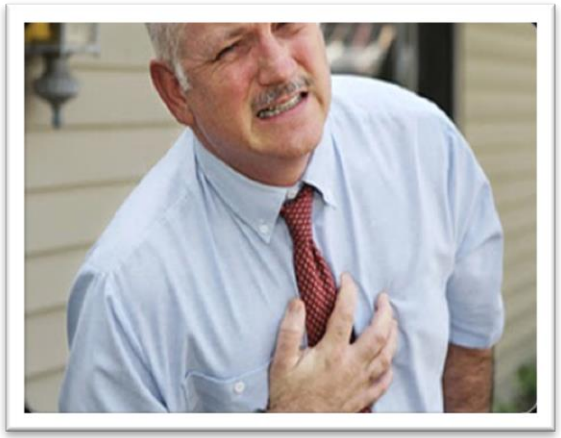
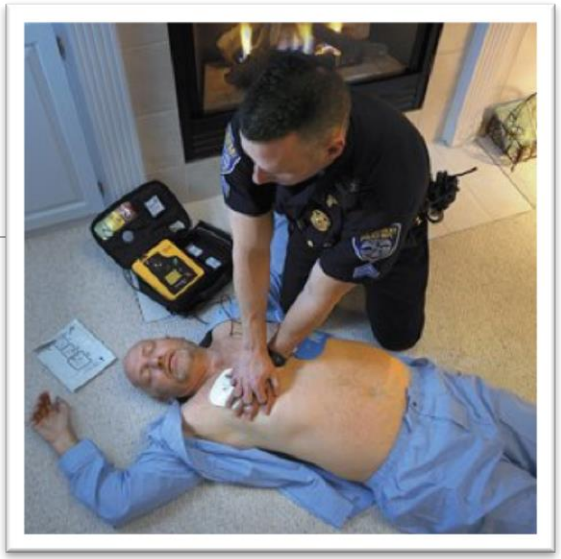
aiTriage™

A Novel Risk Stratification Tool for Chest Pain Patients in the Emergency Department

Background and Motivation

- Triage is the clinical process of rapidly screening large numbers of patients to assess severity and assign priority of treatment
- Currently, triage is generally done by nurses and depends on traditional vital signs
- Medical resources are limited. Numbers of doctors, nurses, medical facilities may not be sufficient for fluctuating demand
- We need an objective, fast and accurate triage tool to quickly identify high risk patients in the Emergency Department (ED)



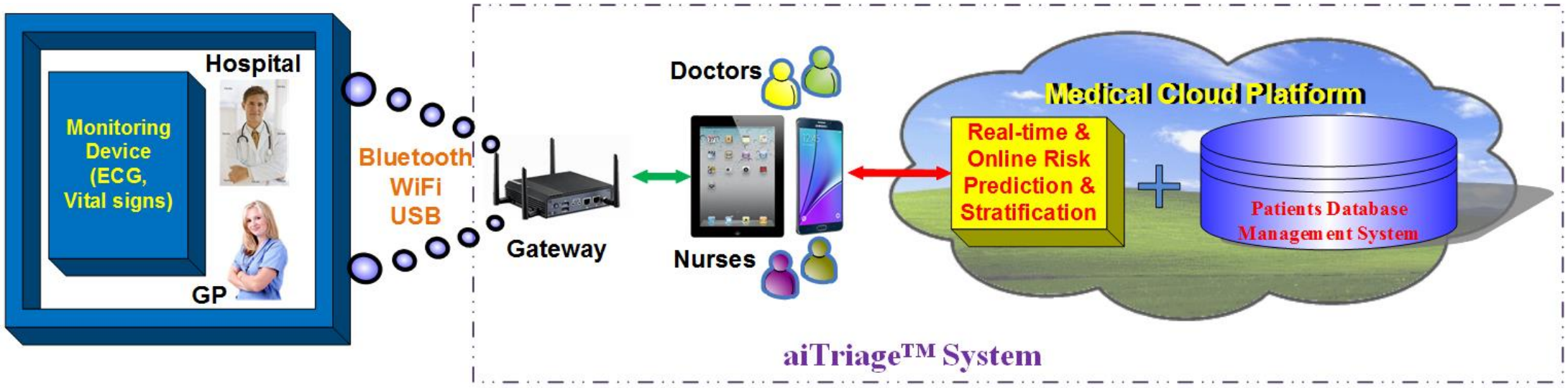


Problem & Solution

Summary of Problem

- Chest pain is a common, non-specific complaint and 2nd leading reason for Emergency Department visits
- Difficult to triage patients based on risk of Major Adverse Cardiac Events (MACE) vs. less urgent conditions

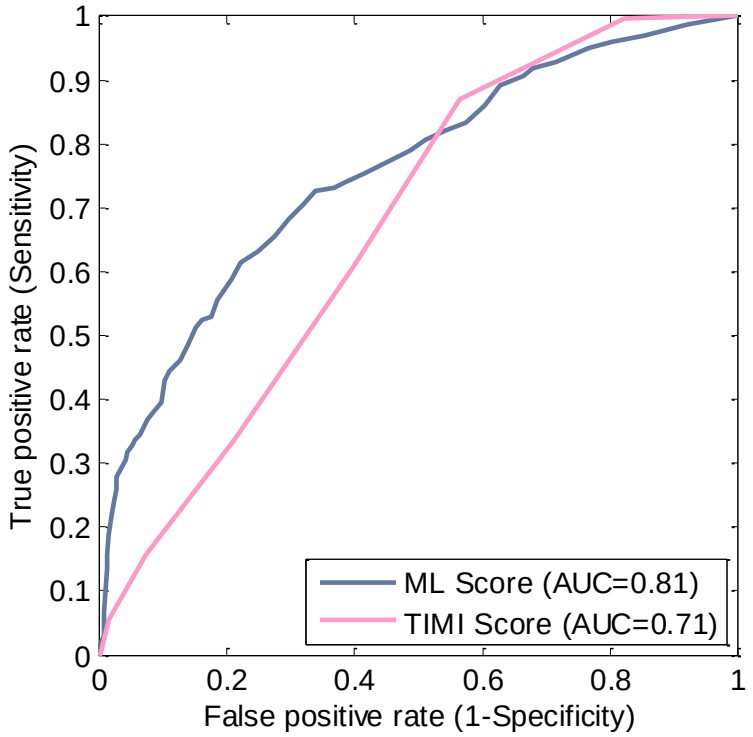
Our Solution: aiTriage™, an intelligent cardiac risk stratification system, incorporates clinical information, heart rate variability (HRV), ECG parameters and vital signs into a scoring system for rapid, real-time risk stratification of MACE



Solution Performance

aiTriage™

- Clinically validated in patient populations (>1500 patients enrolled in our database)
- More accurate at predicting risk of MACE than Thrombolysis In Myocardial Infarction (TIMI) and Modified Early Warning Score (MEWS), which are the gold standard assessments currently used in clinical settings

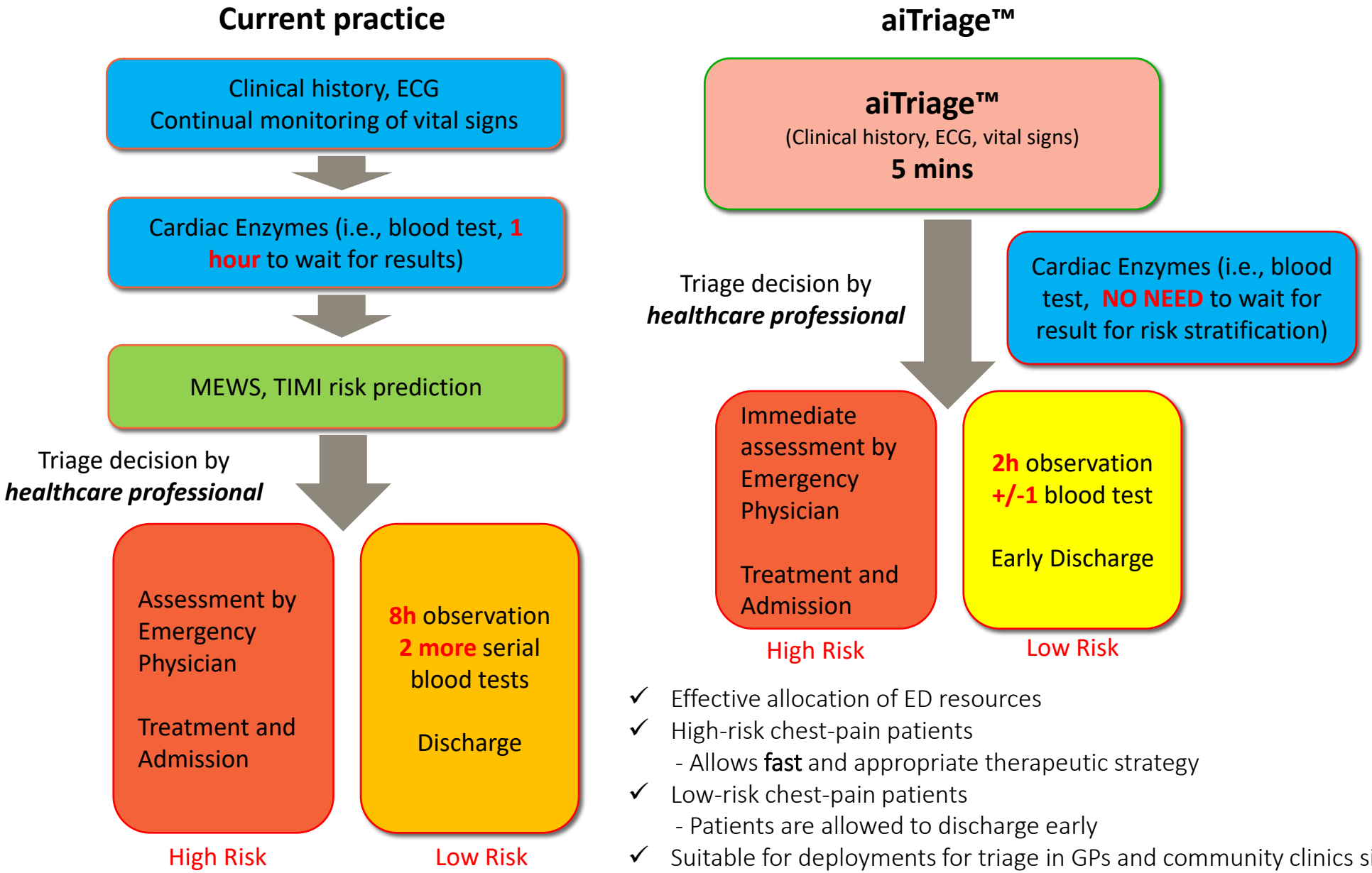


	ML	TIMI
AUC	0.81	0.71
Sen.	72.6%	61.0%
Spe.	66.1%	60.0%
PPV	52.9%	44.4%
NPV	82.2%	74.6%

- ML cutoff score: 34 (range 0-100)
- TIMI cutoff score: 2 (range 0-7)

ML: Machine learning; **TIMI**: Thrombolysis in myocardial infarction

Comparison between Current and New Workflow



- ✓ Effective allocation of ED resources
- ✓ High-risk chest-pain patients
  - Allows **fast** and appropriate therapeutic strategy
- ✓ Low-risk chest-pain patients
  - Patients are allowed to discharge early
- ✓ Suitable for deployments for triage in GPs and community clinics since no blood test lab is required.

We look for investigators to join in multi-site collaborative studies!

If you are interested,

please contact

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