South Dakota Healthcare Preparedness Coalition

Comprehensive EMS Integrated HVA & Readiness Assessment (2026)

1. Executive Summary

The compiled 2026 EMS HVA Readiness Assessment dataset reflects the risk profiles and operational readiness of four distinct pre-hospital transport agencies within the state coalition. The sample includes a mix of **Advanced Life Support (ALS)** and **Basic Life Support (BLS)** agencies, divided between **Public** and **Private** governance. Daily 911 run volumes range from high (6-10) to low (0-5 for rural areas).
Unlike the state's hospital network, which shares a standardized baseline of readiness, the EMS network is severely polarized. Larger, well-staffed ALS agencies demonstrate strong operational capabilities and formalized plans. Conversely, rural agencies (both ALS and BLS) report significant gaps in formal written policies and extreme reliance on state or federal aid during systemic disruptions. The primary vulnerabilities across the board are **Communications/IT Failures**, **Severe Weather Events**, and **High-Acuity Trauma (Vehicle Crashes)**.

2. Threat Landscape Analysis

Using the incident frequencies and probability matrices provided by the agencies, the EMS threat landscape is categorized into three main areas of risk:

A. Operational & Systemic Hazards (Highest Universal Vulnerability)

- **Communications & IT / Cyber Failures:** This is a critical vulnerability. While larger services can manage localized outages, rural agencies indicate that a communications or supply chain failure immediately requires **State** or **Federal** intervention to manage. One service explicitly listed "IT Infrastructure/Network" as their primary capability barrier for cyber and comms incidents.
- **Staff Shortages:** A chronic, underlying threat that acts as a threat multiplier. One service logged 11-20 incidents requiring leadership intervention regarding staffing and transport inability. One service cited "Staff Capacity" as the primary barrier preventing them from maintaining sustainable patient care during crises.

B. External & Natural Hazards (High Frequency, Severe Impact)

- **Meteorological Events (Winter Storms / Extreme Weather):** Weather heavily dictates EMS operations. A service reported 11-20 incidents related to extreme weather/storms impacting operations. While larger services lean on MOUs to navigate these, weather remains a constant disruptor to physical transport capabilities.
- **Industrial & Vehicle Crashes:** One service specifically flagged "Industrial / Radiological / Nuclear / Transportation Infrastructure / Structural / Vehicle Crash" as a massive operational drain, logging **11-20 incidents and 11-20 ICS activations** in recent years, highlighting the extreme danger of rural highway corridors.

C. Biological & Human-Caused Hazards (Geographically Isolated)

- **Airway Protection / Infection Control:** A service reported a surprisingly high frequency of events (**21-50 incidents**) requiring airway protection (N95, PAPR, SCBA), indicating high exposure to respiratory hazards or infectious diseases.
- **Fire & Arson / Violent Incidents:** Also one service logged a high volume of responses to Fire/Arson (21-50 incidents) and Violent Incidents (11-20 incidents), reflecting the higher operational tempo of their coverage area compared to the rural agencies.

3. Vulnerability Profile by EMS Service Type

The dataset clearly delineates risk tolerances based on agency size and certification level:

- **High-Volume ALS / Public Governance:**
  - *Strengths:* Deep staffing bench (10-15 Paramedics, 10-15 EMTs) and highly formalized plans (scoring "Yes" across the board). They seamlessly share information and integrate with public health.
  - *Vulnerabilities:* Susceptible to high-frequency urban/suburban hazards (fire, violence, biological exposures).
- **Rural ALS / Private Governance:**
  - *Strengths:* Highly resilient staff used to operating autonomously in austere environments.
  - *Vulnerabilities:* **Severe lack of formalized planning.** One service scored "No" on almost every metric asking if formal plans, policies, or procedures were in place. When a systemic event hits, their internal capabilities drop to "No Capability" and they rely entirely on regional or state bailouts.
- **Rural BLS / Public Governance:**
  - *Strengths:* Self-reliant for low-level, daily operations ("Yes - Internal").
  - *Vulnerabilities:* Stagnation. Their capability indicators across public health coordination and state interface scored poorly ("Somewhat"), and they are broadly "Uncertain" if formal written policies exist for most major threat categories.

4. Capability & Readiness Assessment (Indicator Averages)

Across the scoring metrics, the EMS facilities demonstrate the following operational realities:

- **Operational Plans:** Highly inconsistent. While hospitals score a solid "Mostly," EMS ranges from "Yes" to "Uncertain" to a flat "No".
- **Resource Coordination:** Agencies generally rely on MOUs and Mutual Aid Agreements (MAA) for standard mass casualty events. However, rural IT and cyber resilience is functionally non-existent.
- **State / Coalition Interface:** While larger agencies integrate "Mostly" or "Completely," smaller rural squads feel disconnected, scoring "Somewhat" or "No Capability" in interfacing with SD-DOH Regional Coordinators.

5. Primary Barriers to Capability

Extrapolating from the detailed text data and the glaring statistical gaps of the rural squads, the primary barriers are:

1. **IT Infrastructure & Cyber Resiliency:** EMS agencies do not have the IT budgets of hospitals. A cyber-attack on a regional dispatch center or CAD (Computer-Aided Dispatch) system would completely cripple rural EMS routing.
2. **Administrative Capacity (Plans & Policies):** Rural EMS leaders are often working medics with no dedicated administrative time. Consequently, formal emergency management plans simply do not get written.
3. **Community Alert / Specialized Knowledge:** Agencies lack access to specialized chemical/biological detection equipment and the training required to use it safely in the field.

Strategic Conclusion

The South Dakota EMS network is highly capable at the individual provider level but severely vulnerable at the systemic and administrative levels. While large, hospital-based ALS systems are operating smoothly, rural BLS and private ALS squads are functionally operating without formalized emergency procedures. To build a resilient state network, the Coalition must prioritize deploying **standardized, turnkey emergency policy templates** to rural EMS directors and immediately address **dispatch and IT infrastructure vulnerabilities** that threaten to sever communications during a crisis.