Stroke Care Committee Meeting
Tuesday, August 15, 2023, 1:00 PM –2:30 PM
9616 Micron Ave. Suite 900, Sacramento, CA. 95827
Conference Room 1

Facilitators: Gregory Kann, M.D. EMS Agency Medical Director
Minutes: Sydney Freer, 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: Julie Carrington Second: Kevin Keenan	
Old Business	**Discussion**	**Action Items/Decision**
• Data Uploading and Matching • Data Workgroup Meeting	-Dr. Kann: It is very important for us to have access to data so we can make decisions about our Stroke care in the field. I think there is a massive opportunity for our prehospital providers to become savvier about activations that they do with Stroke mimics. We can accomplish this with both protocol and training with our providers on stroke recognition. We have hospitals in our system that have been a little slow to provide data, so we are going to be reaching out to them. Sydney Freer: Big thank you to our Dignity Health Hospitals, they worked very closely with me, Mark, and AHA to figure out the issues. There is no data matching	-SCEMSA to follow up with hospital personnel on reporting schedule and data workgroup meeting

	required anymore. We are planning a workgroup meeting to discuss and make sure what we are all reporting is the same. Our upload schedule is now that data will be submitted to patient registry one month following the end of the quarter.	
New Business	**Discussion**	**Action Items/Decision**
-Policies to Review: None	None	
Data Review and Analysis	**Discussion**	**Action Items/Decision**
EMS Stoke Data	-Slide two: Dr. Kann: The one thing that stands out as an issue to me is the patients with a Stroke Pre-Arrival notification. We have a consistency of less than 90% of our patients with a primary impression of Stroke arriving with a pre-arrival. Having that pre-arrival is critically important, so that is an ask of the prehospital providers. -Dr. Keenan: One of the clinically significant predictors of a faster door in door out was hospital prenotification. -Speaker: Someone asked a question in the last meaning pertaining to this data point whether or not they knew whether the patients were within the 24-hour window for activation, and there was some uncertainty around that. -Yvonne Newson: When I look at the alert, I look at three different sections of when the alert was made. But I didn't think about that so I will look at it again with that in mind. -Sydney Freer: Sometimes if it outside that alert window or its medics saying I think this is a Stroke, but I can't	

	alert because of XYZ, they still put primary impression Stroke. Do we think that is valuable? If they are not having a positive CPSS and calling a Stroke Alert, is there a different primary impression we could encourage our medics to use? Or do we want to include these numbers where they couldn't call an alert, but they thought it was a Stroke? -Julie Carrington: We have a defined list as to what our primary impressions are. So, one of those might not fit and Stroke/TIA might be the best fit. Sometimes they don't know what is wrong, but they know something is wrong, so they Stroke Alert. Brian Morr: There is a phrase in the protocol that says all unexplained decreased level of consciousness will be strongly considered Stroke or something like that. And I know a lot of guys that would say I don't think it is a Stroke but it is new onset DLOC and I can't find a reason so I am supposed to Stroke Alert it. -Dr. Keenan: Would it be helpful if at the next meeting we could possibly show how many pre-alerts were with a positive Cincinnati and within 24 hours? -Sydney Freer: It should be that all our pre-alerts are that. In policy, our medics don't call a Stroke Alert unless it is a positive Cincinnati and within 24 hours. -Dr. Keenan: Yeah, if we could look at policy versus reality because it seems like maybe we have an under rather than over reporting problem. -Brian Morr: If a paramedic calls you and says hey my patient has XYZ but CPSS is negative so I can't call a Stroke Alert. Does your physician call an internal Stroke Alert?	-SCEMSA to evaluate validity of Stroke Alerted patients

	-Jeremy Veldstra: At UCDavis if it is not a cut and dry Stroke, we will have one of our attendings come up and do a Stroke eval at which point they can Stroke Alert or not. And we have a third protocol for any patient who has a complaint of dizziness which involves asking the patient seven questions and based on the result of those questions we either Stroke Alert or not. -Dawn Warner: There is a lot of Strokes that have negative CPSS, are we tying our hands by having that part of the protocol? Or should we consider changing it? I consider trusting the medics that they know what they are looking at, and if they think Stroke should they Stroke Alert that? -Speaker: I really think it depends how sensitive you want a protocol to be. How much do you want to overcall or under call and what can the system handle? -Slide 3: Dr.Kann: Graphical depiction of our trending here. We actually see that we have a general trend upward in our primary impression Stroke counts. Is this an indicator of overall health in the community? Or over calling? -Speaker: Or better recognition? -Speaker: It could also be tied to population increase. -Julie Carrington: So, without the hospital data we don't truly know if we are over triaging? -Sydney Freer: I have been digging into the hospital data a little bit. Our goal is to have hospital data to bring to y'all in November. The trend that I saw was that we are	

	simultaneously over calling and missing Strokes. With the ones we are missing most are either some kind of other aspect leading us to not call it Stroke - trauma, fall, unable to do a Stroke scale – or they are dizziness. We want to start looking at ways to address that. -Dr. Keenan: I heard it mentioned a couple times so I also want to offer that a lot of our Stroke Attendings would love to participate in Stroke education. And I know we keep mentioning we are concerned about over calling but this isn't a new issue and I think most of us Vascular Neurologists have resigned to the fact that we are going to do more Stroke Alerts than Strokes. -Brian Morr: Can the data also dive more into Stroke versus Sepsis? Stroke alerted patients that ended up being Sepsis. -Sydney Freer: That's the hard part. The EMS data that I am getting is what the paramedic thinks. And then the hospital data is Stroke data. So, I would have to go to our hospitals and ask for other data. -Rich Oatley: We are working on becoming AHA certified to offer Acute Stroke Life Support Training for prehospital and hospital providers. So hopefully in the coming months we should be able to offer that.	-SCEMSA to provide more hospital outcome data and comparisons at the next meeting -SCEMSA to look into Stroke vs. Sepsis data

Case Presentations	Discussion	Action Items/Decisions
• KHR • MHS • SRMC	-Debbie Madding and Dr. Tran presented for SRMC -Dr. Bradbury presented for Kaiser Roseville -Rich Oatley presented for Methodist	None
Round Table	**Discussion**	**Action Items/ Decisions**
Closing and recap of any action items	None	None
Adjournment	Adjourned at 2:30 pm	**Next meeting:** **November 7, 2023** **1PM – 3PM**

SACRAMENTO COUNTY

Department of Health Services Emergency Medical Services Agency
Stroke Care Committee
2023 Case Presentation Rotation

Date:	2/21/2023	5/16/2023	8/15/2023	11/7/2023
KHN	X			
KHR			X	
KHS				X
MGH		X		
MHF	X			
MHS			X	
MSJ				X
SMCS		X		
SRMC			X	
UCD	X			

Stroke Liaisons

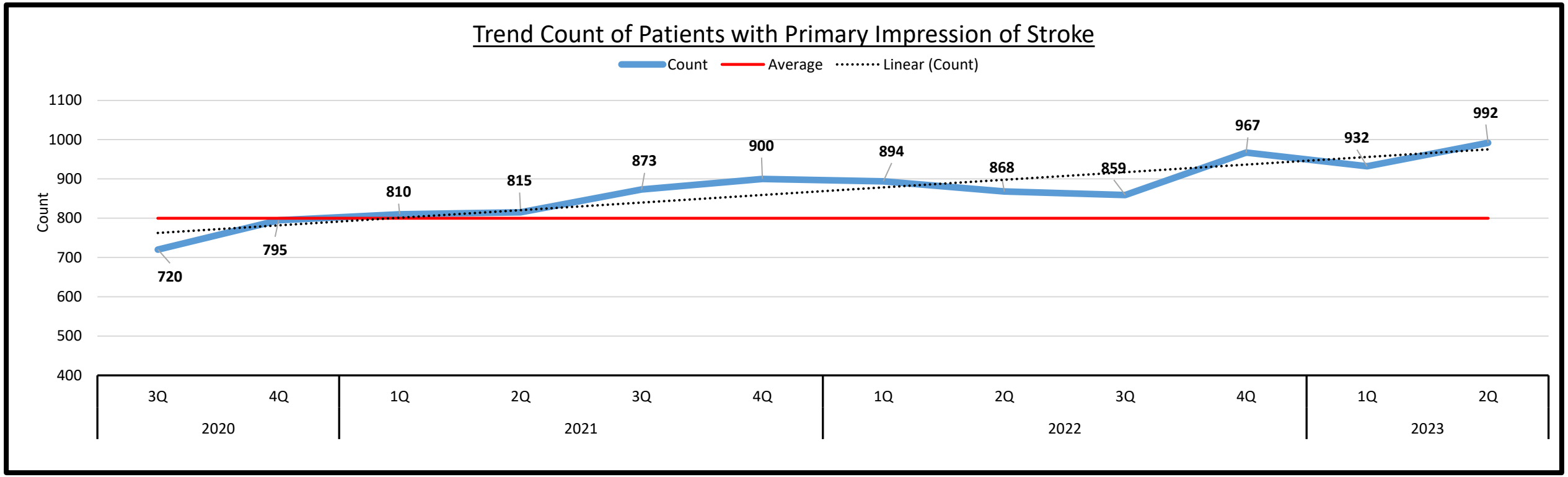
Contacts	KHN	KHR	KHS	MGH	MHF	MHS	MSJ	SMCS	SRMC	UCD
Primary	Jason Murray	Michelle Arroyo	Sherry Whitcomb, JD, MSN, RN CPHQ	Richard Otley, RN		Max Naximko, MSN, RN, SCRN	Irina Rebello	Kandis Dowd	Jennifer Bingham	Kimberly Brink
Secondary	Jonathan Hartman MD					Anu Locricchio		Chase Childress	Patty McNamara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

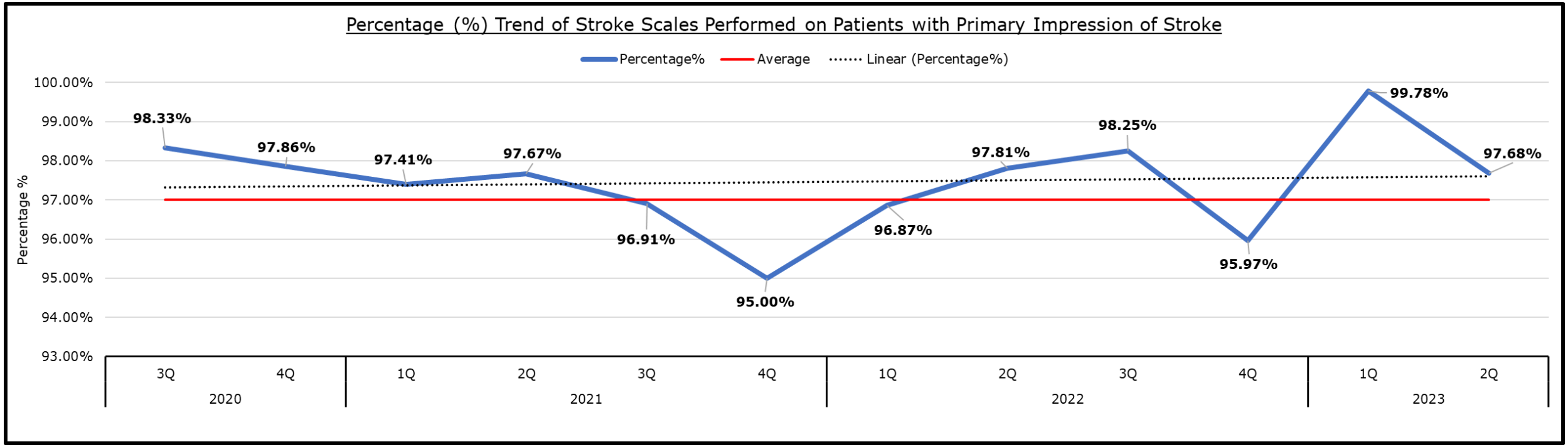
https://dhs.saccounty.net/PRI/EMS/Pages/Committees/Stroke%20Review%20Committee/Stroke-Review-Committee.aspx

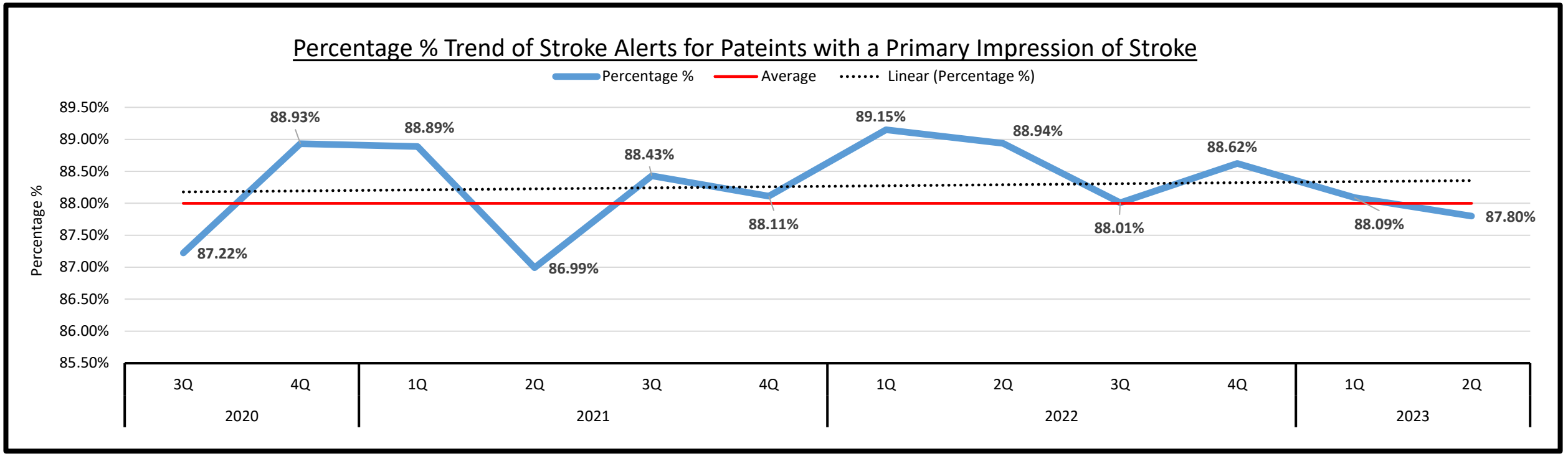
SCENE Calls (911-Response) – 2023- 2Quarter	Incident Count	Percentages	Notes
Total ePCRs received	83,633	100%	All records
Responses (911-Response)	59,330	70.94%	of total responses
Treated and Transported (of 911-Response)	**31,419**	**52.96%**	of 911 responses transported to the ED
Primary Impressions of Treated and Transported -911-Response (Scene)	**Incident Count**	**Percentages**	
ALOC - (Not Hypoglycemia or Seizure) (R41.82)	1,217	3.87%	
Stroke / CVA / TIA (I63.9)	992	3.16%	
Sepsis (A41.9)	713	2.27%	
Patient Arrival for Stroke/ CVA/ TIA (I63.9)	**Incident Count**	**Percentages**	From ImageTrend Patient Registry (Hospital Data)
Private Vehicle	144	30.70%	
EMS from home/scene	180	38.38%	
Transfer From Another Hospital	131	27.93%	
Other / Unknown	17	3.62%	
Total Patient Count	469		Incomplete data set because not all hospitals have submitted complete second quarter data.

Stroke Dashboard - EMS Data

Stroke	System Total 2022-3Q	System Total 2022-4Q	System Total 2023-1Q	System Total 2023-2Q
Total transported patients with Primary impression of Stroke	857	978	932	992
Number of patients with documented Stroke Screen	854	939	930	969
% of patients with documented Stroke Screen	99.64%	96.01%	99.78%	97.68%
Documented Glucose	835	947	898	958
% of documented Glucose	97.43%	96.83%	96.35%	96.57%
Patients with a Stroke pre-arrival notification	756	864	821	871
% of Stroke pre-arrival notification	88.21%	88.75%	88.09%	87.80%


Trend Count of Patients with Primary Impression of Stroke
Count
Average
Linear (Count)
Count
1100
1000
900
800
700
600
500
400
720
795
810
815
873
900
894
868
859
967
932
992
3Q
4Q
1Q
2Q
3Q
4Q
1Q
2Q
3Q
4Q
1Q
2Q
2020
2021
2022
2023


Percentage (%) Trend of Stroke Scales Performed on Patients with Primary Impression of Stroke
Percentage%
Average
Linear (Percentage%)
Percentage %
100.00%
99.00%
98.00%
97.00%
96.00%
95.00%
94.00%
93.00%
98.33%
97.86%
97.41%
97.67%
96.91%
95.00%
96.87%
97.81%
98.25%
95.97%
99.78%
97.68%
3Q
4Q
1Q
2Q
3Q
4Q
1Q
2Q
3Q
4Q
1Q
2Q
2020
2021
2022
2023


Percentage % Trend of Stroke Alerts for Pateints with a Primary Impression of Stroke
Percentage %
Average
Linear (Percentage %)
89.50%
89.00%
88.50%
88.00%
87.50%
87.00%
86.50%
86.00%
85.50%
Percentage %
87.22%
88.93%
88.89%
86.99%
88.43%
88.11%
89.15%
88.94%
88.01%
88.62%
88.09%
87.80%
3Q
4Q
1Q
2Q
3Q
4Q
1Q
2Q
3Q
4Q
1Q
2Q
2020
2021
2022
2023

Stroke Primary Impression for Treated and Transported Patients - EMS Data

Hospital Name	2022-3Q	2022-4Q	2023-1Q	2023-2Q
KHR	34	52	40	56
KHN	152	173	179	153
KHS	149	172	145	208
MGH	52	43	48	49
MHF	46	84	72	76
MSJ	178	190	173	183
MHS	61	70	85	89
VAMC	0	0	4	0
SMCS	98	89	84	87
SRMC	28	36	38	30
UCD	59	67	64	60
OOA	0	2	0	1
Total	**857**	**978**	**932**	**992**