

# Use of Artificial Intelligence In the Clinical Setting

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IPPS Meeting



# WHO WE ARE

LEHIGH VALLEY HEALTH NETWORK

**14 HOSPITAL CAMPUSES**

**5 INSTITUTES**

**1 CHILDREN'S HOSPITAL**

**300+ PRACTICE LOCATIONS**

**9 COMMUNITY CLINICS**

**29 HEALTH CENTERS**

**19 EXPRESSCARE LOCATIONS**

**2 CHILDREN'S EXPRESSCARE LOCATIONS**

**60+ REHABILITATION LOCATIONS**

**80+ TESTING AND IMAGING LOCATIONS**

**22,000+ EMPLOYEES**

**1,900+ PHYSICIANS**

**1,200+ ADVANCED PRACTICE CLINICIANS**

**4,100+ REGISTERED NURSES**

**75,400 ACUTE ADMISSIONS**

**327,600 ED VISITS**

**1,700+ LICENSED BEDS**

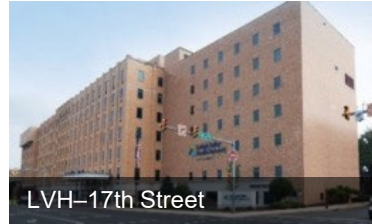
**5-TIME MAGNET® HOSPITAL**



# A Fully Integrated Health Network



LVH-Cedar Crest



LVH-17th Street



LVH-Muhlenberg



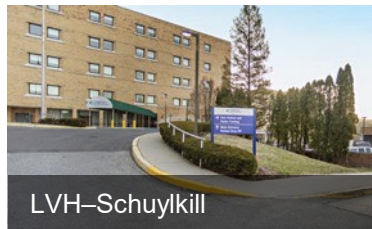
Lehigh Valley Reilly Children's Hospital



LVH-Hazleton



LVH-Pocono



LVH-Schuylkill



LVH-Hecktown Oaks



LVH-Carbon



LVH-Dickson City



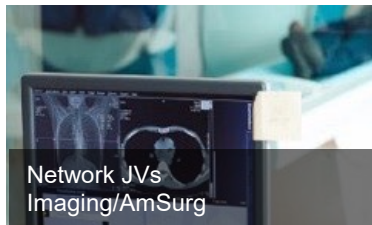
LVH-Macungie



LVH-Gilbertsville



LVHN-Tilghman



Network JVs  
Imaging/AmSurg



Ambulatory Surgery  
Centers



Lehigh Valley Physician Group



LVHN ExpressCARE  
Health Centers



Center for Healthcare  
Education (Opened Jan. 2023)



LVPHO Risk Contracting



HNL Lab Medicine



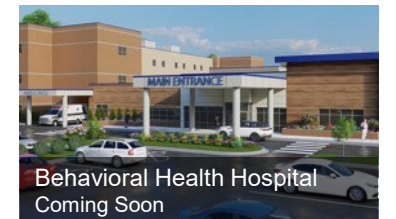
Strategic Partnerships



Strategic Partnerships



Venel Institute

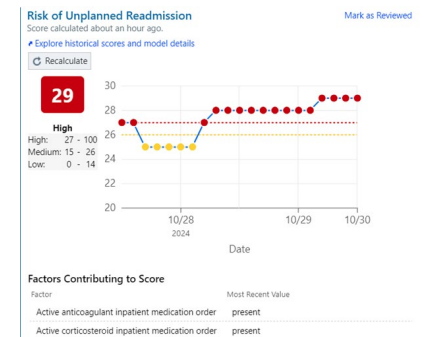


Behavioral Health Hospital  
Coming Soon

# Select Epic Predictive Models at LVHN

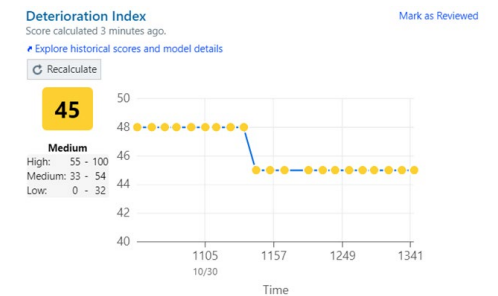
## ■ Epic Deterioration Index

- For low-risk patients, recommend to RN to decrease vital sign checks
- If the risk increases, we warn the clinician who is high risk for a rapid response
- Alerts physicians to discussed code status and goals of care for high-risk patients



## ■ Epic Risk of Unplanned Readmission

- Helps to prioritize patients for transition of care clinic
- Acute Care Bridge Clinic



## ■ Epic End of Life Index

- Alerts physicians to discussed code status and advanced care planning in the ambulatory setting

## ■ Epic Early Detection of Sepsis

- Replaced sepsis alert-based MEWS score with one based on predictive model resulting in decrease in alert fatigue

# Select Custom Developed Predictive Models at LVHN

## ■ LVHN Risk of Discharge to Nursing Facility

- Ensures high risk patients have prompt PT/OT evaluation
- Intensive Care Management

## ■ LVHN Risk of Hypoglycemia

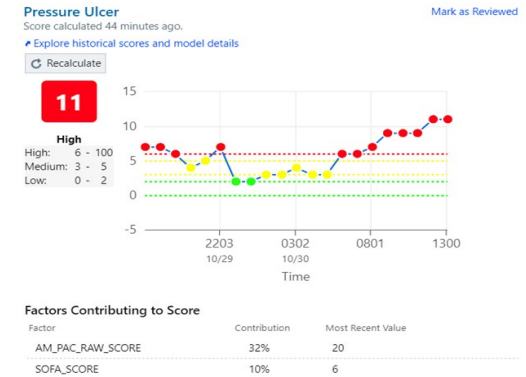
- Physician are alerted to high-risk patients to recommend adjusting insulin regimen

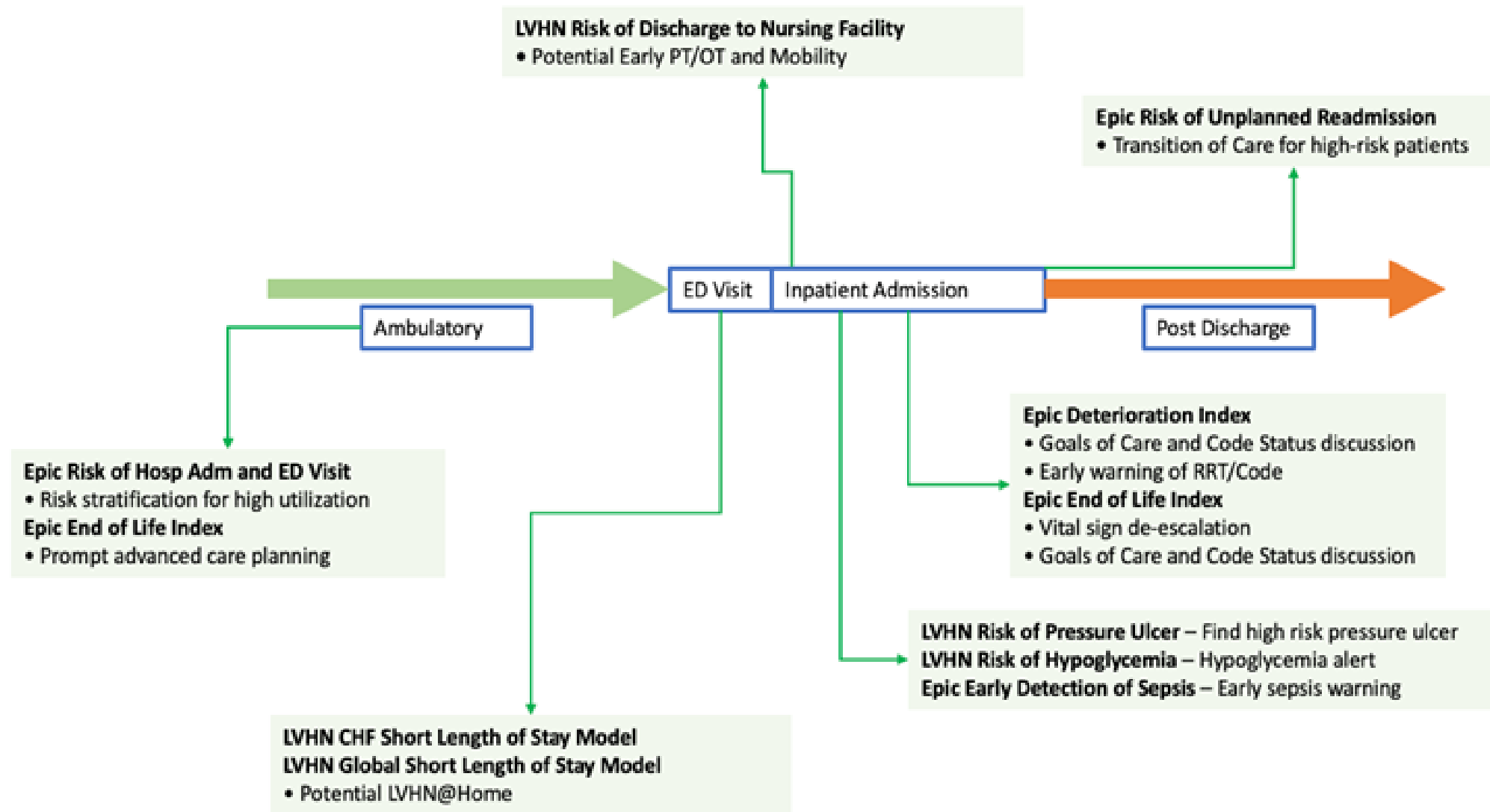
## ■ LVHN Risk of Cardiovascular Admission

- New initiative to use risk score to prioritize patients for home blood pressure monitoring

## ■ LVHN Risk of Pressure Ulcer

- Used as information for RNs to understand which patient are high risk for pressure ulcers





# Generative AI at LVHN

- **Ambient listening**

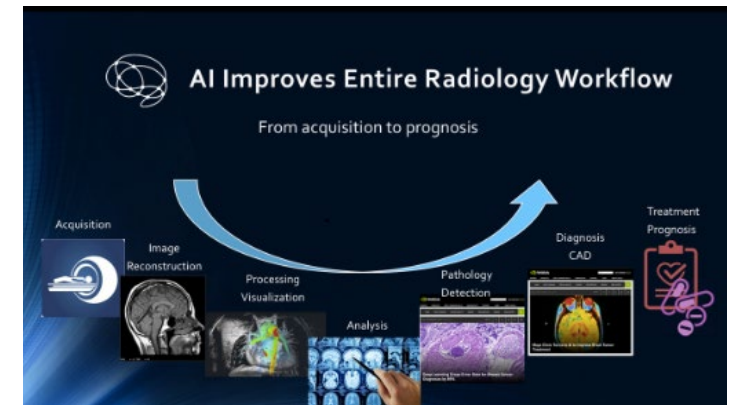
- Ambient listening integration writes the visit note based on the conversation between the clinician and patient in the clinic. Soon, it will queue up orders. Rolled out to ambulatory providers

- **In Basket Augmented Response Technology**

- In Basket Augmented Response Technology, being rolled out in December 2024 as pilot
- Editing efficiency

# Artificial Intelligence in Radiology at LVHN

- Dictation Auto-generation: The radiologist dictates findings verbally as the images are read. AI uses that dictation to auto-generate the report.
- AI tool to assist in follow up on high-risk patients.
- AI tool helps move to the top of a radiologist worklist to read immediately based on high-risk conditions such as pulmonary embolism, cervical spine fracture and pneumothorax.
- CT head algorithm to detect vascular occlusion
- CT algorithm to identify lung nodules





# Discussion?

