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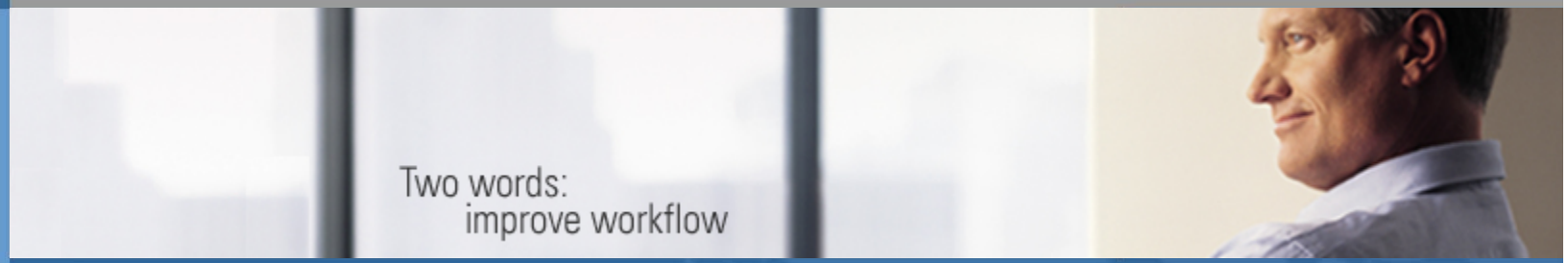

Workflow Management Systems for Disease Management Scenarios

May 8, 2007

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Siemens Health Services

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Solutions that help

Topics

- Disease Management = Process Management
- What is a Workflow Management System?
- How does Workflow Management apply to Disease Management?
- Benefits and Challenges for using Workflow Management Systems in Disease Management

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Process Management

- Disease Management = Process Management…
- … in 2 ways:
  - Managing the Disease Process
  - Managing the Healthcare Process around the Disease

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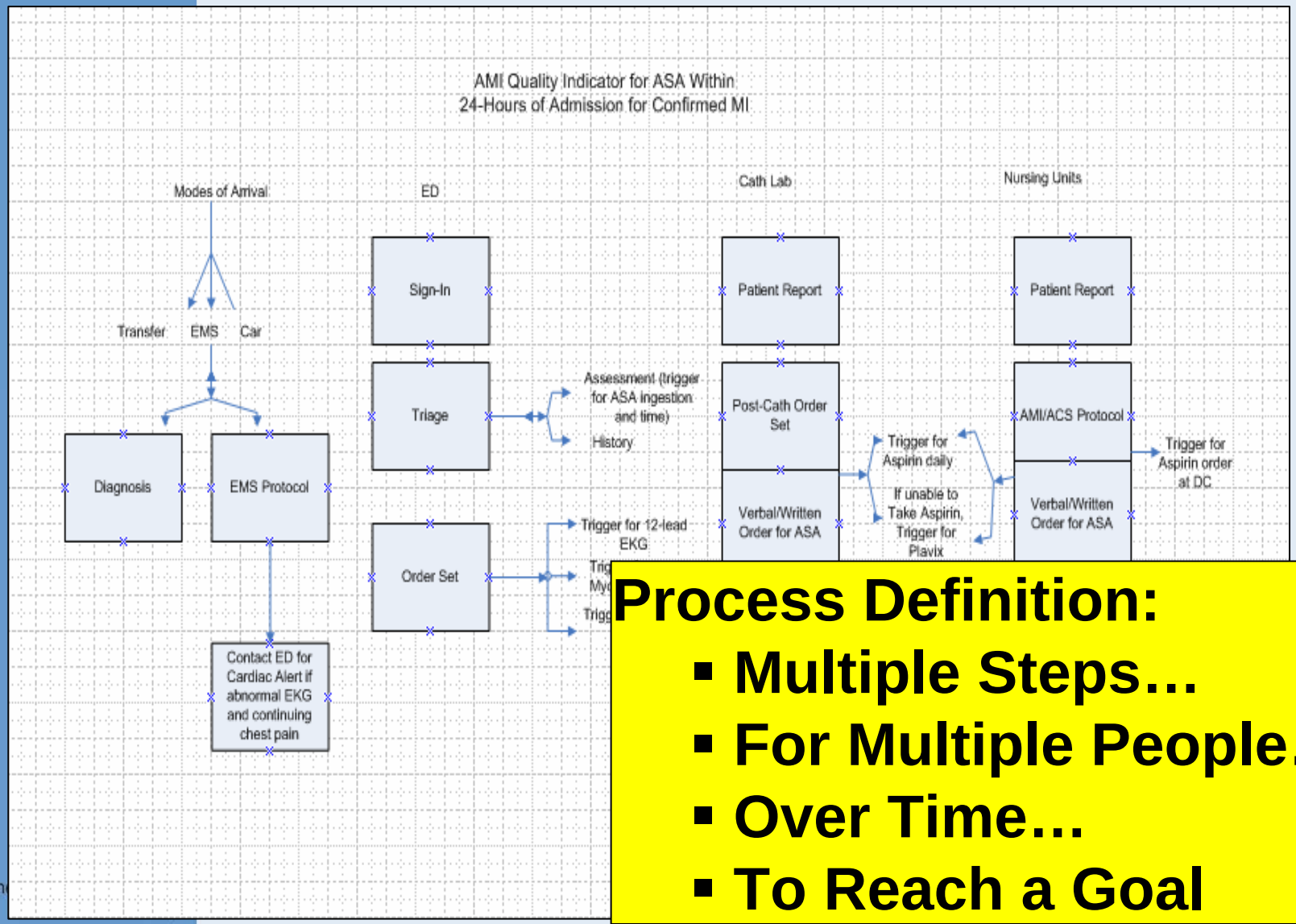
Example Process: AMI



Process Definition:

- **Multiple Steps…**
- **For Multiple People…**
- **Over Time…**
- **To Reach a Goal**

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What is a Workflow Management System?

- Workflow Management System
- Business Process Management System
- Healthcare Process Management System
- Workflow Engine

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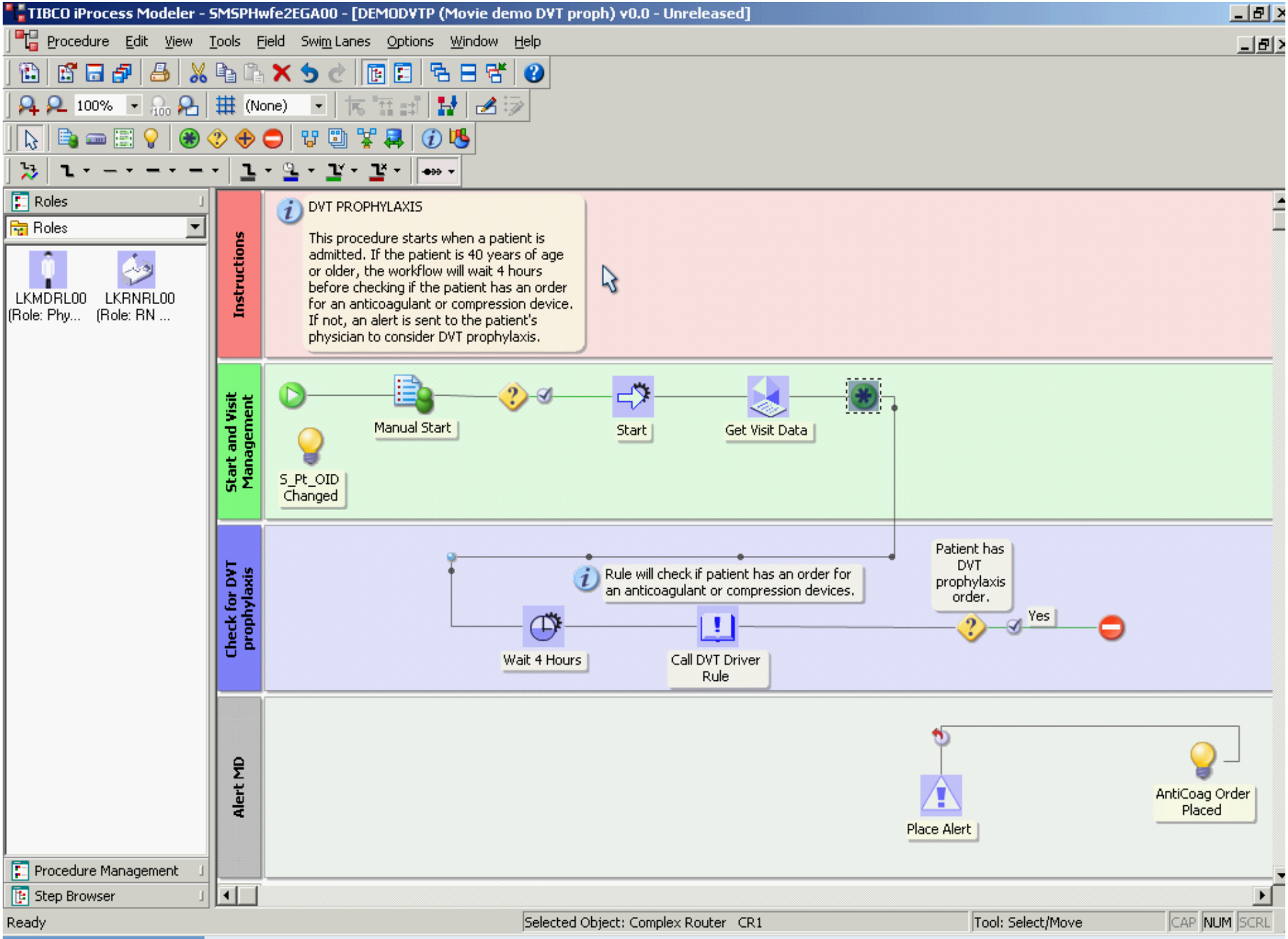

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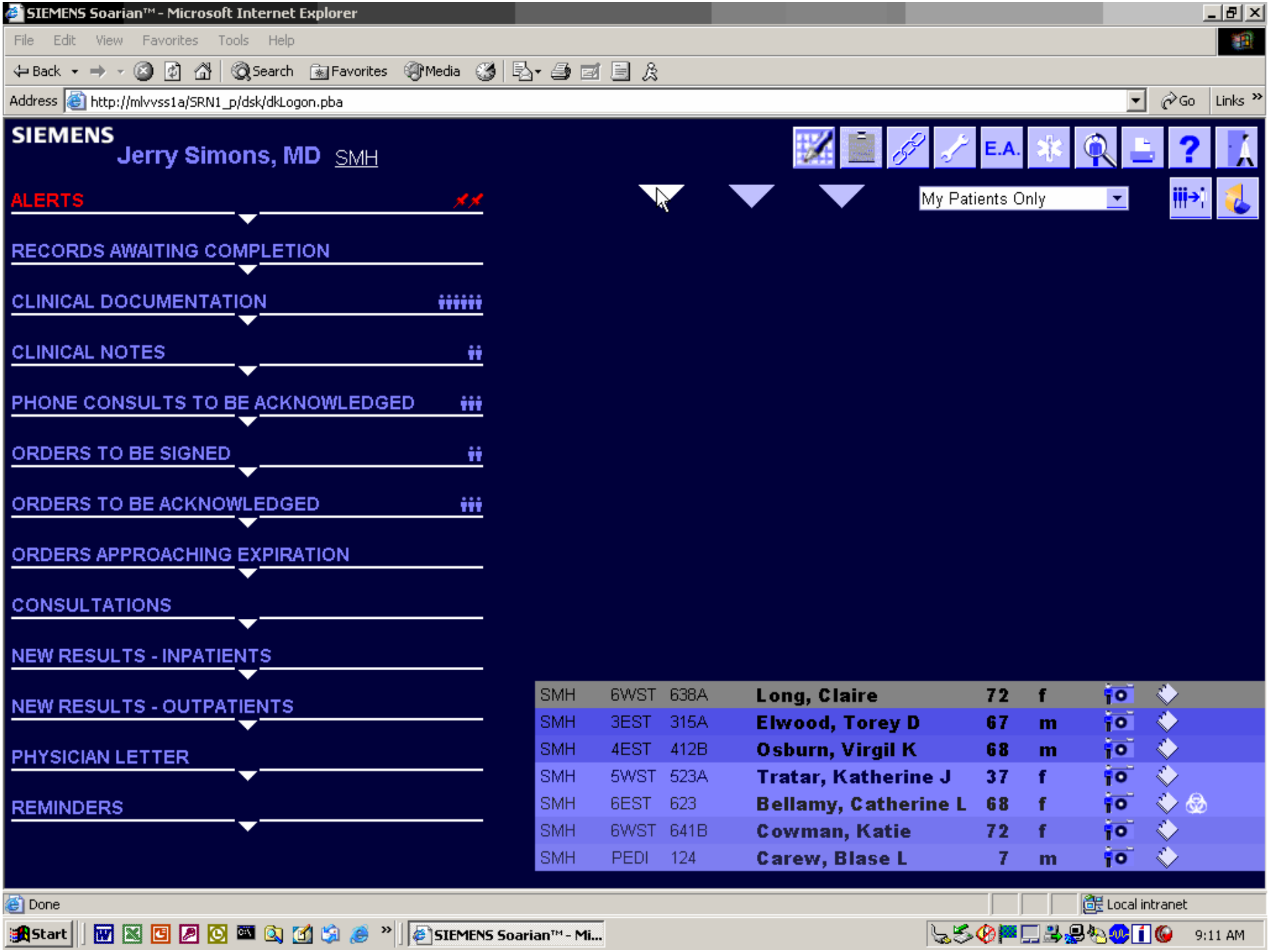
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Jerry Simons, MD SMH
E.A.
My Patients Only
ALERTS
RECORDS AWAITING COMPLETION
CLINICAL DOCUMENTATION
CLINICAL NOTES
PHONE CONSULTS TO BE ACKNOWLEDGED
ORDERS TO BE SIGNED
ORDERS TO BE ACKNOWLEDGED
ORDERS APPROACHING EXPIRATION
CONSULTATIONS
NEW RESULTS - INPATIENTS
NEW RESULTS - OUTPATIENTS
PHYSICIAN LETTER
REMINDERS
SMH 6WST 638A Long, Claire 72 f
SMH 3EST 315A Elwood, Torey D 67 m
SMH 4EST 412B Osburn, Virgil K 68 m
SMH 5WST 523A Tratar, Katherine J 37 f
SMH 6EST 623 Bellamy, Catherine L 68 f
SMH 6WST 641B Cowman, Katie 72 f
SMH PEDI 124 Carew, Blase L 7 m
Done
Local intranet
Start
SIEMENS Soarian™ - Mi...
9:11 AM

Two additional prerequisites

- SOA: Service Oriented Architecture
- Web-based access to all users and participants

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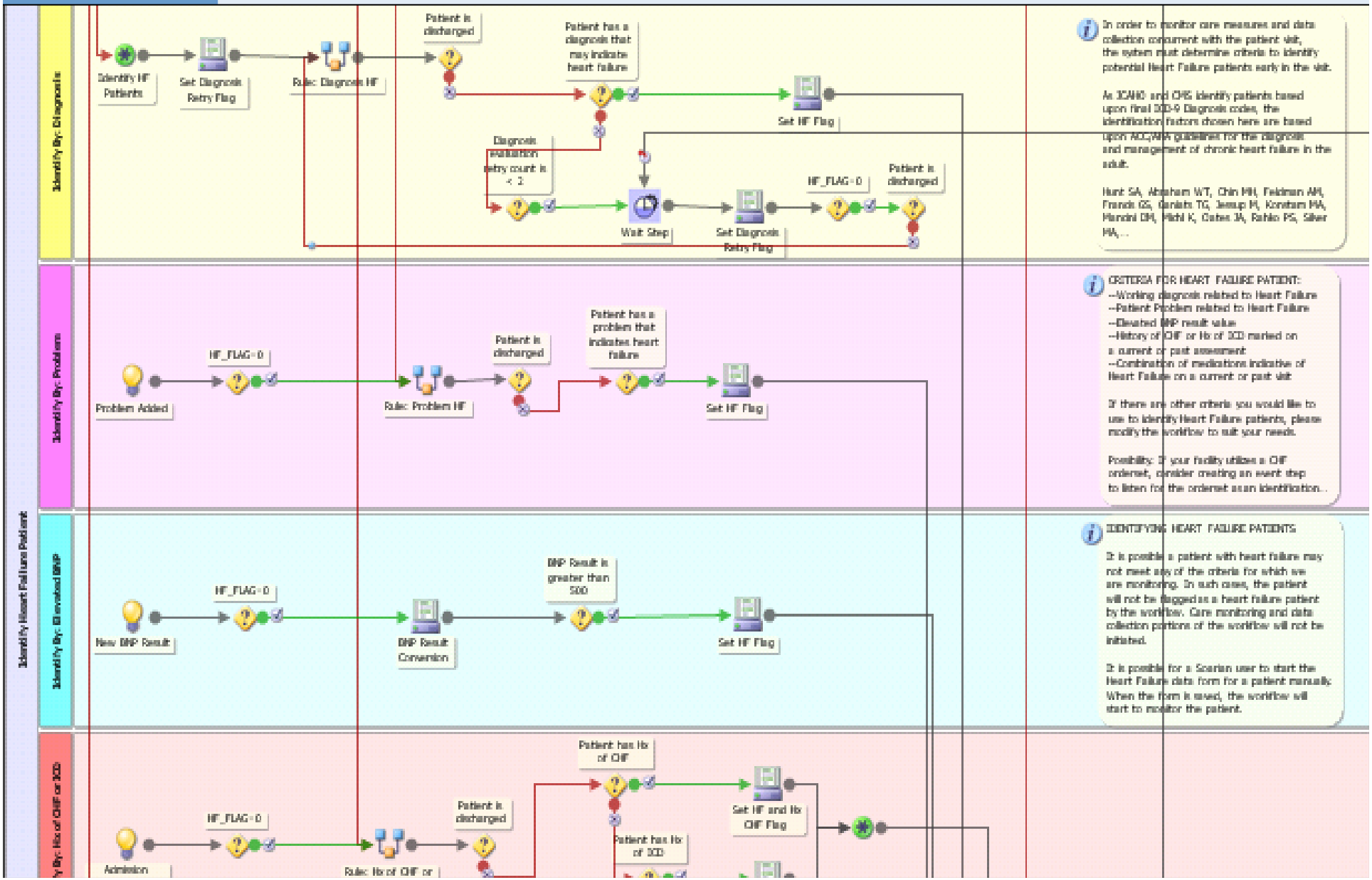
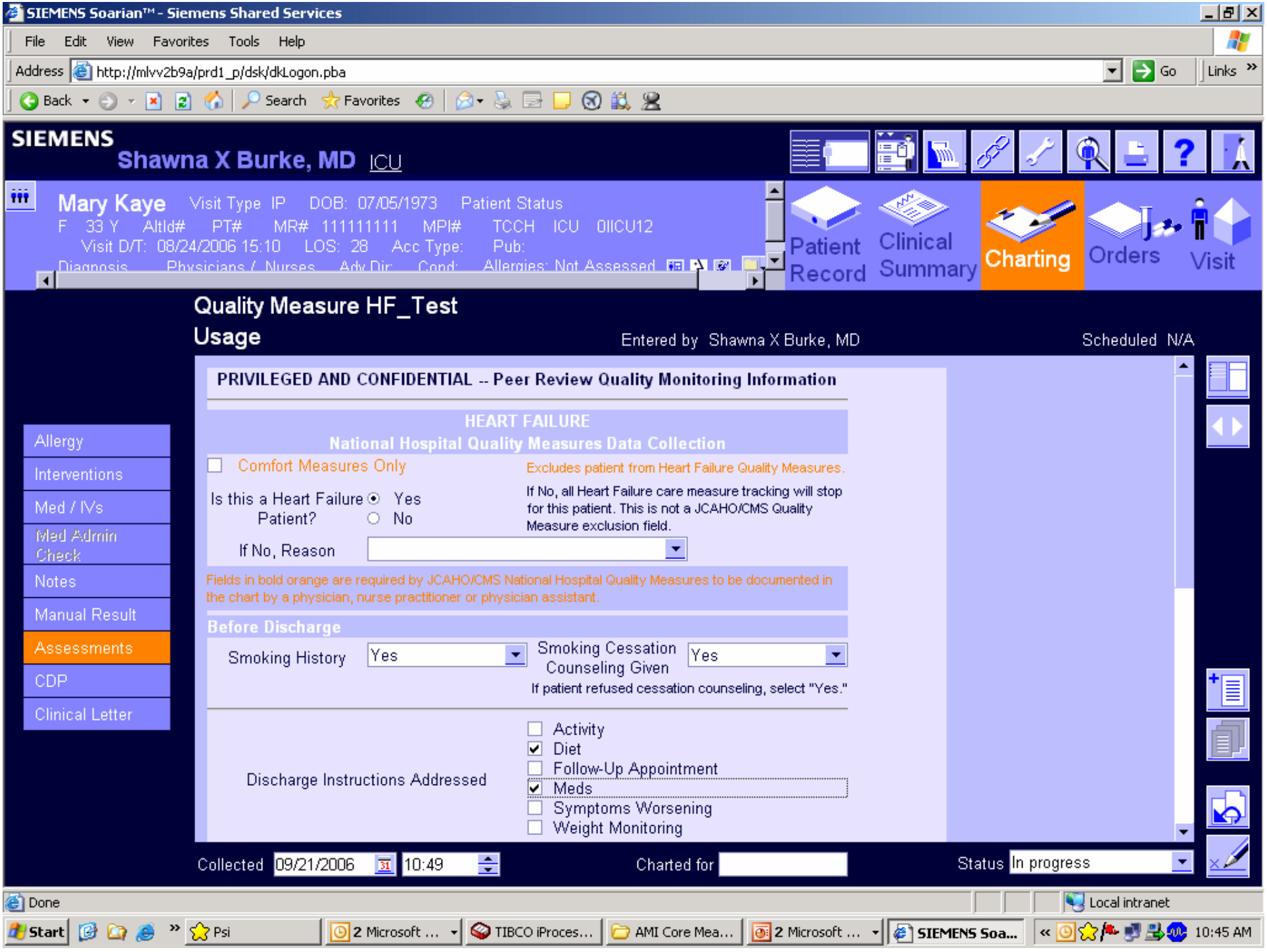
Heart Failure Identify Patient

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Shawna X Burke, MD ICU
Mary Kaye Visit Type IP DOB: 07/05/1973 Patient Status
F 33 Y AltId# PT# MR# 111111111 MPI# TCCH ICU 0IICU12
Visit D/T: 08/24/2006 15:10 LOS: 28 Acc Type: Pub:
Diagnosis Physicians / Nurses Adv Dir: Cond: Allergies: Not Assessed
Patient Record
Clinical Summary
Charting
Orders
Visit
Quality Measure HF_Test
Usage
Entered by Shawna X Burke, MD
Scheduled N/A
PRIVILEGED AND CONFIDENTIAL -- Peer Review Quality Monitoring Information
HEART FAILURE
National Hospital Quality Measures Data Collection
Comfort Measures Only
Excludes patient from Heart Failure Quality Measures.
Is this a Heart Failure Patient? Yes No
If No, all Heart Failure care measure tracking will stop for this patient. This is not a JCAHO/CMS Quality Measure exclusion field.
If No, Reason
Fields in bold orange are required by JCAHO/CMS National Hospital Quality Measures to be documented in the chart by a physician, nurse practitioner or physician assistant.
Before Discharge
Smoking History Yes
Smoking Cessation Counseling Given Yes
If patient refused cessation counseling, select "Yes."
Discharge Instructions Addressed
Activity
Diet
Follow-Up Appointment
Meds
Symptoms Worsening
Weight Monitoring
Allergy
Interventions
Med / IVs
Med Admin Check
Notes
Manual Result
Assessments
CDP
Clinical Letter
Collected 09/21/2006 10:49
Charted for
Status In progress
Done
Local intranet
Start
Psi
2 Microsoft ...
TIBCO iProces...
AMI Core Mea...
2 Microsoft ...
SIEMENS Soa...
10:45 AM

Example Workflows – currently live

Patient Safety
Allergy Assessment Tracking
Critical Labs
Deep Vein Thrombosis (DVT)
Fall Risk
Heparin Therapy
Infection Control
IV Site Management
Microbiology/Antibiotics
Pressure Ulcers
Med Reconciliation Manager
Pneumococcal Vaccination

Clinical Guidelines
Acute Myocardial Infarction
Congestive Heart Failure
Diabetes

Administrative
23 hour Observation Manager
Admission Assessment Completion
Admission Manager
Advance Directive
Charts to be Completed Notification
Nursing Documentation Manager
Off Campus Test/Open MRI
Patient Factors Due
Physician Notification of Pts. Admitted
Positive Culture Manager

Operational Efficiency
Radiation Therapy Prep Order
Dietary Tray line Manager
Bed Management

JCAHO Metrics
Focused on inpatient episode, but linking to home and ambulatory

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Challenges and Benefits

Challenges:

- Need for integration
- Complexity

Benefits:

- Dynamic, Configurable
- Disease Management as “byproduct” of care, not as separate activity

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Challenge: Need for Integration

- For Process Management tools to be effective, they need to be integrated with
  - Users
  - Data
  - Patients
  - Context

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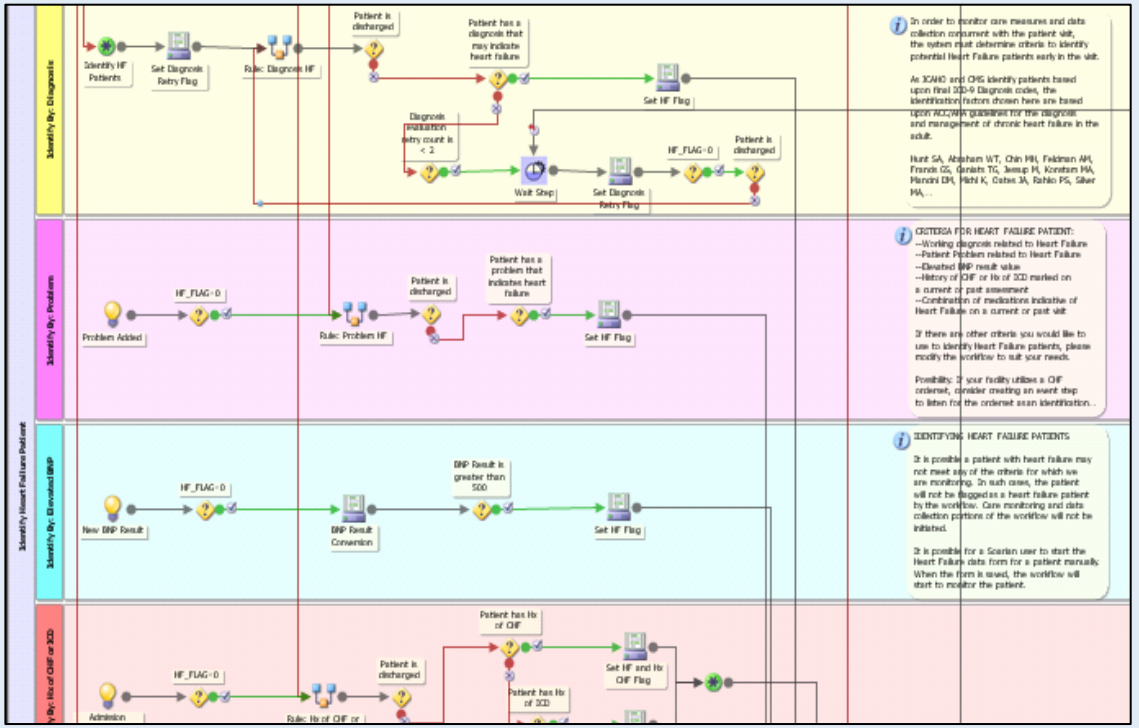
Challenge: Complexity

- Process Management is complex
- Exception Handling adds complexity – undesirable but sometimes unavoidable
- Process Management is not simple, not inexpensive



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Benefits: Dynamic, Configurable

- In a Workflow Engine, processes are dynamic and configurable
  - Between diseases
  - Between organizations
  - Over Time
- Continuous Quality Improvement

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Benefits: Disease Management as “byproduct”

- Disease Management is a “byproduct” of healthcare delivery – not a separate activity.
- DM Processes tightly integrated into the overall workflow
- DM interventions delivered by the standard healthcare team – physicians, nurses, and others
- DM staff as supplementary team members, and escalation points

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Conclusions

- Workflow Management Systems as emerging technology in Healthcare IT
- Process Management techniques and tools help automate Disease Management processes
- Challenges and obstacles exist, but in certain targeted areas, benefits are becoming clear and form the basis for ongoing implementation

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