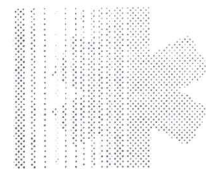


# Trauma Line



National Study Center for Trauma and Emergency Medical Systems at MIEMSS

March 1992

## Validity of Preventable Death Studies Questioned

In January at the Eastern Association for the Surgery of Trauma (EAST) Conference, NSC Visiting Scholar **Ellen J. MacKenzie, Ph.D.** presented results of a study, "Inter-Rater Reliability of Preventable Death Judgments," which involved multiple panels of nationally chosen experts who reviewed a total of 130 deaths to determine potential preventability. The fact that the results showed overall reliability to be low suggested that improvement of the approach to preventable death studies is needed.

Recommendations for improvement included: getting complete information for review (medical records, prehospital care reports, and autopsy reports); legislating for mandated autopsies for all trauma deaths; and establishing mechanisms that will ensure that both the prehospital record and the autopsy report are routinely included in the medical record.

Study results also pointed to a need for classifying cases by age and severity of injury when analyzing and reporting results of preventable death reviews. Also, the authors suggested that preventable death studies should include evaluation of reliability and that reviewers should be trained and "standardized." Finally, the assessment of trauma care systems effectiveness will be improved if other indicators such as measures of the appropriateness of care received as well as statistically based estimates of lives saved are also used rather than only preventable death.

Co-authors of the study were **Donald M. Steinwachs, Ph.D.** (Johns Hopkins), **Lee R. Bone, R.N., M.P.H.** (Johns Hopkins), **Douglas J. Floccare, M.D.** (MIEMSS), and **Ameen I. Ramzy, M.D.** (MIEMSS), and the Preventable Death Study Group.

### **NSC Extends Invitation to Visit**

On Monday February 24, MIEMSS National Study Center opened the doors of its new quarters on the 5th floor of the 701 West Pratt Street building where offices of the UM School of Medicine's Division of Emergency Medicine and MIEMSS Departments of Orthopaedics, Neurophysiology, Anesthesiology and Infectious Diseases are also located.

The NSC Staff Members invite you to visit and to talk with them about the research done at the Center and how they can work with you to support your research. If you have any questions, please call Nancy Timmerman at extension 7781.

### **Open House**

*Date to be announced  
Tours & Light Refreshments*



## **Collaborative Efforts**

### **Trauma Center Closures**

**James Eastham, Sc.D.**, Chairman of the UMBC EHS Department, was awarded a UM Graduate School DRIF Grant to study the impact of trauma center closures on U.S. emergency departments. The DRIF monies will fund the tuition and salary for an EHS graduate research assistant. This work will be conducted at the Study Center and builds on the research on U.S. trauma center closures by **John T. Dailey, M.P.A. (NSC)**.

*Emergency Medicine News* and the *Baltimore Sun* recently consulted the NSC about U.S. trauma center closures and interviewed Dailey for recent articles.\* They cite the soon-to-be published study of trauma center closures (*J Trauma*, in press, 1992) and quote Dailey in stating that there is "no apparent reason to believe that additional centers will not close."

### **Physician EMS Education**

A national survey of physician EMS education is now in progress under the direction of **Richard Bissell, Ph.D. (UMBC/NSC)**. This work is being conducted with the UM School of Medicine's Division of Emergency Medicine.

### **Training of Palestinian Emergency Care Educators**

This month the two Palestinian physicians being trained by **Richard Bissell, Ph.D. (UMBC/NSC)** will complete their intensive program in trauma management and emergency medical systems. Over the next three months, the four nurses will continue working with personnel from the MIEMSS, the School of Nursing, and the UMBC Department of Emergency Health Services.

### **CDC Visitors**

**Mark Rosenberg, M.D., M.P.H.**, Director of the CDC Division of Injury Control, visited with NSC Staff to discuss UMAB initiatives in violence prevention research. **Paul Stolley, M.D., M.P.H.**, Chairman of the Department of Epidemiology and Preventive Medicine, is heading these efforts.

### **Informatics Team Working on Decision Support System**

In keeping with one of the themes of the 1992 Spring Congress of the American Medical Informatics Association (AMIA), some members of the **NSC Informatics Team** recently wrote and received acceptance for an abstract that describes a decision-support system designed to help the physician determine whether a trauma patient should undergo diagnostic procedures to rule out occult abdominal injury.

The team developed a decision-support model that can be used with a graphic user interface (GUI). The interface, which is intended for collecting injury diagnoses at admission, is one of the steps toward developing a trauma electronic medical record.

Although intra-abdominal injuries occur in only 10% of multisystem trauma victims, almost every patient must be assessed for these hidden injuries to avoid preventable disability or death. Often, abdominal assessment means hospitalization and repeated examinations as well as expensive diagnostic procedures. By providing physicians with probabilities related to the patient's risk for abdominal injury, the decision support model may contribute to more selective use of diagnostic procedures and thus help increase quality of care for patients as well as reduce the cost of assessment.

Future plans include evaluating the decision support system and its effect on choices of diagnostic procedures and integrating the system with a GUI.

Contributors include **Kip Canfield, Ph.D. (UMBC)**, **C. Michael Dunham, M.D. (MIEMSS)**, **Brad M. Cushing, M.D. (MIEMSS/NSC)**, **Mary van Wijngaarden, M.D. (MIEMSS)**, **Sandra D. Teitelbaum, M.L.S. (NSC)**, and **Ron Benoit, B.S. (NSC)**.

\**Emergency Medicine News*, 1992 February;xiv(2):8 and *Baltimore Sun*, 1992 March 9.



## Recent Writings

### Abstracts

**Assuras GN, Cushing B, Kerns T, Dischinger P, Maull K (sponsor).** "Direction of Initial Impact in Motor Vehicle Collisions: A Predictor of Intra-Abdominal Injury." Submitted for presentation at the American Association for the Surgery of Trauma (AAST) Meeting in September 1992. *Assesses the value of direction of initial impact forces in predicting the presence of intra-abdominal injury.*

**Benoit R, Canfield K, Teitelbaum S, Cushing B, Stamp N, Durham A, Ondrish A, Woodman M, Bame W.** "Frame-based Clinical Data Entry: Design Issues for Physician Acceptance." Submitted to MEDINFO 92: The 7th World Congress on Medical Informatics. *Describes a study designed to explore preliminary user interface issues for frame-based clinical data entry by physicians. This effort is part of a larger effort to implement a comprehensive automated clinical patient record at the MIEMSS.*

**Benoit R, Cushing B, Teitelbaum SD, van Wijngaarden MM, Canfield K.** "Direct Physician Entry of Injury Information and Automated Coding via a Graphical User Interface." Submitted for presentation at the 16th Annual Symposium on Computer Applications in Medicine (SCAMC) in November 1992 in Baltimore. *Describes a graphical, anatomic-based interface that collects complete and accurate injury information directly from the trauma physician and that automatically codes injuries via ICD-9, AIS-90, and the MIEMSS Trauma Registry.*

**Canfield K, Cushing BM, Teitelbaum SD, Dunham CM.** "Delivery of Decision Support for Diagnosis of Occult Abdominal Injuries." Accepted for presentation at the American Medical Informatics Association (AMIA) 1992 Annual Spring Congress. *Describes a decision-support system designed to help the physician determine whether a trauma patient should undergo diagnostic procedures to rule out occult abdominal injury.*

**Dischinger PC, Cushing BM, Ho SM, Kerns TJ, Dailey JT.** "The Hospital Costs of Intentional Injury Treated in Maryland Trauma Centers." Submitted for presentation at the American Public Health Association (APHA) 120th Annual Meeting in November 1992 in Washington DC. *Studies cost and reimbursement patterns associated with intentional injuries -- gunshot, beating, or stabbing incidents -- which account for 48% of the total Medicaid payment for trauma. This study raises serious questions regarding injury control and health care financing reform as well as the survival of inner-city trauma centers.*

**Dischinger P, Cushing BM, Kerns T.** "The Mechanism of Lower Extremity Fractures in Motor Vehicle Collisions: Influence of Direction of Impact and Seat Belt Use." Accepted for presentation at the AAAM Conference in October 1992. *Little data is available on the biomechanics of lower limb injuries, which are a common cause of permanent disability and impairment from motor vehicle crashes. This study asks whether seatbelts protect against these injuries.*

**Dischinger PC, Kerns TJ, Soderstrom CA.** "Characteristics of Motor Vehicle Crashes Among Older Drivers Admitted to a Trauma Center." Submitted for presentation at the American Public Health Association (APHA) 120th Annual Meeting in November 1992 in Washington DC. *Comparison of 3675 injured drivers over and under age 55 reveals significantly diverse findings that indicate a need to identify the causal factors behind motor vehicle crashes in the elderly driving population.*

**Dischinger P, Siegel JH, Mason-Gonzalez S, Robinson R.** "Crash Characteristics of Traumatic Brain Injury Patients." Accepted by the International Research Council on Biokinetics of Impacts (IRCOBI) Conference in September 1992.

**Dischinger P, Siegel J, Read K, Mason-Gonzalez S.** "Predictors of Seatbelt Use: A Profile of Trauma Patients." Accepted for poster presentation at the AAAM Conference in October 1992. *Studies the crash and psychosocial factors related to seatbelt usage.*

**Glick RE, Dischinger PC, Ho SM.** "Characteristics of Vehicular Extrication." Submitted for presentation on UMAB/UMBC Student Day. *The results of this study of the variable extrication suggest that car manufacturing changes and improvement of extrication techniques may reduce a patient's crash scene time before definitive care.*

**MacKenzie E, Cushing B, Jurkovich G, Morris JA, Burgess AR, DeLateur B, McAndrew MP, Swiontkowski M.** "Functional Recovery and Return to Work Following Severe Lower Extremity Fracture." Submitted for presentation at the American Association for the Surgery of Trauma (AAST) Meeting in September 1992. *Prospectively studies the nature and correlates of outcomes of 445 patients with lower extremity fractures treated at three Level I trauma centers.*



**MacKenzie EJ, Wilgis EF Shaw, Curtis RM, McCarthy ML.** "Functional Outcomes Following Hand Injury: A Prospective Evaluation." Submitted to the American Society for the Surgery of the Hand. *Examines the functional, psychosocial, and economic outcomes of primary hand injuries. Focuses on estimation of rate of return to previous work and examination of factors, beyond just functional limitations, that delay return to work.*

**Provenzano G, Dailey JT.** "Trauma Care Delivery in the United States: A Profile of the Availability of Services." Submitted for presentation at the American Public Health Association (APHA) 120th Annual Meeting in November 1992 in Washington DC. *Analyzes responses from a 1991 survey of hospitals that inventoried the nation's current availability organization and commitment of key elements of trauma care. Discusses the implications of the findings for current federal proposals regarding promotion of trauma care.*

**Provenzano G, Dailey JT, Cushing BM.** "Trauma Center Verification in the U.S.: Are There Resource Differences Between Verified and Non-Verified Facilities? Results of a National Assessment." Submitted for presentation at the American Association for the Surgery of Trauma (AAST) Meeting in September 1992.

**van Wijngaarden M, Cushing B, Kerns T, Dischinger P.** "Pedestrian Trauma: Patterns of Injury and Mortality." Submitted for presentation at the American Association for the Surgery of Trauma (AAST) Meeting in September 1992. *Analyzes 935 pedestrian trauma victims by AIS injury regions, sex, age, and alcohol use.*

**van Wijngaarden M, Kerns T, Dischinger P.** "Drivers Who Hit Pedestrians." Accepted for presentation at the AAAM Conference in October 1992. *Uses Maryland Police Reports and a pedestrian-linked data base to profile driver and collision factors that affect pedestrian mortality and injury severity scores.*

## **Papers**

**Dailey JT, Teter H, Cowley RA.** "Trauma Center Closures: A National Assessment." In press, *Journal of Trauma*, 1992.

**Soderstrom C, Dischinger P, Smith G, McDuff D, Hebel R, Gorelick D.** "Alcohol Abuse/Dependence Among Trauma Center Patients: A Need to Reassess Current Diagnostic Practices." Accepted for publication in *JAMA*.

**Soderstrom CA, Dailey JT, Kerns TJ.** "Alcohol and Drug Testing in U.S. Trauma Centers." Submitted for publication.

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## **The 14th R Adams Cowley National Trauma Symposium Presentations**

**Brad M. Cushing, M.D.** "Multimedia Trauma Information System: The Trauma Registry of the 1990s"

**John T. Dailey, M.P.H.** "United States Trauma Center Closures: A Dollar and Sense Issue"

**Ellen J. MacKenzie, Ph.D.** "Trauma Care: Long Term Outcome Assessments"

## **Grants**

**Patricia Dischinger, Ph.D.** received an additional \$30,000 from the Maryland Department of Transportation for continuing data analysis for the project, **Drug and Alcohol Use Among Vehicular Trauma Patients**. The data base, which has been funded for four years, will allow for an analysis of trends over time with respect to alcohol/drugs and vehicular trauma.



# NATIONAL STUDY CENTER

## PROJECT STATUS

March 10, 1992

### MOTOR VEHICLE CRASHES & BIOMECHANICS

PROJECT I.D.# & TITLE	NSC P.I.	PROJECT TERM	FUNDING	UMAB \$	CURRENT PROJECT STATUS	COLLABORATORS
<u>PROJECTS</u>						
MV-1 A Study of Motorcycle Accidents in Maryland	P.Dischinger				Data collection complete (1900 subjects); analysis work to commence Mar/Apr; will look at injury types by cost	NSC/Cushing, Ho MIEMSS/Rosati
MV-2 Medical Consequences of Car Crashes	P.Dischinger	10/88-12/91	NHTSA/MDOT	578,416	Final report submission delayed to 2/10/92 Resulting abstracts: Paper on brain injuries brain injuries accepted by IRCOB for 9/92 meeting	NSC/Cushing, Ho UNJ/Siegel UMAB/Read ME Office/Smialek
MV-3 Project #2 - Renewal	P.Dischinger	10/91	NHTSA Subcontractor to UNJ/Siegel		Submitted/pending as of 10/91	Primary work by UNJ/Siegel; P.Dischinger 20% funded
MV-4 Lower Extremity Trauma in Front Seat Occupants	P.Dischinger	6/92-5/94	CDC/Div Injury Control	216,408 Yr1 379,858 2-3	Submitted/pending as of 10/91; BMC to pursue w/ Insurance Institute Resulting abstract: Paper on seat belt use accepted by AAAM for 10/92 annual meeting	NSC/Cushing, Ho MIEMSS/Burgess Dynamic Sciences/Bents UVirginia/Digges, Pilkey
MV-5 Pedestrian Studies	P.Dischinger	11/91-	NSC/ MIEMSS	n/a	Still in discussion stage/interest has been expressed in development of full project Abstract accepted: "Drivers Who Hit Pedestrians" scheduled for 10/92 AAAM annual meeting Jan w/FHWA	NSC/Cushing MIEMSS/Whitbeck, Burgess

### RELATED PAPERS AND/OR PRESENTATIONS

- \* "A Prospective Study of Injury Patterns, Outcomes and Costs of High Speed Frontal vs Lateral Motor Vehicle Crashes," Siegel J, Mason-Gonzalez S, Cushing B, Dischinger P, Cornwell E, Smialek J, Heatfield B, Soderstrom C, Read K, Robinson R, Parkinson K, Dailey J, Hill W, Jackson J, Livingston D, Bents F, and Shankar B, 34th ANNUAL PROCEEDINGS OF THE ASSOCIATION FOR THE ADVANCEMENT OF AUTOMOTIVE MEDICINE, Oct 1-3, 1990, Scottsdale AZ.
- \* "Direction of Collision Forces: Concordance of Police Accident Reports and Crash Investigation Findings," Simpson D, Cushing B, Birschbach J, Siegel J, Dischinger P, et al, Presented at the 35th Annual Meeting, 35th PROCEEDINGS OF THE ASSOCIATION FOR THE ADVANCEMENT OF AUTOMOTIVE MEDICINE, October 7-9, 1991, Toronto.
- \* "Alcohol Use, Driving Records, and Crash Culpability Among Injured Motorcycle Drivers," Soderstrom C, Dischinger P and Ho S, in 35th ANNUAL PROCEEDINGS OF THE ASSOCIATION FOR THE ADVANCEMENT OF AUTOMOTIVE MEDICINE. To be submitted for publication in ACCIDENT ANALYSIS AND PREVENTION. Presented at 35th Annual AAAM Meeting.
- \* "Causes, Injury Patterns and Medical Care Costs of High Speed Car Crash Patients Requiring Extrication from the Vehicle." Siegel J, Mason-Gonzalez S, Dischinger P, Cushing B, et al. Submitted for publication to ACCIDENT ANALYSIS AND PREVENTION.
- \* "Helmet Use, Patterns of Injury and Medical Outcome Among Motorcycle Drivers in Maryland," Shankar B S, Dischinger P C, Ramzy A I, Soderstrom C A, Clark C C. In 34th Annual Proceedings, AAAM, Phoenix, 1990. In press, ACCIDENT ANALYSIS AND PREVENTION.



## DRUGS / ALCOHOL IN TRAUMA

PROJECT I.D.# & TITLE	NSC P.I.	PROJECT TERM	FUNDING	UMAB \$	CURRENT PROJECT STATUS	COLLABORATORS
<u>PROJECTS</u>						
DA-1 Impact of Alcohol on Critically Injured Drivers	P.Dischinger	90/91	ABRF	17,391	Analysis and coding of data in progress by TK. Abstract done.	NSC/Kerns MIEMSS/Soderstrom MIEMSS/Smialek
DA-2 Role of Alcohol/Drugs in Occupational Injuries	C.Soderstrom	9/90-9/91	NIDA	15,958	Project completed. Final report submitted to NIDA 11/91. Resulting paper being developed.	NSC/Dischinger, Kerns MIEMSS/Soderstrom
DA-3 Survey of Alcohol and Drug Testing at U.S. Trauma Centers	C.Soderstrom	90/91	NSC		Project completed. Resulting paper listed below. Possible \$50,000 funding to result. Seeking other uses for data. Jan mtg w/NIDA to gather ideas w/P.Stolley and J.Johnson; shooting for June deadline	NSC/Dailey, Kerns
DA-4 Alcohol Abuse/Dependence in Trauma Patients	C.Soderstrom	4/92-3/95	NIAAA	589,094	Revised proposal submitted 6/91 - Awaiting award. JAMA paper accepted; reworking materials for presentation to NIDA	NSC/Dischinger UMABSOM/Hebel, Gorelick, McDuff
DA-6 MAARS/Trauma Registry Linkage Database	P.Dischinger	10/91-9/92	MDOT	30,000	Ongoing, but reduced this year. Police personnel covered by Soderstrom. Quarterly report summarizing 3-year period 7/87-6/90 submitted 11/91. Other possibilities: Occupational Injury, Assaults, uses for Linked Database. Several papers are possible. Will renew for FY93 in April.	NSC/Kerns, Ho EHS/UMBC/Glick MIEMSS/Soderstrom
DA-7 Mortality Followup of Trauma Patients	P.Dischinger	Proposal Due 2/1/92	NIAAA	70,000	In planning stage.	NSC/Kerns MIEMSS/Soderstrom EPID/Statistician

### RELATED PAPERS AND/OR PRESENTATIONS

- \* "Prevalence of Drug and Alcohol Use Among Occupational and Vehicular Injuries," Dischinger P, Presented at APHA meeting, Atlanta, GA 11/11/91.
- \* "Drug & Alcohol Testing in U.S. Trauma Centers: A National Assessment," Soderstrom C, Dailey J, Kerns T. Submitted to JAMA, Nov. 1991.
- \* "Injured Drivers and Alcohol Use: Culpability, Convictions and Pre- and Post-crash Driving History." Soderstrom C, Dischinger P, Birschbach J. J TRAUMA 30(10): 1208-1214, 1990.
- \* "Alcohol Abuse/Dependence Among Trauma Center Patients: A Need to Reassess Current Diagnostic Practices." Soderstrom C, Dischinger P, Smith G, McDuff D, Hebel R, Gorelick D. Submitted to JAMA Oct 1991.
- \* "A Study of Alcohol Use Among 165 Injured Motorcycle Drivers Treated at Maryland Trauma Centers: Clinical and Crash Perspectives Including Crash Culpability Assessment," Soderstrom C, Dischinger P, Ho S and Shankar R. NTIS Document DOT HS 807612, April 1990.

## HOST RESPONSE TO TRAUMA

<u>PROJECT I.D.# &amp; TITLE</u>	<u>NSC P.I.</u>	<u>PROJECT TERM</u>	<u>FUNDING</u>	<u>UMAB \$</u>	<u>CURRENT PROJECT STATUS</u>	<u>COLLABORATORS</u>
<u>PROJECTS</u>						
HR-1 Host Response to Trauma Proj #1 -Identifying Risk Factors	A.Damiano	10/91	NSC	None	Looking at hospital discharge data Group will include the head of Immunology	NSC/Cushing MIEMSS/To Be Determined
HR-2 Proj #2 - Development of a Research Agenda	B.Cushing	9/91	NSC/ MIEMSS/	None	No scale established; Study Center's primary focus is clinicians working w/NSC	NSC/Damiano MIEMSS/Dunham, Wiles, Campbell, Reynolds UMABSOM/Goldblum (Dept of Medicine)

## RELATED PAPERS AND/OR PRESENTATIONS

# TRAUMA CARE SYSTEMS

<u>PROJECT I.D.# &amp; TITLE</u>	<u>NSC P.I.</u>	<u>PROJECT TERM</u>	<u>FUNDING</u>	<u>UMAB \$</u>	<u>CURRENT PROJECT STATUS</u>	<u>COLLABORATORS</u>
<u>PROJECTS</u>						
TS-1 Rehabilitation Following Lower Extremity Fracture	B.Cushing (E.MacKenzie)	10/89- 8/92	CDC/Injury Control Subcontractor to JHU	188,283	In progress - Year 3/3	NSC/Cushing, Boulmetis, Damiano MIEMSS/Burgess, Ceisla JHU/MacKenzie Vanderbilt/Morris UWashington/Seattle - Jurkovich
TS-2 As above - Competing Renewal	B.Cushing (E.MacKenzie)	8/92-	Above Subcontractor to JHU	60,168	Submitted for funding; notification expected in next one-two months	Same as above



## TRAUMA CARE OUTCOMES & EFFECTIVENESS RESEARCH

PROJECT I.D.# & TITLE	NSC P.I.	PROJECT TERM	FUNDING	UMAB \$	CURRENT PROJECT STATUS	COLLABORATORS
<u>PROJECTS</u>						
TS-3 Use of Physical Therapy Following Lower Extremity Trauma	B.Cushing (E.MacKenzie)	10/92- 9/94	Amer. Phys. Therapy Assn. Subcontractor to JHU	60,168		Same as above NSC/McCarthy
TS-4 Outcomes of Seriously Injured Patients as a Function of Prehospital Care	P.Dischinger	9/91- 8/92	UMAB- DRIF	9,600	Ongoing	MIEMSS/Ramzy UMBC/Glick
TS-5 Outcomes Assessment Research A Course for Trauma Surgeons	E.MacKenzie	1/92-	None		Course development completed.	EAST/Champion JHU/Steinwachs NSC/McCarthy
TS-6 Long Term Effects of Hand Injury	E.MacKenzie	1/90- 12/91	Union Memorial Hospital/Johns Hopkins Injury Prevention Center		Data collection complete on 112 cases; data analysis in progress; Abstract submitted: to Amer Association for Surgery of the Hand	NSC/McCarthy
TS-7 Limb Salvage vs Amputation	E.MacKenzie		AHCPR		Formulative stages	UMAB/Bossey
TS-8 Pelvic Fractures Study	M.McCarthy				Formulative stages	

### RELATED PAPERS AND/OR PRESENTATIONS

\* "Functional Outcome Following Hand Injury: A Prospective Evaluation," MacKenzie E, Wilgus S, Redfern A, McCarthy M. In preparation. Abstract submitted for presentation at the American Society for Surgery of the Hand.

\* Abstracts due: AAST - March 1; AOS - April 1 related to TS-6

## TRAUMA INFORMATICS

PROJECT I.D.# & TITLE	NSC P.I.	PROJECT TERM	FUNDING	UMAB \$	CURRENT PROJECT STATUS	COLLABORATORS
<b>PROJECTS</b>						
TI-3 Management of National EMS/Trauma Information and Computerized National Directory	B.Cushing	9/91-12/92	NHTSA/AMEI Subcontract	3,360 Yr-1 5,250 Yr-2	Subcontract is part of the NHTSA/AMEI Coop Agreement finalized 10/14/91	AMEI/Abramson NSC/Woodman
TI-4 Computerized Procedure Notes: Electronic Collection of Data on Non-operational Procedures	B.Cushing		NSC/STAPA		TI-4 and TI-5 - parts of effort to collect better data for evaluation of health services; looking to standardized format for electronic medical record within 10 years.	NSC/Benoit, Teitelbaum
TI-5 Computerized Injury Data Collection	B.Cushing		NSC/STAPA		Project design to be complete by 2/01 including testable graphics interface for abdomen; whole body by summer.	UMBC/Canfield, Ondrish Durham MIEMSS/Van Wijngaarden, Guenon, Bame NSC/Teitelbaum, Benoit, Woodman
TI-6 Clinical Decision Support: Identifying the Risk of Intraabdominal Injuries in Trauma Patients	B.Cushing		NSC		Test interface presentation of model to aid diagnosis of occult abdominal injuries	MIEMSS/Dunham UMBC/Canfield NSC/Teitelbaum
TI-7 Sources of Error in Trauma Data Collection	B.Cushing	1992			Identifies sources of error in trauma data collection & coding processes at MIEMSS	NSC/Teitelbaum, Damiano
TI-8 Dunham Database Information	M.Dunham	1992	AMIA		Abstract submitted	
TI-9 TOOMIS (Trauma/Orthopaedics Outcome Management Information System)	B.Cushing E.MacKenzie A.Burgess	1992			Formulative stages - a coordination project	

### RELATED PAPERS AND/OR PRESENTATIONS

"Frame-Based Clinical Data Entry: Design Issues for Physician Acceptance," Benoit R, Canfield K, Teitelbaum S, Cushing B, Stamp N, Durham A, Ondrish A, Woodman M, Bame W. Submitted to MEDINFO, 1992.

"Injury Severity: Better Data Through Direct Physician Entry of Anatomic Injuries?" Cushing B, Teitelbaum S, Burman W, Kargis D, Bame W. Med Decis Making 1991;11(4 Suppl): S45-S48.

"Trauma Registries: Recommended Strategies for Future Development." Paper still in planning stages.



## DISASTER & INTERNATIONAL EMS

PROJECT I.D.# & TITLE	NSC P.I.	PROJECT TERM	FUNDING	UMAB \$	CURRENT PROJECT STATUS	COLLABORATORS
<u>PROJECTS</u>						
DI-1 Prehospital Training for Palestinians	R.Bissell	10/91-4/92	AMIDEAST	52,800	Joint effort/EHS and NSC @ 50% each AMIDEAST wants technician courses for electro-encephalography, psychology	
DI-2 Assessment of Public Health Development in Latin America	R.Bissell	11/91-12/91	OFDA	6,000	Personal Services Contract/50% EHS/NSC. Final report done. Multiple articles will probably result.	
DI-4 Training in Emergency Health Services Management a) PHS / Saudi b) Kuwait	R.Bissell		Saudi Kuwait		Preparing 3-4 mos training course for summer months Train 15 Saudis in EMS Mgmt Will be submitting request for training	UMBC/NSC / Bissell
DI-5 Injury Among Hispanics	R.Bissell				Pilot study completed in Washington DC. Preparation for application to CDC & PHS (Oct 1) in process.	EHS/NSC / Bissell EHS/M.Weddle - GWU
DI-7 Disaster Management Course: Medical Aspects of Disaster Management	R.Bissell				Course being designed jointly by EHS/ACS/Univ Pittsburgh; work continuing in Pittsburgh and at UMBC	UPitt/Angus; Shen

### RELATED PUBLICATIONS AND/OR PRESENTATIONS

#### BOOKS:

Management of Mass Casualties in a Catastrophic Disaster. Bissell, R, Abbott L, Dailey J, Young K: Washington DC (US Public Health Service and the Federal Emergency Management Agency). To be published in early 1992 by GPO.

Management of Environmental Health Consequences of a Catastrophic Disaster. Leger, Pierre, and Bissell, R: Washington, DC (USPHS and the Federal Emergency Management Agency). Publish in early 1992.

Self-Help for Medical Emergencies in Disasters. Bissell R, Cushing B, Young K: Washington, DC (USPHS and Federal Emergency Management Agency). Publish in early 1992.

#### ARTICLES:

\* "International Emergency Health Care Systems," Bissell R and Conover J in PREHOSPITAL AND DISASTER MEDICINE 1991;6(2).

\* Article in planning stages resulting from study of health effects of the April 22, 1991 earthquake in Costa Rica. Study is funded and managed by International Resuscitation Research Center (IRRC). Targeted publication date: Spring 1992.

## DISASTER & INTERNATIONAL EMS - cont'd

### ARTICLES - cont'd:

- \* Two articles in preparation re injury among Hispanics; 3rd article re gender as a risk factor. Hispanic Journal and occupational health journals seeking studies of this nature.

### PRESENTATIONS:

- \* "Is the National Disaster Medical System Capable of a Rapid Response?" Invited presentation at the Natural Hazards Workshop, Boulder, CO (7/91).
- \* "An Ecological View of Hurricanes and Infectious Disease: The Case of the Dominican Republic" Invited presentation at GWU Colloquium "Environmental Disasters: Preparation or Prevention" (4/91)
- \* "Aftermath of the Disaster and the Role of Radio in Prevention of Epidemics," and "The Golden Hour Concept and Medical Response to Disasters," Invited presentations, International Weather Warning Workshop, New Delhi, India (12/90).



## ECONOMICS

PROJECT I.D.# & TITLE	NSC P.I.	PROJECT TERM	FUNDING	UMAB \$	CURRENT PROJECT STATUS	COLLABORATORS
<u>PROJECTS</u>						
EC-1 Trauma Center Closures: A National Survey	J.Dailey		NSC	None	Awaiting responses from 4 PA trauma centers by 11/15	
EC-2 Trauma Center Operations Survey	J.Dailey		NSC	None		
EC-3 Impact of Closed Trauma Centers on Emergency Departments	J.Eastham		UMAB DRIF	17,600	Awarded;	NSC/Dailey
EC-4 Assessment of Cost of Non-Wartime Injury in the U.S. Navy	S.Turney J.Dailey				Joint NSC/MIEMSS study in support of Navy grant	
EC-5 Comparison of Military and Civilian Costs of Injury in the U.S.	To Be Named					
EC-6 Cost Conference	E.MacKenzie				Proposal in planning stages; may be submitted to AHCPR and/or other foundations.	JHU/Salkever NSC/Cushing
EC-7 Uncompensated Trauma Care	E.MacKenzie		NSC		Analysis is ongoing	JHU/Salkever, Damiano
EC-8 Cost of Lower Extremity Trauma	E.MacKenzie		NSC		Formulative stages	

### RELATED PAPERS AND/OR PRESENTATIONS

#### PRESENTATIONS:

- \* "Trauma Center Closures: A National Assessment," American Association for the Surgery of Trauma, Dailey J. Philadelphia, PA, Sept 1991.

#### PAPERS:

- \* "Trauma Center Closures--A National Assessment: Part One--Who and Where They Were," J TRAUMA, Dailey J, Teter H, Cowley R, Provenzano G. Notification pending; expected publication 1/92.
- \* "Trauma Center Closures--A National Assessment: Part Two--Why They Closed" Journal of Trauma, Dailey J, Teter H, Cowley R, Provenzano G. Notification pending; expected publication 1/92.

#### PAPERS IN PROGRESS:

- \* "Impact of Trauma Center Operations on Hospitals: A National Assessment," Provenzano G. and Dailey J.
- \* "Suitability of Hospitals to Provide Level I Trauma Care: A National Assessment", Dailey J and Provenzano G.

## OTHER CATEGORIES

PROJECT I.D.# & TITLE	NSC P.I.	PROJECT TERM	FUNDING	UMAB \$	CURRENT PROJECT STATUS	COLLABORATORS
NSC-1 Survey of EMS Knowledge Base in Emergency Medicine Residents and Trauma Surgery Fellows	R.Bissell	1/15/92			Survey results will be used to develop EMS management training program for residents & fellows, looking at baseline of knowledge and needs analysis; will work with this year's residents. Final article will be prepared for late summer.	NSC/Dailey MIEMSS/Parry UMSEM/Barish; Brown (Emerg. Med) UPittsburgh/Angus; Shen
NSC-2 Anne Arundel Firefighters Prehospital Intubation Study	Myers	6/88-		None	Ongoing study/paper currently being prepared MIEMSS/Floccare	NSC/Benoit  Anne Arundel Fire Cos.
NSC-3 MIEMSS Alumni Survey - Directory	Soderstrom		Aerospatiale	\$ 2,500	Final mailing to alumni 11/10/91. Anticipate 1/92 publication.	NSC/Dailey
NSC-4 Spine and Spinal Cord Injury: A Clinical and Research Fellowship	Watts/Knoller	7/92-	Paralyzed Vets of America/ Spinal Cord Res Foundation	\$37,800/yr 2 years	Proposal submitted - covers funding of 2-yr fellow including salary, stipend, fringes & computer services	MIEMSS/Knoller