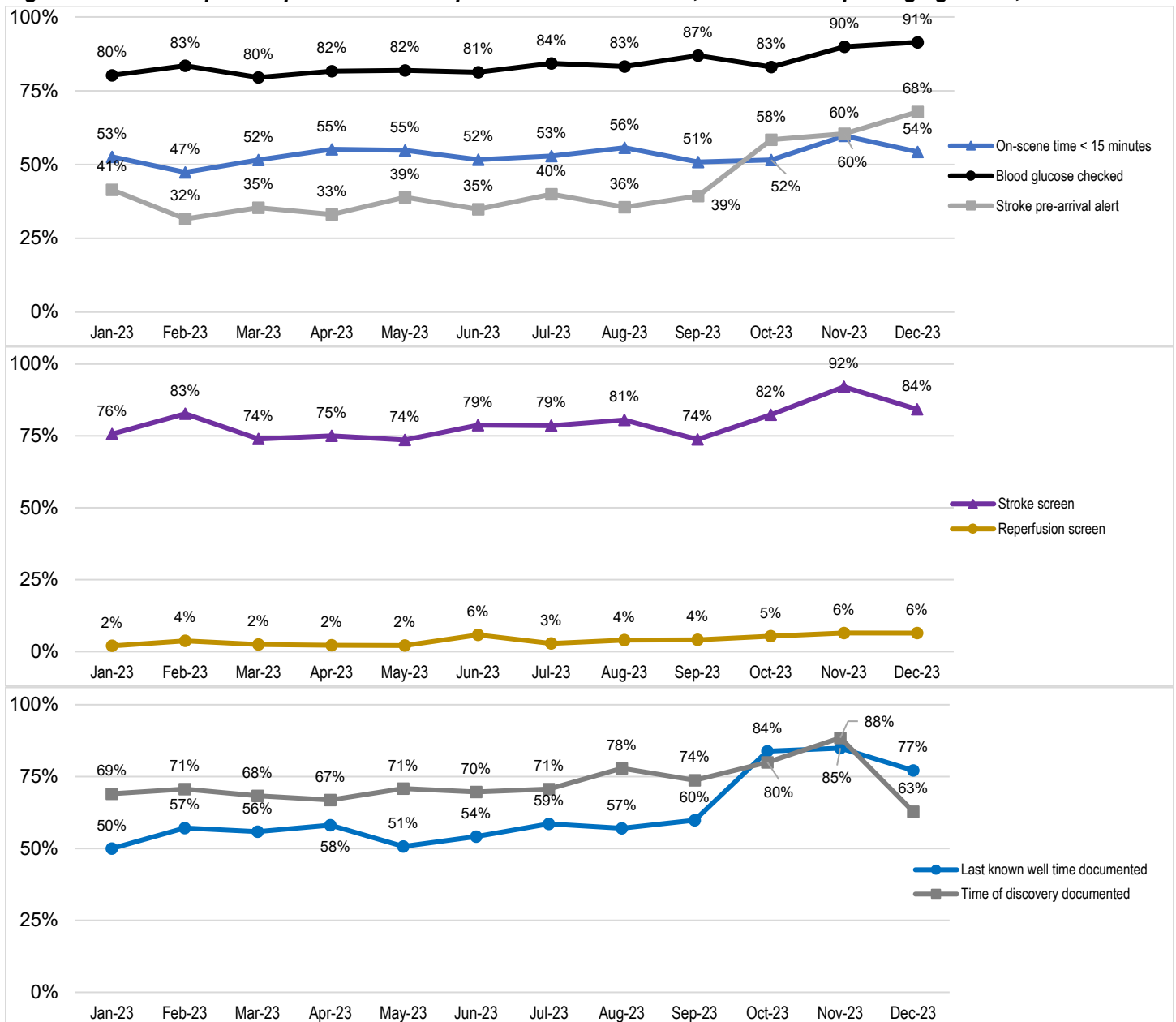


## Montana 2023 EMS Data Report: Coverdell Pre-Hospital Stroke Measures

According to 2021 Get With the Guidelines data collected at participating Montana hospitals, 36% of stroke patients arrived at the emergency department via EMS. EMS is a key component of the stroke system of care, efficiently triaging patients, asking important questions about stroke symptoms, and expediting patient transport to the appropriate hospital. This report uses pre-hospital patient care data from Montana's statewide EMS incident dataset to monitor 7 standardized metrics derived from the Paul Coverdell National Acute Stroke Program, which can be used to improve pre-hospital care for stroke patients, evaluate the impact of Stroke Workgroup activities, and identify opportunities for better data consistency.

**Figure 1. Trends in pre-hospital stroke care performance measures, Ground transporting agencies, Montana 2023**



**Table 1. Pre-hospital stroke care performance measures, Ground transporting agencies, Montana 2023**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
<b>Total number of suspected stroke 911 transports<sup>1</sup></b>	<b>152</b>	<b>133</b>	<b>161</b>	<b>136</b>	<b>144</b>	<b>155</b>	<b>140</b>	<b>149</b>	<b>122</b>	<b>130</b>	<b>139</b>	<b>140</b>	<b>1,701</b>
1. On-scene time <15 minutes	80	63	83	75	79	80	74	83	62	67	83	76	905
2. Blood glucose checked	122	111	128	111	118	126	118	124	106	108	125	128	1,425
3. Stroke pre-arrival alert	63	42	57	45	56	54	56	53	48	76	84	95	729
4. Stroke screen	115	110	119	102	106	122	110	120	90	107	128	118	1,347
5. Last known well time documented	76	76	90	79	73	84	82	85	73	109	118	108	1,053
6. Time of discovery documented	105	94	110	91	102	108	99	116	90	104	123	88	1,230
7. Reperfusion screen	3	5	4	3	3	9	4	6	5	7	9	9	67

**Description of Pre-hospital Stroke Measures**

- Coverdell 1 – On-Scene Time <15 Minutes:** AHA recommends an on-scene time of less than 15 minutes because timeliness of pre-hospital care is an important link in the stroke chain of survival.
- Coverdell 2 – Blood Glucose Checked:** At least one blood glucose level checked and recorded. Assessment of blood glucose as an important pre-hospital intervention in the stroke chain of survival. Hypoglycemia is frequently found in patients with stroke-like symptoms; administering glucose may resolve neurological deficits.
- Coverdell 3 – Stroke Pre-Arrival Alert:** EMS providers are expected to provide early notification, when possible, to the receiving hospital when stroke is recognized in the field. Stroke pre-notification is an important factor in reducing elapsed time before treatment and ensuring appropriate hospital resources are mobilized before patient arrival to the hospital.
- Coverdell 4 – Stroke Screen:** Use of stroke screening tools in the pre-hospital setting is important to ensure priority triage of suspected stroke patients.
- Coverdell 5 – Last Known Well Time Documented:** Last known well time is critical to determining next treatment steps, including eligibility for thrombolytic therapy. Must be prior to the documented incident date and time
- Coverdell 6 – Time of Discovery Documented:** time of discovery (symptom onset). is critical to determining next treatment steps, including eligibility for thrombolytic therapy. prior to the documented incident date and time
- Coverdell 7 – Reperfusion Screen:** Use of reperfusion screen (thrombolytic stroke checklist) tools in the pre-hospital setting may help determine next treatment steps, including eligibility for thrombolytic therapy.

**About the Data Source**

The State of Montana’s EMS Incident Dataset consists of patient care documentation collected by emergency care providers. Montana statute requires all licensed ground and air transporting EMS agencies to submit a patient care report (PCR) for each patient encountered during an EMS activation. (PLEASE NOTE: Montana began transitioning from [NEMSIS 3.4](#) to [NEMSIS 3.5](#) in Sept 2023. While this report includes records from both data standards, the transition is ongoing, and some data aberrations are expected until it is complete.) Note that the dataset is a registry of EMS activations; it is not a “patient-based” dataset. Numbers in this report are provisional and subject to change due to latent record submissions or updates, as well as data quality issues. This report includes records with incident location in Montana and incident date between 1/1/2023 – 9/30/2023, where response type = 911 Response (Scene) and [patient disposition = “Patient transported” (NEMSIS 3.4) OR (transport disposition = “Transported by this EMS unit”. & patient evaluation/care = “evaluated and care provided”/“evaluated and no care required” (NEMSIS 3.5))]

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<sup>1</sup> Any provider impression of ICD-10-CM codes I60, I61, I63, G45, G46.3, G46.4 OR a positive stroke scale score