



MCA 50-6-402: EFFECTIVENESS OF THE TRAUMA CARE SYSTEM

Pursuant to 50-6-402 Montana Code Annotated (MCA), the Department of Public Health and Human Services' Emergency Medical Services (EMS) and Trauma System Section submits the following report to the Legislature in accordance with 5-11-210 MCA concerning the effectiveness of the trauma care system established under this part.

This report is submitted on behalf of the State Trauma Care Committee and has been reviewed and approved by the State Trauma Care Committee and the State EMS Advisory Committee.

Executive Summary

Each Legislative session, the Department of Public Health and Human Services' Trauma System Program prepares a report for the Legislature. At the request of the State Trauma Advisory Committee and the State EMS Advisory Committee, this report focuses on the extraordinary challenges facing EMS and Trauma care providers across the state.

Montanans are dying from injury at a rate greater than any time since 1979 and 100,000 residents have less access to specialized care as trauma centers struggle to support the training, equipment, and staffing needed to care for severely injured patients. Our EMS system is largely voluntary, and while providers respond to more than 400 calls each day, in many communities 911 ambulance requests and hospital-to-hospital ambulance transports calls go unanswered or have long delays due to provider shortages.

Without intervention, the EMS and Trauma System – the safety net for our families – will continue to deteriorate and preventable deaths will increase. This report describes barriers to adequate EMS and Trauma service and proposes solutions to reverse this crisis.

Call to Action

In 1995, the Montana Legislature passed laws directing the Department of Public Health and Human Services to implement a statewide system of trauma care with the goal of decreasing the burden of injury. At that time, Montana's injury death rate was 66.3 per 100,000 residents compared to 49.7 per 100,000 nationwideⁱ. For several years, Montana's injury death rate held steady, and the number of trauma centers increased. However, that has dramatically changed and now the Montana EMS and Trauma System is in crisis.

Injury Mortality Rates are Increasing Dramatically

Montana's injury mortality rate (91.2 per 100,000) has risen to the highest it has been since 1979 (93.3 per 100,000)ⁱⁱ. In 2019 the injury death rate abruptly increased to 72, then to 79 per 100,000 in 2020 and finally to 91 deaths per 100,000 Montanans in 2021, a number not seen since the benefits of seatbelts were becoming widespread.

Trauma Centers are Struggling

Large and small hospitals are having trouble sustaining critical trauma care capabilities for their communities. Since 2013, six hospitals serving 40,000 residents have dropped their state trauma designation and two hospitals serving more than 90,000 residents combined have decreased the level of trauma services they provide^{iii,iv}. As a result, more than 130,000 Montanans, 11% of our population, in those communities could have poorer outcomes after suffering from injuries.

At the same time Montana's population has increased, the number of injured patients has increased, and drugs like marijuana and fentanyl are contributing to the severity and frequency of injuries^{v,vi}. More children (30%) and adults (18%) require ambulance transportation because of injury than for any other cause^{vii}.

Drug use negatively impacts Montana's EMS and trauma system. The rate of injuries with marijuana, stimulants like methamphetamine, and opioids like fentanyl, have dramatically increased^{viii}. Between 2010 and 2022, injury-related emergency department visits with concurrent marijuana use increased more than 4-fold, those with concurrent stimulant use increased 10-fold, and fall-related ED visits, mostly among the elderly with concurrent opioid use, have increased 4-fold^{ix}.

EMS Services are Struggling

While Montana's ambulance services were able to respond to more than 100,000 911 calls and 26,000 transfers between health care facilities in 2022, the triple threat of decreased volunteerism, decreased revenue, and rural de-population leave EMS services unable to meet community needs^{x,xi}.

When a family member calls 911 for an injury or other medical emergency, they expect an ambulance to show up, but the reality is EMS is not always available^{xii}. One county reported that the local volunteer service was unable to respond to a 911 call 140 times in 2022 and 158 times in 2023. Those calls were eventually responded to by other services, but the families waited at least an additional 20 or 30 minutes before the ambulance arrived^{xiii}.

In Montana, EMS is not an essential service like fire suppression and law enforcement (required to be provided to all citizens). EMS pay structure, advancement opportunities, and benefits lag behind those of essential services, contributing to workforce shortages and heavy reliance on volunteer emergency care providers^{xiv}. Many states face similar issues and as of 2023, thirteen states and District of Columbia passed laws deeming EMS an essential service with varying methods of funding and implementation^{xv}.

Montana is one of 4 states with 1 (or less) ambulance stations per 1,000 square miles of land area, and each of Montana's 56 counties have ambulance deserts (defined as a place that is more than 25 minutes from a ground transporting ambulance station)^{xvi}. Montana leads the nation in percentage of its population (13%) living in an ambulance desert; the next closest state is Wyoming at 9%.

It usually takes a volunteer agency 4 times as long to staff an ambulance and respond to a 911 call (14 minutes) than a paid service (3 minutes) and the duration of the call, the time the volunteer is away from his or her job and family, is almost three hours (2:56) for a volunteer service compared to just over an hour (1:16) for a paid service^{xvii}.

Hospitals are unable to rely on EMS Services to transport patients to larger hospitals and patients wait in small rural hospitals until hospital staff find transportation, which sometimes takes several hours. Access to timely ambulance transport is an integral part of the trauma system, and delays in arriving at a trauma center are associated with higher trauma mortality rates^{xviii,xix}.

The majority of interfacility transports occur between 9:00 AM and 5:00 PM, Monday through Friday. These are the same times and days that EMS volunteers are at their paying jobs and unavailable to respond without a significant financial burden to themselves and their employers, so it is no surprise that rural trauma centers struggle to arrange transport using their local volunteer EMS service^{xx}.

On average, the call duration for a volunteer ambulance transporting a patient from their local trauma center to another hospital is three hours (3:06) and it is not uncommon for a call to last 6 hours (6:05)^{xxi}. In many cases, that means the community now has inadequate resources to respond to a 911 call because their only ambulance and crew is out of town.

Trauma Centers and EMS Services Cannot Fix This Alone

While the triple threats of decreased volunteerism, decreased revenue, and rural depopulation are not something that an EMS agency can fix, the Legislature has explored options to assist EMS services. During the 2023 Legislative session (and during the interim) a fix to increase Medicaid payments for transports was identified and should be resolved this session^{xxii}. Additionally, Montana could join North Dakota, South Dakota, Wyoming, Utah, Idaho and Washington in reimbursing ambulance service for the assessment and treatment of patients who do not need treatment in emergency departments.

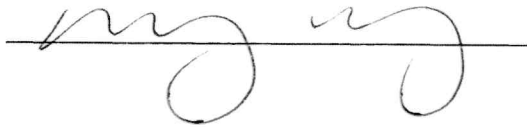
Like EMS, trauma centers are unable to address increasing costs for data collection, initial and continuing education expenses, and additional equipment required for trauma care.

When a center cannot meet the requirements for trauma center designation, they must either decrease, or in some cases, stop providing specialized trauma care. Every hospital is required to collect and submit injury data to the Department of Public Health and Human Services. The statewide registry expense will increase from \$44,000 currently to \$167,000 in the next three years, and long-term funding is unavailable to cover this cost. Increasingly, patients who have ingested one or more drugs including marijuana, methamphetamines, and opioids before they were injured are cared for in trauma centers, however, it is common for these individuals to be under insured, resulting in unrecovered costs for their trauma care. A grant program for trauma centers to offset training and preparedness costs would go a long way towards stabilizing Montana's trauma centers. Non-tax sources of funding are commonly used in other states, including opioid settlement funds and recreational marijuana tax revenue.

Trauma Centers and EMS Services Cannot Fix This Alone: Possible Solutions

- Authorize the Department of Public Health and Human Services to join North Dakota, South Dakota, Wyoming, Utah, Idaho and Washington in reimbursing ambulance service assessment and treatment of patients who do not need treatment in emergency departments.
- Work with the EMS stakeholders to pass legislation authorizing an ambulance provider assessment to increase CMS Medicaid payments for ambulance service.
- Fund a grant program for trauma centers to offset training and preparedness expenses and unrecovered costs associated with illicit drug use. Non-tax sources of funding used in other states include opioid settlement funds and recreational marijuana tax revenue.
- Increase the appropriation for the Emergency Medical Service Providers Grant Program authorized by MCA 61-2-506.
- Pass legislation identifying EMS as an essential service in Montana.

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- ⁱ Centers for Disease Control and Prevention, National Center for Health Statistics, and National Vital Statistics System, "Mortality: Compressed Mortality File 1979-1998. Compiled from Compressed Mortality File CMF 1968-1988, Series 20, No. 2A, 2000 and CMF 1989-1998, Series 20, No. 2E, 2003," *CDC Wonder Online Database*.
- ⁱⁱ *CDC Wonder Online Database*.
- ⁱⁱⁱ Phillipsburg, Crow Agency/Northern Cheyenne, Forsyth, Colstrip, Cutbank, and Havre
- ^{iv} Helena, Great Falls
- ^v https://www.nhtsa.gov/sites/nhtsa.gov/files/2022-12/Alcohol-Drug-Prevalence-Among-Road-Users-Report_112922-tag.pdf
- ^{vi} Alcohol and Drug Prevalence Among Seriously or Fatally Injured Road Users, US Department of Transportation, December 2022
- ^{vii} <https://dphhs.mt.gov/assets/publichealth/EMSTS/Data/EMSAnnualReport2023.pdf> table 5.
- ^{viii} https://www.nhtsa.gov/sites/nhtsa.gov/files/2022-12/Alcohol-Drug-Prevalence-Among-Road-Users-Report_112922-tag.pdf
- ^{ix} Montana Hospital Discharge Data System, 2010-2022. Epidemiology and Scientific Support Bureau, Public Health and Safety Division. Montana Department of Public Health and Human Services. Data provided courtesy of participating MHA members.
- ^x <https://dphhs.mt.gov/assets/publichealth/EMSTS/Data/EMSAnnualReport2023.pdf> table 1.
- ^{xi} <https://dphhs.mt.gov/assets/publichealth/EMSTS/Data/EMSSurveyReport2020.pdf>
- ^{xii} M. Van Milligen, J. P. Mitchell, J. Tucker, J. Arkedis, and D. Caravalho, "An analysis of prehospital emergency medical services as an essential service and as a public good in economic theory," *Perspect. Emerg. Med. Serv. as an Essent. Serv.*, pp. 1–32, 2014.
- ^{xiii} PSAP data – PHI/PII
- ^{xiv} Montana Department of Public Health and Human Services and Montana Hospital Association, "Emergency Medical Services in Montana: Crisis on the Horizon," Helena, MT, 2021. [Online]. Available: <https://dphhs.mt.gov/assets/publichealth/EMSTS/Data/EMSSurveyReport2020.pdf>
- ^{xv} N. Hassanein, "More states push to recognize EMS as 'essential service,'" *EMS1*, 2023. <https://www.ems1.com/politics/articles/more-states-push-to-recognize-ems-as-essential-service-CUIBa0k2kdZoHV7/>
- ^{xvi} <https://digitalcommons.usm.maine.edu/ems/16/>
- ^{xvii} <https://dphhs.mt.gov/assets/publichealth/EMSTS/Data/EMSAnnualReport2023.pdf> figures 10, 11.
- ^{xviii} R. P. Gonzalez, G. R. Cummings, H. A. Phelan, M. S. Mulekar, and C. B. Rodning, "Does increased emergency medical services prehospital time affect patient mortality in rural motor vehicle crashes? A statewide analysis," *Am. J. Surg.*, vol. 197, no. 1, pp. 30–34, 2009, doi: <https://doi.org/10.1016/j.amjsurg.2007.11.018>
- ^{xix} S.-L. Hsieh *et al.*, "Association between the time to definitive care and trauma patient outcomes: every minute in the golden hour matters," *Eur. J. Trauma Emerg. Surg.*, vol. 48, no. 4, pp. 2709–2716, 2022, doi: 10.1007/s00068-021-01816-8
- ^{xx} <https://dphhs.mt.gov/assets/publichealth/EMSTS/Data/EMSAnnualReport2023.pdf> table 9.
- ^{xxi} <https://dphhs.mt.gov/assets/publichealth/EMSTS/Data/EMSAnnualReport2023.pdf> figures 15, 16.
- ^{xxii} HB 828 <https://leg.mt.gov/committees/interim/eaic/eaic-hb828/>



Barry McKenzie, MD, FACS, Chair
State Trauma Care Committee
Saint Vincent Regional Hospital



Michael Kremkau, MD, FACEP, Chair
State EMS Advisory Committee
Providence Saint Patrick Medical Center



Alyssa Johnson, Trauma Manager
Chronic Disease Prevention and Health
Promotion Bureau
EMS and Trauma Systems Section



Shari Graham, EMS Manager
Chronic Disease Prevention and Health
Promotion Bureau
EMS and Trauma Systems Section



Dave Gerard, Executive Director
Public Health and Community Affairs
Department of Public Health and Human
Services



Stacy Campbell, Administrator
Public Health and Safety Division
Department of Public Health and Human
Services