- 1. American College of Emergency Physicians, "Prehospital Advanced Life Support Skills, Medications, and Equipment, ' *Annals of Emergency Medicine 17(10): 1109-111*, October 1988.
- American College of Emergency Physicians, 'Guidelines for Emergency Medical Services Systems, " *Annals of Emergency Medicine* 17(7):742-745, July 1988.
- American College of Emergency Physicians, 'Guidelines for Trauma Care Systems," Annals of Emergency Medicine 16(4):459-463, April 1987.
- 4. American College of Surgeons, Committee on Trauma, Hospital and Prehospital Resources for Optimal Care of the Injured Patient and Appendices A Through J, 1987.
- American College of Surgeons, Committee on Trauma, "Hospital Resources Documents: Field Categorization of Trauma Patient (field triage)," *Bulletin American College of Surgeons 71*(10): 17-21, October 1986.
- **6.** American Hospital Association, OTA analysis of data from the American Hospital Association, 1987 Annual Survey 1988-89.
- 7. Anderson, P. B., "Rural EMS," paper presented at the Rural EMS Workshop-U. S. Congress, Office of Technology Assessment, Washington, DC, May 4-5, 1989.
- Anderson, P, B., "The Idaho Statewide EMS Communications Center," *Emergency Medical Services* 10(4):7-13, July/August 1981.
- Anderson, P. B., Bjornson, D. R., and Wayne, M., "I"elelecture: Providing Effective Continuing Education, An Innovative Approach to Training in Rural America," *Journal of Emergency Medical Services*, March 1982.
- **10.** Anderson, P. B., Neuman, K. J., and Trimble, G. R., "Trauma in the Country: A Statewide Approach to Trauma Skills Training for Rural EMTs," *Journal of Emergency Medical Services*, March 1986, pp. 61-63.
- 11. Anderson, T. E., Rose, W. D., and Leicht, M. J., "Physician-Staffed Helicopter Scene Response From a Rural Trauma Center, *Annals of Emergency Medicine* 16(1):58-61, January 1987.
- Baker, S. P., O'Neil], B., and Karpf, R. S., *The Injury* Fact Book (Lexington, Massachusetts Toronto, 1984).
- Baker, S. P., Whitfield, M. S., and O'Neill, B., "County Mapping of Injury Mortality, ' *Journal of Trauma* 28(6):741-745, June 1988.
- Baker, S. P., Whitfield, M. S., and O'Neill, B., "Geographic Variations in Mortality From Motor Vehicle Crashes," *The New England Journal of Medicine* 316(22):1384-1387, May 28, 1987.

- Border, J., "Panel: Prehospital Trauma Care— Stabilize or Scoop and Run," *Journal of Trauma* 23(8):703-711, 1983.
- Brodsky, H., and Hakkert, A. S., "Highway Fatal Accidents and Accessibility of Emergency Medical Services,' Social Science Medicine 17(1 1):731-740, 1983.
- 17. Cadigan, R. T., and Bugarin, C. E., "Trauma Registries: Bases for Comparison, 'Presentation at the Annual Meeting of the American Public Health Association, New Orleans, LA, October 1988.
- Cales, R. H., "Advanced Life Support in Prehospital Trauma Care: An Intervention in Search of an Indication?" Annals of Emergency Medicine 17(6):65 1-653, June 1988.
- 19. Cales, R. H., and Trunkey, D. D., "Preventable Trauma Deaths, *Journal of the American Medical Association* 254(8):1059-63, *1985*.
- Campbell, J. E., and McMahan, P., "Trauma Care: A Race Against Time," *Alabama Medicine*, January 1985, pp. 10-39.
- Certo, T. F., Rogers, F. B., and Pilcher, D. B., "Review of Care of Fatally Injured Patients in a Rural State: 5-year FoI10WUP," *The Journal of Trauma* 23(7):559-565, July 1983.
- 22. Champion, H. R., "Trauma Care Systems: The Federal Role," *The Journal of Trauma 28(6):877-879*, June 1988.
- Champion, H. R., Copes, S. C., Buyer, D., Flanagan, M. E., et al., "Major Trauma in Geriatric Patients," *American Journal of Public Health* 79(9):1278-1282, September 1989.
- Chew, J. L., Emergency Medical Services Program Specialist, National Highway Traffic Safety Administration, Department of Transportation, personal communication, May, 1989.
- 25. Commanday, C., EMS Manager. Oregon Department of Human Resources, Health Division, personal communication, September 1989.
- 26. Committee on Trauma Research Commission on Life Sciences, National Research Council and the Institute of Medicine, *Injury in America: A Continuing Public Health Problem* (Washington, DC: National Academy Press, 1985).
- 27. Committee to Review the Status and Progress of the Injury Control Program at the Centers for Disease Control, Injury Control: A Review of the Status and Progress of the Injury Control Program at the Centers for Disease Control (Washington. DC: National Academy Press, 1988).
- 28, Committee to Study Medical Professional Liability and the Delivery of Obstetrical Care, Division of Health Promotion and Disease Prevention, Institute of Medicine, *Medical Professional Liability and the*

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Delivery of Obstetrical Care (Washington, DC: National Academy Press, 1989).

- 29. Coopers and Lybrond, "Air Ambulance Issues," proceedings of the Air Ambulance conference sponsored by the Department of Transportation, National Highway Safety Administration, June 23-24, 1988.
- Craren, E.J., Hoffman, K. D., and Leopold, R., "Public Knowledge of EMS: Evaluating the Information/Public Education Component," *Journal of EMS*, November 1986, pp. 36-38.
- Cross, C., "Southeast Ohio's Answer to the Emergency in Emergency Medical Service," *Appalachia*, August-September 1973, pp. 1-11.
- 32. **Culp,** J., Office of Rural Health Policy, Health Resources and Services Administration, Department of Health and Human Services, personal communication, **Rockville**, MD, October 1989.
- Cummins, R. O., Eisenberg, M. S., Graves, J. R., and Damon, S. K., "EMT-Defibrillation. Part 1: Is It Right for You?" *Journal of Emergency Medical Services*, January 1985, pp. 60-64.
- Cummins, R. O., Eisenberg, M. S., Graves, J. R., et al., "EMT-Defibrillation. Part 3: Achieving Medical Control' *Journal of Emergency Medical Services*, March 1985, pp. 48-53.
- Cummins, R. O., Graves, J. R., Eisenberg, M. S., et al., "EMT-Defibrillation. Part 2: Implementing EMT- D,' *Journal of Emergency Medical Services*, February 1985, pp. 44-47.
- Dalzell, G. W., Prouzina, S., Magee, H., et al., "Assessment of a Device for Trans-Telephonic Control of Defibrillation," *The Lancet*, 1(8587):695-6%, Mar. 26, 1988.
- Dimon, T., Chairperson, Emergency Nurses Association, Rural Special Interest Group, personal communication, May 1989.
- Donovan, P. J., Cline, D. M., Whitley, T. W., Foster, C., et al., "Prehospital Care by EMTs and EMT-Is in a Rural Setting: Prolongation of Scene Times by ALS Procedures," *Annals of Emergency Medicine*, 18:495-500, May 1989.
- East, S., and Tenbnnk, T. D., "A Nodal Concept of EMS for Rural North Missouri, ' Kirksville College of Osteopathic Medicine, unpublished manuscript, August 1989.
- Ellis, E. G., "One Solution to the Rural Medical Problem," *Texas Hospitals* 43(8):40-42, January 1988.
- Garrison, H.G., Benson, N. H., and Whitley, T. W., "Helicopter Use by Rural Emergency Departments to Transfer Trauma Victims: A Study of Time-to-Request Intervals," *American Journal of Emergency Medicine* 7(4):384-6, July 1989.
- 42. **Gilbertson**, M., Director of EMS, State of New York Department of Health, Albany, NY, personal com-

munication, August 1989.

- 43. Goldman, B., "Drama on Computer Screen Proves a Good Teacher," *Canadian Medical Association Journal*, 139:240-243, August 1988.
- 44. Grimes, V., South Carolina Department of Health and Environmental Control, Division of EMS, Columbia, SC, personal communication, August 1989.
- 45. Halpin, T. W., Emergency Medical Services Program, New York Department of Health, personal communication, Rochester, NY, October 1989.
- Hanson, N. W., Chief, Emergency Medical Services, Minnesota Department of Health, Minneapolis, MN, October 1989.
- Barrington, C., Gallagher, S. S., Burgess, L., et al., injury Prevention Programs in State Health Departments: A National Survey (Boston, MA: Childhood Injury Prevention Resource Center, March 1988).
- Hartley, J. M., Landis, S. S., and Allison, E. J., "Physicians' Forum: Medical Direction and Accountability for EMS Advanced Life Support Care in Rural North Carolina," *North Carolina Medical Journal* 46(5):271-273, May 1985.
- 49. Headricks, A., and Alberts, D., Center for Health Economics Research, "Closures of Rural Hospitals Between 1980 and 1987," prepared for the Department of Health and Human Services, Health Care Financing Administration, August 1989.
- 50. Hewitt, M., "Defining "Rural" Areas: Impact on Health Care Policy and Research," U.S. Congress, Office of Technology Assessment, July 1989.
- 51. Higgins, D., and Goss, J. R., "Jump Crews: An Approach to Rural Emergency Medical Care, '*The EMT Journal* 4(2):29-31, June 1980.
- 52. Hunt, R. C., McCabe, J. B., Hamilton, G. C., et al., "Influence of Emergency Medical Services Systems and Prehospital Defibrillation on Survival of Sudden Cardiac Death Victims, *American Journal* of Emergency Medicine 7(1):68-82, January 1989.
- 53. Johnson, J., Director, Emergency Medical Services, Porter Memorial Hospital, Valparaiso, Indiana, personal communication, October 1989.
- Krob, M. J., Cram, A. E., Vargish, T., et al., "Rural Trauma Care: A Study of Trauma Care in a Rural Emergency Medical Services Region," *Annals of Emergency Medicine*, 13:891-895, October 1984.
- 55. Larson, D. M., and **Mellstrom**, M. S., "Management of Multiple Trauma in a Rural Setting, '*Minnesota Medicine* 70(1):43-5, January 1987.
- Macione, A. R., and Wilcox, D. E., "Utilization Prediction of Helicopter Emergency Medical Services," *Annals of Emergency Medicine* 16:391-399, April 1987.
- 57. Madden S., Director, Health Services Information Division, Public Health Foundation, personal com-

munication, November 1989.

- Marshall, S., and Croy, L., "How the West Was Won: A Systems Approach to EMS in the Texas Panhandle, ' *Journal of Emergency Medical Services* 14(6):50-53, June 1988.
- McGlown, K. J., "Flatiron: A MAST Service for Rural Alabama." Journal of Emergency Medical Services 8(11):40-42, November 1983.
- McHenry, S., Director, Division of Emergency Services, Virginia Department of Health, Richmond, Virginia, communication at the OTA Rural EMS Workshop, May 4-5, 1989, Washington, DC.
- 61. Merlis, M., "Rural Hospitals," Congressional Research Service (CRS) Report for Congress, CRS, Washington DC, May 2, 1989.
- 62. Metcalf, W. R., "Emergency Medical Services," Presentation at A Workshop for State and Local Government Officials on Rural Health Care, Sponsored by the User Liaison Program, National Center for Health Services Research and Health Care Technology Assessment, Public Health Service, U.S. Department of Health and Human Services, Boerne, TX, Nov. 30, 1988.
- 63. Metcalf, W. R., Director, Emergency Medical Services, American College of Emergency Physicians, Dallas, TX, personal communication, October 1989.
- Miller, C., Mountain Management, Ojo Sarco, New Mexico, personal communication, October 1989.
- The Missouri Health Facilities Review Committee, Certificate of Need Program Staff, "Missouri Air Ambulance Report," The Missouri Certificate of Need Program, Jefferson City, MO, January 1989.
- 66. Mueller, B. A., Rivara, F. P., and Bergman, A. B., "Urban-rural Location and the Risk of Dying in a Pedestrian-vehicle Collision," *The Journal of Trauma* 28(1):91-94, January 1988.
- Murphy, D. J., Pollock, J., Smith G., et al., *First on* the Scene, Northeast Regional Agricultural Engineering Service, Cooperative Extension, Ithaca, NY, January 1989.
- Murray, J., "Levels of Training for a Rural State," *Emergency Medical Services* 9(2):49-50, March-April 1980.
- Myrick, J, A., Kay, B. J., Kishbaugh, D., et al., "Acceptance of a Volunteer First-Responder System in Rural Communities: A Field Experiment," *Medical Care* 21(4):389-399, April 1983.
- National Academy of Sciences, National Research Council, Accidental Death and Disability — The Neglected Disease of Modern Society (Washington, DC: National Academy Press, 1966).
- National Association of State Emergency Medical Services Directors (NASEMSD), 'Resolution: Emergency Medical Communications," adopted by the NASEMSD at Breckenridge, CO, Oct. 26, 1988.

- 72. National Safety Council, "Work Accidents, 1987," National Safety Council 32-94:97-100,1988.
- 73. Newman, M. M., "Defibrillation Shakes the Nation: Results of the JEMS 1988 National Early Defibrillation Study," *Journal of Emergency Medical Services* January 1989.
- 74. Newman, M. M., Emergency Medical Services Consultant, **personal** communication, October 1989.
- North Central Florida Health Planning Council, Inc., Florida District III Health Plan, "Emergency Medical Services," North Central Florida Health Planning Council, Inc., Gainesville, FL, 1988.
- Ornoto, J. P., Craren, E. J., and Nelson, N. M., "Impact of Improved Emergency Medical Services and Emergency Trauma Care on the Reduction in Mortality from Trauma," *The Journal of Trauma* 25(7):575-579, July 1985.
- 77. Pierce, J. C., "Established Rural Health Systems," *EMT Journal* 5(1):40-41, February 1981.
- 78. Ploss, J. E., "A History of the Medical Care Program of the UMWA Welfare and Retirement Fund, ' unpublished Master of Science dissertation, School of Hygiene and Public Health of the Johns Hopkins University, 1981.
- 79. Pens, P. T., "Advances in Pre-hospital Care: The Technology of Emergency Medical Services," *Mental in.rtruments* 22(3): 143-145, June 1988.
- Potter, D., Goldstein, G., Fung, S. C., and Selig, M., "A Controlled Trail of Prehospital Advanced Life Support in Trauma," *Annals of Emergency Medicine*, 17:582-588, June 1988.
- 81. President's Commission on Highway Safety, Health, Medical Care and Transportation of (he injured, 1965.
- Reeder, L., "Seeding Clouds of Change: The Drought in Rural EMS," *Journal of Emergency Medical Services*, 14(6)42-49, June 1988.
- Reins, H. D., Bartlett, R. L., and Chudy, N. E., "Is Advanced Life Support Appropriate for Victims of Motor Vehicle Accidents: The South Caroline Highway Trauma Project, " *Journal of Trauma* 28(5):563-570, 1988.
- Rosenberg, M. L., Graitcer, P. L.. and Waxweiler, R. J., "Introduction: Moving From the 1990 Injury Control Objectives to State and Local Surveillance Systems' in CDC Surveillance Summaries, *Morbidity Mortality Weekly Review*, 37(SS-1): 1-4, February 1988.
- Rosenblatt, R. A., and Amundson, B., "The Scope of Service in Rural Hospitals: Recommendations of the WAMI Rural Hospital Projects, 'Occasional Paper #l, Rural Hospital Project, February 1988.
- Ruskin J. N., "Automatic External Defibrillator and Sudden Cardiac Death," *The New England Journal of Medicine 319(1 1):713-715*, Sept. 15, 1988.

- 87. Russell, G., "Providing Emergency Services in the Small or Rural Hospital, "*Texas Hospitals 36(5):58-60*, October 1980.
- Sacco, W. J., Jameson, J. W., Copes, W. S., et al., "Partition: A Quantitative Method for Evaluating Prehospital Services for Trauma Patients," Computers in Biology and Medicine 18(3):221-227, 1988.
- Sanders, A. B., "Emergency Medicine, Journal of the American Medical Association 261(19)2841-2843, May 19, 1989.
- 90. Scalice, B. "More than a Numbers Game," *Journal* of *Emergency Medical Services* June 1988, pp. 46-47.
- 91. Scheib, B.T., "A Decade of Service: MAST-Military Assistance to Safety and Traffic," *Journal* of Emergency Medical Services, November 1983, pp. 38-45.
- 92. Schneider, A., *Rescue at Risk* (Pittsburgh, PA: The Pittsburgh Press, 1987).
- 93. Spear, S. F., "Life-Threatening Emergencies: Patterns of Demand and Response of a Regional Emergency Medical Services System," *American Journal of Preventive Medicine* 2(3):163-8, May-June 1986.
- Spoor, J. E., "Rural Advanced EMT Training-Part III," *Emergency Medical Service* 10(1):52-55, January/ February 1981.
- 95. Spruill, W.N. Jr., Director, Office of Emergency Medical Services, Mississippi State Department of Health, *National Survey of EMS Funding: Innovative Approaches*, October 1984 (prepared on behalf of the National Association of State EMS Directors).
- Stambler, H., Director, Office of Data Analysis and Management, Bureau of Health Professions, Health Resources and Services Administration, U.S. Department of Health and Human Services, Rockville, MD, Sept. 8, 1989.
- 97. Stamper, D., communication at the OTA Rural EMS Workshop, May 4-5, 1989, Washington, DC.
- State EMS Office, 'Communications Programs and Disaster Preparedness,' Produced by the National EMS Clearinghouse and The Charles McC Mathias National Study Center for Trauma and EMS, 1988.
- Steele, R., "Development of a Minimum Data Set for Emergency Medical Services Patient Record Keeping," prepared for Health Services Administration, July 1974.
- Stults, K. R., "EMT-Defibrillation in Rural America," *Physician Assistant*, September 1986, pp. 111-121.
- 101. Stults, K. R., Brown, D. D., and Kerber, R. E., "Efficacy of an Automated External Defibrillator in the Management of Out-of-Hospital Cardiac Arrest: Validation of the Diagnostic Algorithm and Initial

Clinical Experience in a Rural Environment, " *Circulation* 73(4):701-709, April 1986.

- 102. Stults, K. R., Brown, D. D., Schug, V. L., and Bean, J. A., 'Prehospital Defibrillation Performed by Emergency Medical Technicians in Rural Communities,' *The New England Journal of Medicine* 310(4):219-223, January 1984.
- 103. Swan, T., communication at the National Rural Health Association, "National Rural EMS Needs Workshop," San Diego meeting, March 1989.
- 104. The National EMS Clearinghouse, "Training and Certification of EMS Personnel," The National EMS Clearinghouse, a service of The National Association of State Emergency Medical Services Directors and The Council of State Governments, Iron Works Pike, Lexington, KY, January 1989.
- 105, The National EMS Clearinghouse and The Charles McC Mathias National Study Center for Trauma and EMS, "State EMS Office: Communications Programs and Disaster Preparedness," The National EMS Clearinghouse, a service of The National Association of State Emergency Medical Services Directors and The Council of State Governments, Iron Works Pike, Lexington KY, October 1988.
- 106. The National EMS Clearinghouse, "State EMS Office: Evaluation/Information Systems and Public Information/Education, The National EMS Clearinghouse, a service of The National Association of State Emergency Medical Services Directors and The Council of State Governments, Iron Works Pike, Lexington KY, October 1988.
- 107. The National EMS Clearinghouse, "The EMS Office: Its Structure and Functions," The National EMS Clearinghouse, a service of The National Association of State Emergency Medical Services Directors and The Council of State Governments, Iron Works Pike, Lexington KY, January 1988.
- 108. The National EMS Clearinghouse, "Emergency Medical Services Transportation Systems and Available Facilities," The National EMS Clearinghouse, a service of The National Association of State Emergency Medical Services Directors and The Council of State Governments, Iron Works Pike, Lexington KY, January 1988.
- 109. The National EMS Clearinghouse, "Protection From Liability for EMS Personnel," The National EMS Clearinghouse, a service of The National Association of State Emergency Medical Services Directors and The Council of State Governments, Iron Works Pike, Lexington, KY, August 1987.
- 110. The National Registry of Emergency Medical Technicians, personal communication. August 1989.
- 111. U.S. Congress, Office of Technology Assessment, "Rural Health Care, ' in progress.

- 112. U.S. Congress, Office of Technology Assessment, Rural Emergency Medical Services Workshop, Washington, DC, May 4-5, 1989.
- U.S. Department of Commerce, Bureau of the Census, 1980 Census of Population, Volume 1: Characteristics of the Population, December 1983.
- 114. U.S. Department of Health and Human Services, National Center for Health Services Research and Health Care Technology Assessment, "Can Lay Persons Use AEDs to Save Heart Attack Victims?" NCHSR Research Activities, September 1989.
- 115. U.S. Department of Health and Human Services, National Center for Health Services Research and HeaJth Care Technology Assessment, "Community Planning for EMT Defibrillation," NCHSR Program Note, October 1985.
- 116. U.S. Department of Health and Human Services, National Center for Health Statistics, C.A. Schoenborn and M. Marano, 1988. Current estimates form the National Health Interview Survey: United States, 1987, Vital and Health Statistics. Series 10, No. 166, DHHS pub. No. (PHS) 88-1594, Public Health Service.
- 117. U.S. Department of Health and Human Services, National Center for Health Statistics, J.G. Collins: Types of injuries and impairments due to injuries, United States. *Vital and Health Statistics. Series* 10, No. 159. DHHS Pub. No. (PHS) 87-1587, Public Health Service.
- 118. U.S. Department of Health and Human Services, "Identification and Analysis of the Distribution of Physicians by Specialty Utilizing the Area Resource File (ARF) County-Specific Data Base," prepared by Applied Management Sciences, Inc., Dec. 23, 1988.
- 119. U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, "Perspectives in Disease Prevention and Health Promotion: Progress Toward Achieving the National 1990 Objectives for Injury Prevention and Control," *Morbidity Mortality Weekly Report* 37(9):138-146, Mar. 11, 1988
- U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, "CDC Surveillance Summaries," *Morbidity Mortality Weekly Report* 37(No. SS-1) February 1988.
- 121. U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, "Premature Mortality due to Unintentional Injuries, United States, 1984," *Morbidity Mortality Weekly Report* 36(49):814-815, *Dec.* 18, 1987.
- 122. U.S. Department of Transportation, National Accident Sampling System 1986, a report on traffic

crashes and injuries in the United States, July 1988.

- 123. U.S. Department of Transportation, National Highway Traffic Safety Administration, *Fatal Accident Reporting System: 1987*, December 1988.
- 124. U.S. Department of Transportation, National Highway Traffic Safety Administration, "Emergency Medical Services/Trauma System Development," undated paper, Washington, DC.
- 125, U.S. Department of Transportation, National Highway Traffic Safety Administration, memo on coordinating committee, Washington, DC, 1984.
- 126. U.S. Department of Transportation, National Highway Traffic Safety Administration, "Emergency Medical Services Technical Assistance Program," undated paper, Washington, DC.
- 127. U.S. General Accounting Office, States Assume Leadership Role in Providing Emergency Medical Services, Publ. No. GAO/HRD-86-1 32 (Washington, DC, September 1986).
- 128. Urdaneta, L. F., Miller, B. K., Ringenberg, B. J., et al., "Role of an Emergency Helicopter Transport Service in Rural Trauma," *Arch. Surg.* 122:992-996, September 1987.
- 129. Van Cott, C., Communications Director, Office of Emergency Medical Services, State of North Carolina, personal communication, October 1989.
- Vukov, L. F., White, R. D., Bachman, J. W., et al., "New Perspectives on Rural EMT Defibrillation," *Annals of Emergency Medicine* 17:318-321, April 1988.
- 131. Wayne, R., "Rural Trauma Management," *The American Journal of Surgery* 157:463-467, May 1989.
- 132. Wears, R. L., "Predicting the Demand for Emergency Medical Services," *Annals of Emergency Medicine* 18:705-707, June 1988.
- 133. West, J. G., Williams, M. J., Trunkey, D. D., and Wolferth, C. C., "Trauma Systems: Current Status— Future Challenge s," *Journal of the American Medical Association* 259(24):3597-1445, June 1988.
- 134. Willard, G., Texas Department of Health, Austin, TX, personal communication, August 1989.
- 135. Wolfe, H., and Shuman, L. J.. "RURALSIM: A Model for Rural EMS Systems Planning, ' contract report prepared for U.S. Congress, OTA, April 1989.
- Yamamoto, L. G., "Cellular Telephone Communication Between Hospitals and Ambulance s," *American Journal of Emergency Medicine* 6(1):35-38, January 1988.
- Yeakley, C., Oregon Health Division, EMS Section, Portland, Oregon, personal communication, October 1989,