

Emergency Medical Services and Trauma Registries (EMSTR) Emergency Medical Services (EMS) Stroke and Cardiac Data

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About EMSTR

- EMSTR collects reportable event data from EMS providers, hospitals, justices of the peace, medical examiners and rehabilitation facilities.
- EMS providers and trauma facilities must report all runs and trauma events to EMSTR under Texas Administrative Code, Title 25, Chapter 103.

NOTE – An EMS run is a resulting action from a call for assistance where an EMS provider is dispatched to, responds to, provides care to, or transports a person.

Per epidemiology best practice, EMSTR suppressed data with less than five records to protect identifiable information; noted with an asterisk (*).

Presentation includes data from 2019-2022. Staff prepared data analyses based on “closed” EMS datasets.

EMSTR Current Status

EMS 2022 Unique Records	EMS 2023 Records*	EMS 2024 Records*
4,603,934	4,887,247	2,429,971

Trauma 2022 Unique Records	Trauma 2023 Records*	Trauma 2024 Records*
162,409	236,890	68,536

*Record count as of 8/14/2024. NOTE – record counts are not final as these datasets are not closed yet. There may be some duplicate 2023 and 2024 records until the dataset is final and cleaned.

Stroke Data Request 2019-2022



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Inclusion Criteria – All Suspected Strokes

- Primary symptom, other associated symptom, provider's primary impression or provider's secondary impression variables included International Classification of Diseases Tenth Revision (ICD-10) codes:
 - G45 – Transient cerebral ischemic attacks and related syndromes;
 - G46 – Vascular syndromes of brain in cerebrovascular diseases;
 - I60 – Nontraumatic subarachnoid hemorrhage;
 - I61 – Nontraumatic intracerebral hemorrhage; and
 - I63 – Cerebral infarction.
- Protocols used were “Medical – Stroke/TIA”**.
- Stroke Scale Result was “Positive”.

**TIA = transient ischemic attack

Suspected Stroke Numbers

	2019	2020	2021	2022	Total
Suspected Strokes Total Count	45,731	48,626	57,278	59,752	211,387

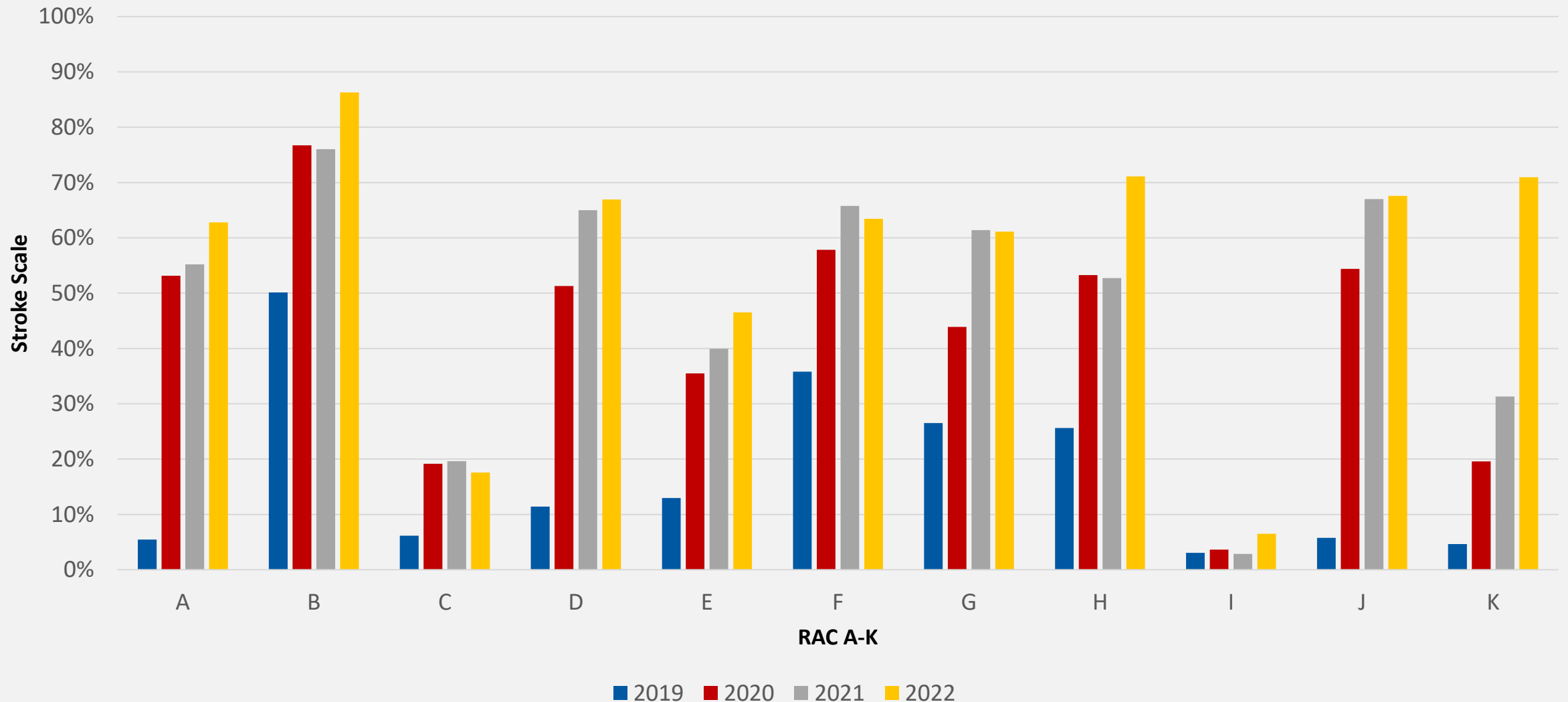
Suspected Stroke by Age

Age	2019	2020	2021	2022	Total
Less than 18	147	143	165	184	639
Age 18+	45,471	47,757	56,359	59,105	208,692
Missing	113	726	754	463	2,056

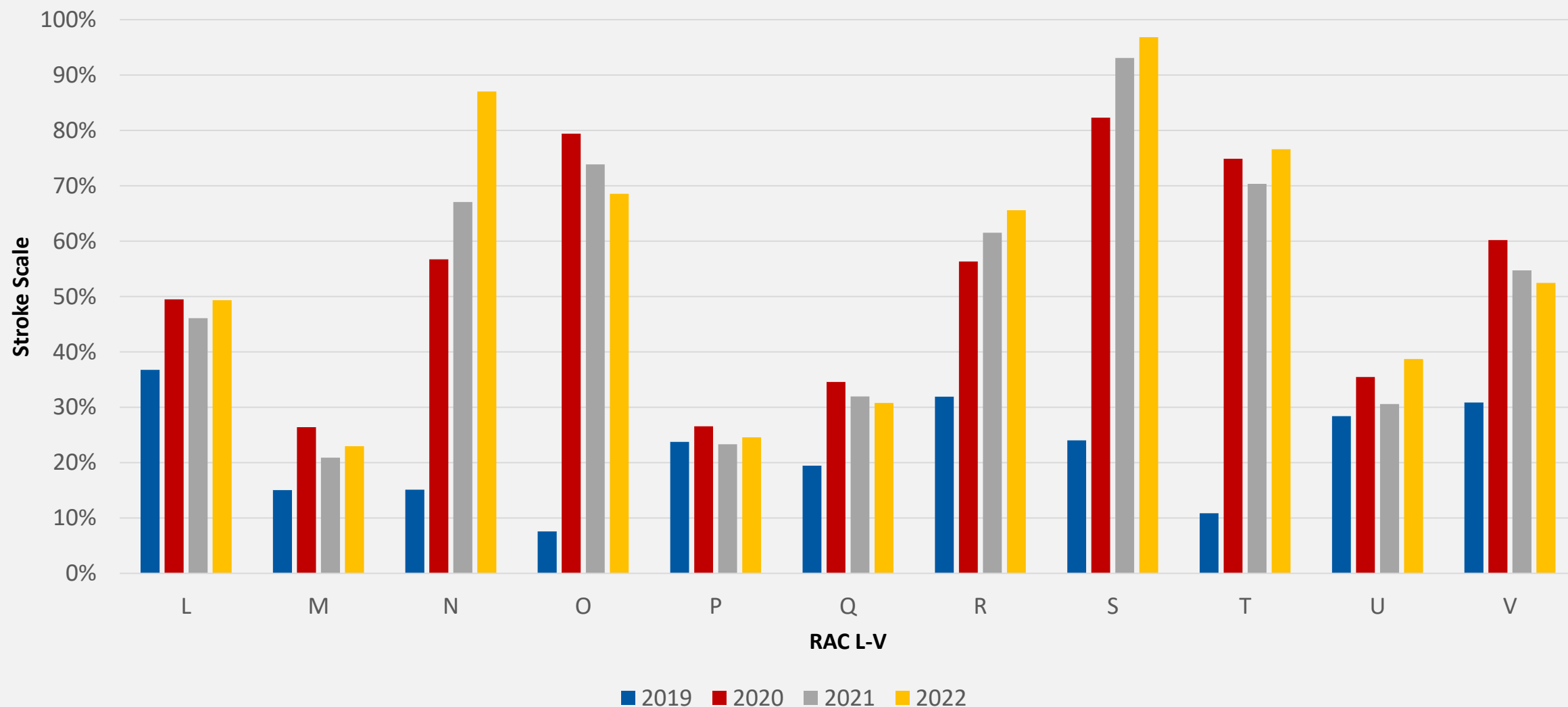
Stroke Scale Status

Status	2019	2020	2021	2022	Total
Stroke Scale Performed	8,657	21,012	25,438	28,192	83,299
Percentage	18.93%	43.21%	44.41%	47.18%	39.41%
Not Applicable	5,039	5,605	9,766	11,326	31,736
Percentage	11.02%	11.53%	17.05%	18.96%	15.01%
Not Recorded	32,035	22,009	22,074	20,234	96,352
Percentage	70.05%	45.26%	38.54%	33.86%	45.58%
Totals	45,731	48,626	57,278	59,752	211,387

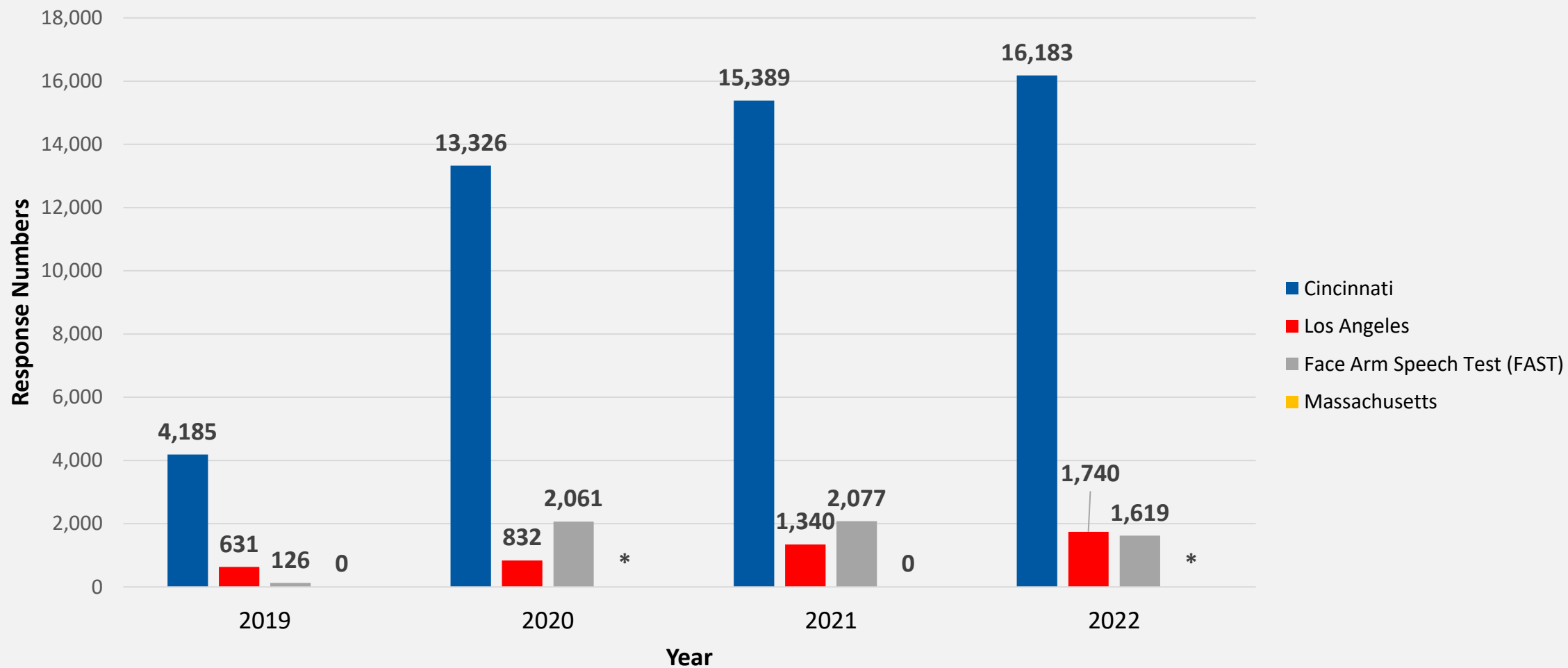
Stroke Scale Performed by Regional Advisory Council (RAC) A-K



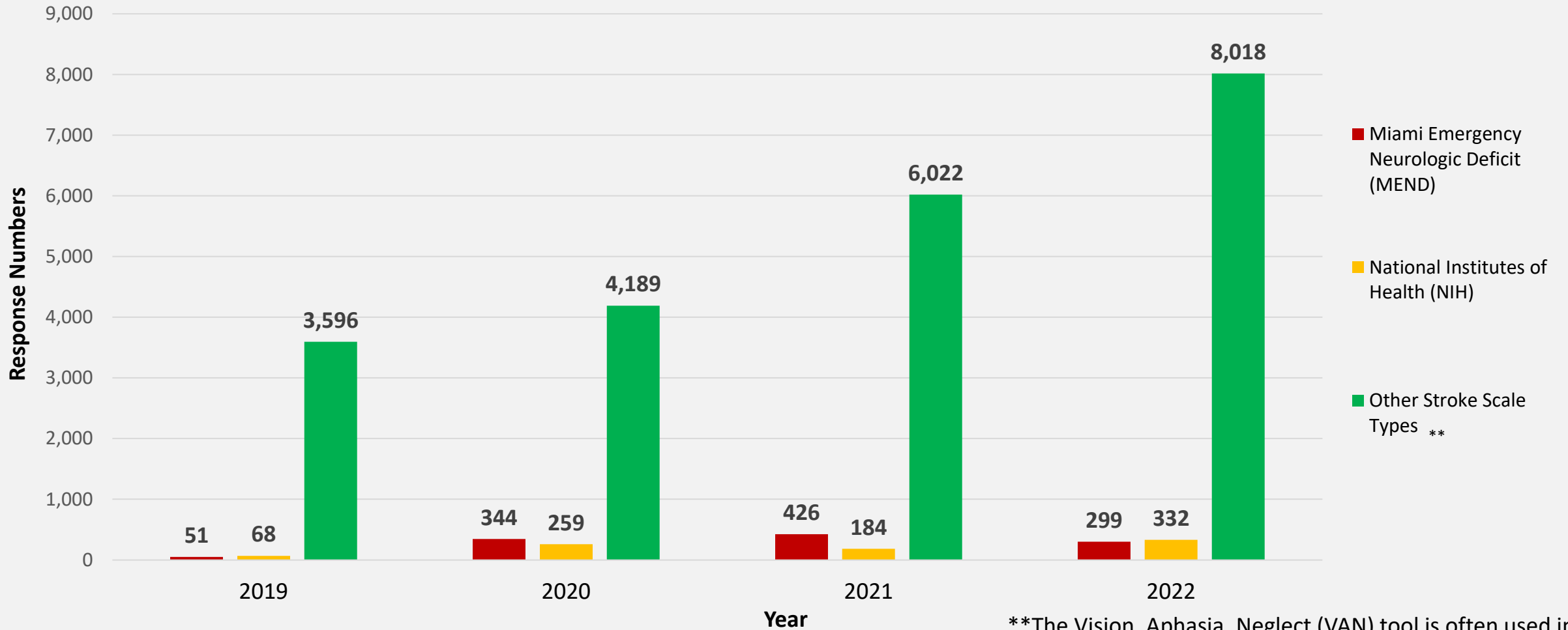
Stroke Scale Performed by RAC L-V



Stroke Scale Type Performed



Stroke Severity Scale Type Performed



**The Vision, Aphasia, Neglect (VAN) tool is often used in Texas and could be a part of the "Other Stroke Scale Types"

Stroke Scale Results

Result	2019	2020	2021	2022	Total
Positive	11,901	12,585	15,598	16,775	56,859
Negative	2,016	5,711	6,506	7,515	21,748
Non-Conclusive	1,207	1,896	2,325	2,527	7,955
Not Applicable	3,627	5,647	9,775	11,340	30,389
Not Recorded	25,787	21,983	22,100	20,628	90,498
Refused	*	8	30	41	82
Unable to Complete	1,190	796	944	926	3,856
Totals	45,731	48,626	57,278	59,752	211,387

Stroke Scale Results by Test

Result	Cincinnati	%	Los Angeles	%	FAST	%
Positive	29,918	61.0%	1,398	30.8%	4,407	74.9%
Negative	12,485	25.4%	1,075	23.6%	1,018	17.3%
Non-Conclusive	4,615	9.4%	1,217	26.8%	232	3.9%
Not Applicable	398	0.8%	48	1.1%	12	0.2%
Not Recorded	607	1.2%	776	17.1%	21	0.4%
Refused	31	0.1%	0	0.0%	8	0.1%
Unable to Complete	1,029	2.1%	29	0.6%	185	3.2%
Totals	49,083	100%	4,543	100%	5,883	100%

Stroke Severity Test by Results

Result	MEND	%	NIH	%	Other	%
Positive	315	28.1%	706	83.7%	11,457	52.5%
Negative	254	22.7%	51	6.0%	6,575	30.1%
Non-Conclusive	524	46.8%	56	6.6%	911	4.2%
Not Applicable	0	0.0%	15	1.8%	5	0.1%
Not Recorded	0	0.0%	12	1.4%	1,276	5.8%
Refused	0	0.0%	0	0.0%	28	0.1%
Unable to Complete	27	2.4%	*	*	1,573	7.2%
Totals	1,120	100%	843	100%	21,825	100%

Cardiac Data Request 2019-2022

Response and Request times for patients transferred between facilities



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Inclusion Criteria and Definitions - Cardiac

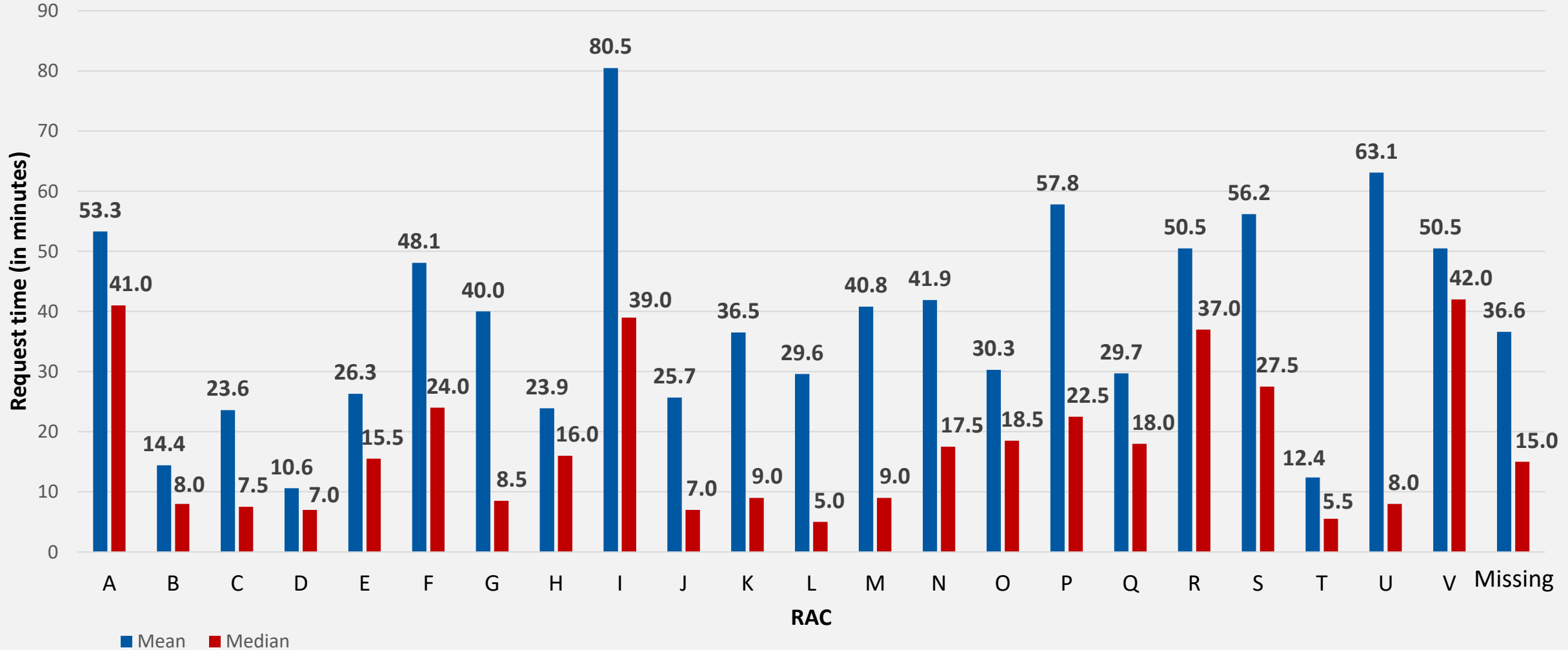
- Patients within Texas EMS dataset:
 - Incident location of hospital – emergency department (ED), hallway or inpatient.
 - Destination type – hospital ED or hospital non-ED bed.
- Cardiac patients – Protocols used were any cardiac arrest or cardiac-related events.
- Request time – Time recorded between Public Safety Answering Point (PSAP) and unit arrival on scene.
- Response time – Time recorded between unit notified of dispatch and unit arrival on scene time.

Texas Transfer Request and Response Times

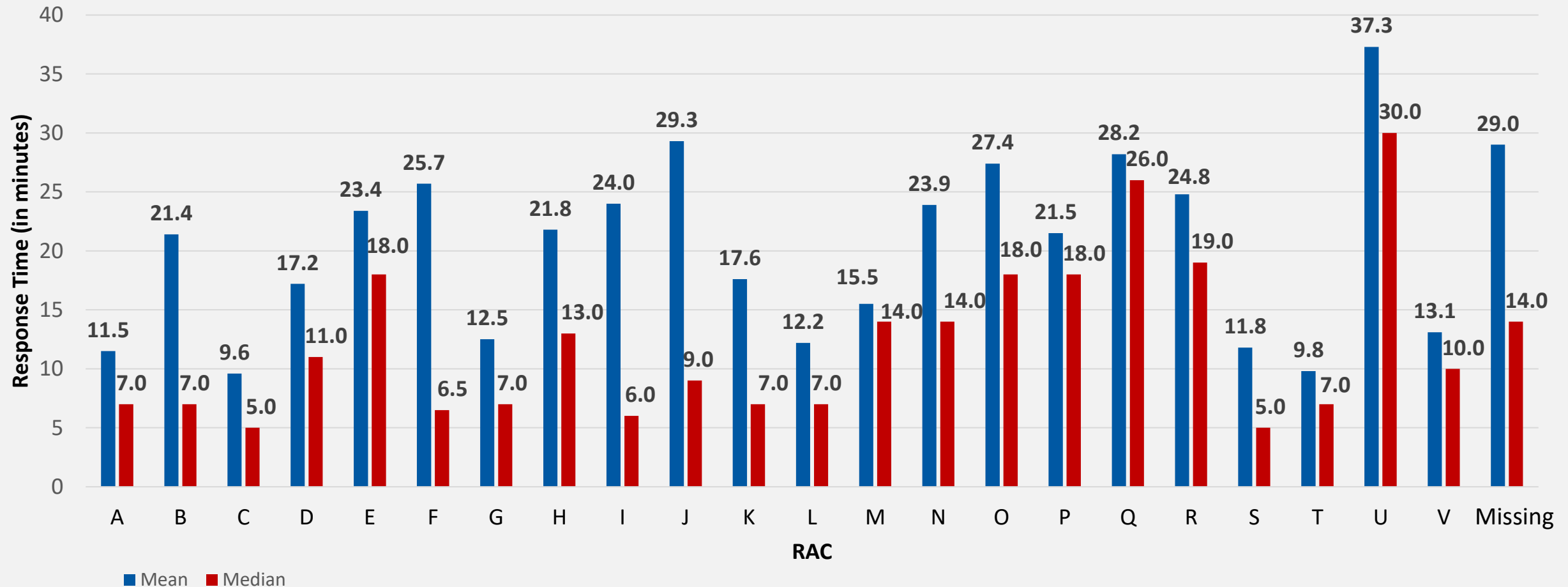
All Patients	Total Number	Mean	Median
Request Time	382,120	80.6 minutes	36 minutes
Response Time	382,120	28.0 minutes	21 minutes

Cardiac Patients	Total Number	Mean	Median
Request Time	6,262	41.3 minutes	19 minutes
Response Time	6,262	22.8 minutes	16 minutes

Cardiac Patient Request Times by Regional Advisory Council (RAC)



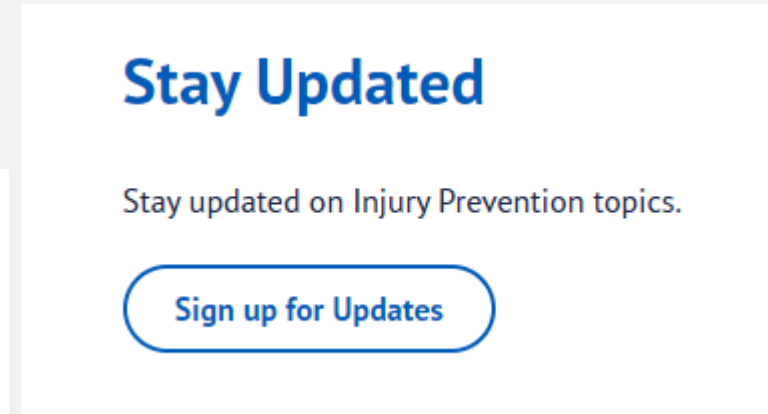
Cardiac Patient Response Times by RAC



Receive Injury Prevention Unit Updates

Sign up to receive periodic injury prevention-related updates:

- Go to dshs.texas.gov/injury-prevention and click **“Sign up for Updates” button** on the left navigation; or
- **Scan the QR code** to go directly to the sign-up page.
- Enter your email address when prompted.
- You’ll begin receiving updates.



Thank you!

EMSTR EMS Stroke and Cardiac Data

Injury.Prevention@dshs.texas.gov