valves.' This was the extent of their experience on the thing and that's what would have happened. I don't know what I would have done had I not been at the USAFSAM prior to that time and known about the troubles, the trials, and tribulations of an overcompression chamber for the treatment of anything; that it requires a lot more than a man standing there to turn a valve and put a patient into it." It is essential that capability as well as presence of a piece of equipment be ascertained before transporting a patient to a site. Status of capability could provide more meaningful information than merely designating the location of specialized equipment.

Particularly during the buildup phase, it may be necessary for clinical specialists to bring with them any specialized instruments or equipment they need or prefer (1). Such items could perhaps be checked out on temporary issue receipts by the specialist's prior duty unit.

Exposure to Environmental Extremes

A continuing problem concerned the effectiveness of medical supplies after they were exposed to environmental extremes. No good data were readily available to determine the shelf-life for many agents after their exposure to high temperatures. General statements such as "avoid prolonged exposure to temperatures above 90°F"did little to help a physician determine whether an agent was still effective (7).

Supply Stock Levels

Overall, logistics were considered adequate, and the medical supply system for Air Force facilities appeared to function more effectively than that of the other branches (7). Supply shortages did exist in some instances, however, because supply levels were established on past experience without considering future requirements and workload (1, 8).

One supply account was established at Cam Ranh Bay to support the entire area, and as a result, it was not necessary to use a depot function in the United States. However, it might have proved more effective to have the supply account assigned elsewhere. As Schafer (7) observed, "I do not agree that we should have had the supply account essentially assigned to the Cam Ranh Bay hospital management. It, perhaps, should have been assigned to 7th Air Force headquarters, because there were times that we saw the management at the hospital at Cam Ranh Bay try to perform a management function over the supply needs of the various bases, and this was not necessarily right. They not only were not knowledgeable about what went on at the bases but had no judgment in that regard for the various dispensaries around."

AEROMEDICAL EVACUATION

Dust-Off Operations

Participants in the seminar universally praised the Dust-Off operation (2, 4, 8). Dust-Off not only provided rapid transport of a patient to medical facilities, it also provided invaluable service in rapidly transporting patients from a medical facility with limited capabilities to a referral unit. In some instances transfer over ground took longer or was not possible due to enemy forces. In such situations, Dust-Off repeatedly proved to be lifesaving. As Hansen (4) summarized, the Dust-Off crews ". . . deserve only the highest praise."

Air Force Aeromedical Evacuation

General--Comments varied greatly concerning both in-country and out-of-country aeromedical evacuation operations. The observations ranged from praise to outright condemnation. Both locale and time apparently played a part in the overall evaluation by the speaker (4, 7, 8).

As Schafer (7) noted, " . . . aeromedical evacuation did a tremendous job in spite of itself, in spite of the miserable organization that existed, and in spite of the miserable higher level supervision that it

was given. It is just a remarkable thing that if you put some people out to do it, they will overcome all types of obstacles."

One attendee observed that as a hospital commander he had not heard any bad comments as far as in-country aeromedical evacuation was concerned. He found on-call support to be excellent. However, another individual commented that in the time frame when he was in Vietnam (1967-68), aeromedical evacuation performance was poor. The only change from World War II was the presence of airplanes that " . . . could carry more patients farther, higher, and on longer flights." Still another participant noted that aeromedical evacuation "really tried for those problems where we had acute injuries and battle casualties." However, nonacute cases faced delays due to cancellation of scheduled routine flights. Also, after evaluation at a referral facility, there was no promise to return the patient to his base by aeromedical evacuation. As a result, the patients "wandered all over the face of Vietnam trying to get back to their duty station, with a considerable loss of manpower and days from the job." One participant who had been stationed in Thailand in 1971-72 observed that the aeromedical evacuation system was "useless" for an acute severe injury. A number of patients would have been lost without helicopter support to transport the patients to treatment facilities with specialty capabilities.

Hansen (4) noted that later in the conflict the aeromedical staging flight and aeromedical evacuation system appeared to operate much more effectively. As he commented, "Our aeromedical staging flight concept was great, and it became more important during phase-down when we had fewer people to take care of the sick people in-country; particularly as the Army's specialty capability phased down. The C-9 was eminently reliable. I don't think the C-9 ever failed to come within its allotted time unless weather or a rocket attack at an in-country base delayed its departure. I can also only say good things about Colonel Len Johnson, who ran the 9th Aeromedical Evacuation Group. If ever I saw a strong reason for putting a medical officer in an administrative position, it was Len Johnson's job at 9th Group. It was the most patient-oriented aeromedical evacuation unit I have ever seen. I'm sure a large part of this was due to Len's inherent capability and his hard work, but, also, he understood the medical problems. It was a tremendously impressive lesson to me. This is one of the most valid places into which one could assign someone who is knowledgeable in aerospace medicine."

Operational Control--Problems with operational control of aeromedical evacuation flights were of particular concern. The 7th Air Force Commander thought he had control of the aeromedical evacuation operations within Vietnam; TAC considered it had control of some operations; and MAC emphasized it controlled all such operations (7). MAC control did create

difficulties when some individual " . . . 6,000 miles away" interfered by trying to tell the local commander when and where he needed aircraft.

Patient Care During Aeromedical Evacuation--Although overall the MAC intertheater system operated well, there was still the problem of patients not being treated as patients. The patient lying in wait on a hot ramp just so an aircraft could meet a takeoff time was one example (7).

An Army participant commented that overall the aeromedical evacuation system worked well in helping facilities control the number of patients in Army beds in Vietnam. However, he noted that on some flights, patient care was not at optimum levels, as evidenced by doors remaining open for up to two hours in spite of the fact it was winter and patients had only one blanket.

In commenting on aeromedical evacuation, Schafer (7) stated that the physician still is responsible for patient care, and "that plane is there to service you [the physician] and I think if we probably took a greater responsibility from the forwarding hospital, that we could overcome some of these problems that exist in the MAC system--which I would guess, to a certain extent, exist today. The physician who is sending the patient is still the responsible man. Unfortunately, in the aeromedical evacuation system, most of our people that were sending patients did not understand the situation. I know I didn't really understand it as well as I should have when I was over there, and I think the only way a person can understand it is to live with it for a while. I think they have to understand the fact that a plane is going to set down at so many places, that a plane is going to fly in the air only so long. I think the physician that is sending the patient ought to know what the total picture is, and that total picture isn't just sending the patient on a short flight to a definitive care hospital. That might mean taking this patient off the plane and putting him back on another plane up to as many as seven or eight times prior to his final destination hospital . . . We did not have any definitive studies that showed people what happened to the morbidity of certain types of patients flying on aeromedical evacuation, and there is some impact. We still don't know what it is, but we have an idea that it does change in some instances."

Other participants also commented on the need for further evaluation of the stresses involved in transporting a patient by air over long distances. No "comfort index" for use on aeromedical evacuation operations is available to calculate how stressful a particular trip will be for a patient with a particular condition that requires him to remain on a litter, be in traction, or undergo some other stress during the flight.

Abuse by Users--In some instances, medical facility personnel appeared to be at fault by placing people in the aeromedical evacuation system because such action was convenient or increased bed capability for contingencies rather than because the patients needed to be moved (7, 8). This action could have a significantly detrimental impact on patients. The primary question should remain one of whether a patient's condition means he has to be transported by air, and if so, when? Can his condition be improved by delaying aeromedical evacuation for a while? (7)

ENVIRONMENTAL HEALTH

Surveillance

An effective communicable disease surveillance program has to exist in order to determine what problems exist and how they should be managed (8). In some instances, effective surveillance programs would be established and exist for a period; however, with the rotation of personnel, the programs might lapse and become ineffective. In other instances, one branch, such as the Army, would have a comprehensive program, but results and comments were not widely distributed in Air Force circles. Too often, general information could only be obtained by calling colleagues at other facilities to determine what diseases were prevalent and what preventive actions were taken (8). Conferences such as the CINCPAC War Surgery Conferences and the U.S. Army Symposia on Preventive Medicine in Vietnam were valuable, particularly when, as for these conferences, results were published (6). Unfortunately, many of these publications were lost with the turnover of personnel and were not available for later medical personnel.

Infectious Disease Control

Malaria--Malaria posed a problem not only with respect to morbidity but also with respect to standard prophylactic measures. Instances were noted where the Army would be doing one thing while the Air Force was doing another (7, 8). At some bases, such as Tan Son Nhut, where several headquarters existed, requirements for "all assigned personnel" specified by one command conflicted with requirements specified by another headquarters (4, 7, 8). Such circumstances place all medical programs in a bad light.

Rabies--Problems with prevention of rabies and management of exposure to a rabid dog were repeatedly observed (1, 4). Usually the fact was also noted that proper control of dogs, both strays and mascots,

was essential (1, 4, 8). After an episode of rabies, dog-control procedures were strengthened. Within a period of weeks to months, however, another outbreak was reported on another base. In some instances these events compromised operational capabilities as well as posing serious risks for exposed individuals. If the stray-dog population is not eliminated and if mascots are not properly immunized, this problem will continue any time operations are conducted in an area where rabies is enzootic. Hansen (4) described a unique way to provide immunizations. "We held clinics for the Vietnamese-owned dogs and gave them free rabies shots. We didn't get very good takers from this, so then we started giving them free flea collars if they got a rabies shot. They were nice looking flea collars, and business boomed. This was something that the local owner could see. His dog had a nice looking collar which put him two steps above the dog that didn't have one. You didn't get the collar unless you got the rabies shot first. It was the 'lollipop-shot' principle applied to dogs."

Veterinary Medicine

In an area such as Southeast Asia, proper veterinary support was absolutely essential for mission effectiveness. Brannon (1) noted in an earlier report that the requirement for veterinary personnel should be based on the number of food-serving facilities, number of sentry dogs, and troop strength.

The veterinary officer should be present during base construction to advise on food-facility construction. Once facilities are in operation, he must accomplish not only required inspections but also, in conjunction with the Director of Base Medical Services, insure prompt followup and correction of discrepancies (1, 3).

Whenever sentry dogs are working in a severe climate, they must have optimum veterinary care. It was recommended that a full-time veterinary officer be assigned to any base which has 40 or more dogs (1). Of course, if additional responsibilities exist, it is reasonable to assign a full-time veterinary officer even if fewer than 40 dogs are present (1).

Bioenvironmental Engineering

The need for assignment of bioenvironmental engineers has already been considered. The engineer must participate in all levels of planning. In planning an operational base, sanitation requirements (including decisions as to whether field, intermediate, or temporary construction is to be used) should be ascertained and included as an annex to the operation

plan. Without clear-cut decisions, concurrent plans will be "going in all directions at once, resulting in unbelievable compromises to sanitation that cannot be completely remedied for years to come" (1).

Water shortages were a persistent problem, particularly in the early stages. Unanticipated increases in base population or failure of water supplies occurred (1, 8). Alternate sources of water supply should therefore be evaluated early. Water trailers with water chloride to 5.0 parts per million and with free chloride residual of 2.0 parts per million were satisfactory. If dual water systems were used (e.g., to supply nonpotable water to latrines), waterborne outbreaks could be expected due to eventual breakdown of water discipline (1).

Housing Arrangements

Layout of "tent cities" can be as significant as condition of the tents themselves. Good preplanning is necessary to prevent problems from overcrowding, locations adjacent to latrines, or similar problems (1, 3).

Burnout latrines proved more satisfactory than pit latrines (1). The latter produced overflow of water into the entire living area during heavy rains and elevation of the water table.

Dependence upon individual septic tanks was unsatisfactory because the leaching fields proved inadequate (1). Stagnant ponds covered large areas. A system of sewers connected to a centralized sewage treatment tank was finally necessary.

As Brannon (1) also noted, a sanitary fill which goes into operation at the same time people move into an area provides satisfactory disposal of garbage. Contractor removal may be satisfactory, although scavengers and cleanliness of trucks can pose problems. Unclean trucks and activities of scavengers can increase the risk of vermin and disease outbreaks.

MANAGEMENT AND ADMINISTRATION

Authority, Command, and Control

As in prior conflicts, it was again emphasized that one cannot run a medical facility from 6,000 to 12,000 miles away. Schafer (7) observed, " . . . there is no question in my mind that you have to put your money on an individual and figure that he can take the responsibility for

something." As an example, he noted that a waiver requirement "becomes a real shuffle when you have some wing commander trying to get one of his people waived or to get something done about the physical status of his flyer. You have to go all the way up and back and deal with the PACAF headquarters 6,000 miles away, and then they deal with the Surgeon General's Office another 12,000 miles away. It is just sort of ridiculous in the fact that, I think, the judgment can be made by the physicians in the area, and you would make no more errors. . . . I realize that somebody might think that if you are in a local area and you are going to be the waiver authority for a flyer, that you might be influenced by your commander or some friend of your commander in the chain of command. But that exists all over. That exists in the Surgeon General's Office, and it is real ludicrous to even think that you are going to get into a situation that changes from day to day regarding people and not vest the proper authority in them . . . if you are right next to a higher major command headquarters, it might not be wise to vest the authority in the area physician, but I think with the distance involved, it is particularly ridiculous."

Hansen (4) underscored these remarks in discussing the contradiction in his duties as seen by Headquarters PACAF and by the 7th Air Force Commander. Headquarters PACAF considered the duties of the 7th Air Force Surgeon to have been turned over to the 13th Air Force Surgeon. However, the 7th Air Force Commander still considered Hansen to be the 7th Air Force Surgeon. As Hansen stated, "If the 13th Air Force Surgeon had thought he was the 7th Air Force Surgeon, it would have been a totally unliveable situation. The only thing that made it work was that the 13th Air Force Surgeon was Colonel Dick Malone . . . and we had a mutual esteem. We thought the same way and we did things the same way, and so I would do it and he would bless it and it worked this way. If there had been someone there who did not share the same opinions that I had and who did not do the same things the same way, it would have been the worst mess that you've ever seen. But it didn't work out that way, and that was lesson one that I learned: <u>The senior medical officer on the spot has to have the authority to run the show</u>. If he doesn't do it to your satisfaction, then fire him . . . you've got to trust him."

Farmer (3) had a more favorable relationship with Headquarters SAC during Operation Bullet Shot. As he noted, he had " . . . a very mirimum of interference . . . from the SAC Surgeon's Office . . . basically, it was our show."

Command Structures

Hansen (4) noted, "There was a superfluity of medical command structures in Vietnam. We had at least seven independent medical units

there; MACV, who thought they ran the show; PACAF, who thought they ran the show; 7th Air Force, who ran our show; and Air Force Advisory Group" as well as Army, Navy, Marine, and Vietnamese units. This complicated command structure was not without some benefits as ". . . one could always find some boss who agreed with what you felt needed to be done, and so he became your source of authority at that time."

Continuity of Experience and Information

The one-year tours provided problems in that personnel tended to make the same mistakes or "discover" the same solutions every time there was a turnover in the staff (4). The end-of-tour report by Brannon was noted to be particularly helpful in that it "told it like it was," but these reports apparently were not required, or certainly were not written, by all people in key staff positions (4, 7, 8). Other reports tended to gloss over problems or were oriented in a format that the writer thought the reader would prefer to see (4). Due to lack of effective documentation, significant activities, problems, and solutions were not passed on to later arrivals. One attendee noted the difficulty in obtaining any communicable disease statistics for periods prior to the time of his arrival. Questions regarding needs for immunizations, current disease trends, and unusual hazards "came up again and again." Past experience is essential in making decisions on such items. Another attendee noted that information should be obtained on a triservice basis. The previously referenced preventive medicine symposia were one example of beneficial activities in this area.

Concerning continuity, various participants noted that they had not received a good in-country briefing from higher headquarters. One individual observed that he only found out that 13th Air Force existed after he had departed Clark upon completion of Jungle Survival School. It was his impression that he would be assigned to 7th Air Force. Upon arrival in Thailand, he was subsequently contacted by 13th Air Force at Clark and asked when he was coming back to survival school so they could find out who he was. He noted that this query seemed inappropriate and that at the least it created the impression that no one knew what was going on, who was assigned where, and what was required. As Brannon (1) summarized, "The major air command having the responsibility for the combat theater should give a formal and detailed briefing on the entire operation to assigned combat zone personnel and field grade officers, including all medical unit commanders."

Medical Records Location

The participants noted the difficulty in attempting to provide medical care for individuals on a regular basis when their personal

medical records were kept at another location (4, 8). Frequently physicians at one of the Air Force facilities would provide care to patients on a routine basis and yet have to record these on separate SFs 600, which were then sent to the hospital responsible for maintaining the medical records. Eventually, this was resolved so that the facility that gave the medical care had the medical records, and continuity of care could be maintained. As Hansen (4) observed, "Another lesson to learn is to put the medical records at the hospital where the patient gets care, regardless of what organization he is assigned to."

Relationship to Other Branches

The experience of the panel participants in dealing with members of the other U.S. services in Vietnam appeared to depend in large part on the level at which the contact was made. Hansen (4) commented, "The higher that we went up the chain of command, the greater in-fighting, jockeying, and chauvinism. We had no difficulties at the local level. There was never a harsh word or refusal of service on the part of my people for the Army or on the part of the Army for the Air Force. In fact, I sometimes felt that we went out of our way to see that our Army counterparts or our Navy counterparts got equal or better care. Thus, interservice rivalry of a nasty or suspicious nature was not a problem locally. It certainly was at higher levels, and I suspect at very high political levels it was much worse than it appeared to be at PACAF. But the moral of this discourse was that the workers usually get along pretty well because they have a common job and a common goal, and you're not too worried about who is doing what to whom as long as it gets done."

Another example of cooperation between services at the local level was provided during the panel discussion when one attendee noted that even though there was a well-equipped Army hospital at his base, he still had to refer his Air Force people to an Air Force referral hospital for specialty care. This obviously resulted in a loss of duty time. Fortuitously, the commander at the Army hospital had trained with this particular Air Force physician, and cooperation was achieved locally. The attendee commented, "My board cardiologist was tickled to death to work in that Army hospital and he never noticed the color of uniform, and they didn't mind his blue uniform working there either. You can work these things out . . . you can work if people will get off their high horse and decide to try to give service rather than be so concerned about the individual armed service."

At smaller facilities, it would seem desirable to have all physicians assigned under control of the senior physician. As Davis (2) observed, "The Guard and the Reserve and the tenant flight surgeons, we had no problem at all with. They set up shop in the dispensary, took care of

their own crews out of there, shared the total workload, and everything was fine. The Red Horse Dispensary, with its separate physician and technicians across the base, was a different matter for me, however; it was a separate medical facility, and I think that I failed as the DBMS to exercise adequate control over the total medical care of the base and to really integrate them into our organization. On the positive side, it was good in that that particular physician and his staff had trained with the Red Horse people; they understood their mission and did a good job of taking care of the people. It was also a positive factor to have a separate dispensary across the base as a backup for the disaster plan, but it still represented an isolated separate dispensary; and although we happened in that particular case to have a very professionally sound physician and technicians in that separate dispensary, I think it should not be left to luck, and I think that I should have been a good deal more positive in controlling and managing that dispensary. It was one of the things that I would surely change."

Publications

Maintenance of current directives is essential. It has been recommended that functional sets of documents be provided for new facilities in combat zones (1). Attempts to requisition such documents on an item-by-item basis led to delays and deficiencies. Some units did not have necessary items for prolonged periods after they began operations, and this shortage compromised their activities (1, 8).

Notification of Required Actions

Hansen (4) described the problem in complying with headquarters directives when poor communications interfered with transmittal of directives and requirements. "Many times we would not get a TWX that they sent instructing us to do something, and we wouldn't know we hadn't received it until two or three TWXs later when they would say, 'Why aren't you doing this?' We'd say, 'We never got the first TWX.' There was no numbering system on TWXs so that when you got number 10 and then number 13, you could know two were missing in between. I think this is a lesson that we should learn. In an unreliable communications area like RVN, we need some way to determine the continuity of guidance that we get from higher headquarters, such as serially numbering messages."

SUMMARY

The seminar reviewed procedures used and problems encountered in providing operational aeromedical support. A number of observations were made which could be of benefit in providing aeromedical support in the future.

In considering these observations, however, it is essential that we recognize that the principles discussed are primarily principles and do not represent procedures to be rigidly applied in the future. Certainly, lessons can be learned and mistakes avoided; however, future requirements will be different. As Hansen (4) observed, "If you try to go by the book, you will be hopelessly lost. Unconventional problems require unconventional solutions . . . in such a fluid situation, you must be flexible. A plan is a nice thing to look at and it may provide guidance; but you have to be ready to deviate from it at the first indication that things are not going the way you were originally told they would."

Schafer (7) summarized the use of observations made during the Southeast Asia operation. "We should always remember that what we will be in the next time will not be exactly the same, and we should modify our actions. In other words, use the experience for what it is worth."

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