



**Staff Officers' Association of America  
Training Program**

## A SHINING SYMBOL OF MEN OF VISION

To our Readers:

The Pharmacist Mate (Marine Physician Assistant) Training program represents the cumulative efforts of many people over many years. It was born in need and carried forward by a sincere desire to bring shipboard medical care to all American seamen.

The program represents the finest hour of the Staff Officers' Association of America, A.F.L.-C.I.O., which provided the leadership, the manpower and the bulk of the resources to make competent shipboard medical care possible. Although it means personal and financial hardships, members of the Staff Officers' Association have entered this most taxing program without hesitation. For this they are to be congratulated.

The program is also a shining symbol of many men in the Federal Government and the United States Public Health Service who had the vision to support a program that had no comparable precedent anywhere in the world. The favorable results of the unusual performance of purser pharmacist mates at sea have proved their wisdom and foresight.

Surveys conducted by private groups both within and outside the medical profession have shown that no other maritime nation offers the high level of shipboard medical care provided by American purser pharmacist mates. The quality of this care has resulted in a substantial reduction of medical costs to shipowners and government and has spared many seamen undue pain and permanent disablement.

As the presiding officer of the Staff Officers' Association, I have received a great sense of satisfaction in launching and directing a program which has resulted in so many rich and lasting rewards. It has provided me with a grateful sense of accomplishment.

Ahead of us lies the challenge of bringing the benefits of the Pharmacist Mate (Marine Physician Assistant) Training Program to all seamen in the American merchant marine. We also look forward to presenting the savings of medical care to all American steamship companies. Our hope is to continue working with government and management in building a more efficient and profitable merchant fleet.

Sincerely,  
Burt E. Lanpher  
Secretary-Treasurer  
Staff Officers' Association  
of America, AFL-CIO



### STEAMSHIP COMPANIES HAVE STAKE IN VENTURE

An Open Letter from the Steamship Companies:

Member steamship companies of the Maritime Service Committee give financial support to a number of maritime training programs. Nearly all of these programs deal directly with upgrading the skills of officers and crewmen to meet the demands of our technologically advanced ships. Unlike other training, the Pharmacist Mate (Marine Physician Assistant) Training Program has a distinct character. Pharmacist Mate instruction is not concerned with the operation of vessels, but rather with the men and women who sail our ships. To bring the benefits of medical care to seamen, steamship companies participating in this program contribute to the cost of training pursers to become pharmacist mates (marine physician assistants).

But the measure of management's contribution, we feel, goes beyond mere financial participation. It demonstrates a sincere concern for the welfare of seamen. Physical fitness and freedom from fear enhances the well being and morale of our employees. It helps us to progress together in the increasingly competitive business of moving cargoes throughout the world.

Both employer and employee have a stake in improving the American merchant fleet. Steamship companies are deeply concerned with the physical fitness of their employees. We are, therefore, gratified with the initial success of the Pharmacist Mate (Marine Physician Assistant) Training Program and are proud of our contribution in helping to make it a success.

Sincerely,  
Martin F. Hickey  
Vice President  
T. & M. Service Corporation

## THE LONGEST VOYAGE ENDS . . . SHIPBOARD MEDICAL CARE ARRIVES

From ancient times mariners have displayed tremendous courage and endurance in conquering hardships at sea. Since the first crude boats were timidly cast into the sea, seamen have traditionally endured privations and pain far beyond their brothers on shore. Resigned to the lack of competent medical care aboard ship, seamen accepted each voyage as a gamble. Serious illness, injury or worse was a legacy of all mariners.

By the middle of the 20th century, major technological advances changed the face of merchant shipping. Automated and atomic vessels ushered in a new era in ocean commerce. Yet, while faster, larger and more efficient vessels revolutionized shipping, medical care for American seamen, with few exceptions, fared little better than ancient mariners.

Mounting medical costs and shipping delays directly traceable to the void in shipboard medical care plagued the modern fleet. Large investments in vessels and equipment and tight shipping schedules have made physical fitness imperative among crewmen responsible for moving millions of dollars in cargo.

Men of foresight viewed competent shipboard medical care not as a luxury but as a necessity to peak performance. The evolution of the dual-skilled purser pharmacist mate administering skillfully to merchant seamen aboard their vessels now appears as inexorable as the tide.

## ONE MAN, TWO SKILLS . . . A NEW ERA AT SEA

The purser pharmacist mate has a unique role aboard modern American cargo and tanker vessels. Unlike other crewmen concerned with the vessel's operation, the purser pharmacist mate deals primarily with important shoreside functions relevant to the smooth flow of cargoes.

He performs two entirely separate jobs. In the role of purser, he or she (there are a few women purser pharmacist mates) functions as the vessel's administrative officer. He prepares documents required in international travel, compiles records and attends to all shoreside accounting functions relating to members of the crew. On passenger liners, he also attends to the needs of the passengers.

Versatility is his stamp. He is an extension of the company office aboard ship and he is also the captain's representative and liaison with the crew and officials in port. At times, he performs administrative work for the vessel's three departments. Second to the captain, the purser is the most knowledgeable ship's officer in administrative matters.



The U.S. Public Health Service Hospital has overlooked New York harbor for more than a century. A haven for ailing seamen, it houses the training center for Purser Marine Physician Assistants.



The newest insignia in the American-flag merchant fleet, the caduceus, designates the Marine Physician Assistant.

#### MODERN MEDICAL CARE

In his role as pharmacist mate, he operates the ship's hospital, bringing modern medical care and hospital treatment to ship's personnel and passengers.

The pharmacist mate has a useful working knowledge of perhaps the most complicated body of knowledge. Before he can minister to the sick and injured aboard merchant vessels, he must complete nine months of intensive study at a U. S. Public Health Service Hospital. He must be thoroughly trained and command a high level of intelligence. The balance of life is often in his hands.

The purser pharmacist mate is a recent phenomenon aboard ocean-going vessels. His presence in one of the most hazardous industries holds the promise of bringing a new level of health and emergency care to an area physically beyond the physician. Although the administrative contribution of the dual-skilled purser pharmacist mate aboard an American vessel can be calculated, his medical contribution remains, at this time, unmeasurable.

### THE COST OF NEGLECT—\$80 MILLION A YEAR

During World War II, well over a hundred thousand American seamen were at sea on a hurriedly assembled fleet of more than 3,000 merchant vessels. To maintain physical fitness of the crews, the United States government instituted a four-month purser pharmacist mate training program. Graduates of the program afforded seamen shipboard medical care for the first time in the history of the American fleet.

After the war, the schools for the training of purser pharmacist mates were closed. Professional seamen, who briefly enjoyed a minimum of medical care, again became forgotten men. In the Fifties, only a handful of pharmacist mates remained to attend the shipboard needs of seamen aboard a thousand cargo vessels. Personal injury and sickness claims mounted steadily. By the mid-Sixties, insurance claims filed by American seamen had risen to the annual rate of \$80 million.

#### A UNION MEASURES UP

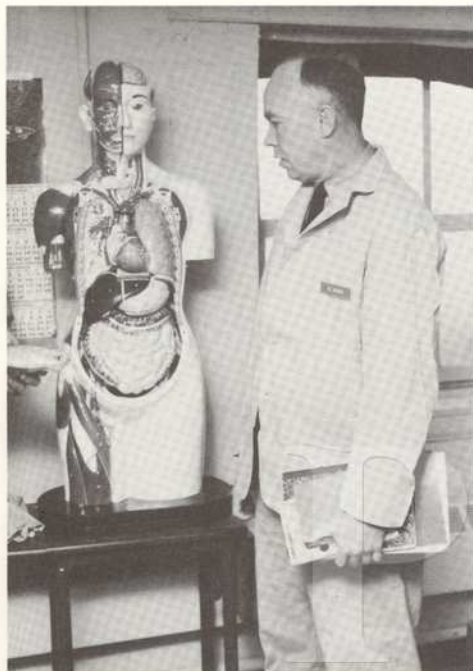
It was at this juncture that the Staff Officers' Association involved itself directly in the shipboard medical crisis by launching a campaign to reinstitute a medical training program for the fleet. The SOA committed \$100,000 of its Welfare Fund resources to get the plan started. The SOA received support from the U. S. Public Health Service and later on financial assistance came from the Labor Department. This was the beginning of a training program that was to go far beyond any previously conceived—one designed to end the fleet's medical crisis. Steamship companies employing SOA pursers joined in the union and government venture with regular financial contributions. Hospital facilities



Learning to give injections, students practice with oranges. They begin by learning to assemble the equipment—needle, syringe, plunger—and then practice giving shots to each other.



A Marine Physician Assistant assists in administering anesthesia to a patient under the watchful eye of an anesthetist.



Affectionately called "Oscar" by the students, the medical mannequin provides visual identification of major internal systems and organs.



Marine Physician Assistant assists nurse to prepare to distribute medication to hospital patients.

and instructors were furnished by the Public Health Service. Thus, with the leadership of a maritime union, a tripartite venture of labor, government and management undertook to maintain a program designed humanely to sustain the physical fitness of American seamen while at sea.

## ARCHITECTS OF THE BLUEPRINT FOR EXPANDED MEDICAL CARE

Diverse interests and talents conceived and shaped the pharmacist mate program. The cumulative efforts of many persons evolved a format which is broad enough to be used throughout America in training the layman to assist the physician. In the main, the blueprint for the pharmacist mate program was designed with the U.S. Public Health Service. With little or no modification, this program can be adopted as a training guide in industry and government. The national need to expand health care without lowering medical standards has been called for by the medical profession, the government and the people. There are those who believe this program can fulfill that need.

At the outset, the potential magnitude of the pharmacist mate program was not envisioned by its chief architect, Burt E. Lanpher, chief executive officer of the Staff Officers' Association of America, AFL-CIO. His immediate goal was to bring shipboard medical care to all American merchant seamen and to expand the shipboard role of the purser by giving him a second or transferable skill. Many years in both the U. S. Navy and the American Merchant Marine as both a hospital corpsman and purser had given Lanpher an intimate sense of the pressing need for shipboard medical care.

### THE LONG SEARCH

The undertaking, because of its size and scope, faced many obstacles. Large sums of money were required and the assistance of the medical profession was essential if the plan was to succeed. Lanpher with the staunch support of the union's counsel, Marvin Schwartz, carefully charted a course of action that was to stretch over many years before it was realized. They began by presenting the plan to agencies with financial resources that could be employed in such an undertaking. At the same time, they searched out medical facilities which could co-operate in the venture.

The concept stirred the imagination of leaders in government and the medical field. A number of them envisioned the proposed medical program as a possible means of broadening existing medical services. What Lanpher offered was a testing ground.

### PILOT PROJECT FOR THE NATION

The initial step was to formulate a viable program for the merchant marine. It was to be, in the words of Jerrold Michael, Assistant Surgeon

General, (USPHS), a pilot project for a nationwide program.

The Staff Officers' Association pledged \$100,000 of its Welfare Fund resources to launch the program and shortly thereafter the Labor Department's Bureau of Apprenticeship and Training contributed funds to cover the operational expenses of three classes. Although the planning and groundwork had been laid, it was Under-Secretary of Labor James Reynolds who triggered the program into action. These principals were aided in countless ways by dedicated men in government who together carved a workable medical program out of an idea.

#### ONLY A BEGINNING

The first pharmacist mate class began in 1966 and by early 1970 four classes had graduated 112 pharmacist mates to serve aboard American merchant vessels. During the four-year period the program was improved upon and it is now a permanent part of the training programs of the Public Health Service.

The program has been extolled by members of the U. S. Congress, maritime leaders and medical authorities. Yet, despite its numerous champions, many obstacles still exist within the merchant marine. Its planners are still searching for the avenue that will bring medical care to all American seamen. Its sponsors in government are exploring methods to bring this type of medical training into other needy areas. Whether they succeed will be known as the decade of the Seventies unfolds.

## 9 MONTHS OF UNIQUE TRAINING CREATES A DIFFERENT KIND OF MEDICAL ASSISTANT

The Purser Pharmacist Mate enjoys a unique place in the field of medicine. His training is designed especially by doctors to fulfill the unusual role of administering medical care without the direct supervision of a doctor.

Because there is no way of restricting the types and kinds of sickness and injury he will encounter aboard his ship, he must be well versed in a wide range of medical subjects. Special attention during his training is given to the more common ailments and injuries, of course. But the pharmacist mate must also know how to deal with complicated and unusual medical cases. This places a heavy burden on both instructor and student.

The pharmacist mate student must amass a large body of knowledge in a nine-month period. He must learn to employ many medical devices and tools and become familiar with the uses of still many more. He is taught the composition of many drugs and medications and how and when to dispense them. His training includes emergency care, the moving of



Mock body organs help the student to understand body functions. Here trainee examines parts of the heart, relating visual observation to classroom lecture.



Applauding remarks by Hon. Robert J. Blackwell, Deputy Maritime Administrator, on the vital role of the Marine Physician Assistant in the American Merchant Marine are (l. to r.) Dale Treusdell, Chief, Training Branch, USPHS, Rep. John Murphy, D.-N.Y., Martin F. Hickey, Maritime Service Committee, Dr. William Cherry, director USPHS hospital, New Orleans, Dr. Paul Q. Peterson, Deputy Surgeon General, USPHS.

accident patients and the important aspects of patient care during convalescence.

#### ABILITY IN DIVERSE SITUATIONS

During nine months of intensive training doctor and nurse instructors impart to him the ability to evaluate diverse medical situations. He is constantly cautioned not to attempt diagnoses beyond his training. Yet he is taught to have confidence in his newly acquired skills. He is advised to rely on the shipboard medical library and instructed in radio communication techniques with doctors on shore. Relating case histories to physicians and accurately following their instructions greatly enhances the pharmacist mate's medical competence.

The pharmacist mate is trained at the United States Public Health Service Hospital at Stapleton, Staten Island, New York. His course of instruction is carried out in special classrooms and in the hospital's wards. Invaluable experience is gained by the trainee in the hospital's emergency center, operating rooms and medical laboratories.

#### SAVING LIVES AT SEA

The end product of such diverse and in-depth training is a highly skilled pharmacist mate. He is a trained ship's officer who can help prevent complications, treat the sick and injured and save lives while hundreds of miles at sea. The achievement of the Pharmacist Mate Training Program is truly another medical miracle.



To prevent the spread of infection, students learn to gown, mask and scrub before entering and after leaving hospital wards in which communicable diseases are treated. They are taught to guard against the spread of disease aboard vessels.

## SKILLED HANDS SHAPED BROAD PROGRAM

Instructors in the Pharmacist Mate Training Program are chosen by the U. S. Public Health Service on the basis of medical experience and teaching ability. A teaching staff of three nurses and a doctor is augmented by doctors both within and without the hospital who lecture in their fields of specialization. Other speakers, conversant in environmental health and shipboard safety, also lecture to students.

The program was formulated through the combined efforts of physicians, laymen and experts in education. The curriculum, staff and students are evaluated annually by a panel of doctors not associated with the school. Also, a medical task force studies reports submitted by pharmacist mate graduates and the Public Health Service. After analysis of the available data, the task force recommends revisions in the curriculum which are designed to tailor the program more closely to the actual experience of the pharmacist mate at sea. Since the school's founding, the curriculum has been revised twice and expanded to encompass maritime related work such as preventive medicine aboard ship, radiation hazard prevention and radio practice.



Crewmen listen attentively as Purser Marine Physician Assistant (with Red Cross hat) talks on safety and health hazards. Crewmen respond eagerly to such discussions.

Since the program's inception in 1966 there have been many more applicants than openings. Usually the program limited each class to 33 students.

#### SELECTION OF APPLICANTS

To select the most qualified applicants, an impartial review board, composed of members outside the SOA, evaluated the qualifications of each applicant. The three-member board is made up of doctors and prominent figures within the maritime industry. Each application is carefully examined. Such factors as academic background and years at sea are weighed in the selection process. Alternates are chosen to fill in for selected candidates who are unable to leave to make the start of the program. Applicants who are not selected are encouraged to apply for the next class.

During the nine-month program, students are tested frequently within the classroom. Their laboratory work, ward manner and emergency room attendance are continually scrutinized by physicians and nurses. Students who fall beneath acceptable academic standards are advised they will be dropped from the course. If such students are unable to raise the level of their work, they are dismissed from the program. Usually, students fail because they are unable to cope with the special demands of medical work and dismissal is not considered a reflection of intelligence. The largest graduating class numbered 30.



The Stokes basket is used to transfer victims of accident or illness between vessels at sea. Students practice securing victim in basket.

## PHYSICIANS DEPLORE THE LACK OF SHIPBOARD MEDICAL CARE

"The lack of adequate medical care aboard ship is deplorable. The Task Force is enthusiastic that something is finally being done to improve the on-board health care of the American seaman." So wrote three eminent physicians commissioned to undertake a critical analysis of the level of medical care in the American merchant marine and the Pharmacist Mate Training Program. Their findings became known as the Evaluation Task Force Report.

They concluded the training effort meets "a pressing need and right of the seafarer for adequate health care" and urged that the program be "expanded and means sought to assure its permanence."

#### EMINENT DOCTORS

The Task Force evaluated the Purser Pharmacist Mate Training Program at the behest of the Public Health Service and the Staff Officers' Association. It was composed of Dr. William J. DeMaria, assistant Dean and professor of community health sciences, Duke University Medical Center; Dr. William Cherry, director of the



Trainees observing nurse instructor during ward care class.



U. S. Public Health Service Hospital, New Orleans, Louisiana, and the late Dr. Eric O. Osterberg, director of the Program of Continuing Education, Public Health, and assistant professor of Public Health Practice, Columbia University School of Public Health and Administrative Medicine. The Task Force said:

"Formal standards of health care are virtually non-existent and medical services are woefully inadequate aboard ship for the 40,000 American seamen who man the nearly 1,000 ships of the United States Merchant Fleet.

#### NEED FOR CONTROLLED SYSTEMS

"It would be neither practical nor reasonable, however, to attempt staffing this number of ships with physicians or nurses. Yet, the need for some controlled system of health care and medical service is evident, especially if we apply our civilian medical experiences to the ship-board situation.

"The average seaman would seek medical aid nine times each year and since he is at work about nine months of the year, it may be assumed that the majority of the illnesses would occur aboard ship. The added hazards of ship-board life plus his age, which averages just over fifty years, would appear to increase both the numbers and seriousness of his illnesses.

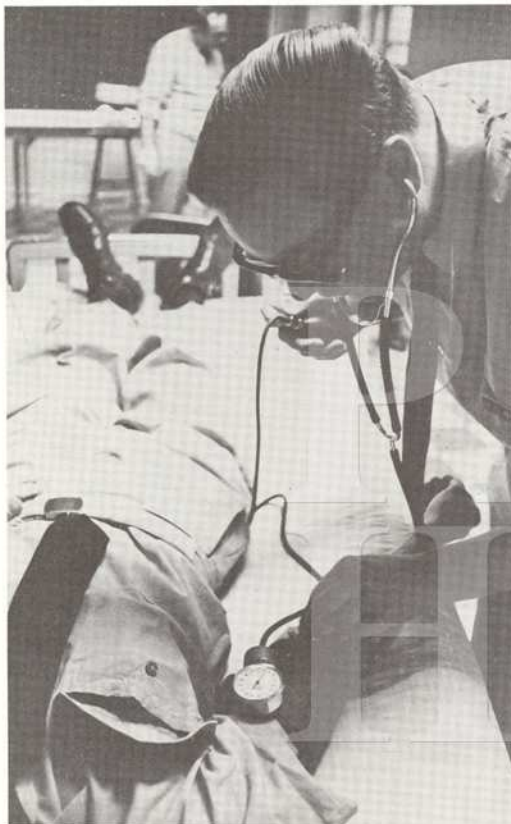
"In view of our country's massive efforts to generate improved health services for its people, we must be certain that the health of this small but vital group of citizens is no longer neglected."

#### A PROTOTYPE FOR THE NATION

The doctors concluded their report by writing:

"The SOA and the PHS are to be highly commended for their foresight in planning and diligence in developing and implementing this program. In addition, to fulfilling the specific need of improving the lot of the American seaman, it affords to the rest of the nation a prototype from which other courses will evolve.

"The Evaluation Task Force firmly believes that this program must be continued and expanded and extends its full support to that end."



Blood pressure can provide important clues. Using stethoscope, student identifies the diastolic and systolic readings.

## MEDICAL BREAKTHROUGH SPEEDS FLOW OF AMERICAN CARGO

On a warm July morning in 1969, an American-flag freighter some 300 miles east-southeast of New York Harbor routinely wired her estimated time of arrival to company officials on shore. After a brief pause, the airwaves crackled with an unusual message:

"Request permission to proceed directly to pier. Vessel free of communicable disease and hazards."

Minutes later, the Foreign Quarantine Service station replied:

"Permission granted to by-pass quarantine inspection."

Thus, with little fanfare a century-old United States Public Health Service regulation was quietly circumvented. For the first time, a merchant vessel returning from a foreign voyage was granted permission to by-pass the time consuming and thus costly health inspection in quarantine anchorage.

### UNLOADING BEGAN IMMEDIATELY

In the early morning hours of the following day, the SS Export Bay steamed slowly past an anchored flotilla of merchant vessels awaiting quarantine inspection outside New York Harbor. The familiar yellow quarantine pennant, the "Q" flag, was plainly absent from her mast. The freighter sailed directly to Navy Supply Depot in Bayonne, New Jersey, and unloading operations began immediately.

Aboard the vessel was a graduate of the second Pharmacist Mate Training School class, the first group of graduates certified by the U. S. Foreign Quarantine Section, a division of the Public Health Service, to inspect merchant vessels while at sea. Purser pharmacist mates conduct a health inspection identical to that performed by Public Health Service officials. The purser pharmacist mate does it at sea, the health official when the vessel arrives at port. If no infectious diseases or other safety hazards are found, he requests via radio, direct entry for the vessel. This procedure is known as radio pratique.

### THE MILLION DOLLAR DELAY

According to published figures of the Port of New York Authority, delays in quarantine anchorage cost all shipping into New York Harbor more than \$1 million a year. The average quarantine delay of each entry was put at \$175. The cost can be significantly higher. A missed tide can delay large tankers up to 11 hours, adding \$2,000 to overhead expense. Vessels arriving on weekends must pay overtime to bring out health inspectors. The alternative is to await the regular inspection. Delays also mean idle time for the ship's crew and longshoremen gangs paid for by the steamship companies. The easing of the strict quarantine inspection regulation bears mute testimony to the worth of the purser pharmacist mate.



Examining the bones in the skull of a skeleton.



Learning the use of the autoclave which sterilizes medical instruments.

## RESEARCHERS REPORT SAVINGS OF \$16,000 PER YEAR PER SHIP

In 1969, the Diebold Group, Inc., a private research firm, provided conclusive evidence that the purser pharmacist mate reduces overhead medical costs by at least \$16,000 per ship each year.

Projecting this figure, a steamship company carrying ten pursers on ten vessels would trim medical expenses by some \$160,000 a year. This figure exceeds the yearly wages and overtime paid the purser pharmacist mates.

A purser who is a pharmacist mate receives \$1,800 for his medical services aboard a vessel. Even with this additional pay, his total wages and overtime are less than the \$16,000 a year in medical cost savings he effects. This means the administrative and clerical work he performs aboard the vessel is paid for by medical savings alone.

### EIGHT-MONTH STUDY DELIVERED 90-PAGE REPORT

The findings were arrived at by the Diebold Group, Inc., in an 8-month cost analysis into the causes and payments of medical claims and were compiled in a 90-page published report. The study was commissioned by the Staff Officers' Association of America Welfare Plan representing the Staff Officers' Association and six member steamship companies.

Diebold researchers were assisted by the Public Health Service, the U. S. Department of Labor, the Marine Index Bureau and participating steamship companies. The combined sources of these groups provide the most complete and reliable statistics on medical injuries and claims available in the United States.

### SAVINGS IN 5 MAJOR AREAS

The Diebold Group's findings disclosed the pharmacist mate effected substantial annual savings in five major areas. They are:

- |   |            |
|---|------------|
| 1. Reduction in shipboard medical expenses  | \$2,400.00 |
| 2. Reduction in lost time costs due to hospitalization of personnel   | 1,403.00   |
| 3. Decreased insurance costs  | 2,479.00   |
| 4. Savings resulting from claims for personal injury  | 8,400.00   |
| 5. Savings in overtime paid to ship's officers assigned to medical duties when a pharmacist mate is not aboard the vessel | 1,320.00   |

Total savings a year per ship **\$16,002.00**

The researchers did not attempt to estimate indirect savings except to report that such savings would increase the \$16,000 annual savings considerably. Savings accruing to the U. S.



Practicing suturing on an anesthetized animal.



Marine Physician Assistant trainee hands clamp to surgeon during operation.

Public Health Service, the principal agency providing medical care to seamen, were dealt with separately.

#### THE HIGH ACCIDENT TOLL

According to Dr. Alexander Hutchison of Great Britain, medical consultant to the World Health Organization, more seamen die from accidents than from any other medical incident aboard vessels of all nations. Supporting this, the U. S. Bureau of Labor Statistics ranks seafaring in the top three most hazardous American industries. Many fatalities on American cargo vessels are directly traceable to the lack of prompt and competent medical assistance. Thus, the need for shipboard medical care assumes dire proportions, and in this area the value of the purser pharmacist mate is most clearly evident.

During the Sixties personal injury claims filed by American seamen on some 1,000 ocean-going American merchant vessels reached an annual rate of \$80 million. A large portion of the claims was directly attributable to the lack of prompt shipboard care. In most cases, injuries left untreated for days usually worsened. When the victims of accidents arrived at on-shore hospitals, many required extensive in-hospital care and long periods of convalescence.

#### REDUCES NUMBER TREATED AT PHS HOSPITALS

Doctors within the Public Health Service system estimate that at a very minimum, 10 per cent of all the shipboard injuries could be properly treated aboard ship by pharmacist mates. These cases would not require hospital care. It is quite possible, the doctors stated, that 37 per cent of all shipboard accidents could be treated by purser pharmacist mates. Initial reports indicate pharmacist mates are, in fact, restoring to fit-for-duty more than 10 per cent of the crewmen sustaining injuries aboard vessels. A 10 per cent reduction in claims, therefore, would cut personal injury claims by \$8 million annually, according to the Diebold projection.

#### COSTS CUT NEARLY \$1 MILLION ANNUALLY

Projecting the 10 per cent figure further, the Public Health Service estimates its own hospital costs would be reduced \$999,663 a year. In addition, the Diebold Group found steamship companies would save \$3,554,360 annually in lost time pay. Total savings in the three areas would amount to \$12.5 million yearly.

There are also added costs in hospitalizing seamen abroad and then repatriating them to the United States. The cost of replacing accident victims is another expense. At present there is no accurate accounting of the total costs involved in medical care for seamen put ashore in foreign ports due to accidents or serious illness.



A Purser Marine Physician Assistant hands the first message requesting radio pratique to radio officer. Marine Physician Assistants function as public health officers aboard vessels, clearing vessels for direct dockings after foreign voyages without delay in quarantine. The shipping industry had tried for more than a century to speed up port entry. The SOA program made the breakthrough.



Purser Marine Physician Assistants serve aboard merchant vessels such as this shown anchored in a Vietnamese harbor.

## THE DIFFERENCE BETWEEN PROFIT & LOSS

In analyzing the above figures, it becomes increasingly evident the cost of medical neglect in the American cargo fleet is staggering. It bears heavily on the fleet's efficiency and profitability. The ramifications can quite conceivably spell the difference between profit and loss.

## A NEW SENSE OF WELL-BEING FOR THE CREW



Members of the first Pharmacist Mate graduating class. Some graduates returned to their vessels before this picture was taken. Since the graduation in 1967 their designation was changed to Marine Physician Assistant.

A medical training school can be measured by its academic level, its instructors and the performance of its graduates. Still another valid measure exists in the reaction of those seamen who are the recipients of shipboard medical care. Their enthusiastic response has given those involved in the Pharmacist Mate Training program their greatest reward.

Soon after the first purser pharmacist mate graduates went aboard American cargo and tanker vessels in June, 1967, officers and seamen, steamship company doctors and medical authorities began lauding the work of individual purser pharmacist mates. The letters told how purser pharmacist mates had saved heart patients, alleviated the pain of accident victims, and spared the ill and injured from disabling complications. The performance of purser pharmacist mates went beyond the highest expectations.

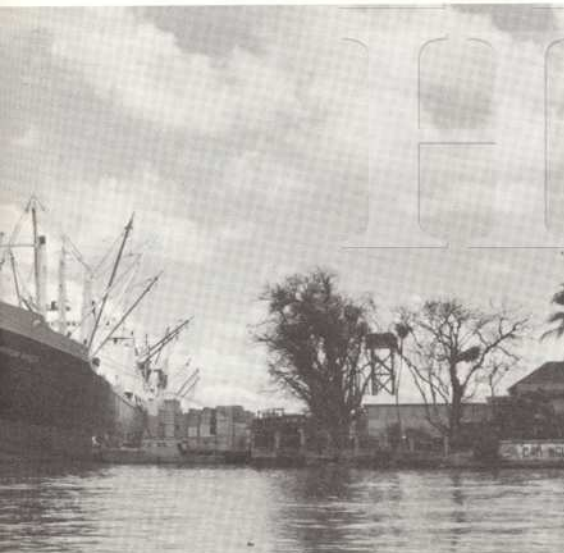
What made them so effective? It appeared to be a combination of thorough training and the enthusiasm the purser pharmacist mates themselves put into their work.

The confident bearing of the ship's pharmacist mate gave seamen a new sense of well being and a reserve of security. This was repeated throughout the seamen's letters expressing appreciation for the services of the pharmacist mate.

## FEW AMERICAN SEAMEN ENJOY ADEQUATE MEDICAL CARE

Shipboard medical care in the American merchant marine presents an embarrassing contradiction. While it is thought purser pharmacist mates deliver one of the world's highest level of medical care at sea, relatively few American vessels carry them.

To document this, the Staff Officers' Association Welfare Plan trustees set up a study group to gather data on worldwide maritime medical care. The group traveled to Western Europe and conferred with maritime authorities and doctors about medical programs in their countries. The countries visited were England, Holland, Denmark and France. Meetings were also held with representatives of the World Health Organization and the International Labor Organization.



#### OTHER NATIONS PROVIDE MORE CARE

The group's findings showed major West European maritime nations provided extensive medical care throughout their fleets, although it was below the level provided by American pharmacist mates. Concern for physical fitness stemmed from humane reasons and the need for efficient operation. There are indications the Japanese and Russians provide an even higher level of shipboard medical care than do Europeans. Both countries consider physical fitness an important factor in expanding their merchant fleet operations.

While foreign nations are upgrading the level of medical care for all of their vessels, in contrast only one in eight American cargo vessels offers shipboard medical care. Such facts support the cost analysis evaluation of the American fleet by the Diebold Group, Inc., which found millions of dollars lost because of inadequate medical care.



Special training stethoscope permits instructor and student to listen simultaneously to sounds of body, enabling instructor to differentiate sounds to student.

## FOR STUDENTS, A CANDID VIEW OF A CAREER AT SEA

The call of the sea has always had an irresistible magnetism for men from all walks of life. More than ever before, a career at sea offers unusual opportunities for young American men and women.

In the past 50 years, shipping has undergone tremendous change. The power and design of modern merchant vessels have added new dimensions of speed and carrying capacity. Living conditions for crewmen have been improved greatly. Quarters are comfortable, clean, and the food reaches standards of good restaurants on shore.

Students considering the sea as a career should weigh both the pros and cons before making their decision. What follows is a general description of maritime life with special emphasis on the role of the ship's purser pharmacist mate.

#### GLAMOR VERSUS SACRIFICE

Life at sea fulfills the desire for adventure for more young men than any other career. Today's merchant sailors often visit ports in all five continents within their first few years at sea. They meet many of the world's peoples, become acquainted with a variety of cultures, and over the course of travel accumulate many valuable mementos.

Yet, the glamor of travel is not without sacrifice. Seamen forego many of the comforts of homelife. Most of their nights and weekends are spent aboard ship. Friendships are formed with their shipmates and their life style is governed by shipping schedules, weather and cargo.



Typical American freighter aboard which Purser Marine Physician Assistants serve. Crewmen express thanks in many ways for medical care.

#### EXTENDED VACATIONS

In recent years longer vacations have enabled seamen to establish durable ties on shore. Purser pharmacist mates, who are Staff Officers aboard cargo and tanker vessels, have over 100 vacation days a year. Besides their monthly basic wage, they receive extra pay for vacation time.

The purser pharmacist mate's work load is generally heaviest during port calls and at the completion of voyages. He does, however, receive days off in port when feasible and time to enjoy shore leave.

#### GOOD PAY

Purser pharmacist mates earn from \$12,000 to \$15,000 annually with overtime. Pay scales vary for different types of vessels such as Victory's, C-2s, C-4s, Mariner and Challenger type.

Pursers work under ideal conditions and receive all the privileges afforded to ship's officers. Usually they have private quarters on the officers' deck. They dine in the officers' saloon and most of their working day is spent in the ship's office. Pursers who train to become pharmacist mates receive an additional rating. For these extra duties, they are paid an additional \$1,800 a year for performing medical duties aboard the vessel. Purser pharmacist mates are in charge of the ship's hospital and all material and supplies within it.

A number of pursers are college graduates, although a degree is not a requisite.

#### MANY REWARDS

For those young men willing to leave their homes for extended periods, the job of purser pharmacist mate has many rewards. Room and board are provided free. The purser pharmacist mate and his dependents also receive liberal welfare benefits. The Staff Officers' Association of America's welfare plan, for example, covers not only the purser pharmacist mate's medical and surgical expenses, but those of his dependents as well. At present, he receives \$500 a month in pension after 25 years of service or \$350 a month after 20 years service. Retirement is permitted at any age. There are many other benefits not usually found in jobs on-shore. Travel offers another incentive. The many places he visits during his career are usually beyond the reach of most men in shore jobs.



In rear of picture are two Marine Physician Assistant trainees observing doctors during operation.

## THE COURSE CONTENT—PROFILE SKETCH OF 9 MONTHS OF TRAINING

Without doubt, the most complicated and intricate mechanism known to man is the human body. Purser trainees enter the world of medicine by exploring the secrets and mysteries of the human form in a course entitled **Anatomy and Physiology**. In this course the

trainee acquires background knowledge from which he will probe the roots of medical and surgical practice. It is one of many tools that will enable him to provide competent medical assistance to ill or injured seamen at sea.

The course opens with an examination of the cell—the basic unit of organic life—and leads naturally to a cursory study of the body's organs. As the course progresses, the purser trainee investigates the respiratory system, the digestive system, the urinary system, and the nervous system. Later, the plethora of detail assumes rich meaning in the laboratory as the purser trainee implements lecture and textbook with sight and touch. He dissects animal organs and sees and feels tissue in an array of forms. He works with a human skeleton determining the size, position and relationship of one bone to another, and using a sexless torso, he studies the multiple organs of the body.

After 90 hours of lectures and 10 hours of practical work, the purser trainee achieves an understanding of the intricacies of the body far beyond the awareness of laymen. He comes to appreciate the body as a masterful conglomerate of parts and systems, each serving distinctive purposes, ingeniously rooted in the life's primordial form, the cell.

#### SANITATION AND SAFETY

General health is closely related to conditions of environment. Freedom from sickness and disabling injuries depends in large measure on good sanitation and effective safety devices. Environment is particularly important to seamen who must live as well as work aboard vessels.

To this end, the purser trainee devotes 90 hours of classroom and practical work studying methods of shipboard sanitation in a course entitled **Environmental Health and Preventive Medicine**. This course explains the most frequent cause of maritime accidents and offers plausible methods of prevention. Instructors suggest practical techniques which the purser pharmacist mate can employ in shipboard safety programs. A critical look is taken of living spaces, especially in regard to physical comfort and general vessel sanitation. Because the seaman travels with his food, the course focuses on its procurement, especially in foreign ports, and storage. Sewage and solid waste disposal also come under the student's purview as do garbage handling and vessel fumigation.

Armed with specific knowledge, the purser pharmacist mate makes the vessels he sails on relatively free of disease and hazards. Living and working conditions aboard their ships are healthier and safer than many work areas in modern on-shore plants.



Learning in the hospital wards, trainees take vital signs of patient, a former purser. His victory sign is for the success of the program.



Before entering operating room student follows sterile procedures practiced by doctors and nurses. The program goes far beyond the basics of first aid and emergency treatment to give students an in-depth understanding of disease and injury.



## TREATING THE INJURED

The period immediately following an injury often is the most critical in the treatment of accident victims. Improper care can result in permanent damage and possibly death. Knowing what not to do can be as important as proper emergency care. This is especially true in the maritime industry which has an unusually high accident rate. In a hypothetical case, a seaman falls unconscious into a hatch and sustains an injury to the spine. His shipmates, eager to assist, hurriedly truss him into a sling and haul him out of the hatch. The victim sustains several strong jolts. Later medical analysis shows the damaged spinal vertebra severed a nerve while the victim was being moved, resulting in permanent paralysis.



Medical instruction at sea. Purser Marine Physician Assistant (kneeling on hatch) demonstrates use of resuscitator to crewmen.

## EMERGENCY CARE METHODS

The 28-hour **Orthopedics** course teaches the purser pharmacist mate emergency care methods, thus sparing accident victims improper handling by well-intentioned but ill-informed seamen.

Emergency treatment is perhaps the most important skill possessed by the purser pharmacist mate. More than a third of all seamen treated at marine hospitals could have been properly treated aboard their vessels by a purser pharmacist mate. The unusually high accident and illness claims filed by American seamen are directly traceable to the lack of prompt and competent shipboard care.

## NEW ROLE FOR LAYMEN

In the field of medicine, the purser pharmacist mate has pioneered a new role for laymen. His training, unlike any given in nursing schools, is designed to permit the laymen to administer a high level of medical care without the immediate supervision of a physician. At sea, he is called on to make decisions ranging from the treatment of common respiratory infections to serious organic malfunctions. Of course, in cases of serious illness or injury the purser pharmacist mate communicates via radio with physicians on shore for medical instruction.

## TREATMENT OF MEDICAL CONDITIONS

Through the 40-hour course termed **Medicine**, the purser trainee is introduced to procedures and skills required in the treatment of medical conditions. The course spans seven categories: cardiology, endocrinology, gastroenterology, hematology, neurology, pulmonary diseases and renology.

Although the student is constantly cautioned on his limitations, he is nevertheless exhorted to accumulate a vast amount of hard facts; medical books placed aboard his vessel provide useful reference and the means for post-graduate study.

A great deal of emphasis is placed on recognition of the symptoms of diseases. This is to enable the purser pharmacist mate to relay accurate information to physicians. Emergency treatment for unusual or difficult cases, therefore, can be prescribed by the doctor via radio. Pharmacist mate and doctor function as a workable team expanding the scope of shipboard medical care.

#### PRINCIPLES OF SURGERY

The Pharmacist Mate Program understandably touches the periphery of surgical procedure. The breadth and depth of surgery comes to life in a 35-hour course entitled **Surgical Service**. Here the student delves into the basic principles of surgery, suturing and the diagnoses of shock and acute abdomen conditions. He learns to suture lacerations, dress and care for wounds, and becomes familiar with the physiology of wound healing. He is taught to care for infected wounds; to administer fluid therapy and blood transfusions. He is trained to prepare a patient for surgery, give pre-operative medications, pave the way for various surgical procedures and post-operative care. In this class, the purser trainee practices catheterizing, an especially important technique in view of extended voyages.

#### OBSERVING SURGEON AT WORK

One of the high points of the Pharmacist Mate Program is entry into the hospital operating room. No textbook and no lecture teaches the lesson of surgery as vividly as observation of the surgeon at work. When the purser trainee scrubs and gowns and then enters the operating room, he is imbued with an intimate sense of the gravity of medical practice. Impressions formed through such inspirations are, in the final analysis, part of the development of the dedicated medical man.

#### UROLOGICAL CONDITIONS

Through a course entitled **Urology**, the student gains useful knowledge of problems relating to the genito-urinary system, enabling him to cope with them under shipboard conditions. The cases he is qualified to manage are limited to those requiring immediate attention to prevent loss of life and undue suffering. Since treatment of urological conditions demands considerable skill, the pharmacist mate employs stopgap techniques until a hospital facility can provide definitive treatment.



Modern microscopes make possible visual recognition of microscopic organisms. In this phase of laboratory work students detect and classify the common forms of bacteria.



During bacteriology study, students learn to identify and classify bacteria cultures.

Because of the high incidence of skin infections among seamen, the purser trainee receives 22 lecture hours in **Dermatology**. He examines the skin through the microscope, in cultures and with other tests. Instructors stress the ten most common skin diseases, pointing out the topography of each; that is, the configuration, distribution patterns and regional localization. Dermatologic therapy occupies lengthy study, for the student must learn such basic treatments as: baths, wet dressings, solutions, tinctures, powders, lotions, creams, pastes, ointments, fixed dressings, poultices and plasters. These are external applications. Internal therapy requires the use of medications which include antibiotics, antipruritic agents, steroids and sedatives.

Basic skin disorders due to heat, cold, sunburn, photosensitivity, trauma, blisters, friction, contact dermatitis, eczema and acne are part of the subject matter. The trainee learns to recognize and treat insect bites and virus infections as well.

#### RELIEF FOR THOSE IN PAIN

Although skin diseases usually require protracted treatment, the purser pharmacist mate often can give immediate relief in painful cases.

Instructors caution students in regard to treating delicate organs such as the eye, for example. Yet, due to the isolation of ships at sea, the pharmacist mate must differentiate the serious case from the superficial and be prepared to offer adequate interim care in emergencies. To accomplish this, the program offers courses in: **Ophthalmology**, 6 hours; **Ear, Nose and Throat**, 6 hours; **Dentistry**, 3 hours; **Obstetrics and Gynecology**, 6 hours and **Psychiatry**, 6 hours.

These courses instill awareness and assurance in the pharmacist mate preparing him to deal with difficult body malfunctions. The emergency care he is trained to administer is designed to prevent permanent disabling injuries and to preserve life.

#### CARING FOR THE PATIENT

By far, the purser trainee spends the largest portion of his training learning to care for the patient. The nine-month Pharmacist Mate Program devotes 150 hours to classroom lectures and 180 hours in practical training given in the hospital wards. This portion of instruction gives the purser student practical knowledge in providing care to medically ill patients.

The purser trainee moves, lifts and positions patients. He also handles devices to enhance conditions for the patient's comfort. In the sec-



Student bandaging leg of patient in the hospital ward.



Instructor demonstrates the proper method of opening a sterile dressing tray without contaminating the supplies contained within.

and phase of this course termed Patient Care, he takes diagnostic, serology, blood chemistry and sputum tests.

#### MORE DIFFICULT TESTS

As the course enters its third phase, the student undertakes more difficult tests, including blood tests, electrocardiogram and basal metabolism tests and the uses of endoscopies and X-rays. Another phase deals with administering medications, oxygen therapy and parenteral fluids.

During the course, the student gives various types of enemas; learns the function of intubation of the gastro-intestinal tract, and studies the use of equipment for colostomies. Patient care concludes with the care of patients during convulsive seizures and epilepsy and cerebral vascular and spinal cord injuries.

#### MODERN HOSPITAL TECHNIQUES

The purser pharmacist mate brings to sea techniques practiced in the modern hospital. Since the inception of the program, the Staff Officers' Association has pressed for better equipped ships' hospitals. Consequently, new equipment required in patient care has been placed aboard a number of vessels. Several steamship lines have standardized drug supplies according to recommendations of the Pharmacist Mate Training Program. Today, the best medically equipped vessels in the American merchant fleet are those manned by the SOA-PHS trained pharmacist mates.

#### PHARMACOLOGY

Because of the importance of drugs in fighting body infection, the program devotes 75 hours to the study of Pharmacology. In the course, the student learns the dosage requirements of different drugs for various infections along with anticipated action. He is alerted to the side effects of drugs which have toxic or poisonous reactions. A large portion of his time is spent on the composition of drugs, their preparation and administration.

A variety of beneficial drugs used in frequently occurring diseases are stored aboard vessels which employ purser pharmacist mates. The advantages to seamen aboard these vessels are apparent. With the proper administration, many stricken seamen can be restored to health during the voyage. Over-all, physical fitness is maintained at levels never before reached in the history of the fleet.

#### 60 HOURS OF LABORATORY STUDY

Many medical advances stemmed from painstaking laboratory research. Fittingly, the purser trainee spends 60 hours within the austere confines of the hospital laboratory. Such practical work is supported by 15 hours of lectures



The big moment at the graduation exercise when pursers receive certificates after nine months of intensive study.



The radio pratique story was carried by the press across the nation when the purser pharmacist mate enabled a cost saving speed up of port entry because of his medical training.



Burt E. Lanpher, secretary-treasurer of the SDA, receives plaque from members of the first graduating class. Lanpher conceived the program and through his efforts medical training for the American merchant fleet was reinstated.



Frances Porfidio signs on articles, marking the first time a woman Purser Marine Physician Assistant made a voyage aboard an American cargo vessel.

on laboratory techniques in the course entitled **Clinical Laboratory**. It familiarizes the student with routine lab procedures and emphasizes careful collection and preservation of material vital to diagnostic examination.

The student classifies bacteria, prepares disease-producing bacteria, and preserves specimens. He is versed in the use of the microscope and prepares cultures on slides through a variety of techniques for microscopic examination. Blood counting equipment and pipettes are used and demonstrations are given in venipuncture and finger puncture. Thirty-six hours are spent preparing CBC, urinalyses, gram and AFB stains and lesser known techniques.

### NUCLEAR SURVIVAL TREATMENT

Diverse groups of civilians are being trained to cope with the problem of nuclear survival. The purser pharmacist mate is trained more thoroughly than most laymen to carry out survival treatment. His chances of employing them are good too, since he is likely to be at sea in the event of atomic war. This fact has not escaped the planners of the Pharmacist mate program.

**Disaster Control**, a subject spanning 38 class room hours and 17 hours of practical training, is given to the purser trainee by the Radiology Service and the United States Army. It surveys nuclear, biological and chemical warfare defenses and available disaster control measures. The medical aspects of such disasters and care and treatment form the heart of this course.

In the program's final months, teacher and trainee weigh the pharmacist mate's responsibilities aboard a vessel. Discussion centers on the link between vessel and medical facilities on shore. Duties of the pharmacist mate with regard to record keeping are covered as well as the importance of training certain individuals and members of the crew to lend assistance during emergencies. The trainee is counseled on safeguarding medical material and his responsibility to the ship's master.

### SURGICAL TECHNIQUES

Situations arise in which the purser pharmacist mate must undertake surgical steps to assist a patient. To develop such skills, the purser trainee receives 30 hours of practical experience in surgical techniques. During this course, he observes and then through practice gains experience in suturing techniques, operative techniques and operative assistance. He also practices using general and local anesthetic agents.

## DUTY IN OUT-PATIENT SERVICE

Besides classroom and laboratory work, the purser trainee is required to be on duty in the Outpatient Service of the hospital from 5 p.m. to 8 a.m. on a rotating basis. Here he assists the intern on duty, observing the intern at work with patients and listening to the patient's complaints. This has proved to be an excellent source of instruction for the student gains practical experience in recognizing signs and symptoms, in reading medical histories and learning why the intern prescribes certain drugs, medications and laboratory tests.



The second Pharmacist Mate graduating class.

## THE FUTURE OF SHIPBOARD MEDICAL CARE ... WILL LOGIC AND COMMON SENSE PREVAIL?

An increasingly important role is seen for the purser pharmacist mate during the 1970's. New vessels will be larger, faster and almost totally automated. Improved pier equipment and widespread use of containerized cargoes will sharply reduce idle port time. Like the purser pharmacist mate, dual-functioning officers and crewmen are expected to appear aboard sophisticated vessels. The day of the long port call will be past forever.

### RIISING NEED FOR PHYSICAL FITNESS

Highly skilled crews will spend long periods at sea interspersed with extended vacation time. As sea time increases there will be a commensurate rise in the need for physical fitness. Preventive medicine will assume new importance. Such needs can only be met by providing competent shipboard medical care. Failure to do so will inevitably be reflected in higher medical costs as seamen spend more time at sea.

At present, there is evidence of a large disparity in medical claims between those vessels that carry purser pharmacist mates and those that do not. If logic and economic sense prevail, purser pharmacist mates will be established permanently on all American cargo vessels and tankers within this decade.



In 1966, the U.S. Coast Guard began certifying graduates of the SOA Purser Pharmacist Mate Training Program as pharmacist mates, a term used during the Second World War. The designation of the graduates was changed in 1970 to Marine Physician Assistant.

Henceforth, all those who complete the program or who have already gone through the program or the special refresher course will be known as Purser Marine Physician Assistant. The new designation reflects the distinctly high level of training; the ability of graduates to serve independently on merchant vessels, and their qualification to assist physicians in medical practice on shore.

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