



# Maryland EMS NEWS

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## This Was Not a Drill!

It was 5:15 pm, the peak of the rush hour. The Ford Bronco II 4x4 allegedly ran a red light at the ramp of I-95 at Route 175 and collided with a Dodge Ram minibus that was crammed full of people. The minibus overturned several times. The management of this severe accident at such a busy location included mutual aid, multiple agencies, and the use of cellular phones when traditional lines of communication became overburdened.

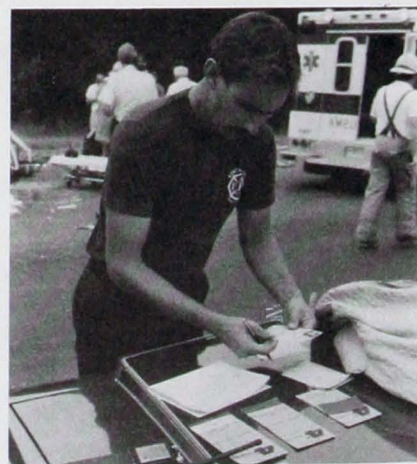
The crash took place on June 30. It was originally reported as a "bus" overturning, so the incident commander, Chief Ernest Foster, of the Savage Volunteer Fire Department in the 6th district of Howard County, initially requested five ambulances, a heavy-duty rescue squad, and an engine company to deal with the potential injuries.

Luckily, the "bus" was not a school bus or an interstate bus as had been feared. But the passengers on the minibus sustained multiple injuries. Triage tags were used; the passengers were then identified and assigned priority classification. A command post was set up in Command Vehicle #6, a van that serves as an operations center, with medical and fire communication capabilities.

When the severity of the incident was determined, units responded from Elkridge, Savage, Banneker, and Long Reach, in Howard County; from the Jessup Fire Station in Anne Arundel County; and from the Laurel Rescue Squad in Prince Georges County. Howard County Police and Maryland State Police (MSP) also responded. Due to thunderstorms on their paths of flight, MSP helicopters were not flying; however, the area covered by the U.S. Park Police was clear, so they sent their Eagle I helicopter.

Two additional ambulances were later requested. In all, there were 13 pieces of fire service equipment to protect the helicopter and the scene; 7 ambulances; fire engines; rescue squads; and miscellaneous support equipment.

William E. Clark, MIEMSS director  
(Continued on Page 2)



Firefighter Michael Butt (Howard County Fire Dept.) sorts triage tags during the mass-casualty accident.

(Top-bottom) Rescuers treat passengers who had been riding in the overturned minibus.

## EMS Care '88 Slated

Mark your calendars! EMS Care '88, sponsored by MIEMSS, is scheduled for May 13-15 at the Towson Sheraton Conference Hotel in Baltimore County. Program details and registration information will appear in the January issue of this newsletter.

## EMS Response To I-95 Crash

(Continued from Page 1)

of EMS field operations, came upon the scene just at the time that communications from all these vehicles jammed the airways. Mr. Clark provided a portable cellular phone to the command post that was used to contact EMRC and SYSCOM to help keep track of patients and aircraft transports and he provided liaison to the medical control officer.

Commander Donald R. Howell, of the Howard County Fire Department EMS, says, "This was a perfect example of how valuable cellular phones can be. Howard County is considering adding a cellular phone to its command post this year. It would add a new dimension to disaster management. We are always ready to try technical innovations that will give us added resources. The phones are particularly useful with incidents such as fire, EMS, and hazardous materials."

MSP Trooper Bryant K. Gentry, of the Waterloo Barrack, says, "Injuries might have been much less serious if the passengers had been wearing seat belts. Three passengers were ejected from the minibus as it overturned." Charges were lodged against the driver of the Ford Bronco for negligent driving and for failure to obey a traffic control signal.

There were 16 persons injured in all; 3 were taken to the Shock Trauma Center, 4 to Greater Laurel Beltsville Hospital, 6 to Howard County General Hospital, and 3 to St. Agnes Hospital.

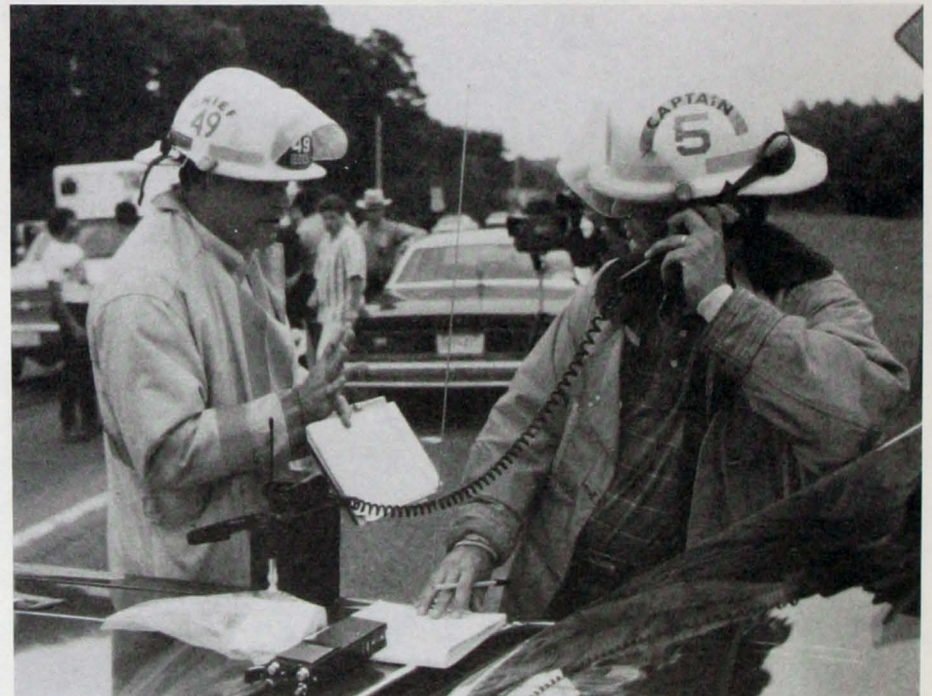
Commander Howell states, "This difficult incident went basically as taught, using the collective resources available smoothly and efficiently. We couldn't have done it as well without the excellent cooperation of Anne Arundel County, Prince Georges County, MIEMSS, Howard County Police, Maryland State Police, and the Park Police. Working hand-in-hand, the job was expeditiously completed."  
—Erna Segal



Treating a victim from the crushed, overturned minibus.



A patient is readied for transport by U.S. Park Police helicopter.



Commander Don Howell, using a cellular phone to coordinate disaster management, discusses a point with Chief John P. Miller, medical command officer during the incident.

# Report on Injury Prevention Is Issued

"Injury is taking too many precious lives. The extent of disability resulting from injury is enormous. We need to intensify the research on injury prevention and bring it to a level comparable to that for other major health problems such as heart disease and cancer, which also affect large segments of society."

Belavadi Shankar, ScD, was describing the importance of investigations such as the injury prevention project that was recently completed in Maryland. The purposes of the study were to examine the problem of injury in the state and to make recommendations regarding injury control. To initiate and design the project, the first of its kind to be conducted on a statewide basis, Dr. Shankar, director of Operations Research and Systems Analysis (ORSA) at MIEMSS, collaborated with staff members at the Maryland Department of Health and Mental Hygiene (DHMH) and MIEMSS, particularly Ebenezer Israel, MD, an epidemiologist, and John Southard, MD, who heads the disease control program at DHMH.

Injury prevention and rehabilitation are priority issues within the DHMH. Accordingly, block grants were made available two years ago to support the creation of a state plan for injury prevention. Dr. Shankar tapped those resources to create a statewide advisory committee (in September 1985) representing a spectrum of interested agencies and organizations, including hospitals, universities, industries, Mothers Against Drunk Driving, the state legislature, the Maryland State Police, MIEMSS, and the Maryland Occupational Safety and Health Administration. The advisory committee was chaired by R Adams Cowley, MD, director of MIEMSS, with Susan P. Baker, professor of health policy and management (now director of injury prevention) at the Johns Hopkins School of Hygiene and Public Health, as vice-chairperson.

Six subcommittees were formed to study specific areas of injury control: vehicular, domestic, sports/recreational, assaultive, occupational, and fire. Each committee met several times to review incidence data that were derived from various sources (for example, the Maryland State Police and DHMH) and were consolidated by MIEMSS staff. The subcommittees formulated lists of recommendations regarding injury prevention, which had to meet two criteria: they had

## Leading Causes of Death in the United States and Maryland (Deaths per 100,000 Population, 1985)

	U.S.	Maryland
Heart disease	328.8	310.9
Cancer	189.1	207.7
Injury		
Vehicular	19.1	16.8
Home	8.3	8.6
Work	4.9	0.8
Public		
(not vehicular)	3.9	8.0
Unclassified	0.8	—

to be feasible and they had to have an impact on the prevention of injuries. These lists were submitted to the members of the advisory committee, who ranked them in order of priority. The results, tabulated by ORSA, were published as the *Report of the Advisory Committee on Injury Prevention: Executive Summary* in December 1986.

The recommendations cover a multitude of issues and reflect the variety of professions represented on the subcommittees. Space limitations allow for only a sampling from the lists to be published here. Copies of the complete executive summary can be obtained from ORSA (MIEMSS, 22 S. Greene St., Baltimore, MD 21201-1595, 301-328-7798).

The advisory committee issued two major recommendations. One calls for the Health Services Cost Review Commission to mandate collection of E-code data (ICD codes for the cause of injury) on the etiology of injuries for hospitalized patients; this process will facilitate the analysis of injury incidence in Maryland. The other seeks the identification of a central agency in the state that would collect injury surveillance information on an ongoing basis and make it available to all users; this has already been implemented by the designation of ORSA as that focal point by DHMH.

The vehicular subcommittee noted that, although Maryland has made significant progress in highway safety, vehicular injuries remain the leading cause of death. A recommendation from this subcommittee calls for the passage of a law that imposes penalties for driving with a blood alcohol level of 0.10 mg/dl. (Maryland's allowable blood alcohol content [0.13 mg/dl] is the highest in the nation.) This group suggested that probation be

prohibited for a second or subsequent offense of driving under intoxication and driving under the influence of alcohol and/or drugs. It also called for amendment of the present seat-belt law to include all front-seat occupants and all belt-equipped vehicles and to make non-use of seat belts a primary offense.

On the topic of domestic injuries, falls and poisonings were identified as frequent injuries, particularly among the elderly and children. This subcommittee recommended that a model home be designed for public display, which would demonstrate examples of safe designs and equipment and provide the impetus for consumers to implement safety adaptations in their own environments. It also suggested that safety information and warning labels be required on products associated with domestic falls (such as baby walkers) and that curbs and steps in public places be designated clearly.

It is difficult to calculate the number of people involved in sports and recreational activities. The subcommittee on this topic noted that all such activities present a risk of injury and account for a large number of hospitalizations and a large, though poorly documented, number of emergency department visits and permanent impairments. There is a need to gather injury incidence data more systematically so that this problem can be more accurately defined than is possible at present and so that effective strategies can be planned. Because recreational sites and activities are under the purview of a variety of jurisdictions, many different parties are responsible for injury prevention. This subcommittee advocated that a statewide agency be developed to oversee data collection, make recommendations, and create programs to decrease injuries from informal recreational activities and from interscholastic, intercollegiate, and semiprofessional sports; that a bicycle helmet campaign be developed and funded; that the Maryland Alcohol and Water Safety Initiative be supported; and that Maryland jurisdictions be encouraged to adopt the Consumer Product Safety Commission's recommendations as their building plan inspection standard for swimming pools.

The subcommittee on assaultive injuries recommended amendment of the Maryland law that preempts the right of local jurisdictions to regulate the manu-

(Continued on Page 6)

# Phoenix Hospital Evacuated after Fire

At 1 am on September 2, 1983, the central alarm in Phoenix, Arizona, received reports of explosions and flashes of light coming from Phoenix General Hospital, a 200-bed, 5-story facility in the center of the city. As the first responding emergency personnel approached the scene, they saw heavy, dark smoke coming from the back of the building. The hospital was totally dark.

Gary Morris, a battalion chief/paramedic in the Phoenix Fire Department, was one of the responders to this emergency. He described the decisions made during the event and the lessons learned from it at a seminar called "When the Hospital Is the Disaster."

When the responding units went to the back of the hospital, they found a fire confined to the engineering department, which is in a building partially detached from the main hospital. The fire caused a full "melt down" of the circuit panels, where all external power came in and was sorted out to different points in the hospital. Compounding the problem, the hospital's emergency power generator failed to operate. While fire department personnel extinguished the blaze, other emergency workers were sent into the hospital to assess the effects of the resultant power outage on each floor.

They found a hospital in total darkness. Fortunately, no smoke had entered the hospital. Everything was stable, except in the fifth-floor intensive care unit (ICU), where nurses were using penlights to tend to the needs of 15 critically ill patients. Five of those patients were on ventilators, which were being operated by battery packs. The batteries are effective for short-term use; however, their energy is depleted after about 30 minutes.

According to the admission records, there were 186 patients in the hospital at the time of the fire. The damage to the electrical power system left the facility with no lights, no refrigeration, and no air conditioning. The outside temperature at 1 am was 90°; the predicted high for the next day was 112°. The temperature inside the hospital was rising slowly.

The decision to move the ICU patients to other hospitals was made about 30 minutes after the arrival of the first units on the scene. Shortly after that decision was made, power experts determined that full power could not be restored for 3 to 5 days; therefore, the entire hospital had to be evacuated.

The electrical generator that was damaged by the fire had supplied power to the hospital elevators. Since those elevators were now nonfunctional, the ICU patients and their support equipment had to be carried down stairways from the fifth floor to ground level. In the early stages of evacuation, the stairways were lit only by flashlights. There was no emergency battery-powered light system (as in hotels) in the stairwells. At least five people, working in the 4-foot-wide staircases, were required to carry each patient on a gurney — a 200-pound load. It took nearly an hour to evacuate the 15 ICU patients.

An integrated incident command system was central to the success of this evacuation. Mr. Morris, a strong advocate of the incident command system, emphasized that the evacuation progressed smoothly because of the teamwork between hospital staff and emergency personnel. "We were a team," said Mr. Morris. "The EMS people with authority were linked with hospital personnel with authority and they worked together to identify problems and find solutions."

The incident commander was the fire department's deputy chief on duty. The hospital's chief executive officer was called to the scene and joined the incident commander in the command post.

The public information officers from the fire department and the hospital worked together in communicating with the news media.

The sector officer on each floor kept in contact with a nurse supervisor on each floor. The nurses knew the status of each patient and could determine priorities and special patient care needs within the hospital. These decisions, progress reports, and requests for resources were relayed to the command post.

The transportation sector was responsible for alerting the receiving hospitals, determining which patients went to which hospitals, notifying the receiving hospitals of the needs of the patients they would be receiving, and signing patients out of Phoenix General as they left. The hospital's midnight printout of the census was used to record patients' destinations.

Ambulatory patients were transported by bus. The initial plan was to take 20 to 30 patients to a receiving hospital at a time. But because the temperature was so high and the movement of

patients was so slow before auxiliary power could be generated to operate the hospital's elevators, some buses left the hospital with only 6 to 10 patients. Those patients who had been flat on their backs with medical problems and then were suddenly in a 90° bus were very uncomfortable and could not wait in the heat.

About 90 minutes after the fire, emergency power was available for the elevator in the main lobby and for the freight elevator. Once these elevators were functional, evacuation became a much smoother operation.

The total evacuation time was 2½ hours after the decision to move all the patients was made. The evacuation involved 186 patients: 68 ambulatory, 58 nonambulatory, and 60 who were released from the hospital.

One patient experienced respiratory arrest in his room during the evacuation but was resuscitated. No patients died during the evacuation. All patients who were moved from Phoenix General Hospital either returned 5 days later after services were restored or were discharged from the receiving hospital after recovery.

A critique of the incident involved all five of the participating hospitals. Valuable lessons were learned in their experience with this emergency.

When many hospitals write evacuation plans, they assume that a multitude of resources will be available to them in a short amount of time. The developers of these documents need to communicate with fire/rescue companies and other agencies to create realistic plans. Periodic reviews should be scheduled.

An integrated incident command system that is functional and understood by participants enhances the efficiency of the response to a mass casualty incident. In the Phoenix General Hospital incident, the command system of the fire department absorbed the hospital staff into the organization. Personnel in parallel positions of authority were linked to identify and solve problems within their spheres of operation.

Most hospitals plan to use their telephone system to alert additional staff members of the emergency and call them to the scene. The lines will become overloaded quickly in an internal disaster, so alternate avenues of communication between hospital personnel and members of assisting agencies are needed. In the

*(Continued on Page 6)*

# Scanlan Honored for Service to EMS

Elizabeth Scanlan, MIEMSS director of nursing, was honored in a special ceremony hosted by Governor William Donald Schaefer on August 17 in Annapolis. Presenting her with a certificate of distinguished citizenship, Gov. Schaefer commended Ms. Scanlan for her numerous contributions to the development of the EMS system in Maryland. The plaque presented by the governor recognizes her "outstanding record of service to the citizens of Maryland in the field of emergency medicine" and acknowledges her "leadership and professionalism. . . notably demonstrated in helping support doctors, nurses, and other skilled professionals in creating a formidable shock trauma team."

R Adams Cowley, MD, credited Ms. Scanlan with providing the organization that built the Shock Trauma Center. "Liz put everything in order while I was generating the ideas," he said.

Her 31-year career in nursing began on the surgical floor of the University of Maryland Hospital. When Dr. Cowley was seeking nurses to work in his pioneering project on cardiopulmonary care (the project that was to evolve into the MIEMSS Shock Trauma Center and its aggressive approach to the treatment of



(L-r) Gov. William Donald Schaefer, Elizabeth Scanlan, RN, and MIEMSS Director R Adams Cowley. Ms. Scanlan received a certificate of distinguished citizenship from Gov. Schaefer.

trauma patients), Ms. Scanlan chose to join his team. After several years of working as a scrub nurse caring for coronary and thoracic surgery patients and after completing her master's degree, Ms. Scanlan was selected to assist Dr. Cowley in the first shock trauma unit. The success of that two-bed unit in collecting

research data about shock and trauma was recognized in the awarding of an \$800,000 National Research Center grant in 1963. That money was used to build the Center for the Study of Trauma, a five-floor, self-contained facility devoted to the care of critically ill and injured patients.

The concept of the trauma nurse originated with Ms. Scanlan. She has traveled across the state to build the state's network of emergency care. Under her direction, the MIEMSS field nursing program began in 1975, the only statewide EMS continuing education system for nurses in the country to date. Through workshops and written materials, nurses in Maryland can acquire training in trauma and emergency care. The field nursing program has recently expanded to include consultation and evaluation services to nurses in many specialties throughout the United States.

In her comments to the audience of friends, family members, and colleagues, Ms. Scanlan shared her deep attachment to her work in MIEMSS: "I have enjoyed being a part of the system saving lives, and I have enjoyed working with every one in the Shock Trauma Center."

Dr. Cowley was extremely pleased to have the opportunity to publicly recognize Ms. Scanlan for her years of dedication to the care of trauma patients. He thanked the governor for presenting this special award to her.

—Linda Kesselring

## Cooperation Reduces Runsheet Errors

Cooperative efforts by ambulance companies, the five MIEMSS regional offices, and the MIEMSS office of pre-hospital care are gradually reducing the number of errors found on ambulance runsheets.

The improvement is attributed to thorough computer analysis by the office of prehospital care of every runsheet to learn what errors are made and whether they could be avoided by more careful attention to details. The reports generated are sent to regional administrators, who in turn distribute a report to each company about its performance. Kenny Young, director of prehospital care, says, "We're trying very hard to give our pre-hospital care providers feedback about what mistakes are being made. It must be working, because error rates are falling."

In many instances, errors are as simple as not filling in a circle completely; this makes it impossible for the computer to read the information. Other common—and avoidable—mistakes are forgetting to fill in the county code or the age, sex, or race of the patient or incom-

pletely filling in the date of transport. The most common error is to forget to mark the patient priority, which is located directly above the "Comments" section.

Mistakes also include forgetting to list type of injury or illness; care given; first and last vital signs; whether the patient was monitored; how many IV attempts were made; name of hospital; type of call; and, if an ECG was given, the ID number of the crew member who administered it (this information is required for CRT recertification credits).

While there is much improvement, there is still a long way to go to meet the goal set by R Adams Cowley, MD, director of MIEMSS. In the past, runsheet error rates have been as high as 54 percent. The areas showing the most improvement over their records last year are Howard, Washington, Frederick, Carroll, and Baltimore counties, and part of the Eastern Shore.

Mr. Young wishes to thank all the providers for their hard work and encourages their continued cooperation in reducing error rates in the future.

# Phoenix Hospital Evacuated after Fire

*(Continued from Page 4)*

Phoenix General Hospital emergency, all telephone service "went down" when electrical power was lost. Key hospital officials were notified of the event through the incident commander's mobile phone.

Portable radios are essential in responding to a disaster within a hospital. They can be carried by security personnel during normal operation. In an emergency, the radios can be used to relay information from various areas in the hospital.

The hospital's computer system should print a hospital census automatically when an alarm is activated. Sophisticated systems can be programmed to send a printout to each floor and ward.

At least one freight elevator in the hospital should be wired to operate on emergency backup power. This elevator must be large enough to accommodate the beds of patients in traction and of those who require a large volume of life-sustaining equipment.

Provisions should be in place for physicians, nurses, pharmacists, dietary personnel, and others to be given temporary privileges at receiving hospitals. Records should be sent with patients being transported. They can be photocopied at the receiving hospital, with one copy remaining with the patient and another going to the admissions department.

The transportation officer should make the decisions regarding patients' destinations. If this process is fragmented, hospital resources may not be used efficiently: one hospital may become overwhelmed while another receives few transfers. Patient tracking and incident management may be enhanced by sending all patients from one floor or ward — for example, the ICU — to the same receiving hospital.

Receiving hospitals should be notified of the situation early so they can assess their number of available beds and can call in off-duty personnel. One person at the receiving hospital should be identified as the recipient of information from the scene to help ensure consistent, nonduplicated communications.

The public relations staffs of the hospitals involved should also be contacted early. They can provide appropriate information to the news media and control the media's access to the sites of patient treatment and movement. A sin-

gle phone number should be released to the media so that relatives can call to obtain information about their family member. The person at this phone number must be provided with accurate patient information.

Hospital staff members must work through the incident command system. Sometimes a physician will want to make specific arrangements for a patient's destination. Instead of making independent contacts with a receiving hospital, the physician should communicate specific patient needs to the transportation officer (through the sector officer on each floor), who will arrange transfer to the appropriate facility.

When evacuating critically ill or injured patients, at least one nurse from the respective floor or ward should be sent with them to the receiving hospital. A nurse who is familiar with the patients' medical history and care will ensure con-

tinuity in medical treatment.

Treatment personnel with appropriate medical equipment and portable radios should accompany patients who are transported by bus. Immediate medical care is available if needed as well as instant communication. The medical personnel should know the route to the receiving hospital. It should not be assumed that the bus driver will know the way.

Ambulance companies and other emergency services should be notified of a hospital disaster situation so that they do not continue to bring patients to the facility. The emergency room should be staffed by a "skeleton crew" for emergency drop-ins. During the Phoenix General Hospital evacuation, two obstetrical patients arrived at the emergency room by private auto and had to be sent elsewhere.

*(Continued on Page 8)*

## Study Examines Injury Control

*(Continued from Page 3)*

facture, sale, or possession of weapons, so that Baltimore City or other jurisdictions can pass laws more stringent than state statutes. It also suggested that research on firearm-related injuries should include data on the specific type of weapons involved in firearm deaths and injuries and that the sale of handgun ammunition be banned, except for use in target shooting establishments or on prescription from police. This group noted the lack of data on the incidence of non-fatal firearm injuries.

The lack of a single source of data on work-related injuries, especially non-fatal ones, was noted by the subcommittee on occupational injuries. This group presented recommendations calling for the integration of a formal course on safety and injury prevention at work into universities, community colleges, and technical schools; the required use of seat belts in all belt-equipped vehicles and the development of company programs to increase employee belt use; and the creation of a statutory requirement of accountability for all government agencies to report occupational injuries to the Commissioner of Labor and Industry.

The subcommittee on injuries related to fire proposed that state fire codes should mandate that smoke detectors be

supplied, installed, and maintained by the owners of all dwellings, whether single or multiple units, and should require that sprinkler systems be installed in designated areas of all new homes. This group also recommended the implementation of a mandatory safety lesson plan developed by the National Fire Protection Agency into public schools.

The executive summary of the injury prevention project was submitted to Adele Wilzack, secretary of the Department of Health and Mental Hygiene, in fulfillment of the contract under which it was developed. It has been distributed in response to requests from interested individuals and organizations, including industries, the Department of Transportation, police agencies, universities, and members of the Maryland General Assembly. Dr. Shankar noted that more systematic dissemination of the recommendations and efforts to implement them are needed.

Patricia Dischinger, PhD, an epidemiologist at MIEMSS, stated, "Most people think that injuries are not preventable, that they result from carelessness or the 'wrath of God.' But the majority of injuries can be prevented by continuing to study the causes of injury and increasing the awareness of people who can intervene." —Linda Kesselring

# White Water Races Held in Region I



Catherine Hearn-Haller competes in the Savage River Invitational White Water Races. (Photo by Joe Campagna; courtesy of White Water Championships, Inc.)

## Aeromedical Director Named

John D. Stafford, MD, MPH, former assistant director of the Arizona Department of Health Services, has returned to Maryland's EMS system as the aeromedical director of the state Med-Evac helicopter fleet operated by the Maryland State Police (MSP). MIEMSS Director R Adams Cowley announced the appointment effective August 3.

The creation of the aeromedical director's post was recommended by a team of consultants hired by the General Assembly last year to review MIEMSS operations. Although the consultants found that the Maryland system of comprehensive emergency medical services was unmatched, they added: "Medical control of the med-evac program by MIEMSS should be strengthened."

The consultants recommended that this be done by creating a position of state aeromedical director with responsibilities such as quality control of the med-evac patient care, overseeing the certification and training of med-evac personnel, and interaction with the MSP med-evac personnel.

The MSP fleet includes 10 helicopters based at seven stations providing statewide coverage and flying more than 3,300 medical missions annually.

Dr. Stafford's ties to Maryland EMS go back to 1973 when, as executive director of the non-profit health corporation Emergency Medical Services Development, Inc. (EMSDI), he developed and

implemented a model EMS communications system for the Baltimore metropolitan area that gave Region III national recognition. In 1975, the EMSDI program was transferred to the state EMS system. At MIEMSS, Dr. Stafford had various responsibilities, including those of director of EMS systems programs. In 1980, he left MIEMSS to develop a helicopter med-evac program at Lehigh Valley Hospital Center at Allentown, Pennsylvania, where he was director of pre-hospital emergency medical care and flight operation. Dr. Stafford served in the Arizona health department from 1982 until earlier this year as the Arizona EMS director and also was responsible for regulating the hospital and nursing home industries.



Dr. John Stafford

Emergency medical personnel were stationed along the Savage River in Garrett County during the weekend of August 21-23 as 225 white water kayakers and canoeists from six countries competed in the Savage River Invitational White Water Races. This racing event is a precursor to the World White Water Races, which are scheduled for June 1989 in the same location.

Slalom races over a quarter-mile course were held on Friday and Saturday. Sunday's event was a wild water race down 4 miles of the river.

### Challenge to EMS

Dave Ramsey, MIEMSS Region I administrator, said that the remote location of the race site, cramped in a mountain hollow, presents a great challenge to EMS providers. There must be a high level of coordination and planning to position ambulances appropriately and to schedule crews to ensure continuous coverage.

The overall arrangements for the three-day EMS coverage, which supplemented that provided by the safety committee of White Water Championships, Inc., were made by Brad France, director of Garrett County Civil Defense. Tri-Town Ambulance Service, whose normal run area includes the racing site, had an ambulance staffed by EMTs and CRTs at the site each day; that organization's participation was coordinated by Francis Mowbray. Support was provided by Southern Garrett County Rescue squad on Friday and Sunday (coordinated by Ed Livengood) and by Northern Garrett County Rescue Squad on Saturday (coordinated by Danny Durst).

### Communications Operations

A central command communications point was established. Emergency medical personnel, carrying walkie-talkies provided by MIEMSS, walked along the race course. They carried first-aid kits in backpacks, which were specially prepared for this event.

The number of spectators at the August races was lower than anticipated, mainly because of the thunderstorms in the area that weekend. Only two incidents requiring medical attention occurred, and they both involved spectators: one person with heat exhaustion and another with a puncture wound. A crowd of 25,000 is expected at the world races in 1989.

—Linda Kesselring

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## Lessons Learned from Hospital Evacuation

(Continued from Page 6)

The Phoenix General Hospital incident, believed to be caused by lack of maintenance on the electrical panel, cost the hospital about \$750,000 (cost to repair the engineering plant, fees for ambulance transport to and from the facility, loss of income and supplies, and

other expenses). A \$5000 brick wall between the electric circuit and the power generator would have ensured that the generator would operate immediately (smoke from the fire and lack of oxygen prevented the generator from starting). Simple routine maintenance would have increased the chances of identifying and correcting problems.

*Follow-up Note:* Hospital evacuations are necessary more often than most people assume. Emergencies such as internal flooding, external flash flooding, hurricanes, and chemical clouds have forced medical facilities in other cities to close.

In August 1986, less than three years after the Phoenix General Hospital evacuation, lightning struck the external power transformers at the John C. Lincoln Hospital in Phoenix at 11 pm. The main hospital was threatened by fire when flames cracked several windows on two floors directly above the ground-level transformers. The 6-story hospital lost external power and experienced minor PCB contamination. Fortunately, this hospital's emergency power generator was functional and provided electricity for some lighting and a few elevators. Because the severe damage to the hospital's electrical systems could not be repaired for several days and because of the usually high temperatures of Phoenix

summers, the 128 patients in the hospital, including 11 from the ICU, had to be evacuated. Again, all patients were transported safely and effectively.

—Linda Kesselring

### Trauma Symposium

The "10th National Trauma Symposium: Challenges of the '90s," sponsored by MIEMSS, will be held November 19-21 at the Convention Center in Baltimore. Plenary sessions and workshops will explore the prevention of disability, including the most recent initiatives of injury control.

Presymposium workshops will be held November 18, covering topics such as neurotrauma nursing, developing trauma registries, developing critical incident stress debriefing teams, home health care, developing trauma centers, and trauma recovery and reintegration.

In addition, two-day ATLS provider courses for nurses and physicians will be offered November 16 and 17. Registration is open *only* to registrants at the trauma symposium.

For information, contact Patricia McAllister, 301-328-2399.

### Reg'l Council Officers

Many regional advisory councils recently elected new officers. The current officers include:

#### Region I

President, William Herbaugh  
Vice-President, Frances Pope  
Secretary/Treasurer,  
Constance Spates, RN

#### Region II

President, Blaine Snyder  
President-Elect, Edgar Crist, Jr.  
Secretary, Terry Shook

#### Region III

Chairman, George Pelletier, Jr.  
Vice-Chairman, Roger Simmonds  
Secretary, Linda Greenberg

#### Region IV

President, Kenneth Carter, MD  
Vice-President, William Littleton  
Secretary, Teresa Tatterson

#### Region V

Chairman, John Proels  
Vice-Chairman, Leon Hayes  
Secretary/Treasurer, Nancy Haupt, RN