

Montana 2021 EMS Data Report: Coverdell Pre-Hospital Stroke Measures

According to 2020 Get With the Guidelines data collected at participating Montana hospitals, 39% 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 2021

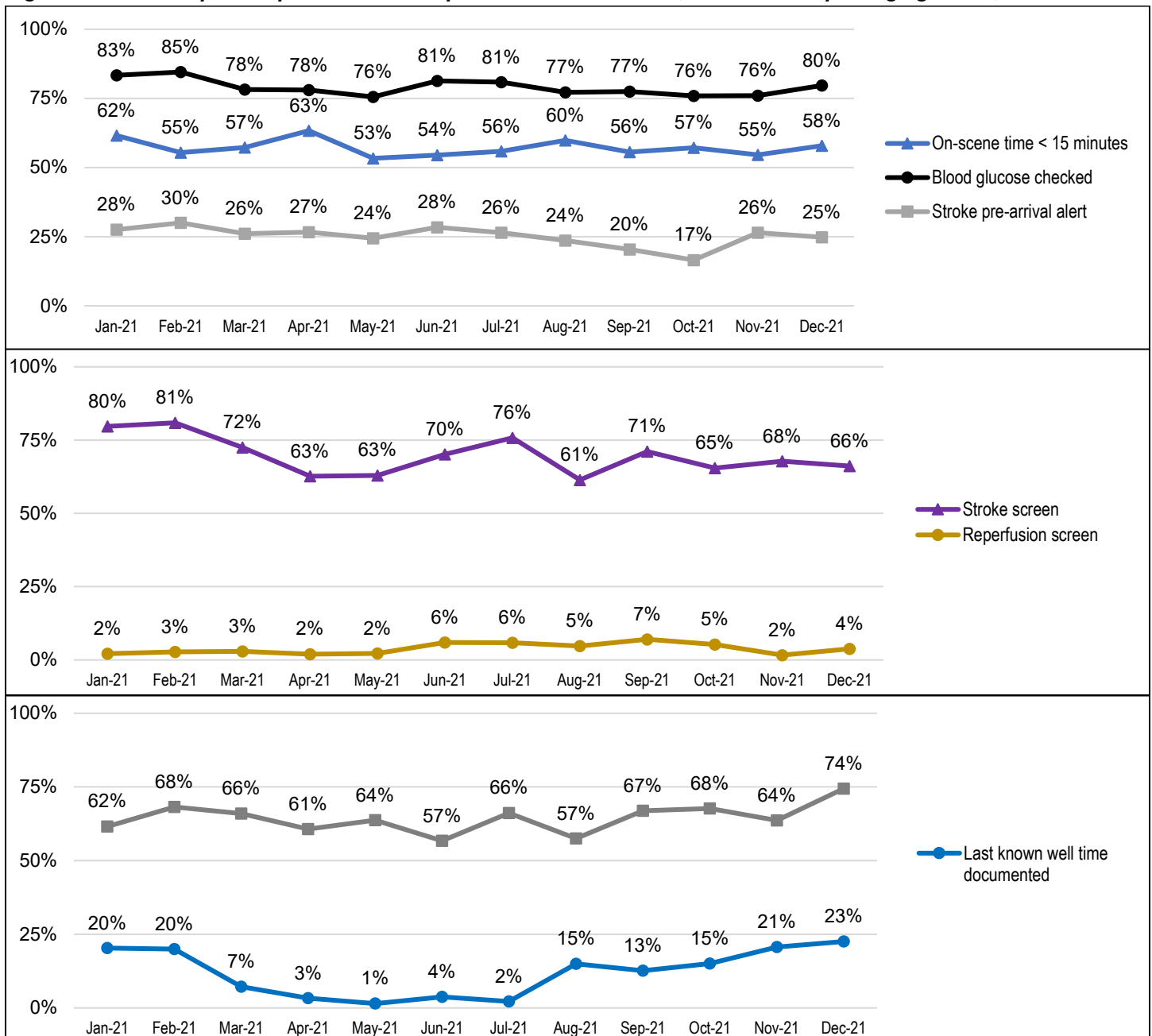


Table 1. Pre-hospital stroke care performance measures, Ground transporting agencies, Montana 2021

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
Total number of suspected stroke 911 transports ¹	138	110	138	150	135	134	136	127	142	133	121	133	1,597
1. On-scene time <15 minutes	85	61	79	95	72	73	76	76	79	76	66	77	915
2. Blood glucose checked	115	93	108	117	102	109	110	98	110	101	92	106	1,261
3. Stroke pre-arrival alert	38	33	36	40	33	38	36	30	29	22	32	33	400
4. Stroke screen	110	89	100	94	85	94	103	78	101	87	82	88	1,111
5. Last known well time documented	28	22	10	5	2	5	3	19	18	20	25	30	187
6. Time of discovery documented	85	75	91	91	86	76	90	73	95	90	77	99	1,028
7. Reperfusion screen	3	3	4	3	3	8	8	6	10	7	2	5	62

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. In general, PCRs are available in the dataset within 24 hours of the patient encounter. Montana uses the [NEMSIS v3.4.0 data standard](#). Note that the dataset is a registry of EMS activations; it is not a “patient-based” dataset. This report includes records with incident location in Montana and incident date between 1/1/2021 – 12/31/2021, where response type = 911 Response (Scene) and patient disposition = “Patient transported”.

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