Using Lean and Six Sigma Tools to Reduce 30 day Readmission Rates

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Overview

- UF Health Background
- MECS Background
- Problems Statement
- Goals and Objectives
- Best Practices
- Project Plan and Schedule
- Project Execution
- Lessons Learned
- Initiative Status
- Contact Information

UF Health Background

- Located in Gainesville, Florida
- Primary teaching hospital for UF Health's College of Medicine
- North Campus: 630-bed tertiary care facility (142 ICU beds)
- South Campus: 192 private inpatient beds
- More than 500 physicians representing 110 specialties
- Private, not-for-profit hospital and Level I Trauma Center

Management Engineering Consulting Services (MECS)

- Originated in 1968
- 7.0 FTE's (Currently)
  - Director
  - Senior Engineers
  - Staff Engineers
  - Internship Program
  - Ad-Hoc Projects with MHA Interns, Student project groups
- Educational Background
  - Minimum BSIE required
  - Various Masters Degrees in Management and Engineering

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Problem Statement

- UF Health's risk-adjusted readmission rate is higher than expected according to data from the Center for Medicare and Medicaid Services (CMS).
- Higher penalties will be incurred if readmission rate is not improved
  - Penalties will increase in subsequent years
- The discharge process contributes to the high rate of readmission

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Goals and Objectives

- Outline the current process
- Identify factors in the current process that contribute to unplanned readmissions
- Develop strategies to standardize process utilizing best practices identified by the University Health System Consortium (UHC)
- Implement standardized discharge process

UHC Best Practices

Adherence to Best Practice			
BEST PRACTICE	**WHAT**	**WHO**	**WHEN**
Assess risk	Polypharmacy - Previous Admits - No PCP	MD - RN - Case Manager	On Admission
Begin at admission	Identify Post DC needs - Ensure PCP - Educate Patient - Create Plan	MD - RN - Case Manager	Throughout Hospitalization
Schedule follow-up appoints	Specific Follow-up Appointment within 7 Days	Case Manager	Before Discharge
Teach back	Patient Explains in Own Words	IP TEAM	Throughout Hospitalization
Medication reconciliation	Discharge Meds Reflect Previous and New Meds	MD - Pharmacist	At Discharge
Written discharge plan	Useful, Accurate, Understandable, Information	MD - RN - Case Manager	At Discharge
DC Summary to PCP	Complete & Transmit DC Summary	MD - HIM Team	At Discharge
Discuss end of life wishes	Patient's Desires Considering Prognosis - Options	MD	Clinic - Before Discharge
ED - alternatives to admission	HomeCare - Clinic	ED Team	In ED
Phone follow-up	Reinforce Teaching - Answer Questions - Manage Issues	Person Familiar with Patient	Within 72 Hours After Discharge

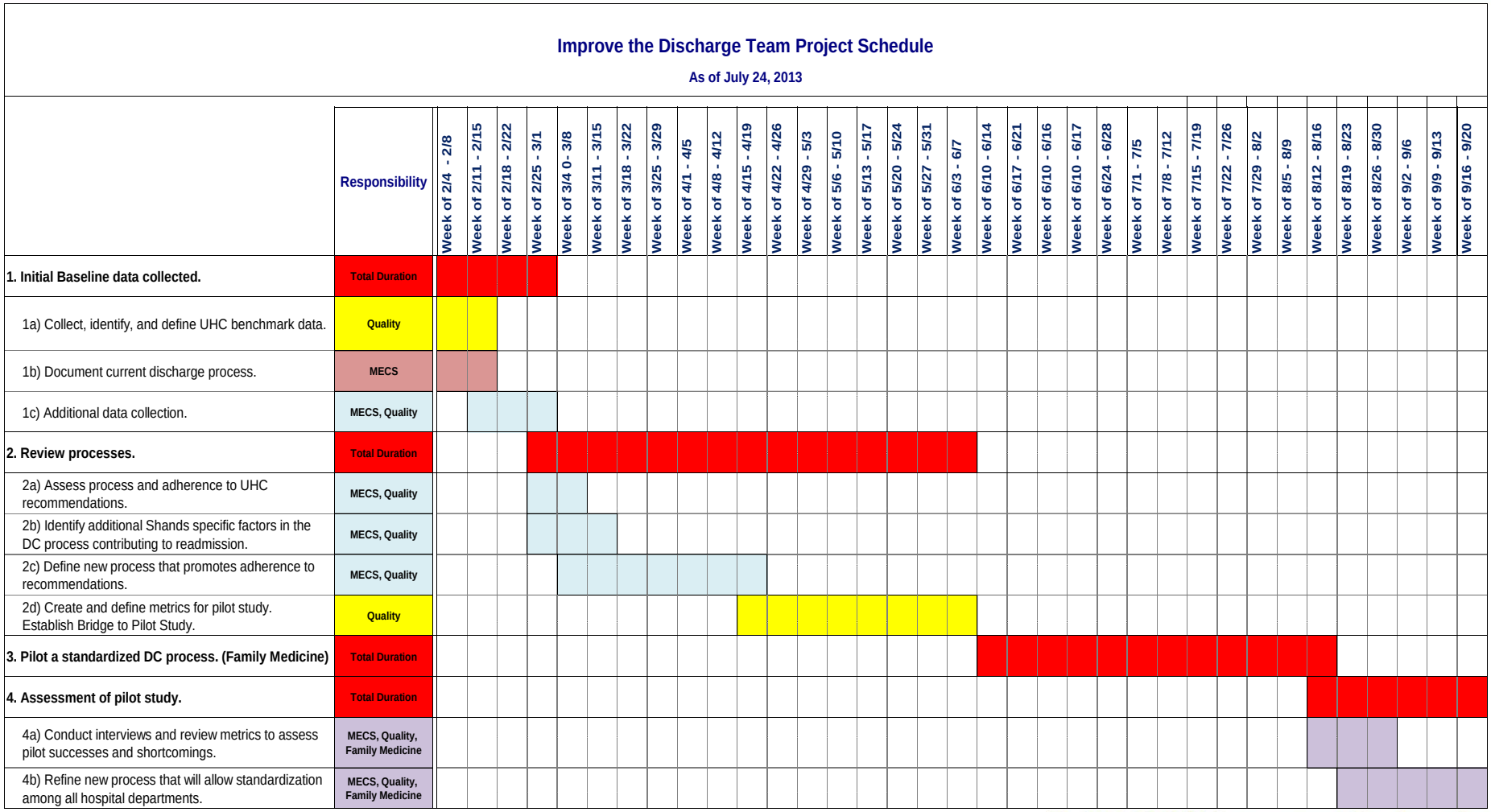
Project Plan

- Break current process down into 4 processes representing different stages of patient care: Day of Admission, Admission to Discharge, Day of Discharge, After Discharge
- Apply UHC recommendations to each stage of patient care and evaluate them for feasibility
  - Kaizen Events
- Develop standardized processes

Project Plan

- Pilot the Ideal Process
  - Pilot Study to last 4 to 6 weeks
  - Assess and adjust task functions as needed
  - Track changes
- Assessment of the Pilot Study
  - Conduct interviews and review metrics to assess successes and shortcomings
  - Refine new process to allow standardization among all other clinical areas

Project Timeline



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Project Team

- MECS
  - Project Management
  - Process Facilitators
- Sebastian Ferrero Office of Clinical Quality and Patient Safety
  - Subject Matter Experts on Clinical Services
  - Clinical Data Analysis
- Family Practice Medical Group
  - Multidiscipline Medical Service Team consisting of Nurses, Doctors, Case Managers, and Pharmacists

Sebastian Ferrero Office of Clinical Quality and Patient Safety

- Oversees Clinical Quality Improvement at UF Health
- Departments include:
  - Clinical Risk Management
  - Quality
  - Patient Experience
  - Process Improvement
  - Quality Analytics

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PROJECT PLAN

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Development of Standard Process

- Preparation
  - Documented Current Processes in all 4 stages of the Patient's Care
  - Documented Current Metrics
- Kaizen Events
  - Nine - 2 hour Kaizen sessions were conducted to create the proposed process in all 4 Stages
    - Current Process Validated
    - Process Gaps and Root Causes Identified
    - Brainstormed Opportunities for Improvement
    - Created a New Ideal Process

Validation of current process

KAIZEN EVENT

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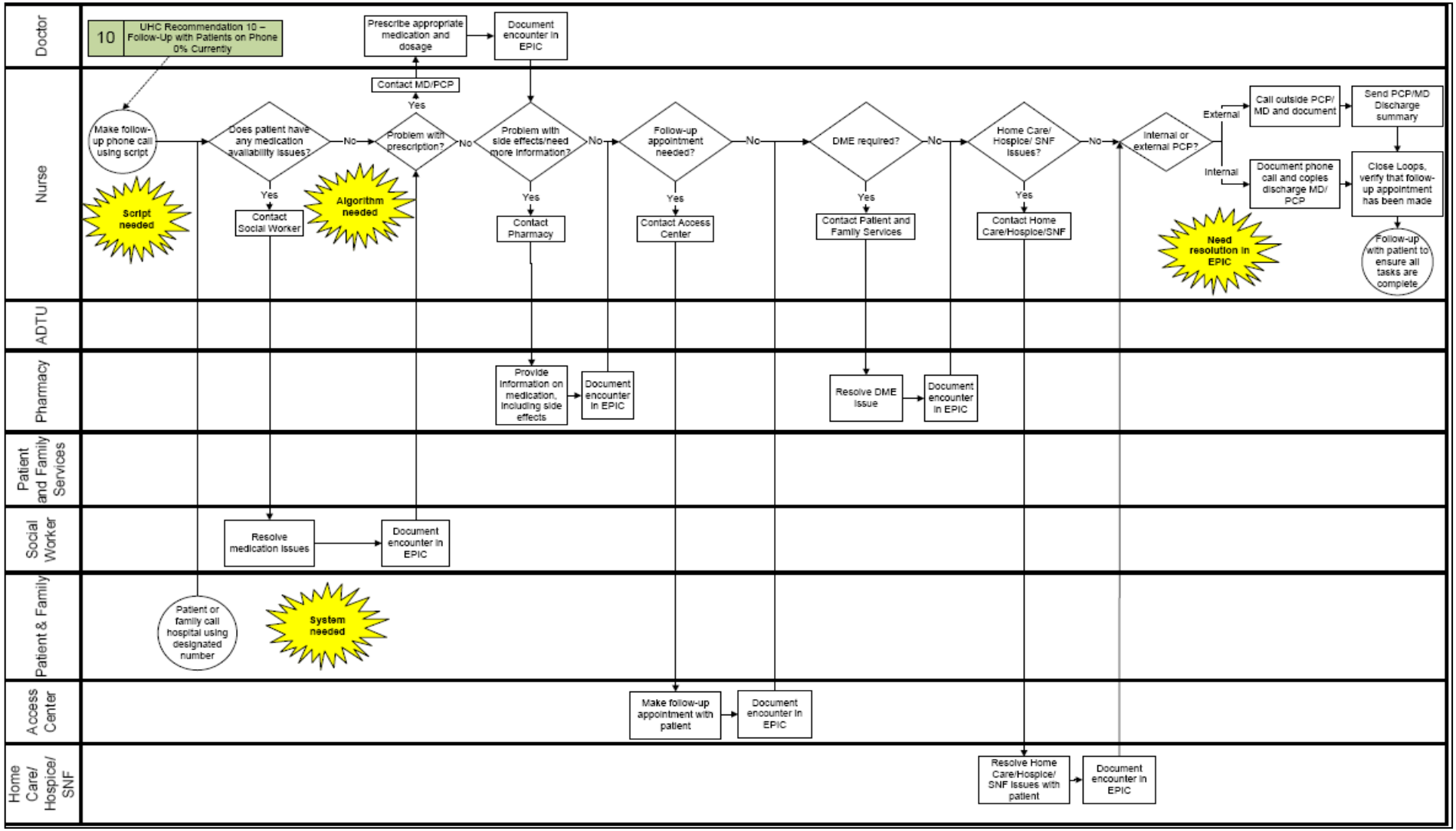
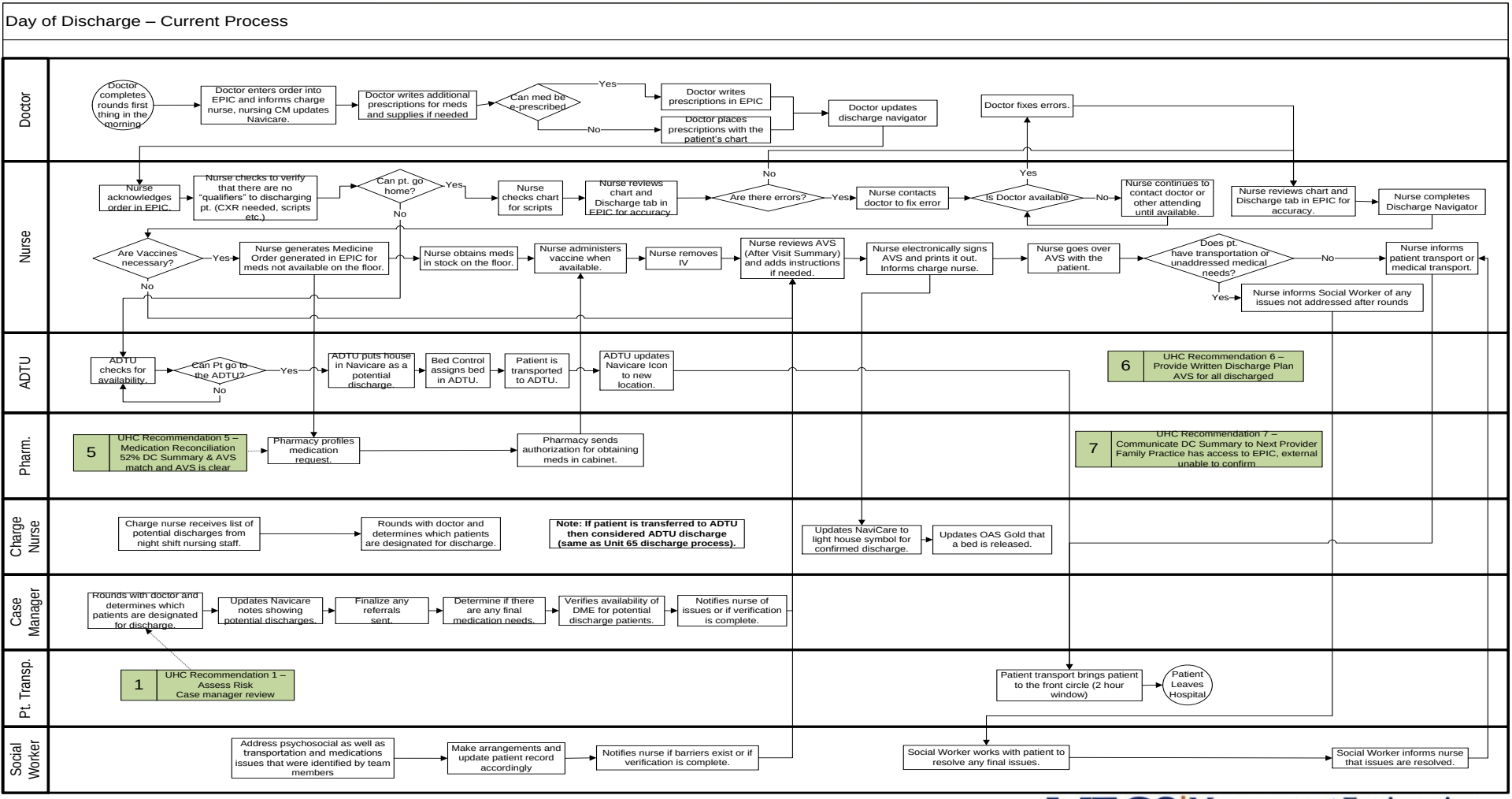
Current Process – After Discharge

Ideal Process- After Discharge



Current Process – Day of Discharge



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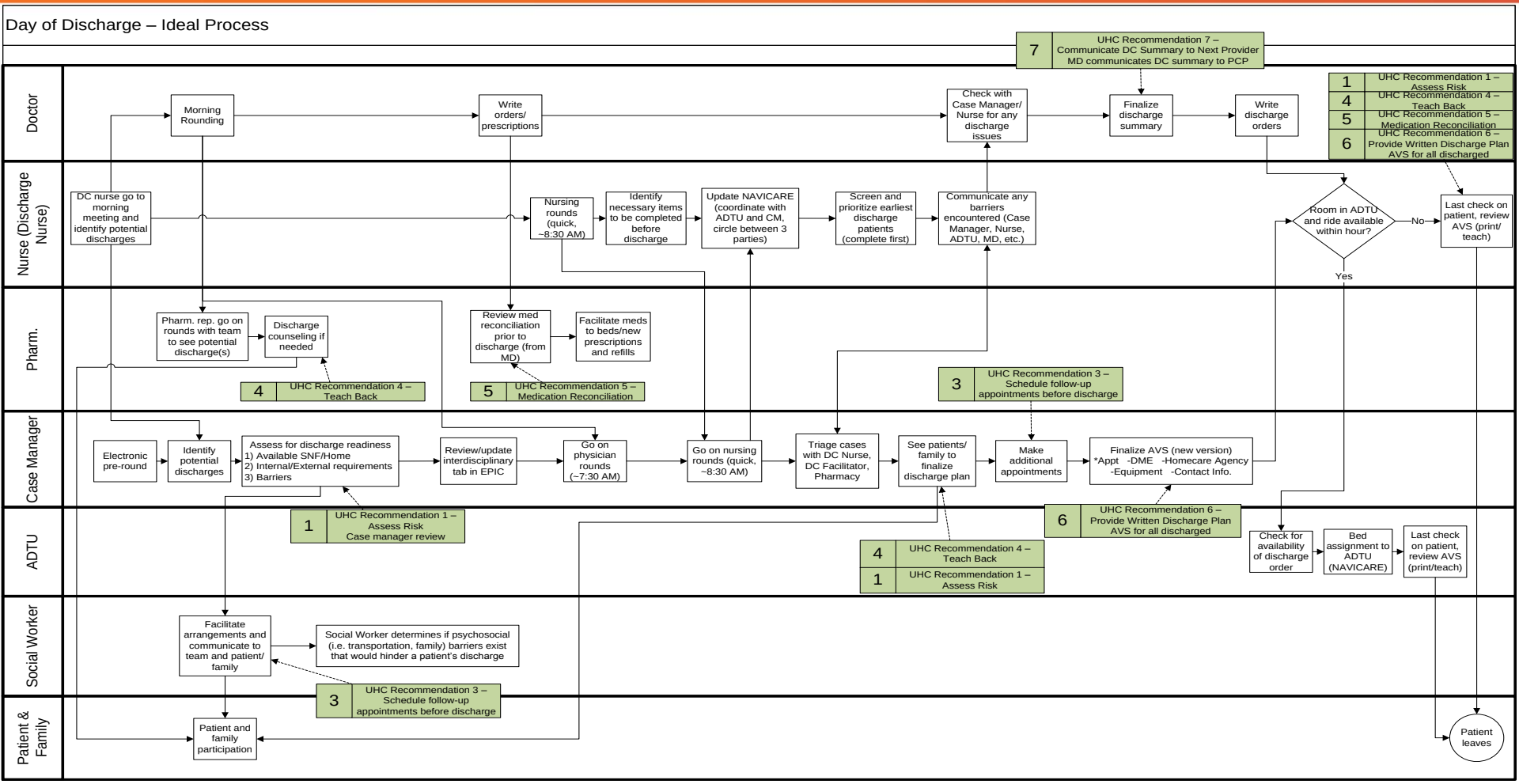
Ideal Process- Day of Discharge



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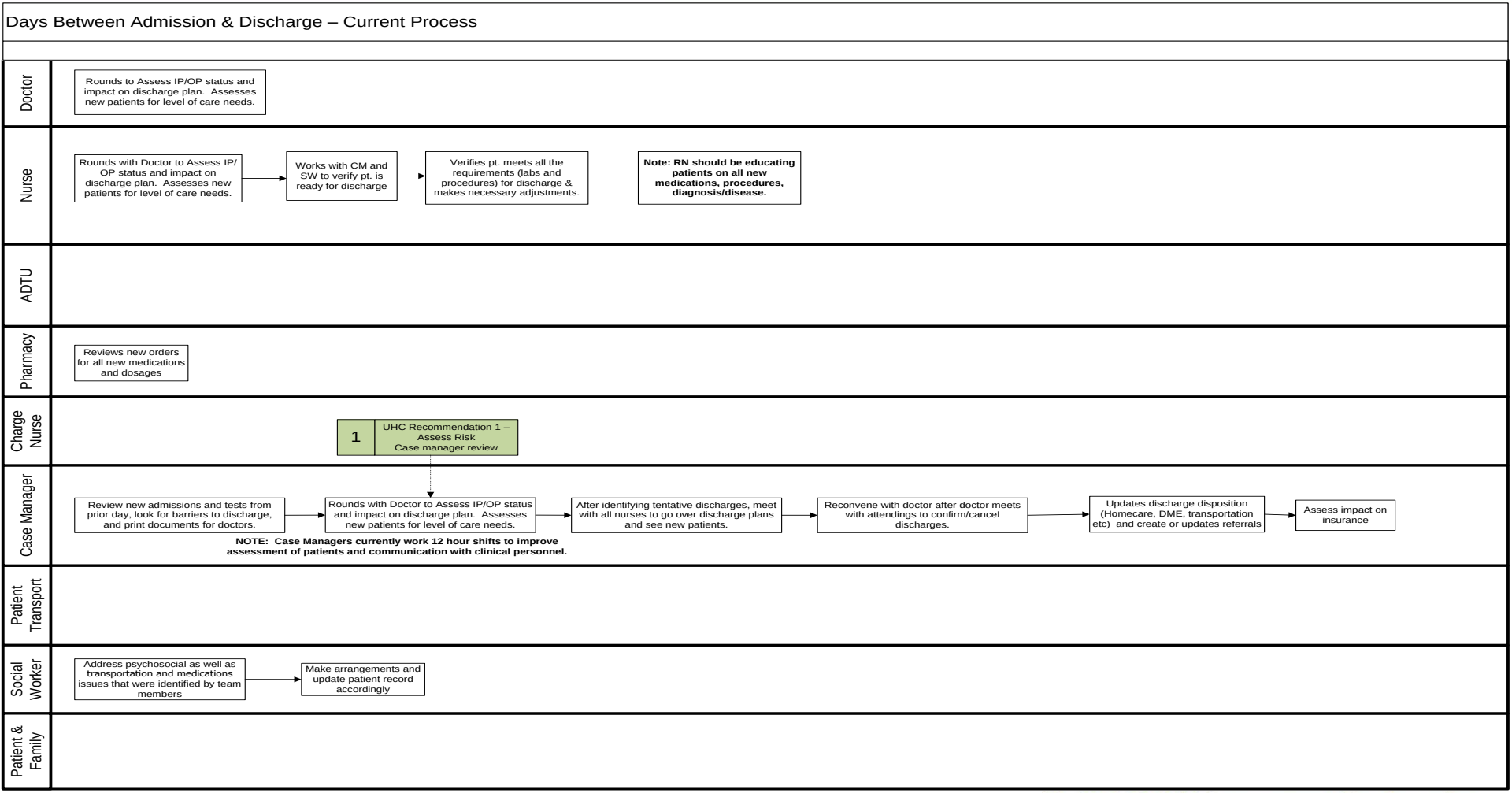
Current Process – Admission to Discharge



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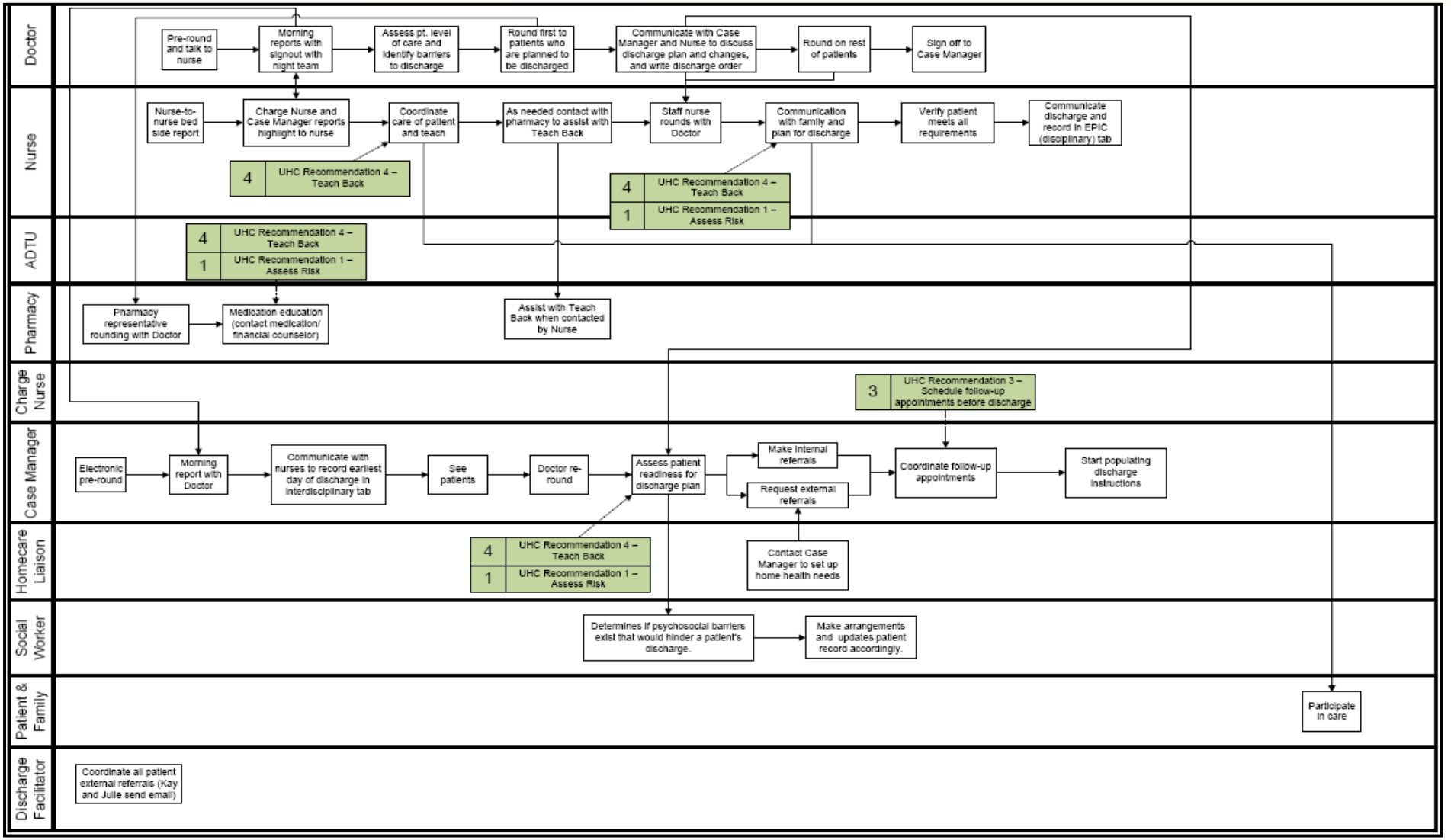
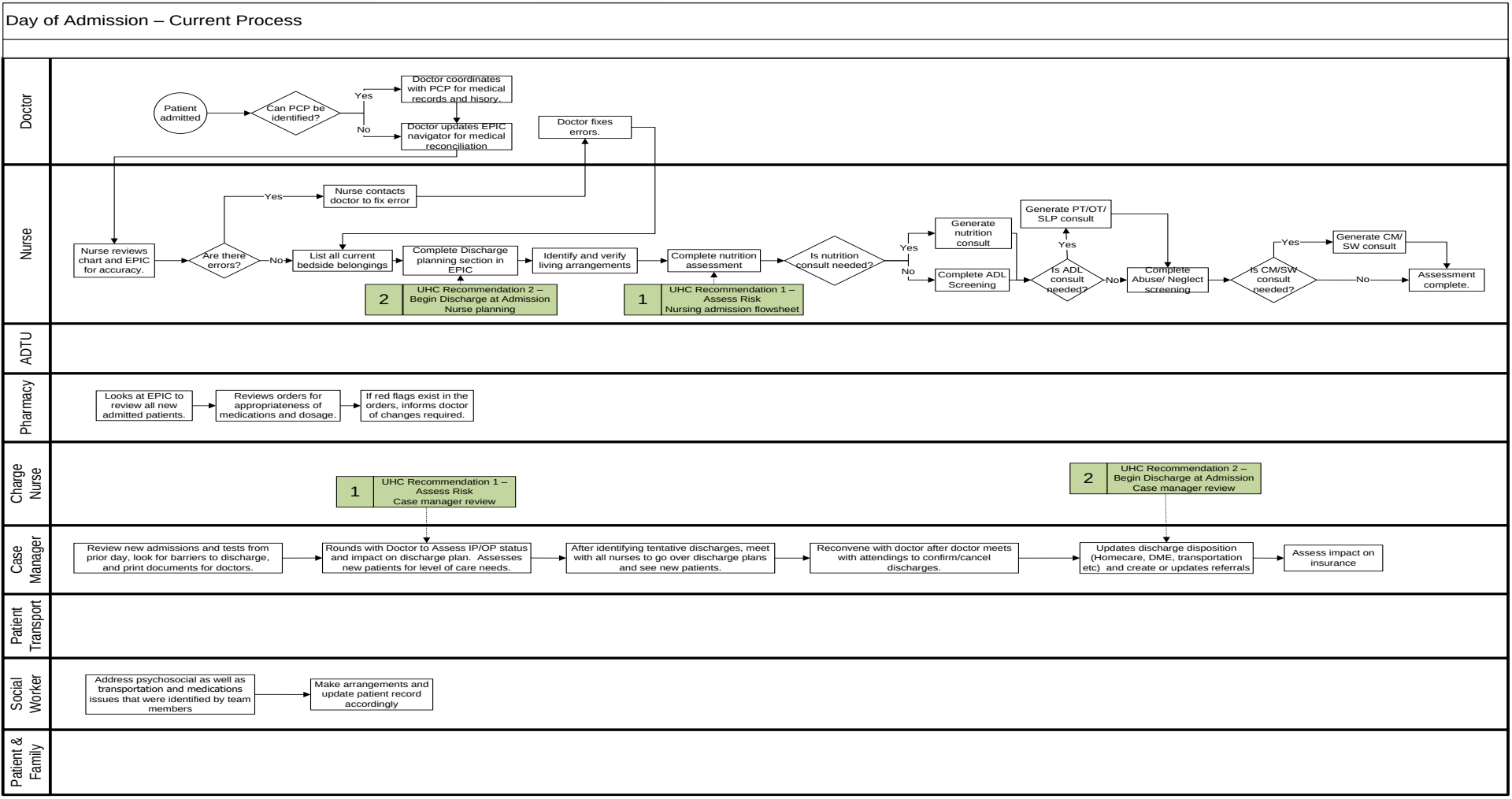
Ideal Process- Admission to Discharge



Current Process – Day of Admission



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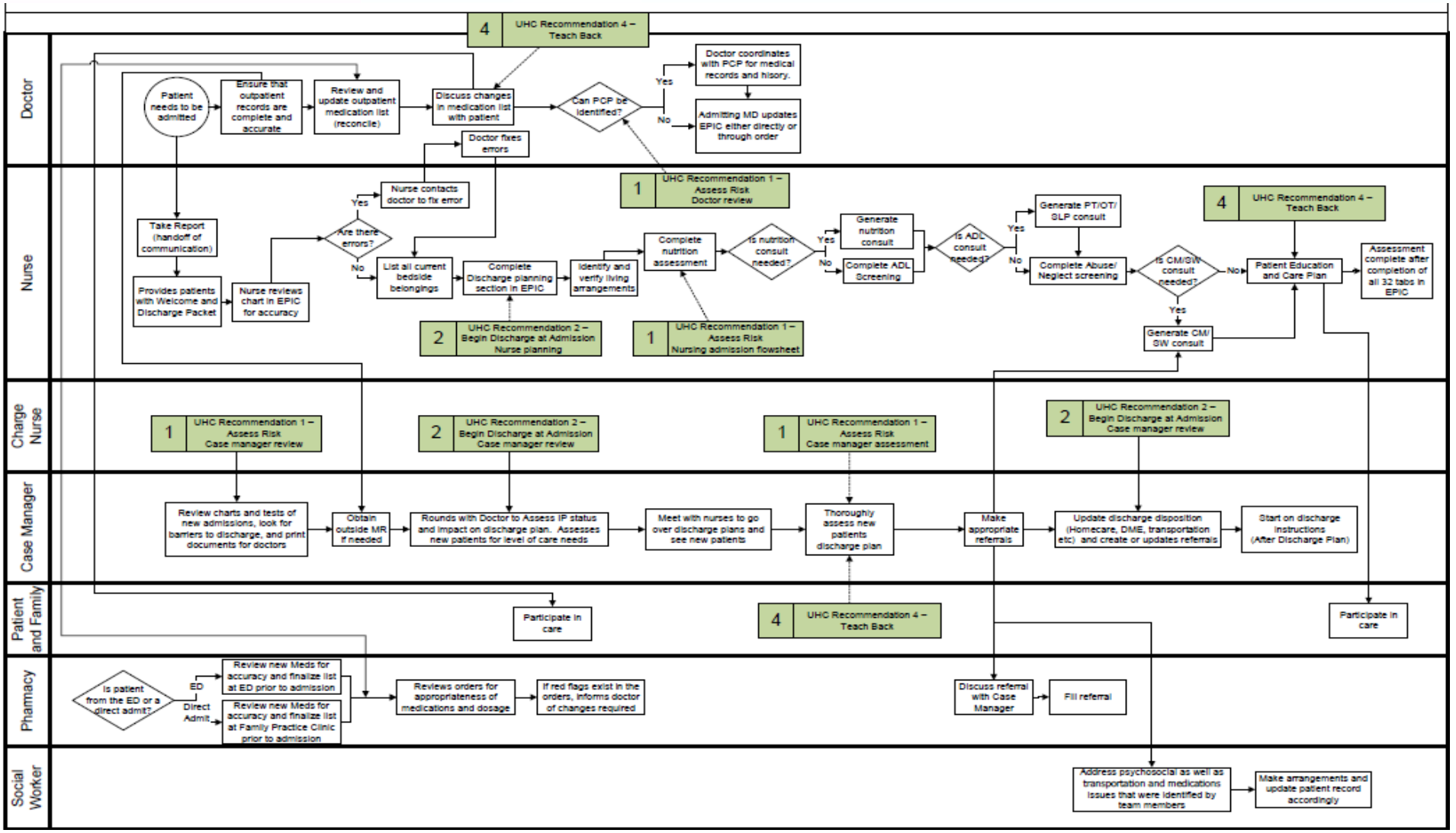
Ideal Process- Day of Admission



Summary of Key Changes

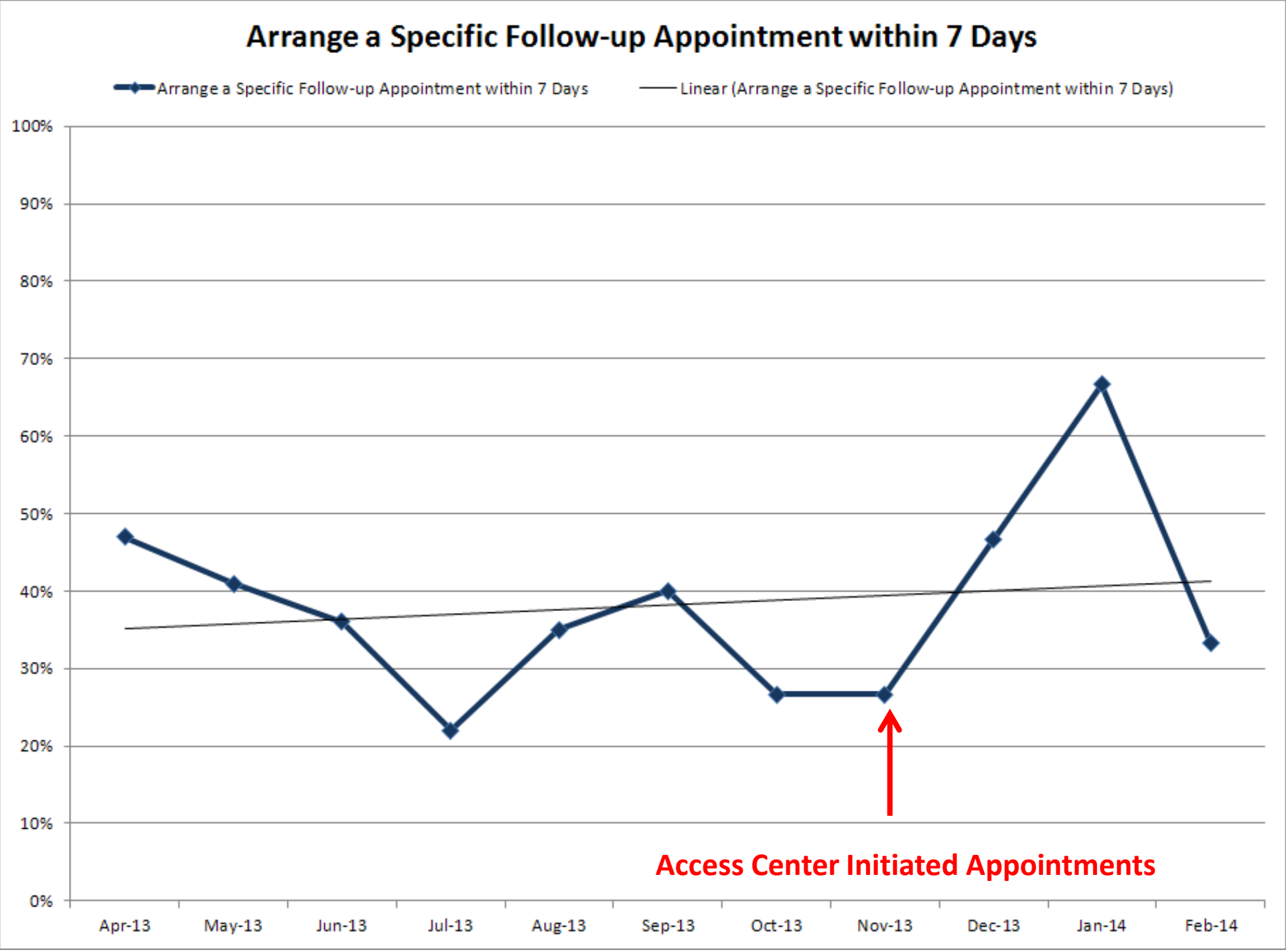
- Developed redundant processes
- Revised Electronic Medical Record (EMR) Software to better support discharge process
- Explicit exchange of readmission risk factors
- All disciplines apprised of discharge readiness
- Enhanced post-discharge support
- Follow-up phone calls
- Assigned complex discharge process and follow-up to a discharge nurse
- Assigned coordination with external agencies to a discharge facilitator

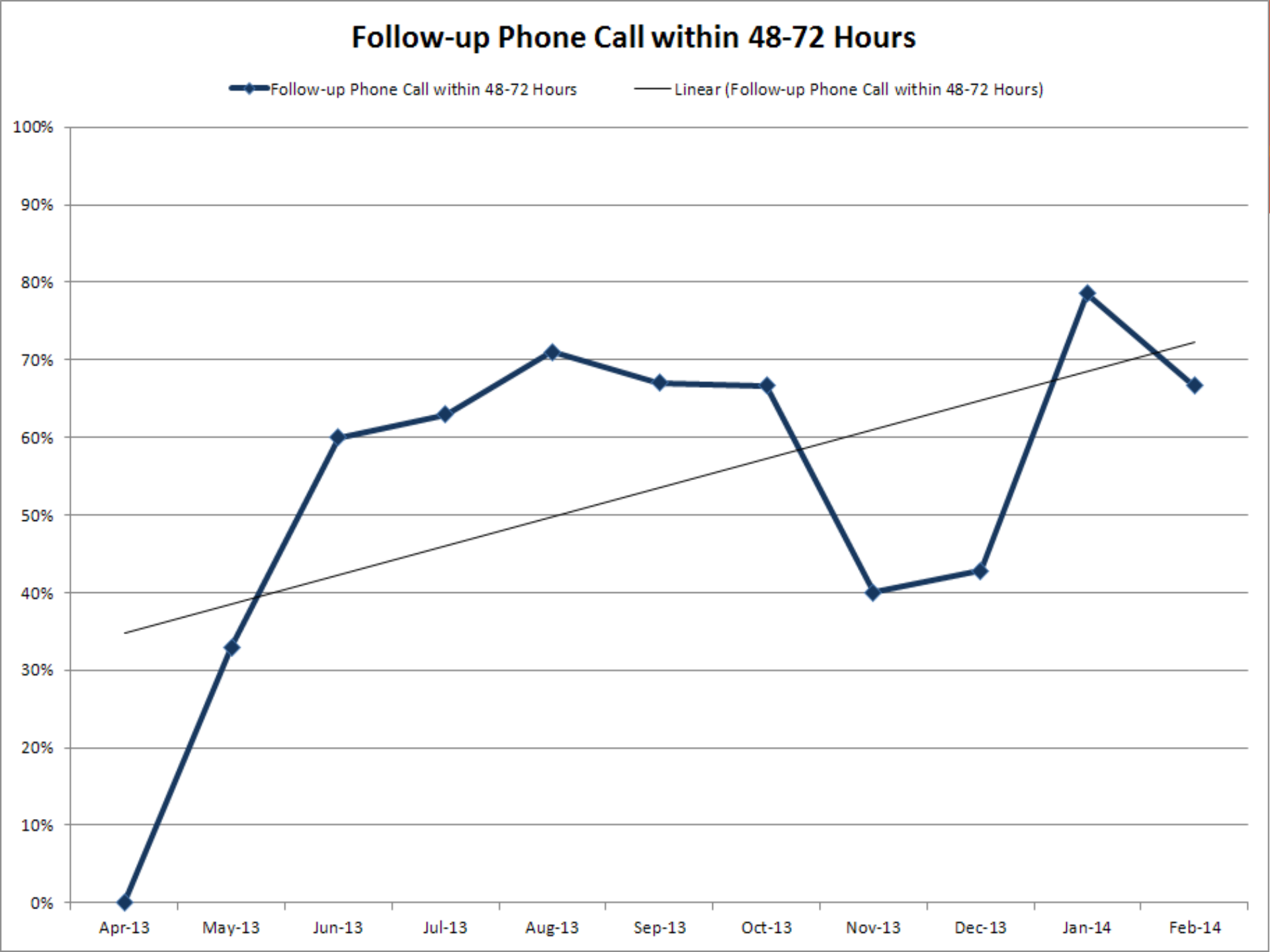
Verification and Validation

- Pilot Study
  - Original timeline set to run for 4-6 weeks
  - Pilot started in June 2013 with expected completion by the end of July (Validation period)
  - Pilot extended through December 2013 (Verification period)
  - Weekly status meetings to monitor progress and make adjustments
  - Administration regularly updated on status

Pilot Processes Implemented

- Schedule Discharge Appointment and Follow-up Phone Call
  - Revised the discharge follow-up appointment requirement from 7-10 days to 3-7 days
    - UF Health Patient Access Call Center arranging follow up appointment prior to discharge
    - Pharmacist now able to connect patients to the Patient Access Call Center to ensure appointments are generated
  - Follow up phone call completed by pharmacist
  - Accurate template developed documentation in EMR of phone call

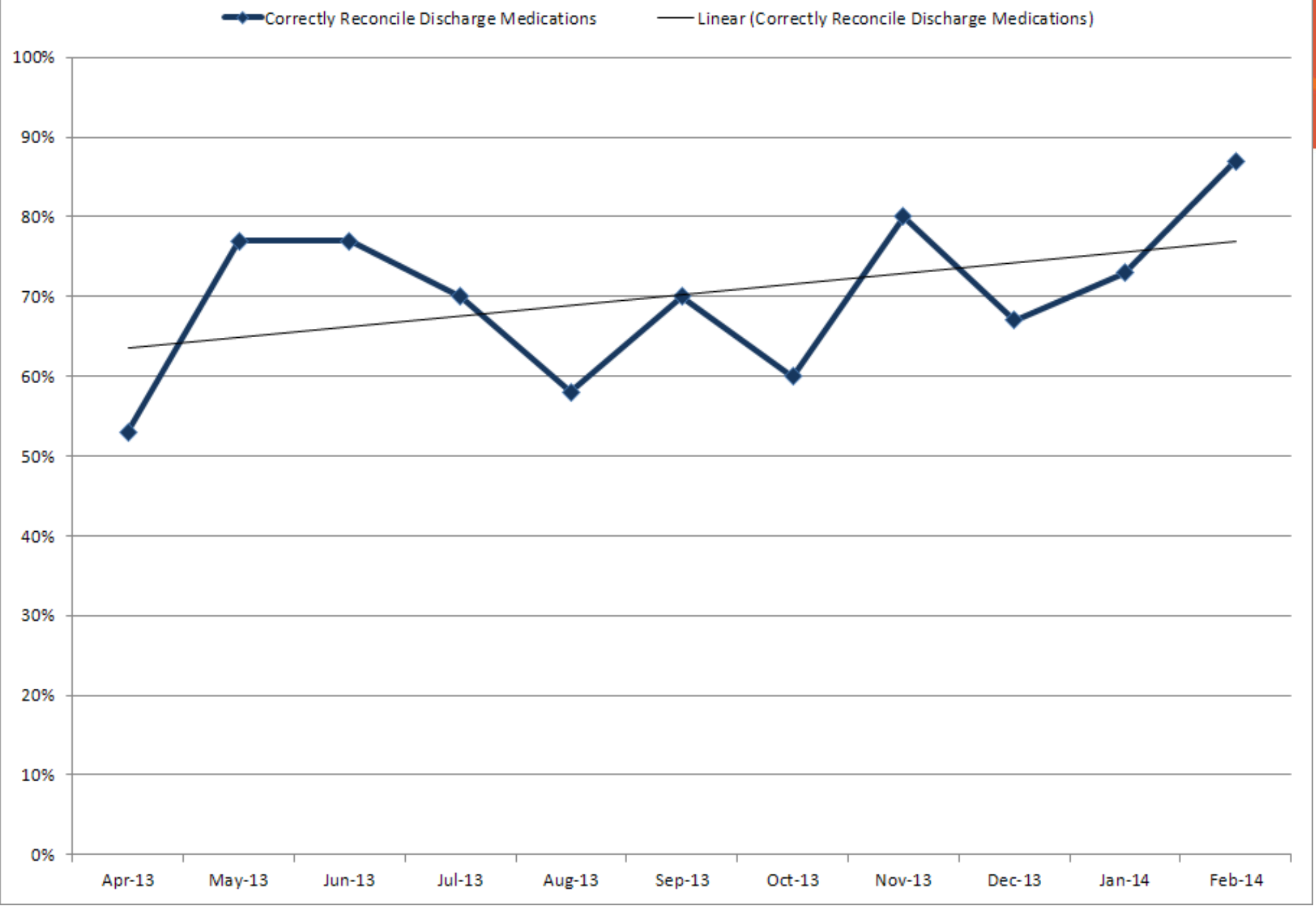

Arrange a Specific Follow-up Appointment within 7 Days
Arrange a Specific Follow-up Appointment within 7 Days
Linear (Arrange a Specific Follow-up Appointment within 7 Days)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Apr-13
May-13
Jun-13
Jul-13
Aug-13
Sep-13
Oct-13
Nov-13
Dec-13
Jan-14
Feb-14
Access Center Initiated Appointments


Follow-up Phone Call within 48-72 Hours
Follow-up Phone Call within 48-72 Hours
Linear (Follow-up Phone Call within 48-72 Hours)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Apr-13
May-13
Jun-13
Jul-13
Aug-13
Sep-13
Oct-13
Nov-13
Dec-13
Jan-14
Feb-14

Pilot Processes Implemented

- Medication Reconciliation
  - Provided Pharmacist access to Medication Reconciliation in EMR
  - Reinforced medication reconciliation at time of discharge and during follow-up phone call

Correctly Reconcile Discharge Medications



Pilot Processes Implemented

- Teach Back and Written Discharge Plan
  - Implemented teach back method throughout patient stay as well as at discharge
  - Modified the After Visit Summary (AVS) to ensure accurate information
  - Discharging nurse conducts a more thorough AVS review
  - Obtain accurate contact information for follow-up phone call
  - Began health literacy assessment

Pilot Processes Implemented

- Discharge Summary to the Primary Care Physician (PCP)
  - PCP established or identified on discharge summary

Lessons Learned

- Multi-disciplined team effort is the best approach to decipher the readmission issue.
- Representation from all disciplines required at Kaizen Events
- Timeline should be reviewed regularly to ensure project plan remains on track.
- Metrics should be posted throughout the project to communicate progress to the goal

Initiative Status

- REALM Score incorporated into EMR
  - Used to identify health literacy issues to improve patient education
- Expand processes to other units?
  - Discharge Pilot Completed –December 2013
  - ✓ Discharge phone calls by clinical leaders
  - Consider 3 day PCP follow-up appointments

Initiative Status

- Implement changes in EMR software
  - Revised AVS template
    - Limitations in EMR in correct generation of AVS (especially for medications)
  - Interdisciplinary Ready for Discharge Report
  - Print prescriptions on unit
- Medications
  - Meds to Beds
  - Increased Pharmacy involvement with discharge medication process

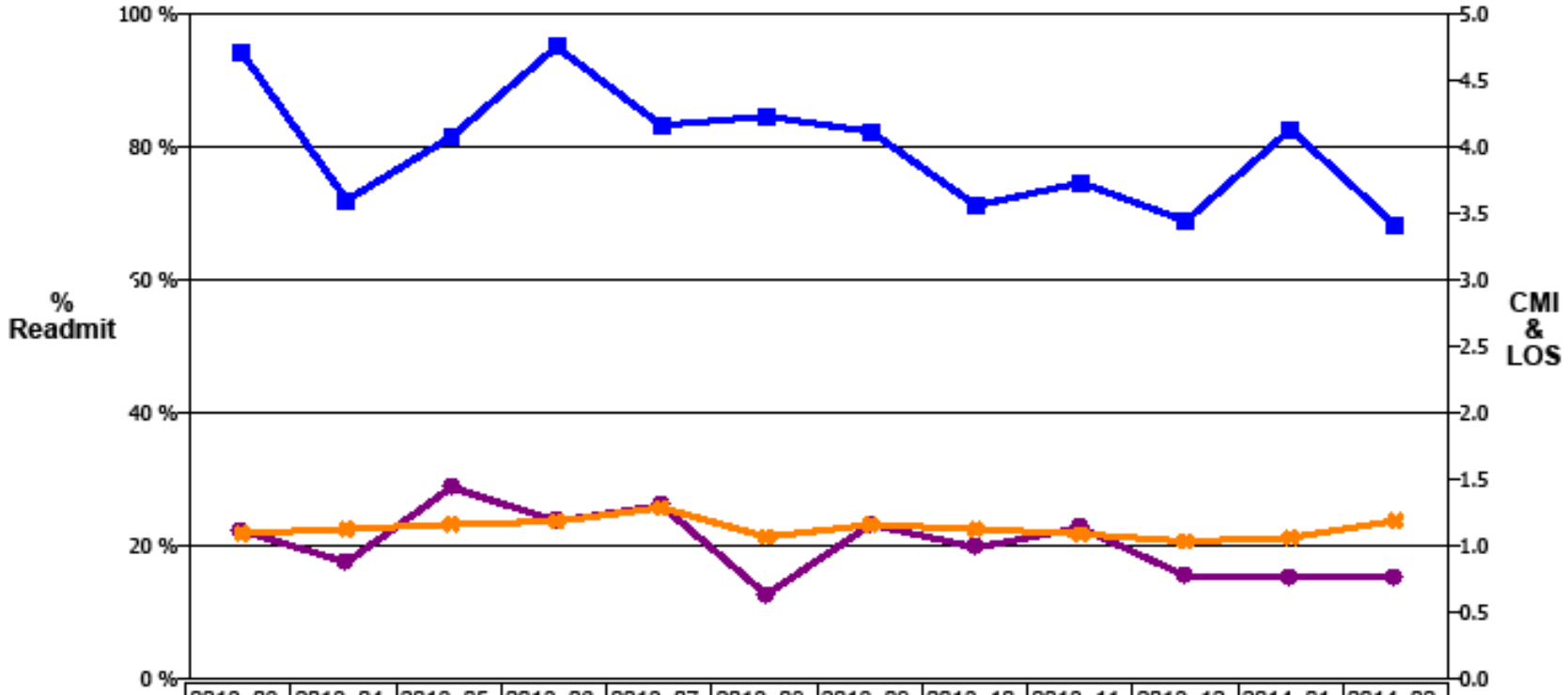
Initiative Status

- Expand financial screening assistance for managed care patients
- Explore options for addressing patient psychosocial issues by working with local organizations
  - H.R. 4188 introduced in Congress in March 2014 addressing patient socioeconomic issues in the readmission penalty calculation

Monthly Urgent/Emergent Readmit Trending within 30 Days

Recent Discharge Date Range: 03/01/2013 to 02/28/2014

Fam Practice / 65MS



	2013_03	2013_04	2013_05	2013_06	2013_07	2013_08	2013_09	2013_10	2013_11	2013_12	2014_01	2014_02
% Readmit	22.1 %	17.4 %	28.7 %	23.6 %	26.0 %	12.5 %	23.1 %	19.6 %	22.6 %	15.3 %	15.1 %	15.1 %
CMI	1.09	1.12	1.16	1.18	1.28	1.06	1.15	1.12	1.08	1.03	1.06	1.18
ALOS	4.71	3.60	4.08	4.75	4.16	4.23	4.12	3.56	3.73	3.44	4.13	3.41
Discharges	104	115	115	106	104	104	104	102	93	124	106	73

Discharge Month

Contact Information

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Questions