Using Smart Technology to Manage Heart Failure

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Learning Objectives

- Identify leading causes of care variation for chronic heart failure patients.
- Discuss the methods employed to standardize care for chronic heart failure patients.

Problem Statement

In 2019, CHF was identified as one of the conditions with a great potential to impact MUHC's Vizient ranking. In 2019, MUHC was ranked 34 out of 99 in mortality, 88 out of 99 in readmissions. This performance prompted the implementation of a quality improvement program.

Goal

To achieve the top quartile in Vizient AMC ranking in the domain of mortality, readmissions, by the end of 2021.

Our Approach

What are we trying to accomplish? → How will we know a change = improvement? → Select change → Act, Plan, Study, Do

Current State Gap Analysis

Admission to ED → Admission to inpatient floor → Critical Planning & Assessment → Hospital care & Treatment → Transition Planning & Discharge

- A process map was drafted to outline failure points in current systems and workflow.
- The process map pointed to deficiencies in existing information systems that linked timely disease identification to timely (and appropriate) treatment protocol and follow-up.
- More than 50% of patients who were discharged with a diagnosis of CHF weren't identified as having the disease early in the hospitalization, thus delaying appropriate care

This presenter has no relevant financial or nonfinancial relationship(s) to disclose.

Solution

Integration of two clinical decision support tools into the Heart Failure Clinical Pathway:

1. CHF Identification tool
2. Readmission Risk Calculator

How it works

Admission to ED → Admission to inpatient floor → Critical Planning & Assessment → Hospital care & Treatment → Transition Planning & Discharge

HF Identification Tool

On admission, alerts are triggered by specific, customized criteria in the EHR to improve specificity in CHF identification. For instance, the presence of CHF on a problem list, an elevated BNP, or use of IV diuretics made a diagnosis of CHF likely

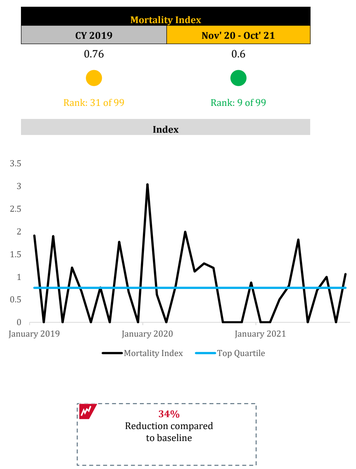
HF Identification Tool

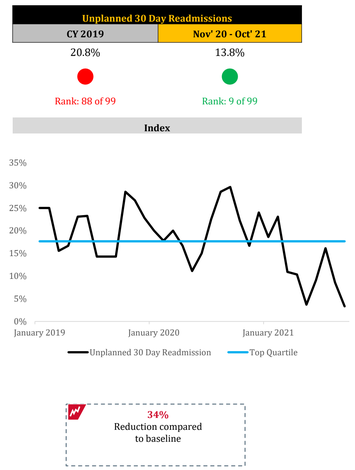
The alerts triggered on admission prompt a clinician to use CHF order sets that might suggest medication initiation, CHF education, pharmacy, nutrition, and Fit for Life consult. The criteria also alert a CHF nurse navigator who helps coordinate care.

Readmission Risk Calculator

At the end of the inpatient stay, a readmission risk calculator generates custom readmission risk scores which are used to facilitate timely follow-up visits.

Results & Lessons Learned





- Bridging the care gap
- Involvement of all heart failure stakeholders
- Accountability Structure

Pop-up Alert Ensures Appropriate Follow-up Timeframe

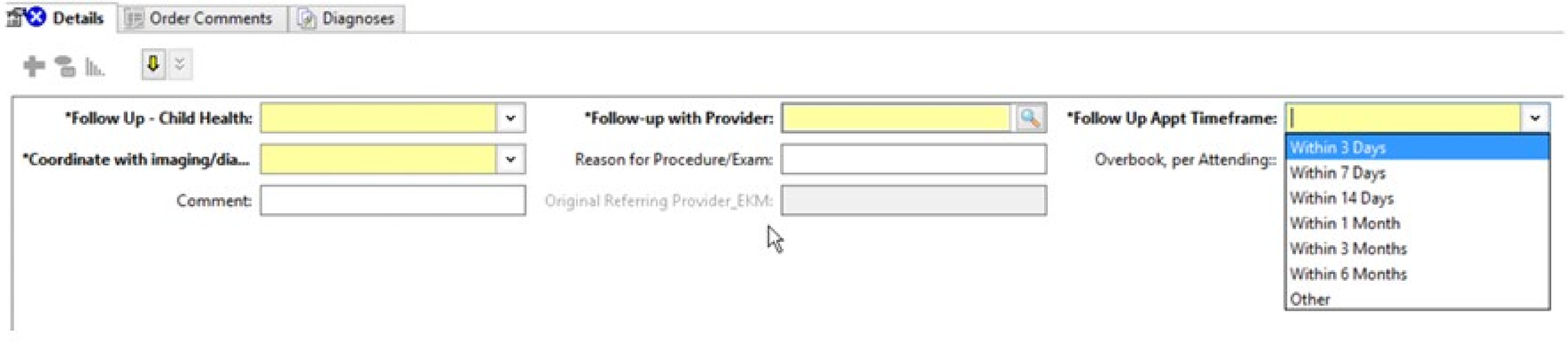
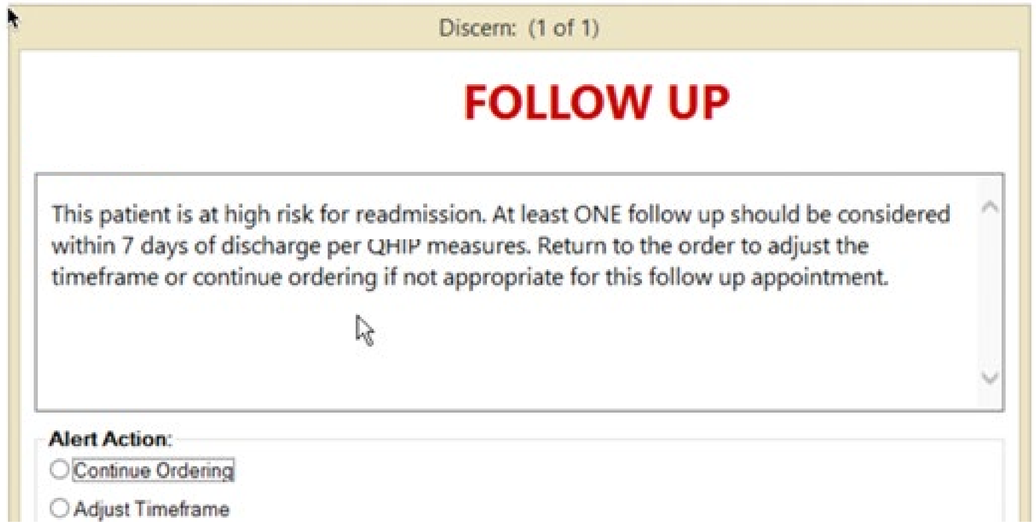
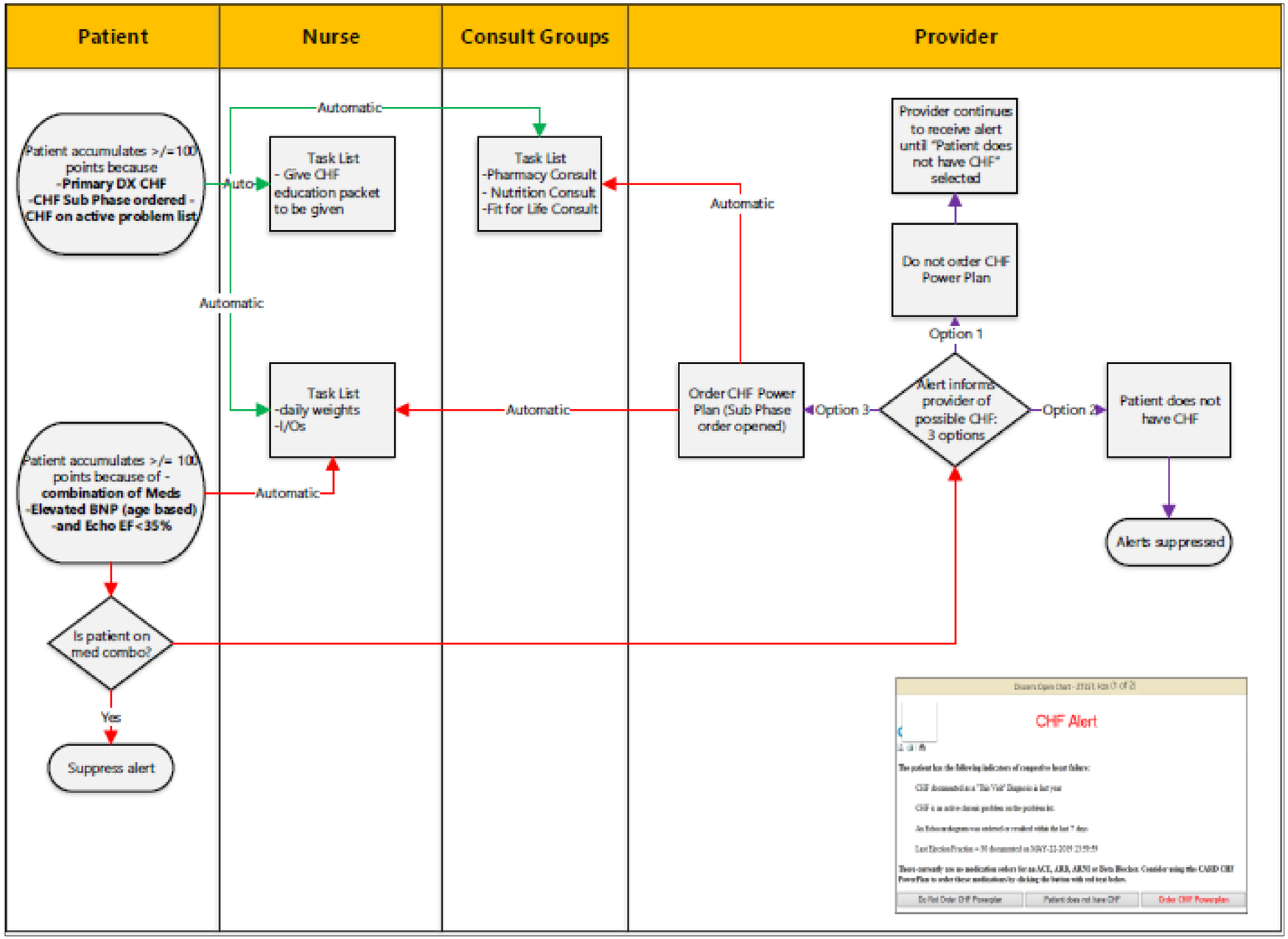


Fig 2: (Alert for HIGH RISK readmission)



Source: MU Healthcare

Heart Failure Identification Tool: Algorithm



Source: MU Healthcare