THE EMS NEWSLETTER

February 1975
Vol. 2, No. 1

Regional Intensive Care for Infants

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Dramatic progress in the ability to care for the sick and premature newborn infant has been achieved over the past decade. These patients require the same degree of technology and medical expertise that sick adults do, and intensive care nurseries of today resemble coronary care units and other hospital ICU's.

Delivering neonatal intensive care is very expensive in terms of equipment and trained personnel. Very specialized equipment is required to monitor and treat these babies who may weigh less than two pounds. The ability or need for a given hospital to commit money and people to provide this care depends on the number of deliveries the hospital has and its geographical location, as well as manpower. In-unit physicians are required for truly intensive care and the busy practitioner in the community hospital may not be able to leave his office and other patients to be with a sick newborn much of the day. As another example, a $7,000 infant respirator is inefficiently used when only one baby every two months requires it. For these reasons and others, regionalization of care for the sick newborn has become a necessity.

In 1969, Dr. R A. Cowley and the Maryland State Police developed the program of evacuating accident victims by state police helicopter. This transport system was adapted for transferring sick newborns from community hospitals to regional centers; and for infants born outside the Baltimore area this system has become the backbone of the Regional Intensive Care Nursery Unit of Maryland. To care for infants in transit, the State Troopers, in addition to their training in emergency adult medicine, also learn techniques of breathing for and suctioning the newborn. Special battery-operated incubators with their own oxygen supplies have been designed to transport babies and these are now located throughout the state.

As the need for regional care became apparent, Dr. Herman Risemberg, Chief of Neonatology at Baltimore City Hospitals, began transporting infants to the Intensive Care Nursery at that hospital from Annapolis and the Eastern Shore areas. The University of Maryland Hospital then also began receiving

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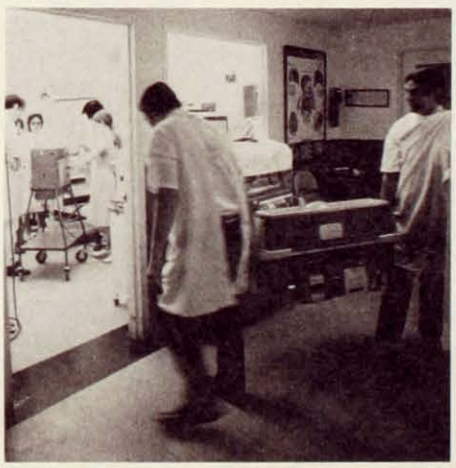
This intensive care bed provides radiant heat to the infant through a servo-control mechanism whereby the infant's temperature causes the heater to be turned on or off.

A Physician-Nurse team at the University of Maryland Intensive Care Nursery prepare for the arrival of an infant being carried in the transport incubator.



EMERGENCY MEDICAL SERVICES
MARYLAND DEPARTMENT OF HEALTH AND MENTAL HYGIENE

An Open Letter to Physicians

R Adams Cowley, M.D.
Director

Some years ago I received an emergency call from a local suburban hospital. I was told to bring my own vascular instruments and to get there fast. By the time I arrived, the man was in the emergency room dying of a leaking abdominal aneurysm. I knew that this man needed immediate surgery and blood – if it wasn't already too late. But it took too long to arrange and prepare things . . . waiting for blood, waiting for the operating room. Within an hour and a half, the patient had bled to death in the emergency room while we stood by helpless.

What happened? It was no one's fault. The hospital was not geared for that type of emergency. After the patient arrived and the diagnosis was made, his status was too precarious for transfer–so the futile race began. The hospital tried to free an operating room, while the staff tried to keep the patient's vascular tree filled, but that man lost. In a way, we all lost. What was lacking was a total system for mobilizing the existing resources to deliver emergency health care.

The outside system, in this instance, worked–the patient was transported to the hospital in time. Inside the hospital where we were responsible, the system didn't work. In the rural areas, emergency medical problems like this one are compounded. In fact, 70% of accident fatalities occur in rural areas, while, paradoxically, most of our better equipped hospitals are urban.

Within the Maryland Emergency Medical Services System, my goal is to eliminate those unfortunate and unnecessary tragedies wherever they may be, by offering my colleagues medical resources to manage the severe burn victim, the person with multiple injuries sustained in an accident, the critically ill premature infant, the adult in septicemic shock and others who require the most sophisticated equipment and treatment available only at specialized medical centers. And we are developing a communications/transportation system to get critical patients to their destinations quickly.

Eighty-five percent of all emergency medical problems can be managed successfully in the traditional manner. Ten percent require more specialized medical attention and 5% must be sent to an ultra-sophisticated specialty unit if their lives are to be saved. You are the decision-maker in this voluntary system. If you determine that a patient needs immediate life-saving therapy in a special medical center, the Maryland EMS System is available to you.

All that is necessary to put the system in motion is a phone call. The destination facility will be notified, and the state police Med-Evac helicopter will be dispatched immediately should you request this mode of patient transfer. A physician can be sent to assist you with the evacuation in particularly difficult cases. If you think the case less urgent and air evacuation is not indicated, your traditional community ambulance is at your service. Consultation with the appropriate medical specialist is available at your request. You shouldn't have to try to beat the odds every time you have an emergency problem beyond your resources. Time is the crucial factor and we are developing a system to beat it.

The specialty referral centers now functioning within the system include the Shock Trauma Center at the Maryland Institute for Emergency Medicine, the Baltimore City Hospital Burn Unit, the Johns Hopkins Pediatric Trauma Center, and the Baltimore City and University of Maryland Hospitals' neonatal programs. Centers for psychiatric emergencies, drug overdose emergencies and poisonings are also being formed.

Ambulance and rescue crews are taking advanced training to enable them to sustain life until more definitive care can be provided. Over two-thirds of these public servants have completed 81 hours of intensive first aid on their own initiative. They are now learning how to read EKG's and to give I.V. fluids and medications for cardiac rescue training.

The new statewide communications network scheduled for a late summer christening, linking ambulances, helicopters, hospitals, physicians and specialty centers, coordinated by central dispatchers, will facilitate the smooth operation of the system, and keep all parties informed of a patient's condition and destination. For the first time, your hospital emergency room will know about and be prepared to receive the patient or make arrangements to reroute him.

What about the cardiac emergencies? They can initially be treated at the scene by competent trained cardiac rescue technicians receiving advice by radio from your local CCU. When stabilized, they can be transferred to the CCU where you can be on hand to greet them.

Today, every person has the right to the best medical treatment regardless of the severity of the illness or injury, or where it happens. Through the Maryland EMS system, this will be possible. No longer will the lone physician be left with all the "if only's" after he loses a patient because the existing medical resources were not available at the time he needed them.

The Maryland EMS system is a voluntary evacuation program designed for your use. It is built on the concept of private practice; it complements private medicine. And you, the practicing physician, are the key to the program's success.

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patients from outlying areas. In 1971, the two hospitals combined their Intensive Care Nurseries into a single referral unit with Dr. Risemberg as coordinator. Dr. Risemberg and this author visited hospitals in Maryland delivering babies and describing the unit's function to physicians.

Basically, the referring physician decides which infants are to be transferred. Since the equipment and number of personnel at each hospital are different, various levels of problems are referred. For example, some hospitals may refer all of their premature infants and others may refer only those with severe abnormalities or those requiring respirator care.

The physician calls the Regional Intensive Care Nursery number located at Baltimore City Hospitals and states that he wants to transfer an infant. Information is obtained about the mother's labor, the delivery and the baby's status, and unless a preference is expressed, the referring physician is told to which hospital the infant will go. The physician at Baltimore City Hospitals who is receiving the call notifies the state police, determines when the helicopter will be able to pick up the infant, and then informs the referring hospital when to expect the helicopter. If the baby is to go to the University of Maryland, the nursery and staff are notified and given an estimated time of arrival. When the infant arrives, and as soon as adequate information is available, the referring physician is called and told of the infant's status. He is then called at least daily on critically ill infants. On discharge, a summary and letter are sent to the physician. Communication with the family may be direct or through the referring doctor. The social work and public health nurse staffs of the hospitals are also actively involved in communications with the families.

Decisions as to which hospital the baby goes depend on the physical size of the two nursery units and the daily census. The nurseries contact each other every day and the total number of

Delores Savage and Dr. Ronald Gutberlet at the University of Maryland Intensive Care Nursery discuss the care of an infant on a respirator.

infants, the number of infants on respirators and other information is exchanged. As a general rule, four out of seven transfer infants go to Baltimore City Hospitals and three of seven to the University of Maryland. Infants scheduled for Baltimore City Hospitals requiring cardiac or other surgery have also been sent to Johns Hopkins Hospital. Joint critique of any given baby's care is handled by the director of each nursery unit and the referring physician. Periodically, records are reviewed with the referring hospital's staff.

Backup for the State Police Helicopter transport system is provided by the U.S. Army Air Ambulances at Fort Meade. Many community ambulance services have also transported infants, especially when the helicopter has been grounded by bad weather. At the University of Maryland, the Baltimore City Fire Department Ambulance Service has been invaluable not only in transporting patients from the heliport to the nursery, but also for in-city transfers.

The system continues to expand. While sick newborns in the metropolitan Washington area are referred to the intensive care nurseries in D.C., of the 30,000 infants born annually elsewhere in Maryland, over 260 of those not born in hospitals providing intensive care are referred to the Regional Unit. In 1972 and 1973, 529 infants were referred: 314 went to Baltimore City Hospitals, 196 to the University of Maryland, and 29 to Johns Hopkins Hospital.

The system is working. Constant surveillance is necessary, however, to insure good patient care. Analyses of the effects of the Regional Nursery on newborn mortality and long-term morbidity are currently being carried out. These studies and the need for infant intensive care will continue to shape the program for maximum effectiveness. As an integral part of the statewide emergency medical services system, the intensive care nurseries are there to respond to the medical needs of physicians and hospitals throughout the state.

LETTERS

In future issues, space will be reserved for letters written by you, the people who make the emergency medical services system work. Share with us and your colleagues in the field, your ideas, problems, complaints, observations and opinions regarding emergency care in the state.

Dialogue is important. We have to talk to each other in order to determine the right directions for our program. We need feedback from you to know what we are doing right and what needs improvement.

This is your emergency medical services system. Be a vocal part of it.

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R Adams Cowley, M.D. – Director
C. W. Garrett – Associate Director
John W. Morris – Administrator

KIWANIS BURN UNIT

by C.T. Su, M.D.
Chief, Division of Plastic Surgery
Director of the Kiwanis Burn Unit
Baltimore City Hospitals

Each year in the U.S. over 200,000 persons are burned seriously enough to require the care of a physician. Over 80,000 of these require hospitalization and 8,000 die as a result of serious burns. Burns are the leading cause of non-vehicular accidental deaths in pre-school children, and second in the 15-24 and over 45 age groups.

The Kiwanis Burn Unit at Baltimore City Hospitals is the first burn care facility in the state of Maryland designed exclusively to provide improved care for burn victims and to support more effective teaching and research in this area of medicine.

The facility provides intensive management of 100 seriously burned patients annually. Geographically, 50% of these burn victims come from Baltimore City by ambulance, either directly to the Unit or referred by other institutions; 40% come from various Maryland counties via state helicopter; the remaining 10% are brought from neighboring states.

This nine-bed Burn Unit is staffed with a medical team of well trained full-time doctors and nurses including plastic surgeons, general surgeons, psychiatrists, pediatricians, anesthesiologists and internists. In addition to nursing personnel, a full-time social worker, physical therapist, and occupational therapist, as well as volunteer workers from the Burn Victims Aid Society of Maryland, provide daily care to the burned patient in social, rehabilitation and readjustment problems.

The research laboratory, donated by the Kiwanis Club of Highlandtown, was designed for quantitative culture of burn wounds. During the coming year, a new facility will be added to this lab to study the epidermis migration and effect on topical burn agents.

The Unit is organized to provide the most efficient treatment in the management of burn victims under strict isolation environment. It is equipped with modern cardiac, pulmonary, and inhalation equipment, operated under the supervision of anesthesiologists, to combat smoke inhalation, a principle killer in burn injuries.

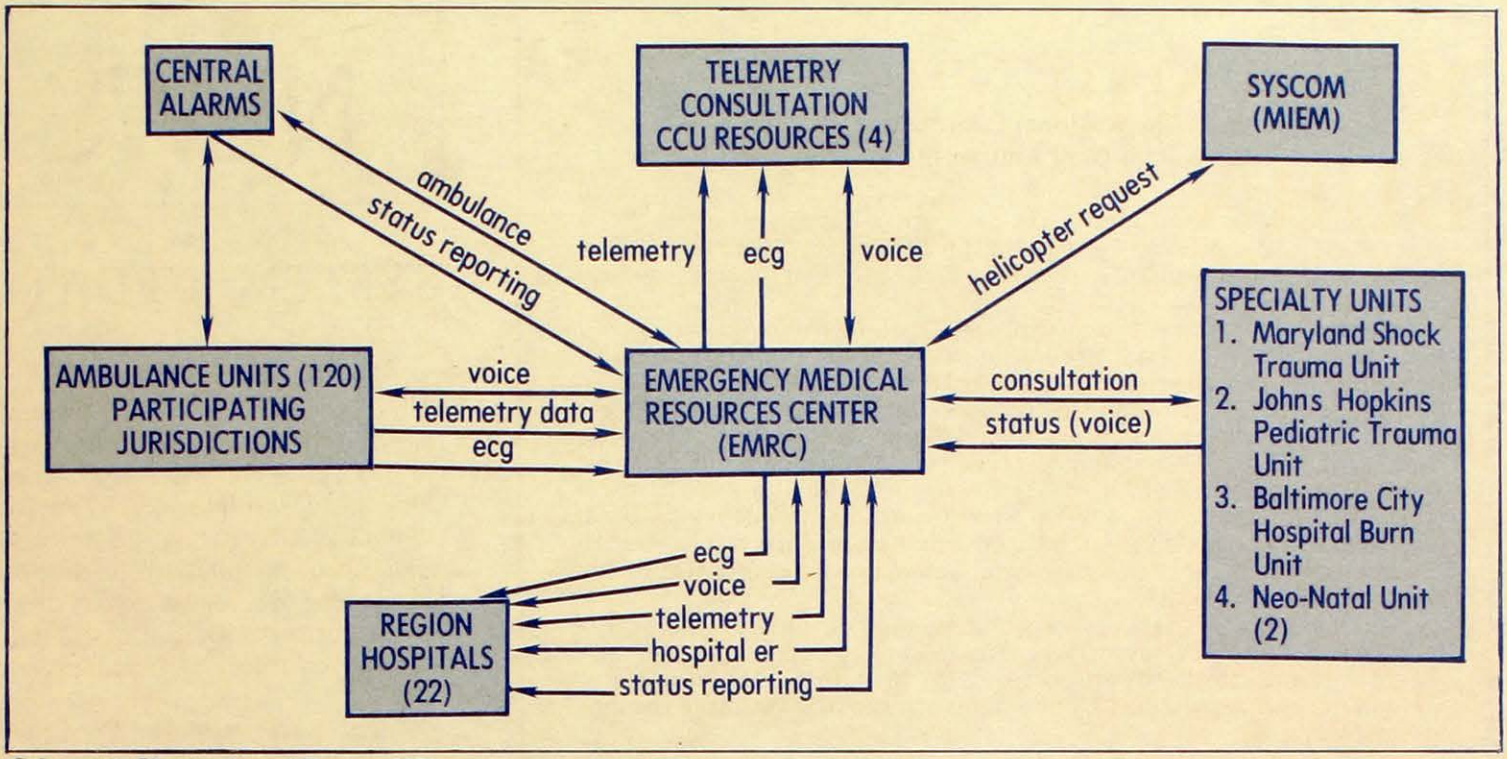
The treatments are aimed at reducing burn wound sepsis, which is the second leading cause of death in burn injury. Within the Unit, skillful nurses give frequent applications of topical burn agents daily. Surgeons perform early surgical excision of burn eschar and early closure of burn wounds by skin grafting in the Unit's own operating room designed especially for burn surgery.

Emotional suffering, fear of the unknown outcome, hardship to the families, and social/economic losses are factors which cannot be reflected in any clinical statistics, and present the physician with great challenge and responsibility. Remarkable results have been produced in these problem areas by a group of volunteers from the Burn Victims Aid Society of Maryland. Formed in the spring of 1974 by the Burn Unit and Baltimore City Fire Department, the Society, whose members are previous burn victims, is the first of its kind in the country.

The burn unit treats the complex medical problems associated with burns through a comprehensive program designed to reduce mortality, provide early closure of the wound, preserve the function of limbs, minimize the scarring and avoid unnecessary disfigurement and deformity. By promoting early psychological readjustment, early gain is made in both social and economic aspects as well as in the evaluation of long term problems. This also results in shortening hospitalization and decreasing the cost for this unfortunate injury.

As the statewide system for emergency medical care continues to develop, the Kiwanis Burn Unit will be able to offer its services to more and more burn victims from Maryland and surrounding states.

Burn Unit staff members administer treatments to burn patient.



Schematic Illustration of Region III's communication network.

Communications in Region III

The Baltimore Region's Emergency Medical Communication System is the first total system to be implemented in the state. The target date for the system's debut is early 1975.

The system is designed to assure rapid movement, with appropriate in-transit care, of acutely ill or injured patients to the most appropriate source of care within the region. To accomplish this, reliable voice and telemetry communications link numerous medical resources in the region including 22 hospital emergency services, 120 ambulance units, six specialty referral facilities (Maryland Institute for Emergency Medicine, Johns Hopkins Pediatric Trauma Unit, Baltimore City Hospital burn unit and neonatal program, and University Hospital's neonatal center and poison control center), and four special cardiac telemetry consultation centers located in coronary care units at Johns Hopkins Hospital, University of Maryland Hospital, Baltimore City Hospital and the U.S Public Health Service. To date, 28 of the 120 ambulances will have cardiac telemetry capability and trained cardiac rescue technicians.

The coordination of the Region's participants will occur at the Emergency Medical Resources Center (EMRC), located at Sinai Hospital.

According to Dr. John Stafford, Executive Director of Emergency Medical Services Development, Inc. (EMSDI), "The whole purpose of the entire system is to stabilize the patient where he is first–at his home, on the street–and then make the appropriate decision in the field as to where the patient ought to be taken before he arrives at a medical facility."

Typically, a call goes in to a county's central alarm and the ambulance is dispatched in that jurisdiction. The trained CRT arrives at the scene and determines that it is a cardiac emergency. He radios the EMRC to request cardiac consultation. The EMRC links the ambulance, the nearest hospital and the cardiac consultation center at, for example, the U.S. Public Health Service. The telemeter's signal is transmitted from the field to the hospitals and instructions are returned from the consulting physician. The destination hospital receives the patient's ECG, listens to the instructions that are given, and prepares for the patient's arrival. Dr. Stafford expects that approximately 60% of the calls will be cardiac emergencies and 40% will be trauma cases. In cardiac cases the destination will usually be the nearest hospital because all hospitals in the region have coronary care units. Bypassing would only occur if a hospital's coronary care unit was filled to capacity.

In trauma cases, the Maryland State Police Air Med-Evac helicopter is utilized frequently to bring persons with multiple life-threatening injuries to the Maryland Institute for Emergency Medicine (MIEM) or to the Johns Hopkins Pediatric Trauma Center. Helicopters are dispatched by the statewide communications control center (SYSCOM) located at MIEM.

This communications network has been developed by the EMSDI Board of Directors over a two-year period. It is funded by a federal demonstration grant for $1.25 million and state funds amounting to $161,000. Ongoing systems operation will continue on a state/-local matching system.

The Regional Coordinator: An Important Link in the System

The regional coordinator has been aptly described as the "long arm of the main office." He is a liaison officer who bridges the gap between the Department of EMS and the emergency medical resources in his region.

There are five coordinators--one for each of the five regions--and their responsibilities vary according to the needs of their regions. Basically, the coordinator maintains a field office which serves as an information distribution and collection center within the region. He strives to keep local fire fighters, hospital emergency room personnel, local EMS councils, ambulance corps, etc., up-to-date on progress within the statewide EMS system. The coordinator also gathers relevant statistics from these groups regarding emergency medical resources in the region for his own information and for transmittal to the main office, so that the statewide system can be responsive to the needs of the communities.

In addition to these responsibilities, the coordinator is available to present talks to emergency care related groups regarding any aspect of the statewide program and to respond to questions, complaints and suggestions from emergency medical resource persons in his region.

Every coordinator is an EMT and drives a specially marked automobile equipped with a siren, emergency red lights, state police monitor, and first aid equipment. The coordinator is thus prepared to assist in emergency situations he may encounter on the highway. Since Jeff Mitchell, Region V coordinator, hit the road in his official capacity in August, he has been the first to arrive at the scene of an accident six times during his thousand-mile-a-week travels. He describes himself as the "initial response agent who helps out until support arrives from rescue squads or state police at which time I assist as necessary."

The coordinators also attend local and regional EMS council meetings, and are available to assist the regions in writing plans for grants and preparing budgets.

These resource people are there to respond to the needs of emergency medical personnel in their regions. Regional offices are now open in all of the five regions. The regional coordinators can be reached as follows:

Region I - Appalachia Region (Allegany and Garrett Counties)

David Ramsey — Garrett County Health Department, 251 N. 4th St., Oakland, Md. 21550, 334-8111.

Region II - Mid-Maryland (Frederick and Washington Counties)

Michael S. Smith — 1610 Oak Hill Avenue, Room 134, Hagerstown, Md. 21740, 791-2366.

Region III - Metropolitan Baltimore (Baltimore City, and Baltimore, Anne Arundel, Harford, Howard and Carroll Counties)

George Pelletier, Jr. — EMS Development, Inc., 701 St. Paul St., Baltimore, Md. 21202, 539-8666.

Region IV - Eastern Shore (Cecil, Kent, Queen Annes, Caroline, Talbot, Dorchester, Somerset, Wicomico and Worcester Counties)

Marcus Bramble — Health Planning Council of the Eastern Shore, P.O. Box 776, Cambridge, Md. 21613, 228-8911.

Region V - Metropolitan Washington (Montgomery, Prince Georges, Charles, Calvert and St. Mary's Counties)

Jeff Mitchell — 5408 Silver Hill Road, Suitland, Md. 20028, 735-5580.

NEWS

SYSTEM UPDATE

The Regional Emergency Medical Services Advisory Council (REMSAC) met at Peninsula General Hospital in Salisbury, Maryland, on December 4, 1974. The Council, which meets quarterly, is made up of members from the five Maryland EMS regions, staff from the Department of EMS, and representatives from state and private agencies.

The purpose of the Council is to provide a means for the Regional EMS Councils to receive information from the Department of EMS staff, and to discuss problems in the regions as they relate to each other and to the state program.

Items discussed at this meeting included the progress of the Mid-Atlantic Emergency Medical Services Council; hospital categorization problems and the state initiatives; legislation affecting the EMS system; EMS funding strategy; and the status of the EMS communication system. In addition, a representative from each region presented a status report of EMS activities within his region.

The next meeting of the Council is scheduled for March 4, 1975 in Baltimore. Members will be notified as to the time and place. Regional progress reports follow.

Region I - Appalachia

Preliminary information has been received from area hospitals in response to the Hospital Capabilities Inventory initiated by the Inter-state Consortium. A Cardiac Rescue Technician course, in which fifty students are enrolled, is being sponsored by the Heart Association with funds from the Appalachian Regional Commission. There are currently 156 persons undergoing EMT/A training in the region.

Region II - Mid-Maryland

The Regional Council has reorganized in order to permit more active participation. Mr. Ronald Kropp, a staff member at the Department of EMS, has been assisting the Council in preparing an HEW grant request. Recently members of the Council appeared on a 30-minute panel discussion for cable TV in the Frederick/Hagerstown area.

Region III - Baltimore Metropolitan

Over 200 Cardiac Rescue Technicians have been trained and certified within the region in anticipation of the arrival of telemetry and radio communications equipment. Although there have been many delays, installation should be complete in early 1975.

Region IV - Eastern Shore

Planning is continuing on schedule for the development of an HEW grant request. The regional office has been approved and will be opened in early 1975. There are currently 85 people enrolled in EMT/A courses in the region.

Region V - Washington Metropolitan

Final acceptance of the Regional EMS Council's bylaws is expected by the end of January. A communications design contract was signed with Spectra Associates in September. At present the survey portion is 85% complete, and the design portion is 20% complete.

Above: Dr. R Adams Cowley addresses members of the Executive Committee of the Mid-Atlantic EMS Council at a meeting in Baltimore on November 4, 1974. At this meeting, the Executive Committee drafted a mission statement of the group's aims and goals, as well as a set of bylaws which were accepted by the full Council at its December 2 meeting. The Council will be composed of two representatives from each participating state. The next general meeting is scheduled for January 21 at which time officers will be elected.

Primary Nursing Workshop Held

Primary Nursing, a new concept in nursing philosophies, was the focus of a two-day workshop held recently in Baltimore and co-sponsored by the Maryland Institute for Emergency Medicine (MIEM) and the Maryland Hospital Education Institute (MHEI).

Participants in the seminar were provided a thorough presentation and practicum on how to develop, implement and evaluate a Primary Nursing program. All instructors for the program were associated with MIEM.

In Primary Nursing, total care of the patient is the responsibility of one specific nurse--the Primary Nurse. The patient and his family are involved in his case, and communication among care-givers is emphasized. Finally, the Primary Nurse is responsible for a discharge summary on the patient.

Primary Nursing has been successfully implemented and evaluated in several locations. Its practitioners list better staff morale, better support within the group, and improved communication among the benefits of the system.

MHEI and MIEM are planning a seminar on emergency/critical care nursing for shock and trauma patients to be held in May or June. Further announcements will appear in the *EMS Newsletter.*

Raising Funds for the American Trauma Society

Governor Marvin Mandel proclaimed Friday, November 8, Trauma Day for the state of Maryland in conjunction with a nationwide kick-off for the American Trauma Society. That evening the Maryland Division held a fund-raising banquet

Approximately 200 people attended the Maryland affair presided over by Mr. Harry Rodgers III, Chairman of the Board of Directors for the Maryland Division. Dr. R Adams Cowley, President of the Maryland Division, gave a presentation on the trauma problem and the goals of the American Trauma Society. The Society is a non-profit, voluntary health organization geared to mobilize national, community and professional forces in the development of emergency medical services for accident victims with life-threatening injuries.

Anyone may become a member of the Society. Trauma is everyone's problem--not just the physician's and the nurse's. You are all invited to join the Society and help in the attainment of its goals. For more information, call Miss Sandra Bond at 528-6846, or you can send your membership contribution to Miss Bond, Maryland Institute for Emergency Medicine, 22 S. Greene Street, Baltimore 21201.

Contributions of $100 are requested for founding memberships which represent a life-time membership to the Society. Regular Maryland Division memberships are offered for $10-24. Sustaining contributions of $25-99 are also greatly appreciated.

EMSCS: Status Report

The Division of EMS and its engineering design contractor, Spectra Associates, Inc., are completing the final design of the Maryland Emergency Medical Services Communications System (EMSCS). The EMSCS design concepts have been discussed with the future users across the entire state and their comments have been incorporated into the refinements of the design. A final design report will soon be available for distribution.

The communications system will be based on an ultra high frequency (UHF) mobile radio system interlaced with a statewide dedicated telephone network. The multi-channel UHF radio system will permit ambulance to hospital, ambulance to helicopter, and helicopter to hospital communications throughout the state. A statewide common channel permits access into the system by an ambulance operating outside of its normal territory. The dedicated statewide telephone network will connect hospital emergency departments, county central alarms and Maryland State Police Barracks with each other and with the systems communication center (SYSCOM), which will be located at the Maryland Institute for Emergency Medicine (MIEM) in Baltimore. Manned by trained dispatchers around the clock, SYSCOM will coordinate the request for, and dispatch of, Maryland State Police Med-Evac helicopters for the transport of patients to one of the specialty care centers (e.g., MIEM, Baltimore City Hospital's Burn Unit, Johns Hopkins University Pediatric Trauma Center, and the newborn baby programs at Baltimore City Hospitals and University of Maryland Hospital).

Detailed specifications for the Maryland EMSCS are being prepared, and the state hopes to request hardware bids for purchase and installation in mid January. The present schedule calls for awards to successful vendors in early March 1975, with completion of the system scheduled for December 1975.

CALENDAR

STATE

Jan. 21 (tentative)	Mid-Atlantic EMS Council Baltimore, Md. (301-528-7800)
Jan. 22 7:30 p.m.	Southern Md. EMS Council Organizational Meeting (301-528-7800)
Jan. 24	Metropolitan Washington Regional EMS Council Washington, D. C. (202-223-8050)
March 4 4-6 p.m.	Regional Emergency Medical Services Advisory Council Baltimore, Md. (301-528-7800)

NATIONAL

Feb. 24-28	Diagnosis and Treatment of Acute and Chronic Respiratory Failure, sponsored by American College of Chest Physicians and U. of Miami School of Medicine, Miami Beach, Florida (contact Bradford W. Claxton, M. Ed., Amer. College of Chest Physicians, 911 Busse Hghwy, Park Ridge, Ill. 60068)
Feb. 25-28	Emergency Medicine, co-sponsored by Amer. Col. of Emergency Physicians and U. of Michigan Medical School Ann Arbor, Michigan (contact Registrar, U. of Michigan Medical School, Towsley Ctr. for Continued Medical Education, Ann Arbor, Mich. 48104)
March 1-6	42nd Annual Meeting, American Academy of Orthopaedic Surgeons San Francisco, California (contact John K. Hart, Exec. Sec., Amer. Academy of Orthopaedic Surgeons, 430 North Michigan Avenue, Chicago, Ill. 60611)

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