SYNCHRONIZING STROKE CARE USING A.I

Impact of Viz LVO on Time-to-Treatment and Clinical Outcomes in Large Vessel Occlusion Stroke Patients Presenting to Primary Stroke Centers¹

WHAT IS VIZ.AI?

Viz.ai's stroke detection and workflow synchronization software utilizes artificial intelligence (A.I.) to automatically detect suspected LVO strokes on CT imaging, alert the on-call stroke team, and coordinate care across hub and spoke hospital systems via HIPAAcompliant mobile image viewing and communication.

STUDY DESIGN¹

- Single institution, retrospective, investigator-initiated study
- Evaluate Viz LVO's impact on the mean time from Primary Stroke Center (PSC) arrival to Comprehensive Stroke Center (CSC) treatment and effect on clinical outcomes.
- LVO stroke patients (n=42) presenting between:
 - Oct '18 Mar '19 (pre-Viz)
 - Oct '19 Mar '20 (post Viz)





Faster Stroke Alert and Treatment Times

Mean PSC Arrival to INR MD Alert Time (30 min saved, 55% Reduction) Mean PSC Arrival to CSC Puncture Time (33 min saved, 17% Reduction)



Improved Clinical Outcomes

Mean 5-Day NIHSS and Discharge mRS; median 90-Day mRS (all p<0.05)

	PRE-VIZ	POST-VIZ	% CHANGE	P-VALUE
5-Day NIHSS	22	11	51%	0.02
Discharge mRS	4.6	2.9	37%	0.03
90-Day mRS	5.0	3.0	40%	0.02

SYNCHRONIZED CARE WITH VIZ.AI

Viz LVO resulted in **statistically significant improvements** in the time between PSC Arrival and INR MD Alert (30 min saved), as well as, 5-day NIHSS (51% improvement), Discharge mRS (37% improvement), and 90-Day mRS (40% improvement).



STROKE HOSPITAL AND FOLLOW UP COSTS²

by NIHSS at 5 Days and mRS at 90 Days

5-Day NIHSS	EVT Hospital Cost	EVT FU Cost		90-Day mRS	EVT FU Cost
0	\$23,242	\$9,984		0	\$5,871
1 to 9	\$28,140	\$14,674		1	\$10,419
10 to 19	\$38,588	\$52,325		2	\$17,839
20+	\$61,289	\$62,283		3	\$29,889
* Adjusted for age. FU indicates follow-up; EVT, endovascular therapy;				4	\$69,015
mRS, modified Rankin Scale; NIHSS, National Institute of Health Stroke				5	\$80 857

PROJECTED COST SAVINGS BY OUTCOME^{1,2}

Annualized Projected Viz Cost Savings

Scale.

	5-DAY	90-DAY MRS	
	EVT HOSPITAL	EVT FOLLOW UP	EVT FOLLOW UP
Pre-Viz Cost	\$61,289	\$62,283	\$80,857
(Score)	NIHSS 22 (mean)	NIHSS 22 (mean)	mRS 5 (median)
Post-Viz Cost	\$38,588	\$52,325	\$29,889
(Score)	NIHSS 11 (mean)	NIHSS 11 (mean)	mRS 3 (median)
Economic Value	\$22,701	\$9,958	\$50,968
(Change)	NIHSS Change 11 (p=0.02)	NIHSS Change 11 (p=0.02)	mRS Change 2 (p=0.02)
MVT Volume		100 patients per year	
Viz Cost Savings	\$2,270,100	\$995,800	\$5,096,800
	per year	per year	per year

Each minute delay in thrombectomy, results in a 4-day loss of disability free life and 10-day loss of functional independence.³ After installing Viz, PSC Arrival to CSC Puncture times decreased by 33 minutes, representing an additional 132 days of disability free life and 330 days of functional independence per patient.



 ¹ Morey A, Fifi J., et al. Impact of Viz LVO on Time-to-Treatment and Clinical Outcomes in Large Vessel Occlusion Stroke Patients Presenting to Primary Stroke Centers. medRxiv preprint doi: https://doi.org/10.1101/2020.07.02.20143834.this version posted July 5, 2020..
² Simpson KN, et al. Observed Cost and Variations in Short Term Cost-Effectiveness of Therapy for Ischemic Stroke in Interventional Management of Stroke (IMS) III. J Am Heart Assoc. 2017;6(5)
³ Goval M, et al. Cost analysis of the SWIFT-PRIME trial, ESOC 2018.

\$9,431