

# 2022 EMS Stroke Inventory Survey

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## Key Results and Recommendations

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# Objectives

1. Survey background
2. Share key results and recommendations
3. Obtain feedback from the Advisory Board

# EMS Stroke Survey Background

In support of the *Code of Virginia* §32.1-111.15:1, the Virginia Department of Health (VDH) collected data and information from EMS agencies through a stroke inventory survey to facilitate the evaluation and improvement of stroke care in Virginia.

The results of the survey will be used to inform quality improvement initiatives, identify interventions in specific geographic areas of the state, and support appropriate allocation of resources throughout the state.

In June 2022, an online REDCap survey was distributed to 620 EMS agency superusers via contact information provided by OEMS.

# Total Respondents

- 251 out of 620 EMS agencies fully or partially completed the survey; a 40% response rate
- All 11 EMS Council Regions represented

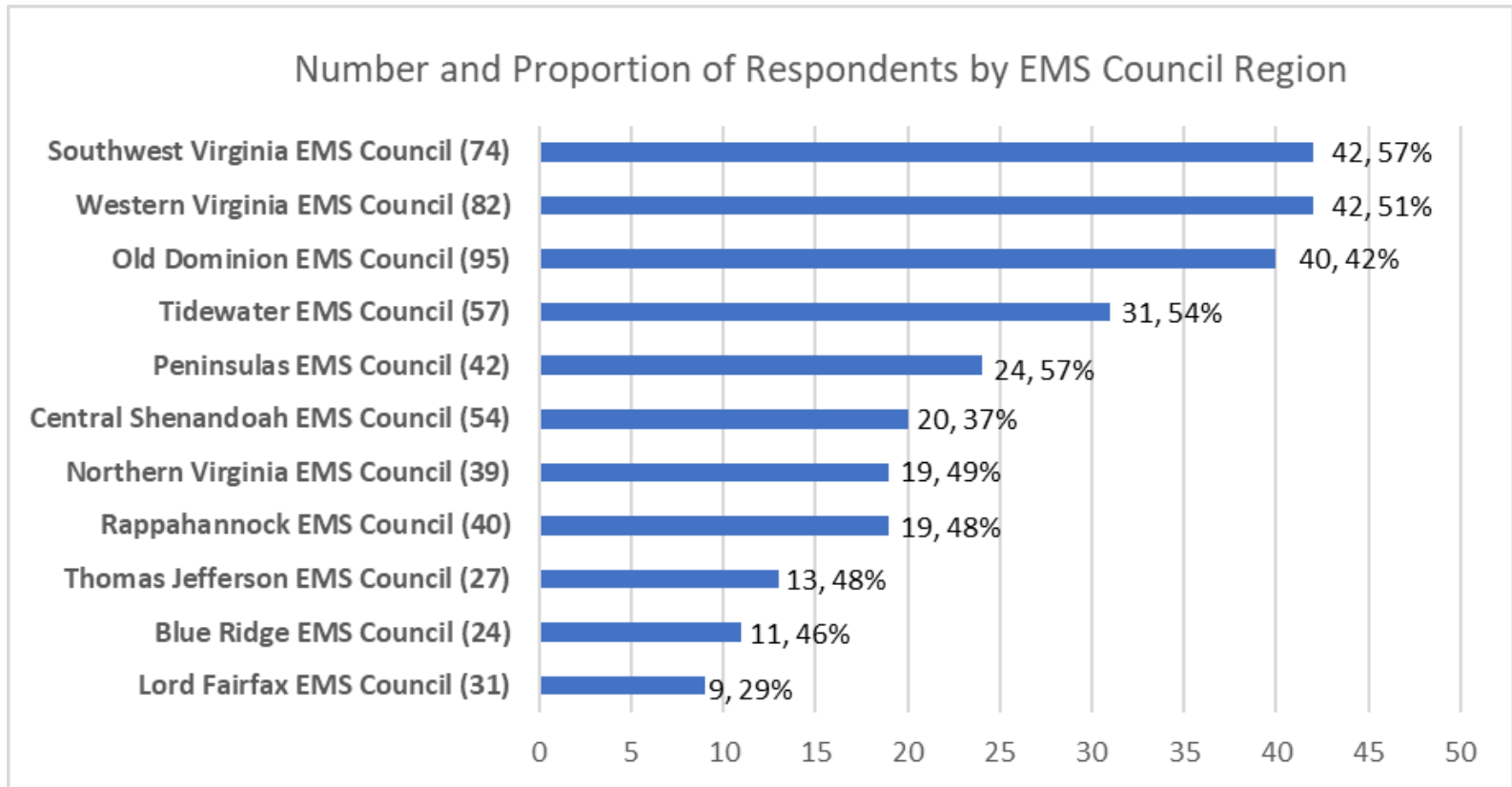


Chart 1.

# Lessons Learned from 2022 Inventory Survey

- With continued collaboration between VDH Office of EMS (OEMS) and OFHS, future survey versions will be **shorter with more concise questions** in order to **increase response and completion rates**.
  - Clearer wording of questions is needed
  - Distribute survey to the best-fit EMS agency representative
  - Utilize additional data from OEMS prehospital database to supplement survey answers
- OFHS will continue to **collaborate with EMS stakeholders** to increase participation in future implementations of the EMS Stroke Inventory Survey.

# Pre-Alerting Hospital Time Parameters

- 70% of EMS agencies report providing stroke pre-alert to hospitals within 24 hours of Last Known Well (LKW) of the patient

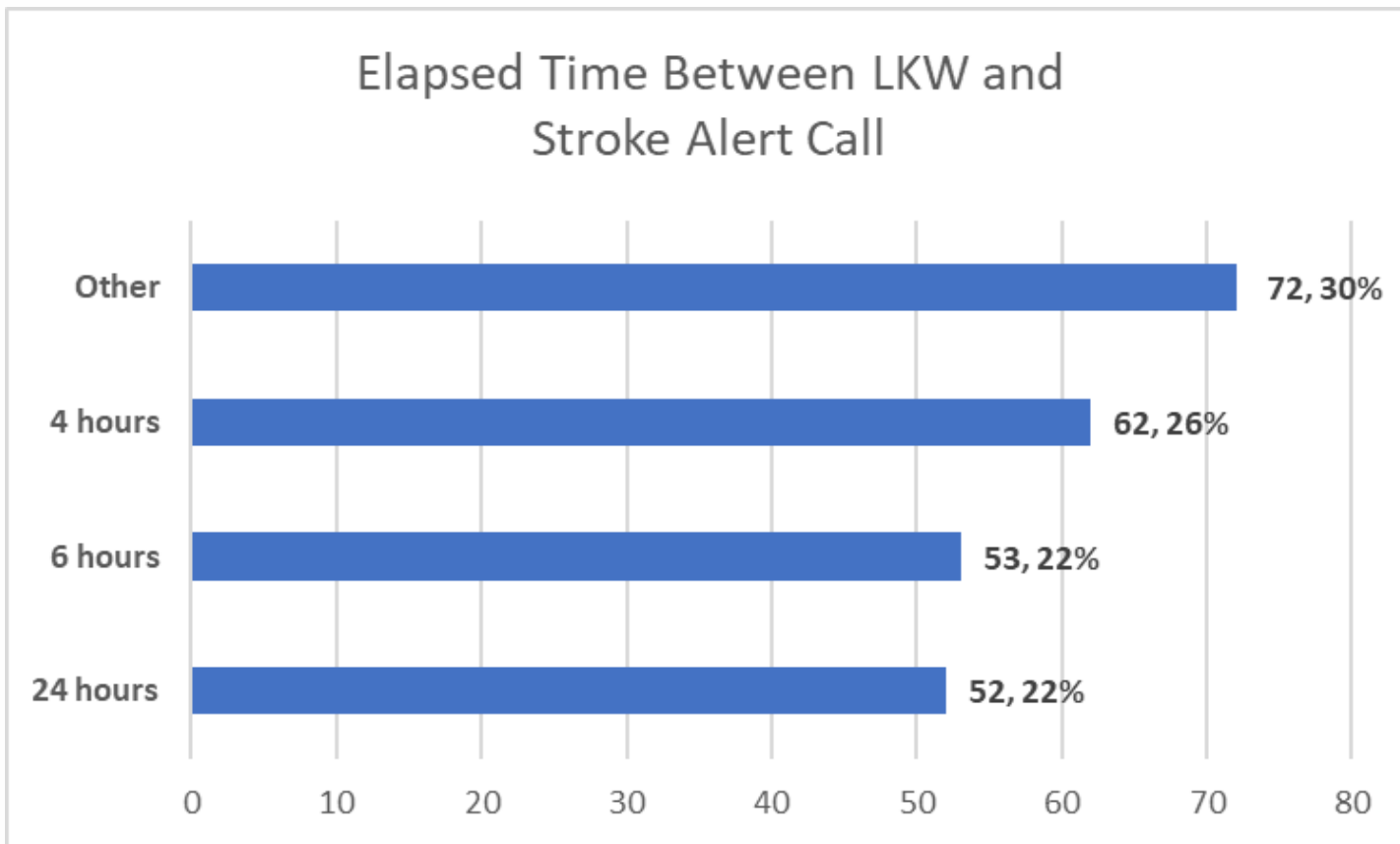


Chart 2. Note: This question was answered by 239 respondents.

## Recommendation: Add time parameters to EMS protocols

- 2017 Virginia OEMS Division of Trauma/Critical Care Prehospital and Inter-hospital State Stroke Triage Plan<sup>1</sup> does not address time parameters for EMS providers to pre-alert the receiving hospital.
- If a suspected stroke patient is **within 24 hours of LKW time** upon presentation to EMS, **a pre-alert for stroke should be sent** to the receiving hospital, if patients meet certain criteria.
- Recommendation from the 2019 American Heart Association (AHA)/American Stroke Association (ASA) Stroke Guidelines<sup>2</sup>.

# Stroke Recognition Scales

- 98% of agencies reported using stroke recognition scales
- Cincinnati Prehospital Stroke Scale (CPSS) most widely used

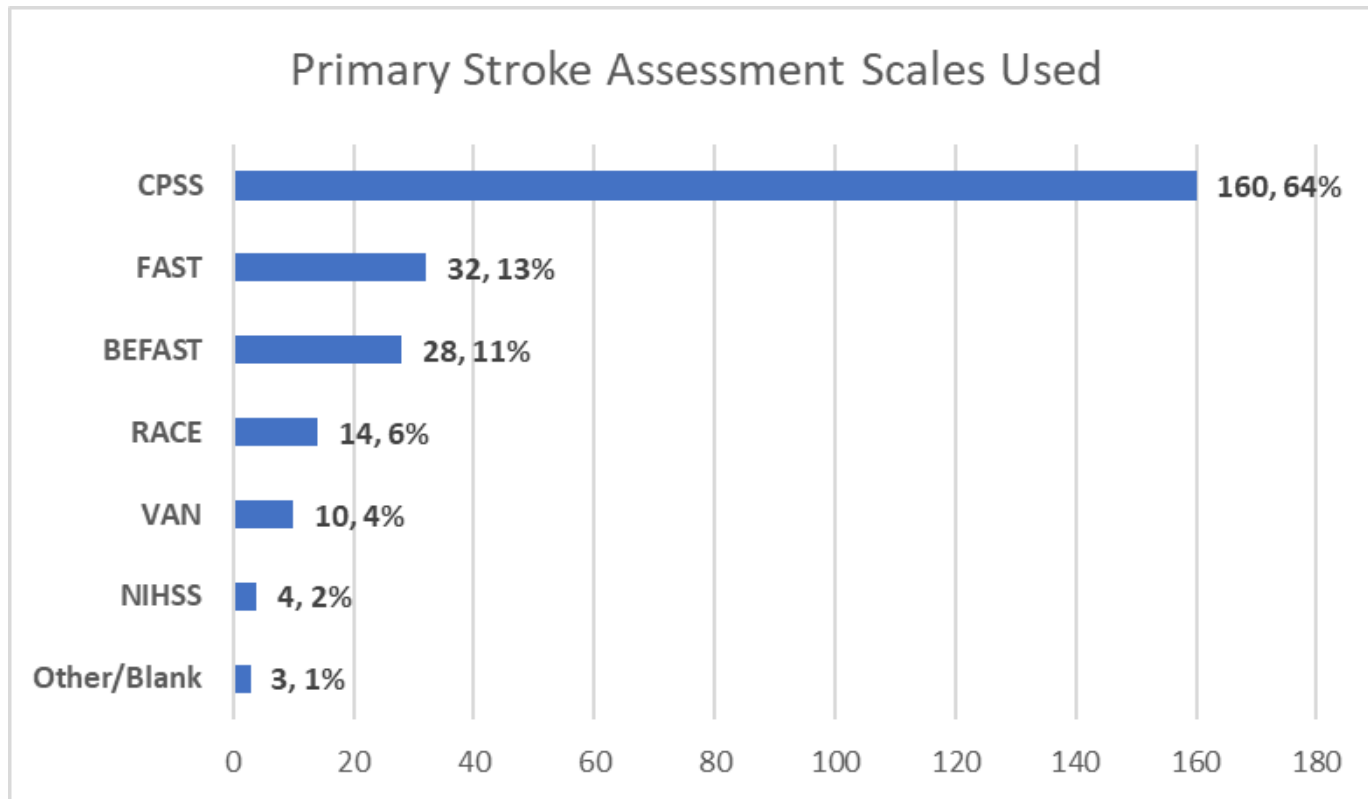


Chart 3. Note: Respondents had the ability to select more than one answer.

Total responses = 251.



## **Recommendation: Create a statewide list of recommended stroke recognition scales**

- This list would allow EMS agencies to choose their preference but have all the information needed to make an informed choice.
- This document should contain information on the **sensitivity, specificity, benefits, and challenges of each recognition scale.**
  - May be valuable to also distinguish the differences between "primary" and "secondary" stroke scales

## Next Steps

- OFHS has identified projects to complete with support from OEMS:
  - Identify resources available to EMS agencies to evaluate stroke quality metrics for suspected stroke patients.
  - Raise awareness about the availability of statewide and local resources for EMS agency stroke education.
  - Investigate the barriers for agencies transporting suspected stroke patients to Virginia non-stroke-certified hospitals, or to out-of-state stroke certified hospitals.
- OFHS will disseminate these survey results and recommendations:
  - Share results to Virginia Stroke Systems Task Force (VSSTF), EMS Council Regions, and EMS agencies
  - Include results into the annual Stroke General Assembly report

# 2023 EMS Stroke Survey

- Planned to be released May 2023.
- OFHS will gather feedback and suggestions from OEMS partners to ensure the quality and effectiveness of questions being asked.

## Questions

**For further questions, please contact:**

**[Stroke@vdh.virginia.gov](mailto:Stroke@vdh.virginia.gov)**

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# References

1. Virginia Office of Emergency Medical Services. (2017, November 30). Virginia Office of Emergency Medical Services Division of Trauma/Critical Care Prehospital and Inter-hospital State Stroke Triage Plan. Retrieved from VDH.Virginia.gov: <https://www.vdh.virginia.gov/content/uploads/sites/23/2018/08/Virginia-Stroke-TriagePlan-July-2018.pdf>
2. Powers, W. J., Rabinstein, A. A., Ackerson, T., Adeoye, O. M., Bambakidis, N. C., Becker, K., & Tirschwell, D. L. (2019, October). Guidelines for the Early Management of Patients With Acute Ischemic Stroke: 2019 Update to the 2018 Guidelines for the Early Management of Acute Ischemic Stroke: A Guideline for Healthcare Professionals From the American Heart Association/American Stroke. *Stroke*, e344–e418. Retrieved from <https://www.ahajournals.org/doi/10.1161/STR.0000000000000211?cookieSet=1>