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Scientific and Technical Intelligence Report

North Vietnamese Army/Viet Cong Military Medical Capabilities

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Scientific and Technical Intelligence Report

NORTH VIETNAMESE ARMY/VIET CONG MILITARY MEDICAL CAPABILITIES

Proiect Officer

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CENTRAL INTELLIGENCE AGENCY
DIRECTORATE OF SCIENCE AND TECHNOLOGY
OFFICE OF SCIENTIFIC INTELLIGENCE

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PREFACE

A military medical capability is significant in Vietnam with the prolonged and intense hostilities in areas where innumerable serious diseases and health problems abound. Problems are compounded for the North Vietnamese Army/Viet Cong (NVA/VC) by the constant threat of medical supply shortages, primitive supply and evacuation procedures, and substandard sanitary conditions and practices. This analysis discusses the NVA/VC military medical organization and program and assesses its capability to perform its mission.

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LMS-6-01FE (WP 536/13)

NORTH VIETNAMESE ARMY/VIET CONG MILITARY MEDICAL CAPABILITIES

PROBLEM

To assess the capability of the NVA/VC medical organization to perform its mission in South Vietnam.

SUMMARY AND CONCLUSIONS

NVA/Viet Cong units in South Vietnam place considerable emphasis on evacuation of their personnel wounded in combat. This program has been relatively successful, and in spite of delay in definitive treatment, medical care that they afford is acceptable by indigenous standards in Southeast Asia. Effective medical care for combat personnel probably will continue under the present level of activities if there is no major epidemic, if sanctuaries are permitted in neighboring countries, and if there is no major interruption of supply routes through Laos and Cambodia.

There is a planned and organized effort on the part of the NVA/VC to provide for evacuation and treatment of battlefield casualties. A hierarchy of battalion, regimental, and divisional level aid stations and hospitals has been established to evacuate and treat sick and wounded troops. The organization of each medical unit is dependent upon the military unit to which it is assigned; duties vary from giving support to small VC guerrilla-types to NVA divisions operating predominantly in the north near the DMZ.

The military medical system is similar in principle to the US system where care is first provided by an aid man at platoon level, then at a battalion aid station where some surgical capability is provided, at regimental level where patients may be kept a maximum of 15 days, and finally at regional or provincial hospitals. Initial treatment and evacuation of wounded is a major problem. In forward areas, evacuation is usually accomplished by laborers traveling on foot, and there is often considerable delay before a patient receives definitive care. For example, in an extreme case, 42 percent of the wounded were not treated for over 26 hours after one major engagement.

The VC have a well organized, coordinated medical supply system, receiving supplies from Communist and Free World countries and from within South Vietnam itself. This system has been maintained on a priority basis, often at the expense of the population in North Vietnam. There is, however, increasing evidence of shortages of medical supplies and equipment. In addition, in recent months the Viet Cong medical civic action program has been affected by the accelerated warfare and has suffered because of the priority given to combat personnel.

The high incidence of endemic diseases in areas under VC control continues to tax their medical care system. Despite an active preventive medicine pro-

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gram, diseases cause more casualties among the Viet Cong when compared with battle wounds except during sustained battles. This is especially true in South Vietnam where VC medical facilities are more limited than in North Vietnam and where the fluid tactical situation makes prophylaxis against communicable diseases and maintenance of sanitary procedures difficult to control. Viet Cong medical facilities would be seriously strained if combat activities on regimental or divisional scale were carried on, since battle wounds generally result in a more prolonged convalescence.

DISCUSSION

DEVELOPMENT AND ORGANIZATION OF NVA/VC MEDICAL FORCES

Before 1960, the medical service of the Viet Cong consisted of noncoordinated independent organizations throughout South Vietnam, and personnel were largely holdovers from the Viet Minh medical service. There was no central control or policy as far as organizational or logistical services were concerned. In 1962, the medical service was consolidated on an area basis, and a central medical section was established with a chain of command linking the villages. In 1963, a number of senior medical personnel infiltrated into South Vietnam and reinforced the existing medical structure. In 1964, separate sections for military and civilian medical care were created. Examples of typical VC military (regimental and company) organization are shown in tables 1 and 2. North Vietnamese Army medical units are typically military Table of Organization and Equipment (TO&E) units.

The new organization necessitated central logistical and administrative support in the Rear Services Area. Medical supply depots were established in South Vietnam, and at this time, the VC began to receive increasing medical support from Communist Bloc countries, largely in the form of medical supplies.

The VC Medical Service now has both staff and operational functions. Among its staff functions are the collection of health data and the technical supervision of subordinate medical echelons. Monthly and daily reports are submitted by lower level medical sections giving morbidity and mortality statistics as well as organizational status reports. The staff also has the power to authorize the creation of new medical units and supervises the assignment of personnel and equipment to existing medical sections.¹⁻³

TRAINING

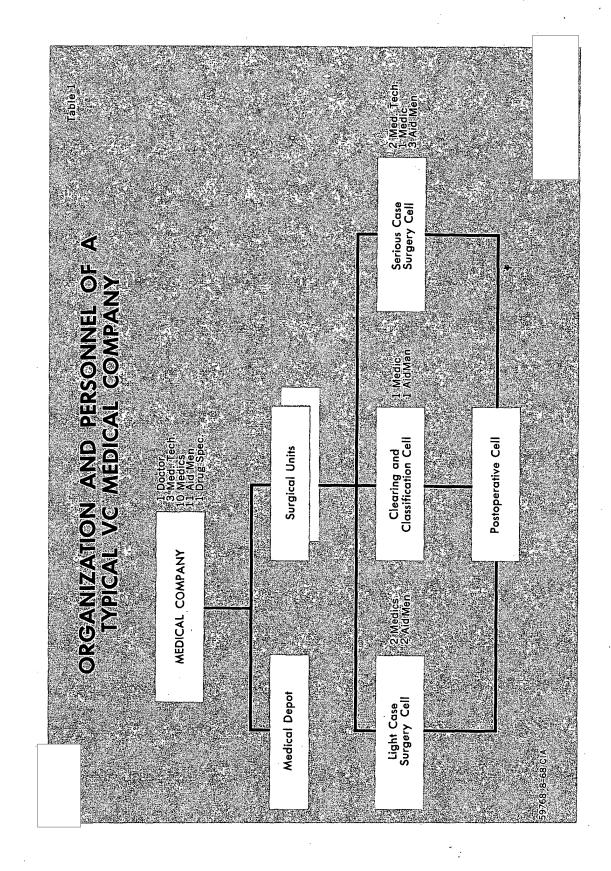
The requirement for a larger military medical capability has been met by selective emphasis in training and organization. Instruction is designed to prepare VC medical personnel to care for combat casualties and, when possible and feasible, to carry on a "civic" action program.

On-the-job training is given usually at the unit level under the guidance of the unit medical personnel. At regimental level, the assistant chief of the medical battalion is usually responsible for the training. Courses vary in length and are governed by the tactical situation and emphasize the practical aspects of medical care. This type of training has the advantage of low cost and does not require extensive training facilities.

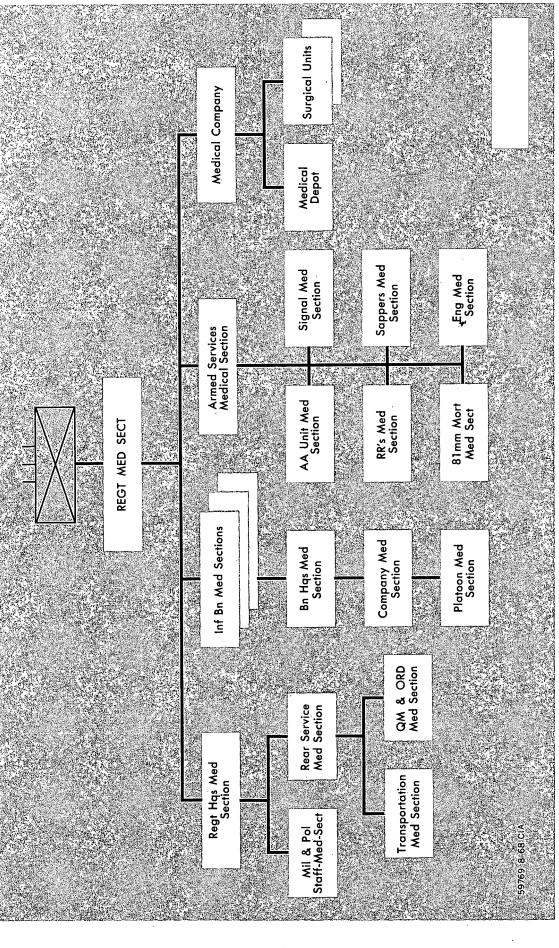
Formal training is regularly organized at the region or province level and may last for up to two years. This training by necessity is normally conducted at special training sites in rear areas and is quite similar to that given to US Army Special Forces medics. Both military and civilian medical personnel are assigned as full-time instructors. These training sites are in areas secure from enemy attack, and courses are relatively free from interference from enemy activity.

The majority of NVA medical personnel have been trained in North Vietnam, where there are three, six-year medical schools in operation; a fourth school is planned. In addition, at the Institute of Traditional Medicine in Hanoi, teaching is carried out in the use of herbs and acupuncture.* These schools graduate 600 physicians each year plus a large number of medical auxiliaries. Some of the VC medical personnel are trained also in the North.

^{*} The insertion of needles into body tissue for the production of counterirritation as a means of therapy.



ORGANIZATION OF A TYPICAL VC REGIMENTAL MEDICAL SERVICE



VC medical technicians have received training at several hospitals, including the 10th Hospital in Bac Ninh Province, 103rd Military Hospital in Ha Dong, and an eight-month training course in Thanh Hoa Province, North Vietnam. Some doctors have been sent to the USSR for postgraduate training. Recruits and local villagers receive instruction in personal hygiene and in the fundamentals of first aid. Training is given also in basic preventive medicine, including sanitation and the prevention of malaria.

First-aid men occupy the lowest level in the medical service organization. They are chosen from the military ranks and given one to three months of training in first aid. Following training, they are assigned to military units at the squad level.

Medics are more extensively trained, receiving basic instruction in patient care and treatment as well as in the administration of first aid. They are selected from the more capable first-aid men and are assigned to combat units or to local dispensaries. Nurses are similarly trained but are rarely found in regular combat units. Nurses may initiate care, prescribe medication, and command small facilities such as district dispensaries. Many nurses are men with prior experience as first-aid men.

Medical technicians occupy the next higher position in the medical hierarchy. Their course of study varies from one to two years and emphasizes the medical specialties. They are employed widely at all echelons of the medical service and serve in such specialties as preventive medicine, general surgery, internal medicine, ophthalmology, and otorhinolaryngology (ENT).

Doctors, medical practitioners, and medical officers make up the remainder of the VC Medical Service. Doctors are those who have had formal medical school training. Some medical personnel can, however, achieve the rank of "doctor" on the basis of special training, longevity, and experience. Doctors are senior to the other ranks in the medical system and command the larger medical facilities as well as serving as medical staff officers. Medical practitioners may have had formal medical training outside the military but usually are promoted from among the better qualified personnel in the lower ranks. Medical officers also are promoted from the lower ranks or are trained in special courses lasting from seven months to one year. Both practi-

tioners and medical officers serve in positions similar to those occupied by doctors but are subordinate to the latter when present in the same unit or organization.

The VC also train personnel in other medical and paramedical specialties such as: dentistry, pharmacy, laboratory work, and preventive medicine.⁴⁻⁷

QUALITY OF MEDICAL PERSONNEL

The quality of the medical personnel varies usually depending upon the length of training. Those physicians actually trained in North Vietnam follow the prescribed six-year course, which is similar to the curriculum in advanced Western nations. Those trained in South Vietnam in the accelerated courses but who are classified as "dectors" would be less capable. There have been numerous reports of poor unprofessional treatment, but very competent treatment has been reported also.

Descriptions of debridement indicate that many Viet Cong physicians have a fairly good knowledge of ballistic injuries. Descriptions of several techniques of intestinal anastomosis* performed in South Vietnam have been reported. (Figure 1 shows the VC performing surgery. Note the hand-held flashlight to illuminate the incision. Figure 2 illustrates an array of surgical instruments, adequate for routine surgical procedures.) Some orthopedic cases are handled with internal fixation devices, which is an indication of proficiency in this area, but there have been a great number of infections as a result because of the lack of proper sterilization facilities. Recent reports indicate wider use of splints rather than plaster in the treatment of fractures. This is probably more a reflection of supply shortage rather than technique.6-9.

BATTLEFIELD RECOVERY

The Viet Cong make great effort to recover their dead and wounded. The primary purpose of this is the eventual restoration of some wounded personnel for combat. In addition, the wounded and dead constitute an important source of intelligence to the enemy. When the Viet Cong is hit, his two adjacent comrades quit the fight and assist him to the rear; in other cases, especially trained civilian

^{*} A union of one vessel or hollow organ with another to form intercommunication.



Figure 1. VC Perform Abdominal Surgery

laborers have been used. There are reports that some Viet Cong have been sent into battle with one leg wrapped in a length of vine. This presumably is to permit the solider to be dragged hastily from the field should he fall. On some occasions, a hook similar to that used by stevedores has been used on dead and seriously wounded soldiers; this is inserted under the chin and serves as another dragging device during the heat of battle, or in a hasty retreat.

There have been instances of "mercy killings" not only on the battlefield but also at battalion level where there was little hope of recovery. This has received little publicity among the Viet Cong troops. Regimental burial grounds usually are located approximately 1,000 meters from the dispensary area. Dead are buried in wooden coffins if wood is available but most are wrapped in canvas. According to their regulations, each man killed in action is to be wrapped in five to eight meters of cloth. The

graves are dug from 1.2 to 1.4 meters deep and 1.8 meters long.

EVACUATION AND TREATMENT OF CASUALTIES

Treatment of wounded on the battlefield is initially the responsibility of the platoon aid man. This aid man is trained and instructed to bandage the wounded as soon as posible and, if antibiotics are warranted, usually an injection of penicillin is given. The more seriously wounded also are given injections of vitamins C, B, and K (vitamin C is thought to promote resistance to infections and participate in blood coagulation by maintaining oxidation-reduction conditions appropriate for many enzymatic activities, vitamin K is essential for blood coagulation, and B complex vitamins have use in varying conditions from neuritis to some forms of anemia).

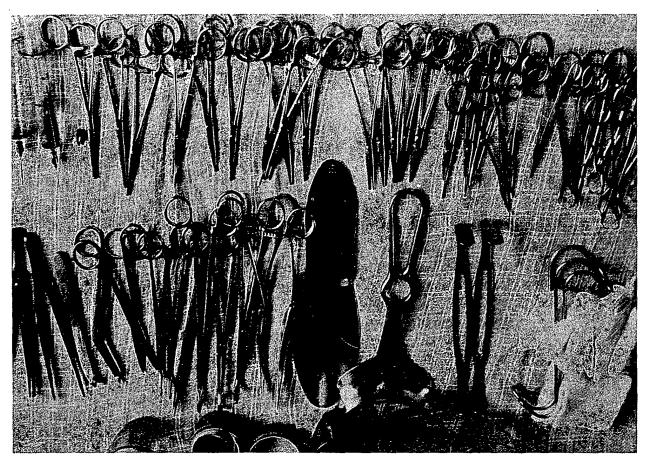


Figure 2. Instruments Used by the VC in Their Operating Rooms

The aid man who administers the first treatment does not ordinarily accompany the wounded to the next echelon, the battalion medical station. He remains with his platoon within the area designated to his company. The wounded that are not ambulatory are carried back by members of their platoon assigned by the platoon leader. These litter bearers must return immediately to their unit after delivery of their patients. The wounded who can walk unaided go unescorted to this medical station. Behind the lines, evacuation is conducted ordinarily by civilian laborers recruited or pressed into service and organized into a unit for noncombative duties.

The battalion medical station is usually located in a small area 400 to 2,500 meters to the rear and, if possible, adjacent to a stream. This station is usually staffed by one medic and two or three aid men and is equipped only to give immediate care

and treatment. After treatment, all wounded, both serious and light cases, are evacuated to a regimental dispensary that is located from one to four kilometers behind the battalion near headquarters. The battalion has a platoon-size evacuation unit of about 30 men who carry the seriously wounded.

The regimental dispensary is a mobile unit which follows the regiment into an operational area. This unit can give first aid for relatively light wounds, treat shock, perform routine and orthopedic surgery, and provide postoperative care. Patients can be kept a maximum of 15 days and then returned to duty or evacuated further.

Further evacuation of wounded to regional, provincial, and divisional hospitals is also accomplished by civilian or military units specifically designated at the regimental level. Regional and provincial hospitals generally serve areas rather than specific military units. Divisional hospitals usually serve

NVA units, predominantly in the northern areas. They also serve when feasible noncombatants under NVA or VC control. Rest stations are located along established evacuation routes where patients can remain up to three days.

Dispensary-type care is given at the regional level. The care varies and depends upon the capabilities of the staff and the equipment available at each dispensary. If further evacuation is necessary, casualties may be taken to a provincial or a regional hospital. Regional and provincial hospitals are set up similarly and vary in size, according to the areas serviced. These hospitals are used for casualties that need a longer convalescent period than the lower echelons can provide. It is at this level that blood transfusions are first available. 15-20

Medical classification for evacuation

There are no clear standards regarding the nature of wounds that make a person definitely eligible for medical evacuation. In case of severe injury or incapacitation to the extent that the individual is unable to be utilized in support or administrative work, he might be evacuated to the north or returned to his village if he is originally from South Vietnam. The approval for evacuation is granted at regional headquarters. Cases of blindness, deafness, mental illness, tuberculosis, and lung injuries are also sometimes eligible for medical evacuation. After removal from the battelefield, wounded are classified into three main types, which correspond to seriously wounded, moderately wounded, and lightly wounded. The classification is under three types:

Type 1. Where a person has lost 50 percent of his labor potential. The future working potential of these persons is very restricted. Examples are persons who have lost both arms, both legs, or are blind. Injuries to the spinal column are included also under this classification.

Type 2. Where a person has lost 30 percent of his labor potential. These persons will recover and retain some of their working potential. Injuries in this category include one arm missing, one leg missing, or blind in one eye.

Type 3. Where a person has only light wounds After treatment, the soldier is usually able to return to his unit.¹⁸ ²¹

Method of evacuation

The usual method of evacuation is by walking, if possible; otherwise, the wounded are carried on stretchers. Medium-echelon cadres (civilian members of a district committee or higher or members holding a position in battalion headquarters or higher who are in a certain medical category) reportedly are carried even if they are capable of walking. The low-level cadres in the same medical category would be required to walk. The evacuation routes are the same or in close proximity to the infiltration and supply routes in order to utilize common facilities.

Although mortorized transportation is limited, there are scattered reports of trucks being used. This type of transportation is reserved for highranking officials. In one case, two monthly convoys of eight or nine trucks reportedly picked up the sick and wounded in Kontum Province on a nonregular schedule and transported them through Laotian territory to the north. In another case, the sick and wounded, if within distance of an 8 to 10 day walk, went to Cambodia from Kontum and Pleiku Provinces. From there the higher ranking individuals were evacuated by trucks to North Vietnam. However, if the wounded were farther than an 8 to 10 day walk from the Cambodian border, they would travel through South Vietnam to Laos and from there to North Vietnam. Also, infrequent reports indicate that aircraft have been used for evacuation. This mode of transportation probably is reserved for the highest ranking officials. One such instance may have been the reported evacuation of General Nguyen Chi Thanh, who allegedly was first transported to Cambodia and from there flown to a hospital in Kandi.

The trip north is a severe hardship. The wounded often fall ill, food and medical attention is generally lacking, and there is always the danger of airstrikes or enemy encounter.

After arriving in North Vietnam and if the individual recovers from his wounds or illness and is not handicapped, he may be returned to active military service. If handicapped, he is given work commensurate with his abilities and, if unable to work, he is sent to a soldiers' home or retired from the military and given a pension.¹⁶ ¹⁸ ¹⁹ ²²

WOUNDS, DISEASES, AND PREVENTIVE MEASURES

Some VC data on wounds are available and can be considered fairly reliable, since most of the data are derived from captured documents. Based on a MACV study, the overall ratio of killed in action to wounded in action was given as 1.0:1.5, a very high ratio, reflecting the rigors of evacuation by foot and the variable quality of medical care. A figure of three percent has been given for death during hospitalization. This is extremely low, even by more advanced country standards, and is probably due to the fact that up to 42 percent die en route to hospitals.

The average hospitalization time for wounded is 24 days. Of these survivors, over 60 percent return to duty in some capacity. Types of wounds are given as 26 percent from ball ammunition, 55 percent from shell and grenade fragments, 8 percent from burns, and the remaining 11 percent for varied reasons. Severity of wounds is 15.1 percent serious, 26.5 percent moderate, and 58.4 percent slight. (Table 3 shows locations of wounds.)

Table 3
Locations of Wounds

Site	PERCENT
Head and neck	. 16.0
Ribs and chest	. 15.0
Abdomen	. 4.5
Back	
Upper extremities	. 42.0
Lower extremities	. 18.0
Genital region	. 0.5

Diseases seldom seen in the United States abound and are serious problems in Vietnam and, therefore, directly affect VC activities, causing more actual casualties over a period of time than do battle wounds. Malaria is the most prevalent disease among the VC. While malaria exists throughout the year, there are definite seasonal peaks in the incidence of the disease. The peaks generally are associated with the rainy season, a fact usually attributed to the effects of moisture on the breeding places of mosquitoes. Since the rainy and dry seasons occur at different times of the year in separate areas of South Vietnam, the peaks and dips in malaria rates during the year would occur at different times for each area. Reportedly, 85 percent of the

personnel infiltrating from North Vietnam have malaria, with as many as 30 percent of them contracting the virulent falciparum strain. Untreated or improperly treated falciparum malaria has a comparatively high mortality rate and, in addition, presents the possibility of "blackwater fever."* Bacillary and amoebic dysentery, typhus, plague, cholera, beri-beri, scurvy, trachoma, and many other diseases are a constant threat and account for a great number of noncombatant patients.

The second most important disease next to malaria is gastrointestinal disease and resultant dysentery. While seldom fatal, it can sweep through a troop unit in epidemic proportions. The general low level of sanitation and hygiene contributes greatly to the high incidence. Some outbreaks of dysentery have affected virtually 100 percent of a unit, and as much as 43 percent of a unit has been unable to perform duty on a particular day.²¹ ^{23–26}

Command medical policies found in captured documents constantly stress importance of malaria-prevention programs among VC/NVA troop units. Virtually all NVA troops and the majority of VC troops are issued mosquito nets and antimalarial prophylactic medication. In most units, the platoon leader, a political officer, has the responsibility to see that the troops use the nets and medication.

Four different antimalarial drugs are in use by the VC/NVA to prevent or suppress malaria. The most frequently used chemoprophylactic is Chloroquine, 41.1 percent: followed by Quinine, 29.4 percent; Chloroquanide, 23.5 percent; and Quinacrine, 6.0 percent. There is no evidence at present to suggest that the VC/NVA are administering the sulfone group of drugs (e.g., DDS—a prophylactic agent used against Chloroquine-resistant malaria). Likewise, the use of the combination of quinine and pyrimethamine, used successfully by US troops for falciparum malaria, has not been reported. 8 23 25 27 28

MEDICAL FACILITIES

The VC have established a multitude of medical facilities at every echelon of the medical service. For the most part, the larger VC treatment facilities fall into the category of hospitals. These vary in size from 20 to 30 beds to some as high as 500

^{*} A severe form of malaria associated with extensive destruction of red cells and urinary excretion of hemoglobin.

patients. One such example, the Le Loi Division Hospital located in Cambodia, consists of about 50 buildings covered with bamboo thatch. The sick and wounded are housed in buildings, each of which measures 6.0 by 2.5 meters and accommodates six persons. Seriously ill patients are housed in two buildings, each of which measures 20 by 25 meters and holds 16 persons. This particular hospital has a capacity of 500 patients. There are "wards" or buildings for internal disease, external disease (wounds), surgery, postoperative care, and infectious diseases.

In more secure areas, such as those in Cambodia, all the hospital facilities may be located within a single area. The area is surrounded by a fortified perimeter and may be guarded by one or two companies of troops. In less secure areas, the ward buildings may be several kilometers apart. There

would be no perimeter fortifications in these instances, but there are troops assigned for security.

There are numerous reports of VC medical facilities in Cambodia. These vary from small hospitals such as those organized for the Dakto battle to large hospitals capable of handling 3,000 patients. There have been unconfirmed reports of high ranking VC being treated at "Calmette" Hospital in Phnom Penh and at a recuperation facility at Sihanoukville.³ ²⁹⁻³⁸

MEDICAL SUPPLIES

The medical supply system has been adequately managed by the Viet Cong to date, although there are an increasing number of reports of serious deficiencies. Also, numerous reports have been noted recently of medical supply shortages in North Vietnam resulting from the demand from the South.

Table 4

Example of Medical Supplies Issued to a Viet Cong Soldier
Infiltrating from NVN to SVN

A. Item	Unit	Quantity
1. Vitamin B ₁	tube	1
2. Vitamin C	do	1
3. Quinine	do	2
4. Aspirin	do	2
5. Dysentery pills	do	1
6. Licorice cough pills	do	1
7. Water purification pills	tablets	20
8. Bandage	roll	1
9. Tape	do	1
10. Cotton	do	1
11. Iodine	bottle	1
12. Cholera pills	tube	
13. Typhoid fever pills	do	1
B. Item	Unit	Quantity
1. Vitamin B ₁	tablets	100
2. Vitamin C	do	100
3. Quinine	do	100
4. Mercurochrome	bottle	1
5. Adhesive bandage	roll	1
6. Cotton	box	1
7. Menthol ointment	do	1
8. Diarrhea tablets	tablet	unspecified
9. Aspirin	do	do
10. Water purification tablets	do	do
C. Item	Unit	Quantity
1. Nivaquine	unspecified	unspecified
2. Water purification tablets	do	do
3. Colic pill	do	do
4. "Tiger" trademarked box	box	do

The medical supply system itself depends upon a variety of sources:

- 1. One major source is the open market in South Vietnam. With the exception of opiates and barbiturates, most drugs can be purchased in pharmacies in the larger cities without difficulty.
- 2. Opium grown by several Highlander tribes in Vietnam and Laos is crudely but effectively processed and is used as a narcotic and analgesic. It is used also as a source of morphine by NVA/VC.
- 3. The supply system is augmented by a wide variety of "home medicines" and so-called oriental medicines. These are prepared from various sources such as absinthe, tangerine skins, raw ginger, and lotus leaves. Their effectiveness is questionable and probably have more psychosomatic application.
- 4. Another major source is medical supplies captured from South Vietnamese military forces, civilian plantation stocks, and hamlet dispensaries. Some Viet Cong military operations have been directed specifically toward obtaining these supplies from hamlets and supply convoys.
- 5. A final major source is the supply through North Vietnam and Cambodia from Communist Block countries

and from the Free World. One method of delivery is by infiltrators from North Vietnam who are individually issued a two-pound packet prior to infiltration. The packet usually contains penicillin and sulfa drugs and a supply of antimalaria drugs and mild analgesics, such as aspirin or APC tablets.* These packets are turned over to their assigned units upon arrival in South Vietnam. Typical packets issued to a captured infiltrator included the items shown in table 4. Bulk supplies by regular supply units from North Vietnam through Laos and Cambodia are subject to a priority basis. 83-46

VC CIVIC ACTION PROGRAM

The VC have long recognized the political value of medical care among the people in South Vietnam. In order to win the support of the people, they have provided medical care for civilians as a part of their "civic action" program. (Figure 3 shows a civilian being examined in South Vietnam.) Civil health and preventive medicine

* APC-aspirin, phenacetin, and caffeine.



Figure 3. South Vietnamese Civilian Being Examined

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programs concerned with sanitation and control of diseases have been developed in many areas. Some medical personnel even circulate within some districts in the fashion of a "circuit rider" offering medical care in the villages and hamlets.

An example of a VC medical program for civilians is the Binh Duong Provincial Medical Unit established in 1967. This unit directed all VC-sponsored civilian medical activities in the Province. The medical unit was composed of a Headquarters Section, a Laboratory Section, a Dental Section, and a Medical Section. The Laboratory Section produced a number of pharmaceuticals and maintained a drug inventory. The Medical Section operated five dis-

trict "hospitals" and one provincial "hospital." It was capable of performing major surgery but lacked oxygen and X-ray equipment. Medical and Sanitation teams were available for use in villages where they treated minor illnesses and attempted to educate the people in better health practices.

The overall program has, however, had some difficulties in the past year because of shortages of supplies and personnel. As a result, there have been priority systems set up favoring military personnel. In some areas, the VC medical system was specifically instructed to limit its program because of shortages.² ³⁹ ⁴³ ⁴⁶ ⁴⁷

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