Stroke Care Committee Meeting
Tuesday, February 20, 2024, 1:00 PM – 3:00 PM
9616 Micron Ave. Suite 900, Sacramento, CA. 95827
Conference Room 1

Facilitators: Gregory Kann, M.D. EMS Agency Medical Director
Minutes: Yvonne Newson, EMS Specialist

ITEM	Details (Key facts, Questions, Concerns)	Action Items/Decision
Welcome and Introductions	Meeting start time 1:00 pm	None
Approval of Minutes – May 16, 2023	Motion to Approve: Brian Morr Second: Jeremy Veldstra	
Old Business	**Discussion**	**Action Items/Decision**
	None	
New Business	**Discussion**	**Action Items/Decision**
Kevin Keenan, M.D. Presentation	<u>Stroke Pilot Study Presentation Kevin Keenan, M.D.</u> Stroke COMPASS • Cincinnati, LAMS, VAN: Collect data on these scales' accuracy and compare with decision curve analysis.	

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Policies to Review: PD#2528	• Developing Video Training • Working on Imagetrend for documentation • Start time will be summer or fall GFAST? Brian Morr – Request for when you make the video to work with the providers on how to document. Greg Kann, M.D. – Thinking of doing a soft launch with Matt Burruel and AlphaOne and eventually go county wide. Greg Kann, M.D. – Stroke System Data Elements coming up for review. We have extended our data reporting for Specialty Care to 90 days.	SCEMSA / Dr. Keenan to include a "how to document" section of the training
Data Review and Analysis	**Discussion**	**Action Items/Decision**
EMS Stoke Data	Stroke 3Q 2023 PowerPoint • 911-Response • Dashboard • Trending Graphs • Hospital Destinations • IFT Estimated Time i. IFT EMS unit eTimes.12 (Transfer of Care) minus 911-Response unit eTimes.09 (Left Scene Date Time) Hospital/EMS Stroke Data Comparison PowerPoint • Hospital Stroke Patients • Brought in by EMS	

https://dhs.saccounty.net/PRI/EMS/Pages/Committees/Stroke%20Review%20Committee/Stroke-Review-Committee.aspx

- EMS Stroke Alert

Stroke: 146 (=18.7% of EMS Stroke Alert)

Sydney Freer- Of missed in the field that was a Stroke, most of the primary impressions were Dizziness or ALOC. I believe this is an educational issue, where if they experience this, then automatically do a Stroke Scale.

Tressa Naik, M.D. – Here is the problem with that mysterious Stroke. Reporting dizziness, your Stroke Scale is going to be negative. I am looking into this to get ready for an education. And was thinking about adding in finger to nose, adding elements of hint of a Stroke. A lot of these are for the difficult ones to determine. They are syncope, or they are dizzy.

Sydney Freer – The "missed in the field" number did not concern me. It was that we are missing a 3rd of Strokes because we are not even doing the Stroke Scale. If we were doing it and it was negative and it ended being a Stroke, then that would a different conversation. We may need education because we are not even doing it.

Next, I want to finish the data. Once I get the final numbers I can look into the other side of it, those that were Stroke alerts but were not Strokes, and send them to the hospitals to ask what these patients are having when we are calling a Stroke Alert in the field. And where is there an education component we add?

	Greg Kann, M.D. – I think there are two overarching themes here. One is, are medics in the field keeping an overall suspicion for Stroke, and as evidence, 33% are not getting the Stroke Scale. The second dive into this data is going to be helpful because there are mimics out there and this will help figure out what are those mimics. Then, we can look at the medics' tendencies and what are you using to determine the primary impression.

Jeremy Veldstra – What do you want to implement without breaking down the EMS? But what can you add to it to ensure you capture these posteriors?

Julie Currington – A huge part of that, is the quality insurance of Stroke. The diagnosis of Stroke and the Alert. Without the outcome data it is hard to give that feedback, and find a solution.

Irina Rebello - Question: how many of us report TIAs? Are you able to pull those up?

Sydney Freer – Anything that ends up in the GWTG Stroke Registry. So I think they are but I would have to double-check.

Irina Rebello – We put them in there. We prefer to. We are not required to, but we started putting them in. It doesn't measure out a lot of the measures, and the diagnoses are different. | |

	Sydney Freer – The next part of what I am going to look into with the data I will send out to hospitals of patients who were not Stroke and ask, "What was this?"	SCEMSA to continue data analysis of stroke diagnosis compared to field stroke alerts
	Sherry Whitcomb – On TIAs and how a lot of variabilities get entered into the GWTG. A lot of times hospitals focus on the discharge diagnoses and a lot of the TIAs get put on Observation unit now and technically will not get captured. Especially if it is based on the discharge diagnosis.	
	Kevin Keenan, M.D. – There is a timing issue that comes with this one. What it a TIA? Are the symptoms resolved, now are patients' symptoms resolved after they have arrived, then are times where it takes hours or days after being in the hospital. You must be mindful of that when looking into retrospective data.	
	Good news: if the patients had symptoms when the medic met them, and it started within 48 hours, that is an appropriate Stroke Alert. We have to be careful when telling our medics that they are missing stuff because we are telling them what to do. If they are following guidelines and it is within 24 hours, positive Cincinnati, having Stroke flavor to it, then it's not their fault that they are missing Strokes.	
	Matt Burruel – There also may be a disconnect between the field and dispatch. From the field prescriptive, if I am told it is a seizure, I am not going to go in there thinking Stroke Scale.	

	Sydney Freer – From what I read, the ones that documented no Stroke Scale said general weakness or ALOC but did not recognize for that to be a reason to do the Stroke Scale.	
	Tressa Naik, M.D. – Sounds like we need to work with dispatch and look at the protocol. Because it also depends on how you ask it, where you get a response of "they are just weak."	
	Julie Currington – This is telling me we are not clear on symptomology. It is said very clearly if Septic, Stroke, lateralizing neurologic signs, unexplained ALOC without response.	
	Brian Morr – In my platform, selecting "unable to perform Stroke Scale" translates it into blank documentation. And populates as if the medic did not try.	
	Sydney Freer – I did not use the fields to get the data. I went through every narrative. But they could have checked unable and not mentioned it in their narrative because it was already documented as unable, making it unable for me to see that.	
	Greg Kann, M.D. – Let's look at this from the bigger, arching view. What are we trying to learn from this? Is there a population we are missing, and is there training we need to do?	

	Attendee: Is there a national benchmark for us to prepare for? Kevin Keenan, M.D. – Trauma does, but not Stroke.	
Case Presentations	**Discussion**	**Action Items/Decisions**
• SMCS • MSJ	<u>Stroke Case Study Presentations</u>	
Round Table	**Discussion**	**Action Items/ Decisions**
Closing and recap of any action items	Sherry Whitcomb – Would like us to have at the next meeting a discussion on the Zodiac article, "Laying Flat Equals Better Outcomes for Stroke Thrombectomy Candidates."	
Adjournment	Adjourned at 2:30 pm	**Next meeting:** **May 21, 2024** **1PM – 3PM**

Department of Health Services Emergency Medical Services Agency
Stroke Care Committee
2024 Case Presentation Rotation

Date:	2/20/2024	5/21/2024	8/20/2024	11/19/2024
KHN		X		
KHR				X
KHS	X			
MGH			X	
MHF		X		
MHS				X
MSJ	X			
SMCS			X	
SRMC				X
UCD		X		

Stroke Liaisons									
Contacts	KHN	KHR	KHS	MGH	MHF	MHS	MSJ	SMCS	SRMC	UCD
Primary	Jason Murray	Michelle Arroyo	Sherry Whitcomb, JD, MSN, RN CPHQ	Emily Browne		Max Naximko, MSN, RN, SCRN	Irina Rebello	Kandis Dowd	Jennifer Bingham	Kimberly Brink
Secondary	Jonathan Hartman MD					Anu Locricchio	Richard Otley, RN	Chase Childress	Patty McNamara	Dawn Warner
							Heidi Hollingsworth			

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SCENE Calls (911-Response) – 2023- 3Quarter	Incident Count	Percentages	Notes
Total ePCRs received	83,307	100%	All records
Responses (911-Response/Primary Response Area "PRA")	60,385	72.48%	of total responses
Treated and Transported (of 911-Response/PRA)	**33,000**	**54.65%**	of 911 responses transported to the ED
Primary Impressions of Treated and Transported -911-Response (Scene)	Incident Count	Percentages	
ALOC - (Not Hypoglycemia or Seizure) (R41.82)	1,254	3.8%	
Stroke / CVA / TIA (I63.9)	919	2.78%	
Sepsis (A41.9)	791	2.4%	
Patient Arrival for Stroke/ CVA/ TIA (I63.9)	Incident Count	Percentages	From ImageTrend Patient Registry (Hospital Data)
Private Vehicle	233	27.74%	
EMS from home/scene	327	38.93%	
Transfer From Another Hospital	201	23.93%	
Other /Unknown /Not Documented	79	9.40%	
Total Patient Count	840	100%	

Stroke Dashboard - EMS Data

| Stroke	System Total 2022-4Q	System Total 2023-1Q	System Total 2023-2Q	System Total 2023-3Q
Total transported patients with Primary impression of Stroke	978	932	992	919
Number of patients with documented Stroke Screen	939	930	969	903
% of patients with documented Stroke Screen	96.01%	99.78%	97.68%	98.26%
Documented Glucose	947	898	958	875
% of documented Glucose	96.83%	96.35%	96.57%	95.21%
Patients with a Stroke pre-arrival notification	864	821	871	805
% of Stroke pre-arrival notification	88.75%	88.09%	87.80%	87.60%

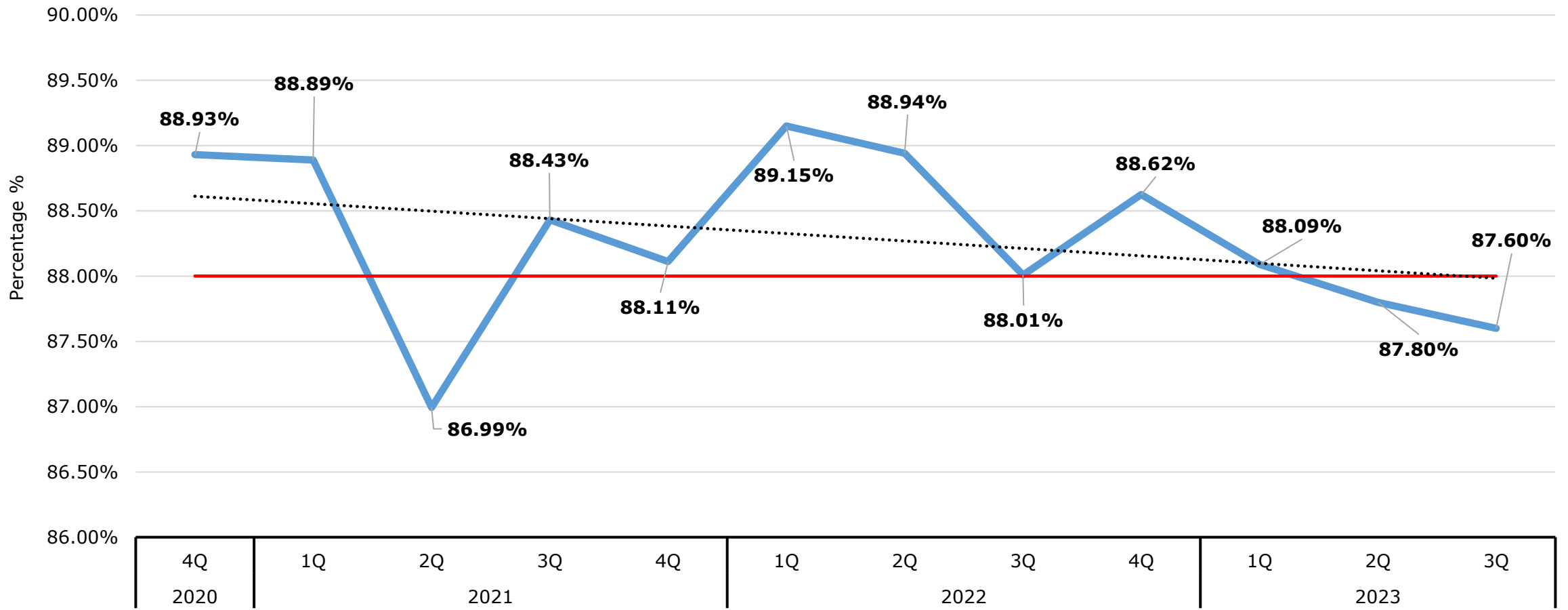Trend Count of Pateints with Primary Impression of Stroke

Count — Average ⋯⋯ Linear (Count)
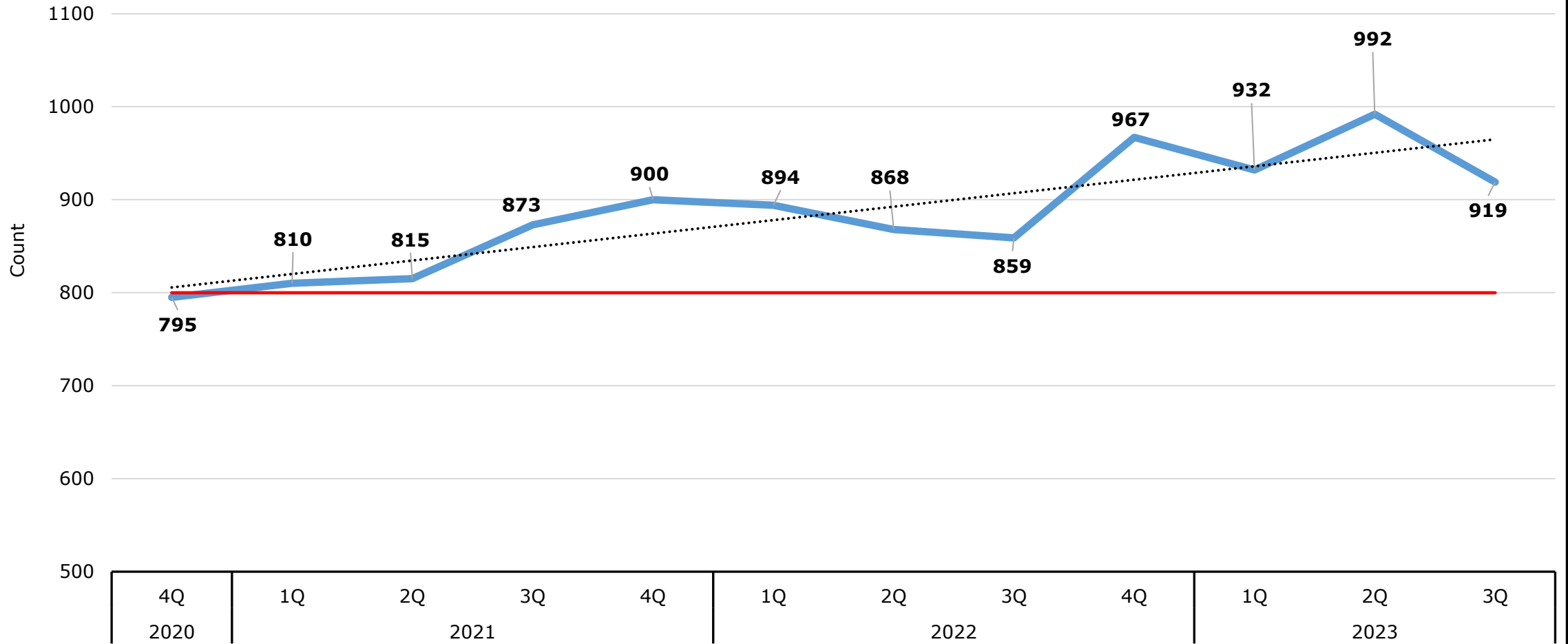
Percentage % Trend of Stroke Scales Performed on Patients with Primary Impressioin of Stroke
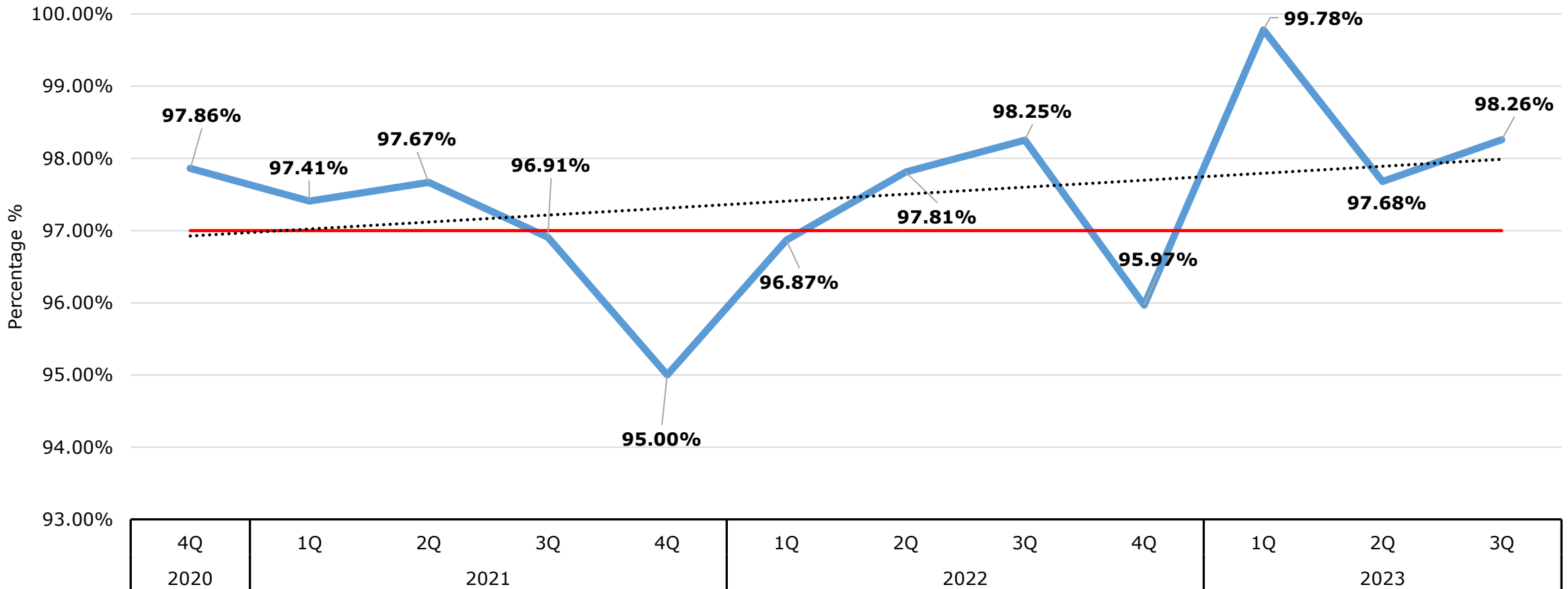
Percentage % Trend of Stroke Alerts for Pateints with a Primary Impression of Stroke

Stroke Primary Impression for Treated and Transported Patients - EMS Data

Hospital Name	2022-4Q	2023-1Q	2023-2Q	2023-3Q
KHR	52	40	56	69
KHN	173	179	153	157
KHS	172	145	208	167
MGH	43	48	49	47
MHF	84	72	76	51
MSJ	190	173	183	173
MHS	70	85	89	69
VAMC	0	4	0	0
SMCS	89	84	87	97
SRMC	36	38	30	25
UCD	67	64	60	63
OOA	2	0	1	1
Total	**978**	**932**	**992**	**919**

Estimated Times for Primary Impression of Stroke for IFTs- 2023 3Q

Equation used

IFT EMS Unit eTimes.12 (Transfer of Care Time)   minus   911 Response Unit eTimes.09 (Left Scene Date Time)

Hospitals
- KHS to KHN
- KHR to KHN
- MHS to MSJ
- MHF to MSJ

Time Category	Estimated Time
90th Percentile	3:16:43
Average	2:46:17
Median	2:07:01

Hospital / EMS Stroke Data

3Q 2023

Total Hospital Stroke Patients: 810

*Missing August and September data from one hospital
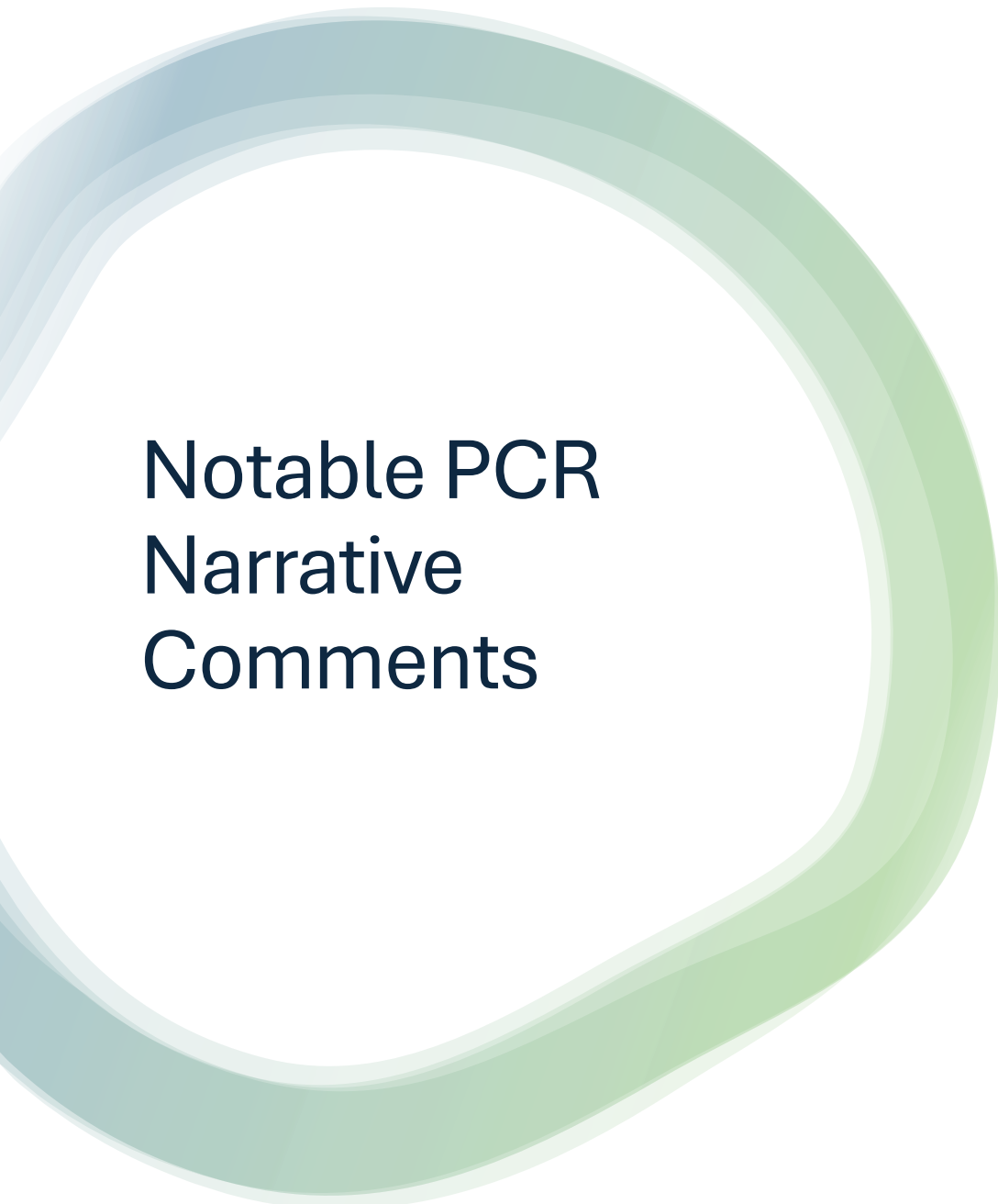
Total Brought in by EMS: 314

Total EMS Stroke Alerts / Stroke Primary Impressions: 994

*July arriving at out of county hospitals: 32
*August arriving at missing hospital: 66
*August arriving at out of county hospitals: 29
*September arriving at missing hospital: 49
*September arriving at out of county hospitals: 37 (= 213)

Total EMS Stroke Alerts / Stroke Primary Impressions: 781

Patients with a Final Clinical Diagnosis of Stroke: 146 (= 18.7% of EMS Stroke Alerts)

Hospital Stroke Calls	Count	Percentages
Total Hospital Stroke Patients	810	100%
Brought in by EMS	314	38.8%
Of Patients Brought in by EMS	**Count**	**Percentages**
Stroke Alerted (or identified but care transferred)	164	52.2%
Blank / PCR Not Found	46	14.7%
Missed in the Field	104	33.1%
Of Missed in the Field	**Incident Count**	**Percentages**
Chest Pain / Cardiac	3	2.9%
Overdose / Alcohol	3	2.9%
Seizure	2	1.9%
Traumatic Injury	9	8.7%
Unable to Perform Stroke Scale	5	4.8%
Symptoms Greater than 24 Hours	4	3.8%
Stroke Scale Negative	33	31.7%
Sepsis / Infection	6	5.8%
Symptoms but not Alerted	6	5.8%
No Stroke Scale	33	31.7%

Notable PCR Narrative Comments

- Speech abnormal according to family but no stroke assessment mentioned

- Family advises periods of stroke symptoms prior to arrival

- Left sided weakness but no stroke assessment mentioned

- "Slurred Speech" followed by negative stroke assessment (x3)

- Dizziness and wife advising previous stroke with the same symptoms, but stroke scale negative

- Facial droop assumed to be caused by denture so not stroke assessed

- Family advises speech is slurred but language barrier prevents EMS from stroke assessing

- New onset ALOC decreased to BLS Care with no stroke assessment mentioned (x2)