

ICD-10-PCS Coding Change Request for Head and Neck CT Angiogram with Computer-Aided Triage and Notification

Submitted by Viz.ai

ICD-10 Coordination and Maintenance Committee
March 17, 2020

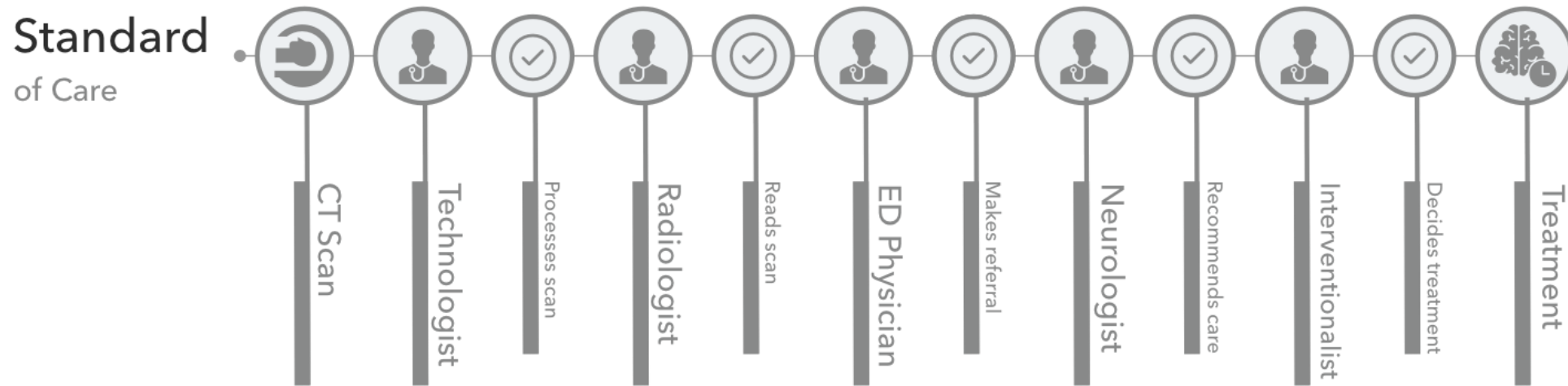
Presenters

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- Conrad Yiu, Viz.ai, Inc.

Stroke burden is high in the U.S.

- Every year, more than 795,000 people in the United States have a stroke. Three quarter of all strokes occur in the Medicare population
- About 87% (or about 692,000) of these strokes are ischemic strokes¹
 - Large vessel occlusions (LVOs) account for approximately 24% to 46% (approximately 166,000-318,000) of acute ischemic strokes²
- Treatment with tPA and mechanical thrombectomy is effective but time sensitive
- In patients with ischemic stroke, a major predictor of outcomes is time to treatment. Treatment delays are associated with an increase in post-stroke disability^{3,4}

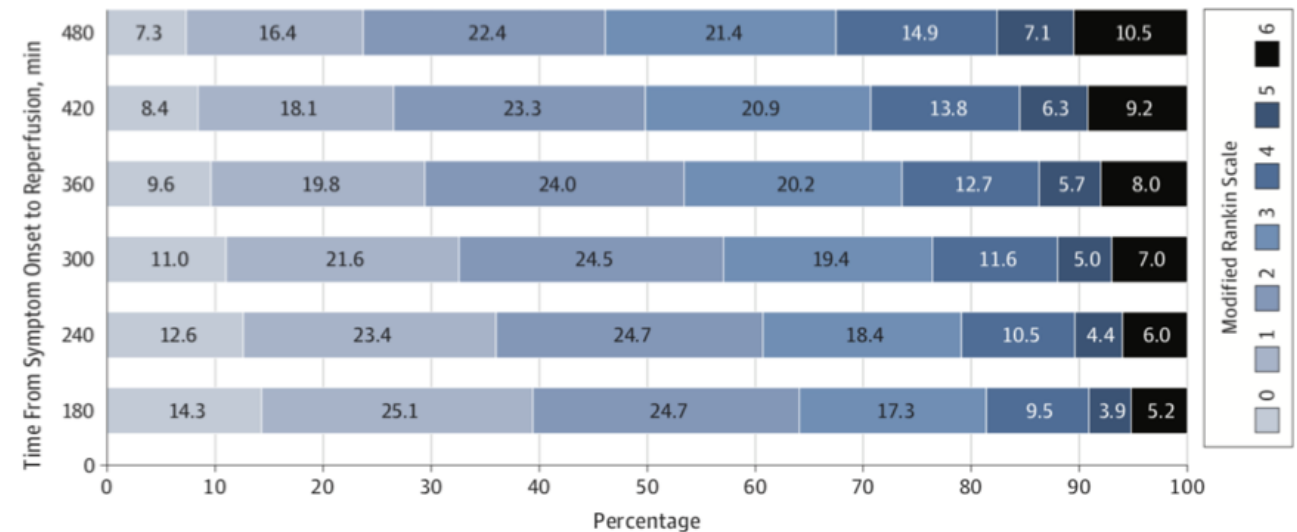
Current standard of care involves a serial workflow that contributes to delays in time to treatment



- System factors inherent in serial workflow contribute to delays in treatment, including wait for formal radiology report and activation of the stroke team^{5,6}
- AHA Get With The Guidelines®-Stroke targets for endovascular therapy include door-to-puncture <90 minutes and door-to-start of reperfusion <120 minutes⁷

Reducing time to treatment improves outcomes in LVO

- Independent studies have demonstrated that reducing time to treatment improves outcomes, reduces mortality and reduces disability on discharge and at 90-days post-discharge
- A meta-analysis of 1287 patients across 5 RCTs demonstrated that reduced time to treatment increases the odds of better disability outcomes at 90 days with reduced time to treatment⁸



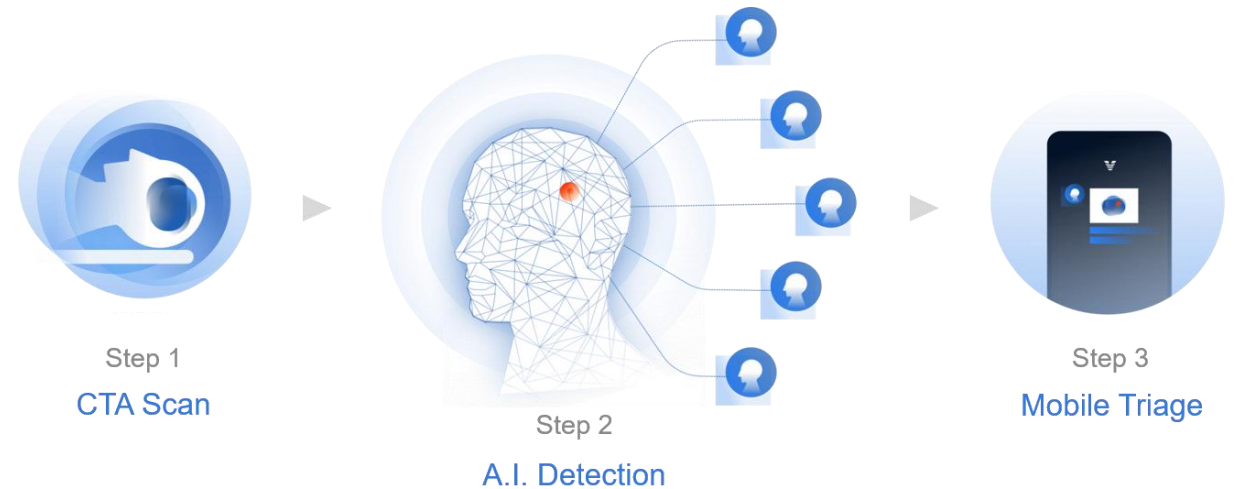
mRS = modified Ranking Scale for neurologic disability. Measures the degree of disability or dependence in the daily activities of people who have suffered a stroke or other causes of neurological disability. 0 = no symptoms, 1 = some symptoms, no disability, 2 = slight disability, 3 = moderate disability, 4 = moderate-severe disability, 5 = severe disability, 6 = dead.

What is ContaCT?

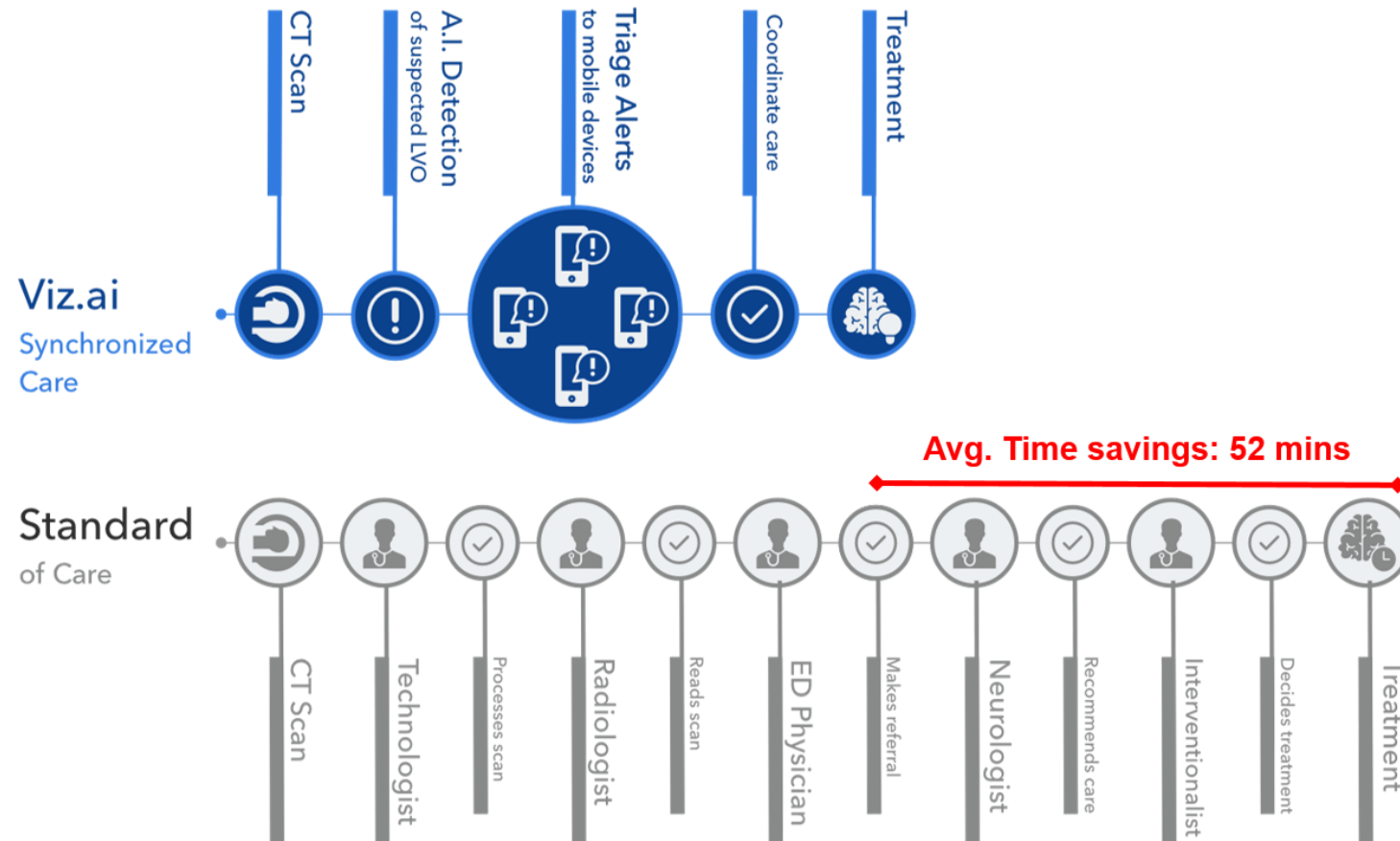
- ContaCT is the only FDA-authorized Computer-Assisted Triage and Notification Software as a Medical Device (SaMD) for stroke caused by large vessel occlusions (LVO)
 - SaMD is software that has a medical purpose and is not part of a hardware medical device (i.e., CT scanner)
- ContaCT is an image processing device that detects LVO strokes based on the analysis of CTA images and identifies, prioritizes, and notifies clinical specialists of time sensitive imaging for review
 - Artificial (augmented) intelligence (A.I.) is used to automatically detect suspected large vessel occlusion strokes

How does ContaCT work?

- Step 1: Patient undergoes CTA for suspected stroke
- Step 2: ContaCT uses artificial (augmented) intelligence to detect suspected LVO strokes and sends out an alert
- Step 3: Neurovascular specialists receive alerts allowing them to view the relevant CT imaging and quickly activate the endovascular team



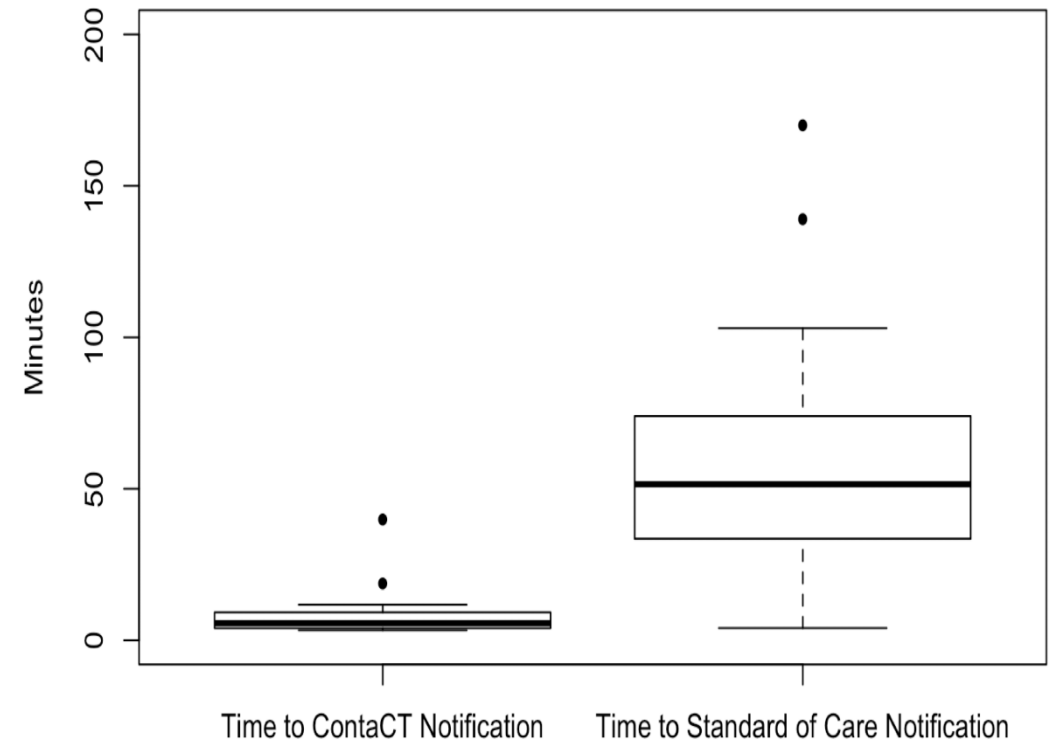
ContaCT enables parallel workflow reducing inefficiencies, speeding time to treatment



- ContaCT enables faster time to diagnosis through a parallel workflow
- Faster time to diagnosis = faster time to treatment
- Faster time to treatment has been shown to reduce stroke-related mortality and to improve clinical outcomes in ischemic stroke patients

ContaCT's pivotal study shows nearly 52 minute time saving

- ContaCT pivotal study evaluated 300 patients with suspected strokes from two U.S. clinical sites:⁹
 - Primary endpoint: accuracy of LVO detection
 - Secondary endpoint: time to notification
- Data from the study showed substantial time improvement
 - Average time-to-notification was 58.72 minutes [95% CI: 46.21, 71.23] with standard workflow vs. 7.32 minutes [5.51, 9.13] with ContaCT



Improved clinical outcomes with reduced time to treatment

- ContaCT has the ability to reduce time to treatment by >50 minutes, which has been shown to reduce mortality and post-stroke disability
- As shown in the table, predictive modeling demonstrates that reducing time to treatment by 52 minutes would improve 90-day outcomes for 6.22% of patients receiving mechanical thrombectomy¹⁰

mRS Shift	mRS 1 to mRS 0	mRS 2 to mRS 1	mRS 3 to mRS 2	Total shift
% of stroke patients affected	2.95%	2.62%	0.65%	6.22%
#patients/ year	7,100	6,300	1,600	15,000
#Medicare/year	5,400	4,800	1,200	11,400

mRS = modified Ranking Scale for neurologic disability. Measures the degree of disability or dependence in the daily activities of people who have suffered a stroke or other causes of neurological disability. 0 = no symptoms, 1 = some symptoms, no disability, 2 = slight disability, 3 = moderate disability, 4 = moderate-severe disability, 5 = severe disability, 6 = dead.

Summary

- There are currently no unique ICD-10-PCS codes that identify when radiological computer-assisted triage and notification is used
- Viz.ai recommends creation of new codes to identify when radiological computer-assisted triage and notification is used