Implementing
Electronic Medication Reconciliation
in a Large Teaching Paediatric Hospital:
Approach, Workflow Design, Lessons Learned, Adoption and Compliance Evaluation

SickKids
THE HOSPITAL FOR SICK CHILDREN

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About SickKids

SickKids®

Care Research Learning

UNIVERSITY OF TORONTO

15,337
Inpatient Admissions

6,668
Inpatient Surgeries

65,705
Emergency Visits

221,579
Clinic Visits

SickKids®

681
Physicians

1,248
Residents/
Fellows

3,225
Healthcare
Professionals

SickKids®

Medication Reconciliation (MedRec) and the Existing CPOE

How Does MedRec Fit In?

CPOE
1993

Admission MedRec
2008

Transfer MedRec
2011

The Goal

eMedRec

The Goal

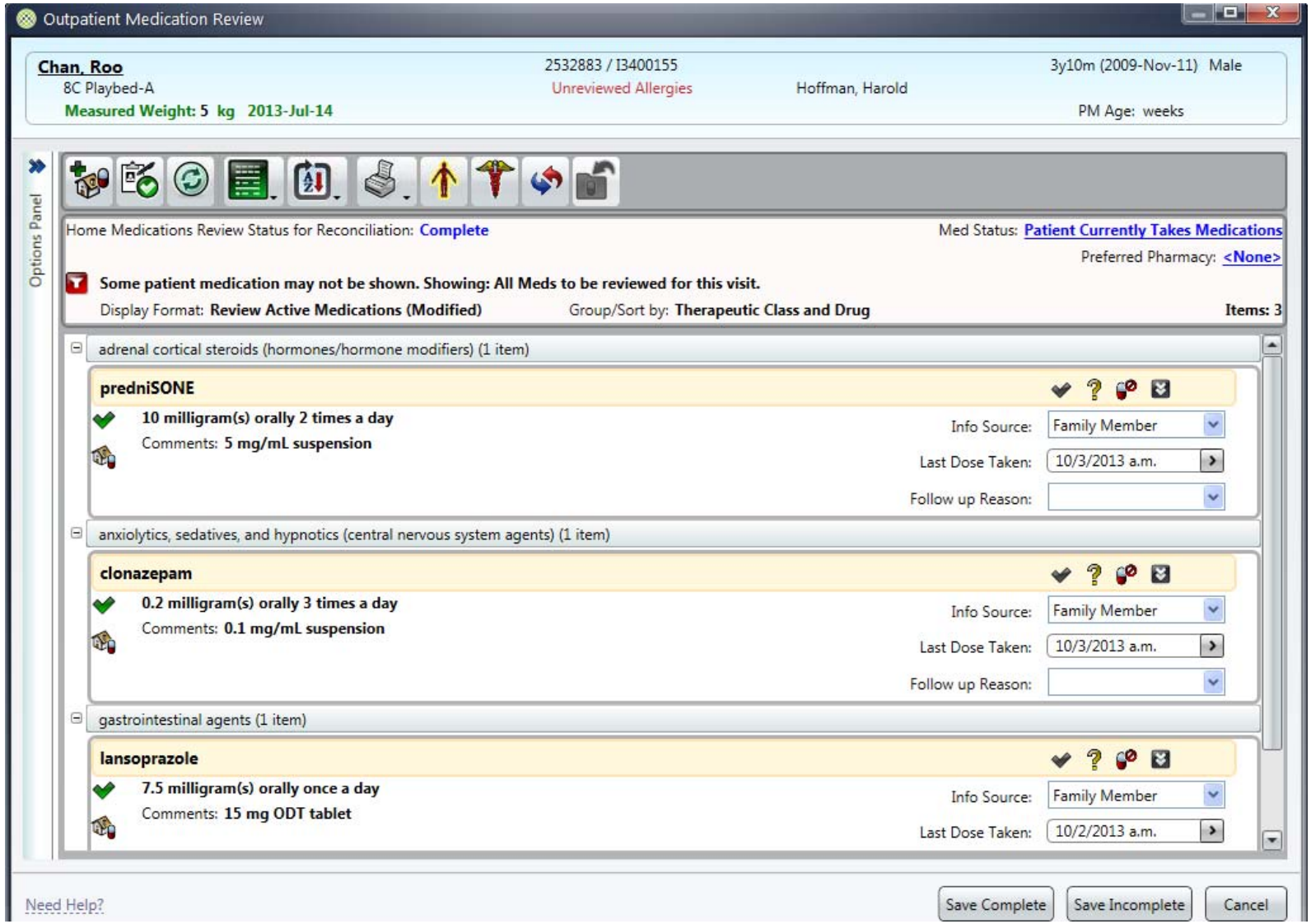
eMedRec

- Outpatient
- Order Rec

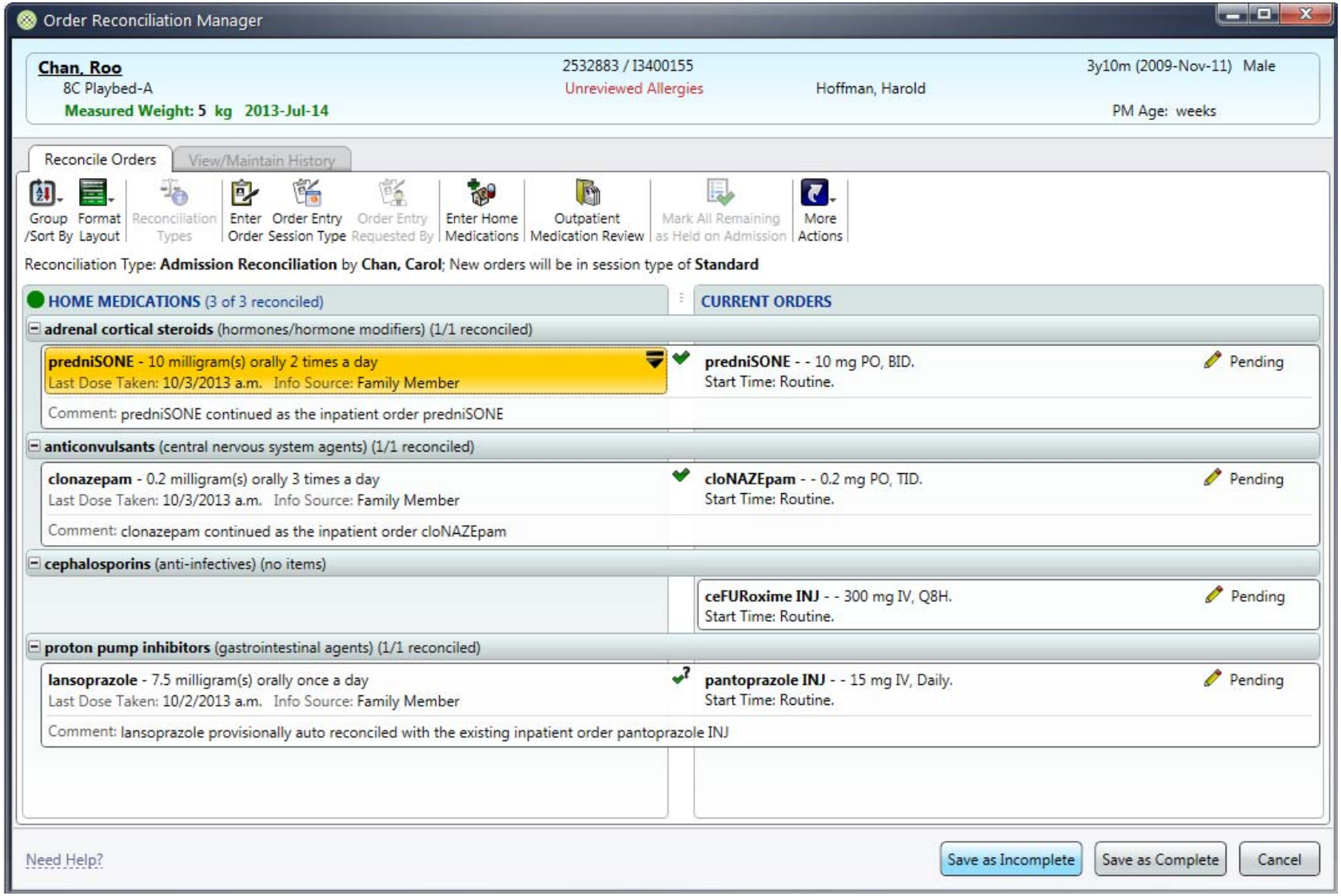
eMedRec

- Prescriptio

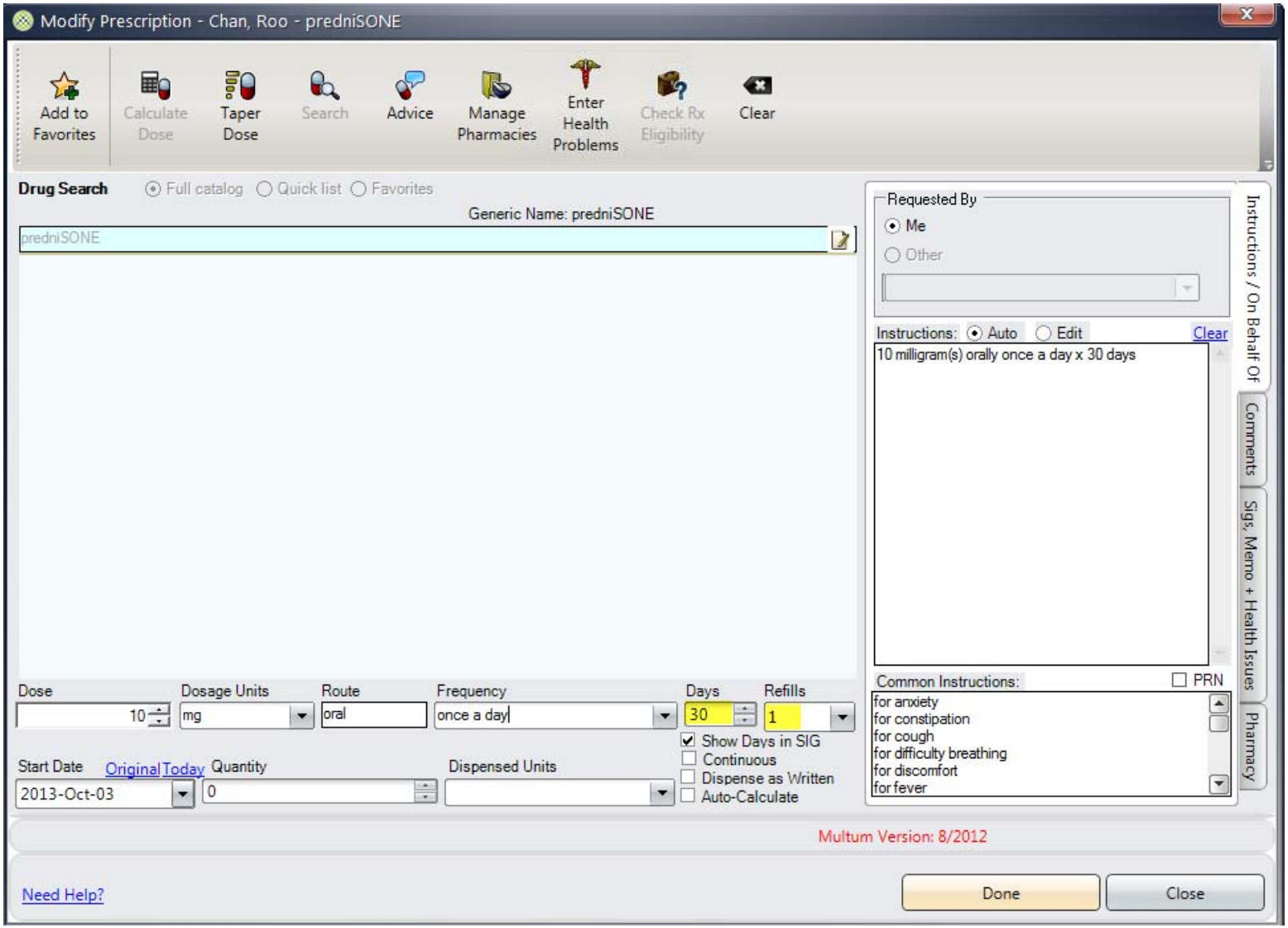
Outpatient Medication Review



Order Reconciliation Manager



Prescription Writer



Benefits

All Points of Care

MedRec Compliance

1
2
3

Consistent Process

Automatic Data Collection

Accurate Changes

Adverse Drug Event

Objectives

Phase 1

6 Weeks

April – June 2014

Phase 2

6 Months

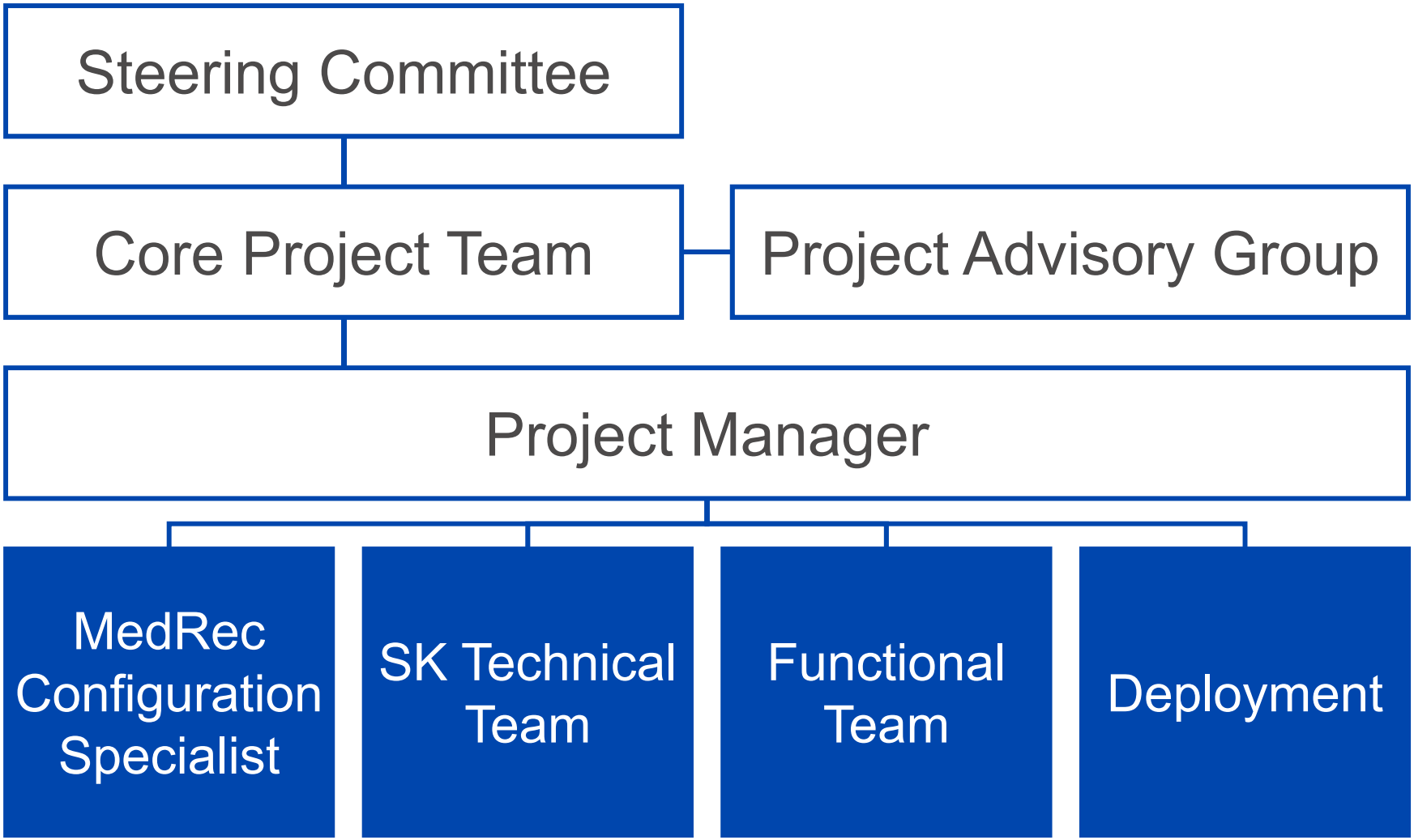
June – Dec 2014

1. **Neurology/ Neurosurgery**
2. **General Paediatrics Streamlined Care Unit**

All Other Inpatient Areas

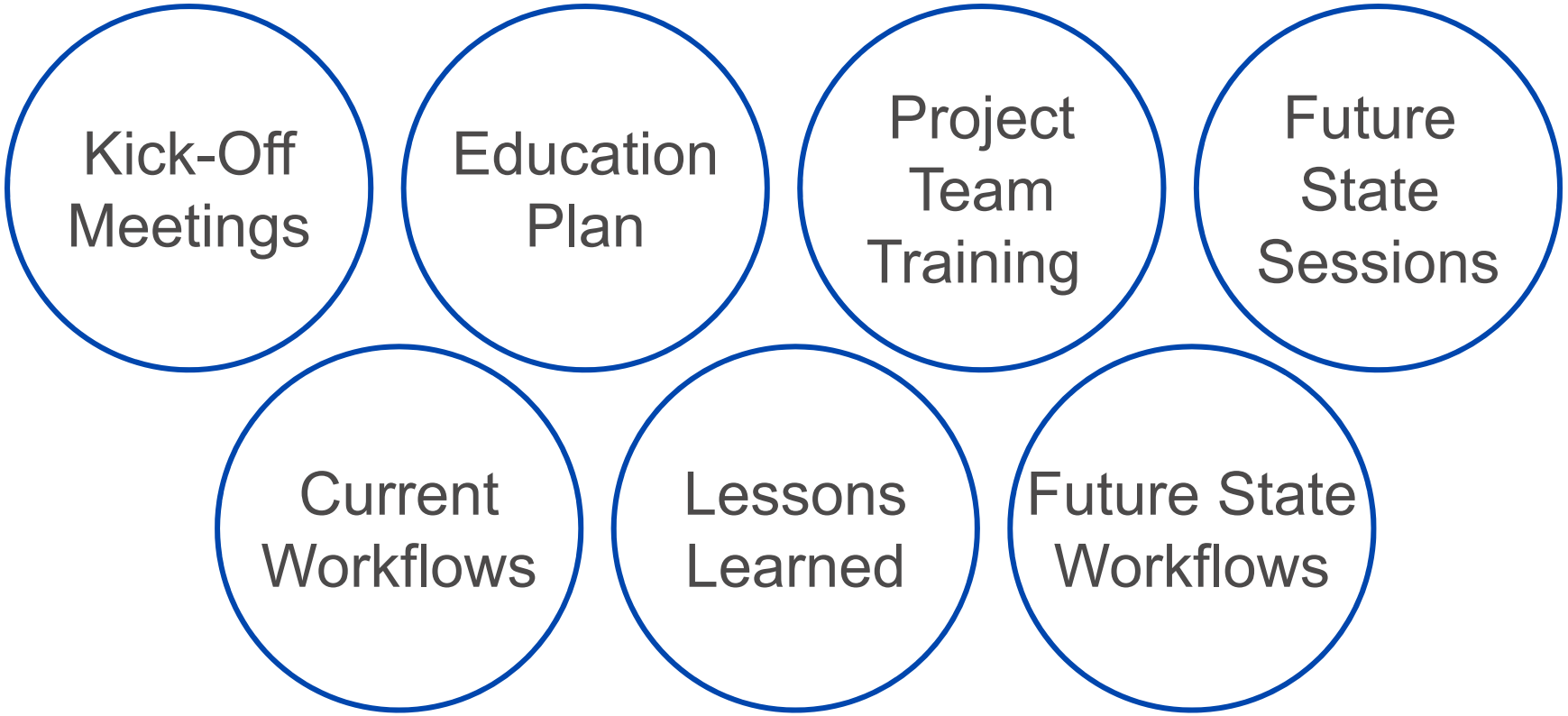
Approach

Approach - Planning



Approach - Planning

Approach - Planning

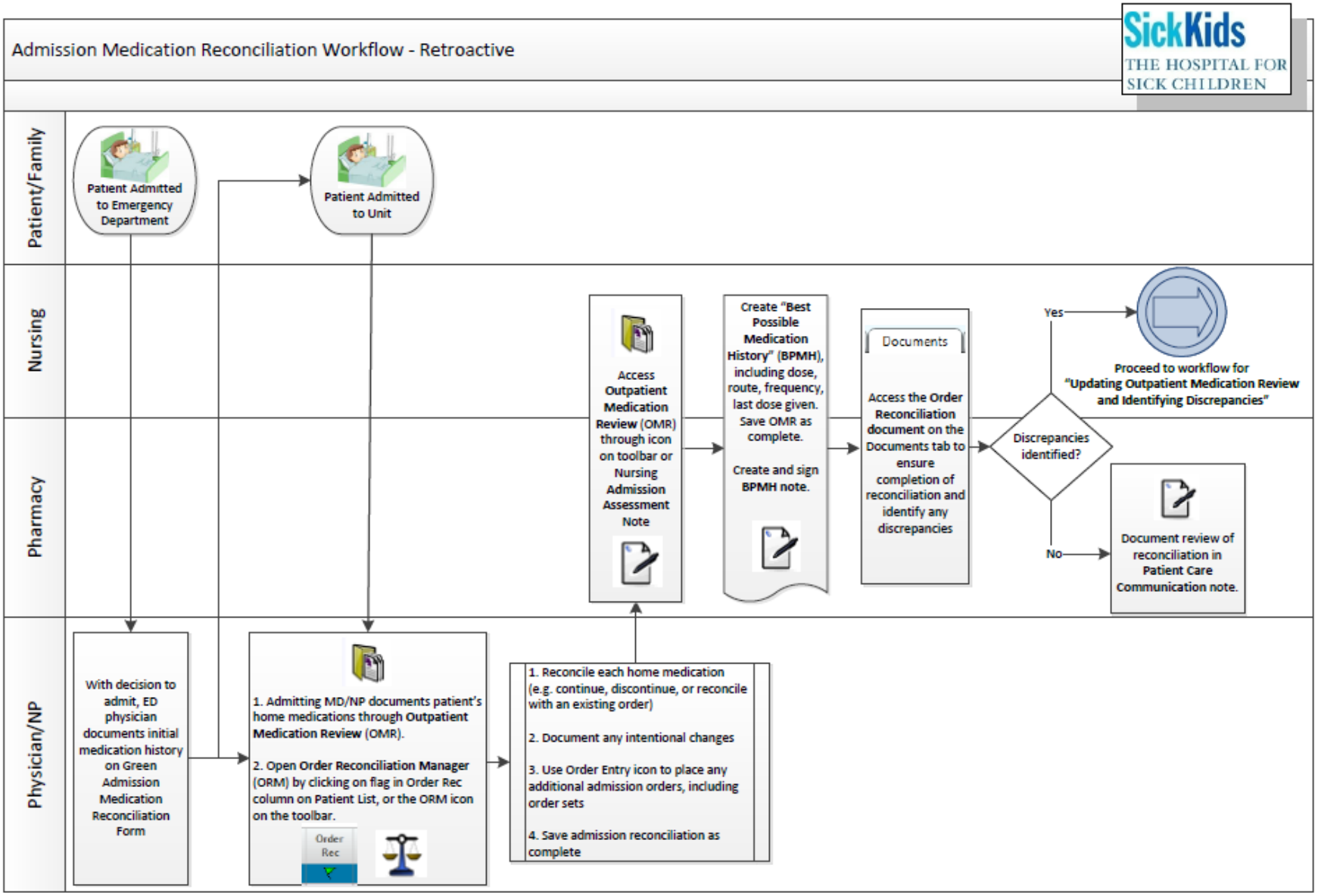


Approach - Planning

3 Sessions

- Review Current/Future Workflows
- Decisions Affect Configuration of New System
- Stakeholders from Inpatient Units and Advisory Group

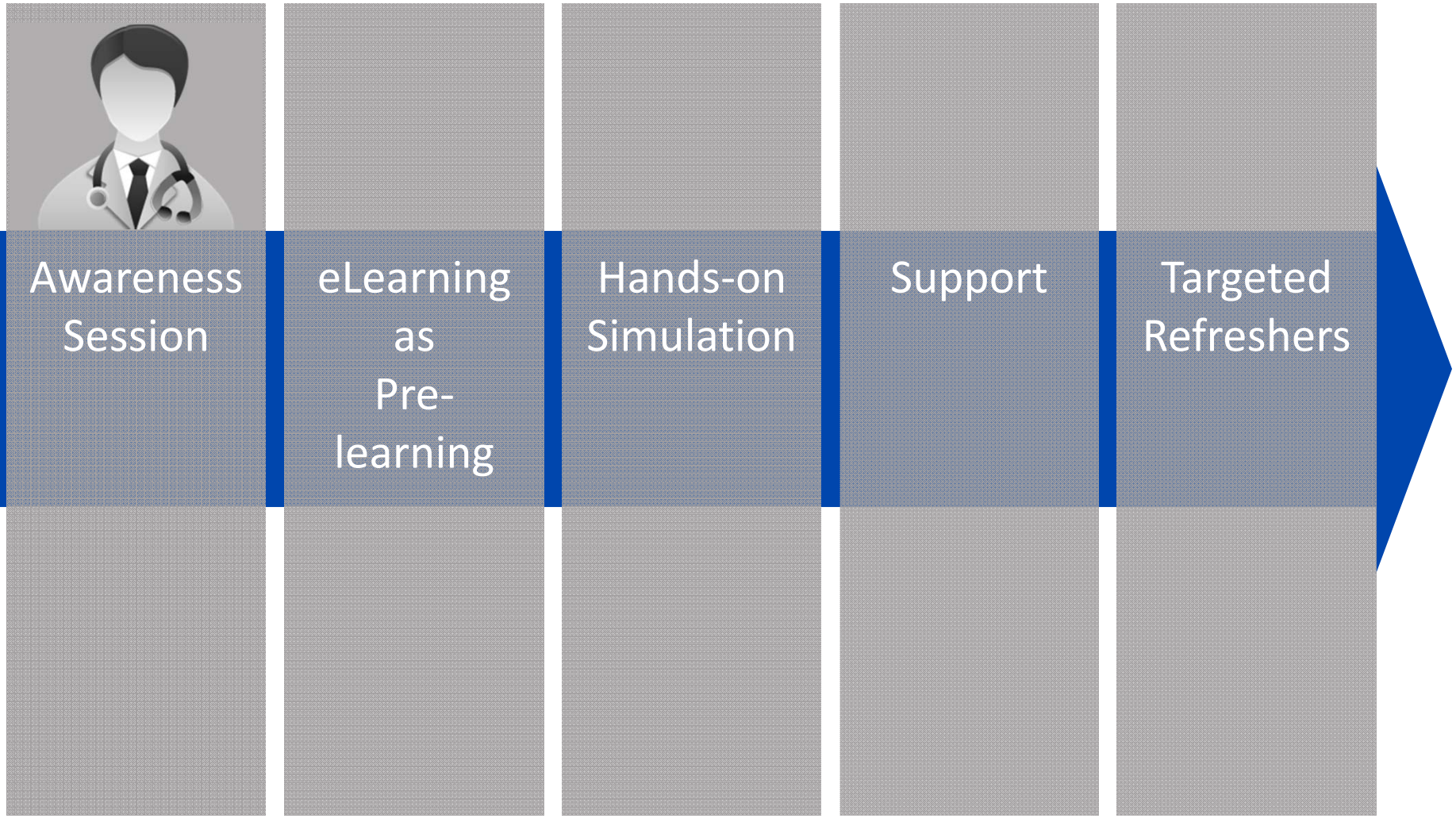
Example Workflow



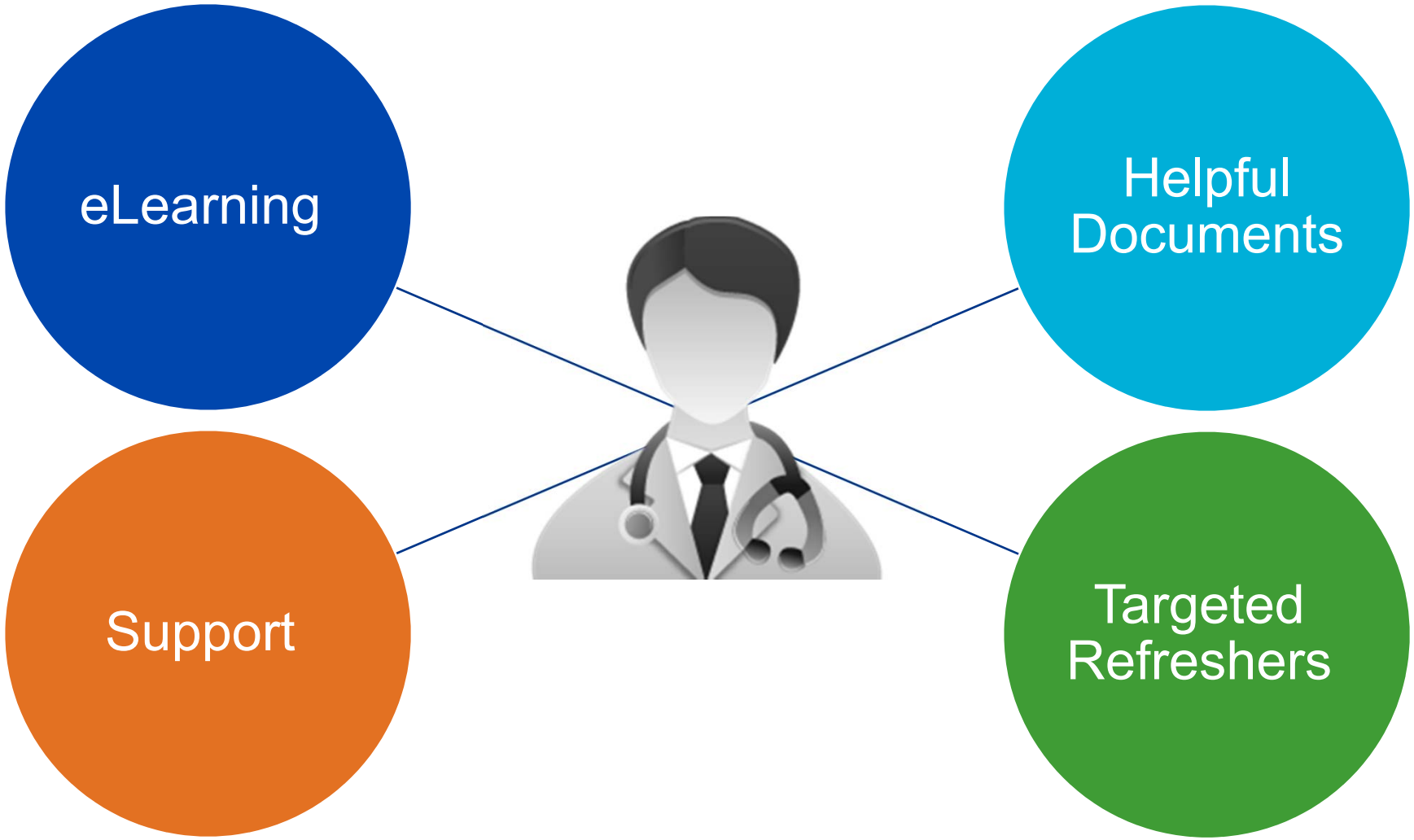
Approach – Workflow and Configuration Validation Sessions

- End User Representatives
  MDs, NPs, Pharmacists, RNs, Quality leaders, Managers
- Separate Sessions with Medical and Surgical Group
- Exposure to MedRec Module
- Validated Electronic and Hybrid Workflows

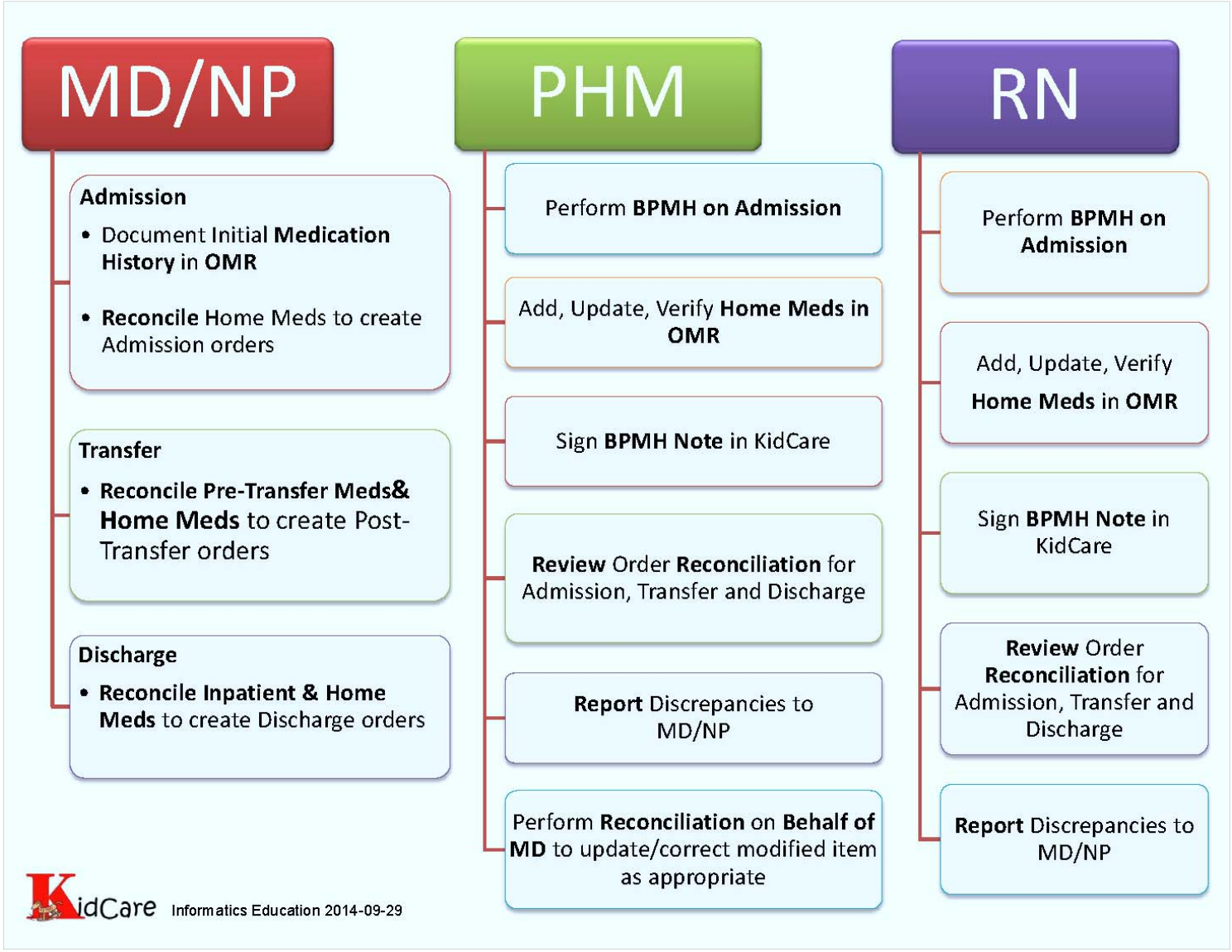
Approach - Education



Approach - Education



Example Reference Workflow



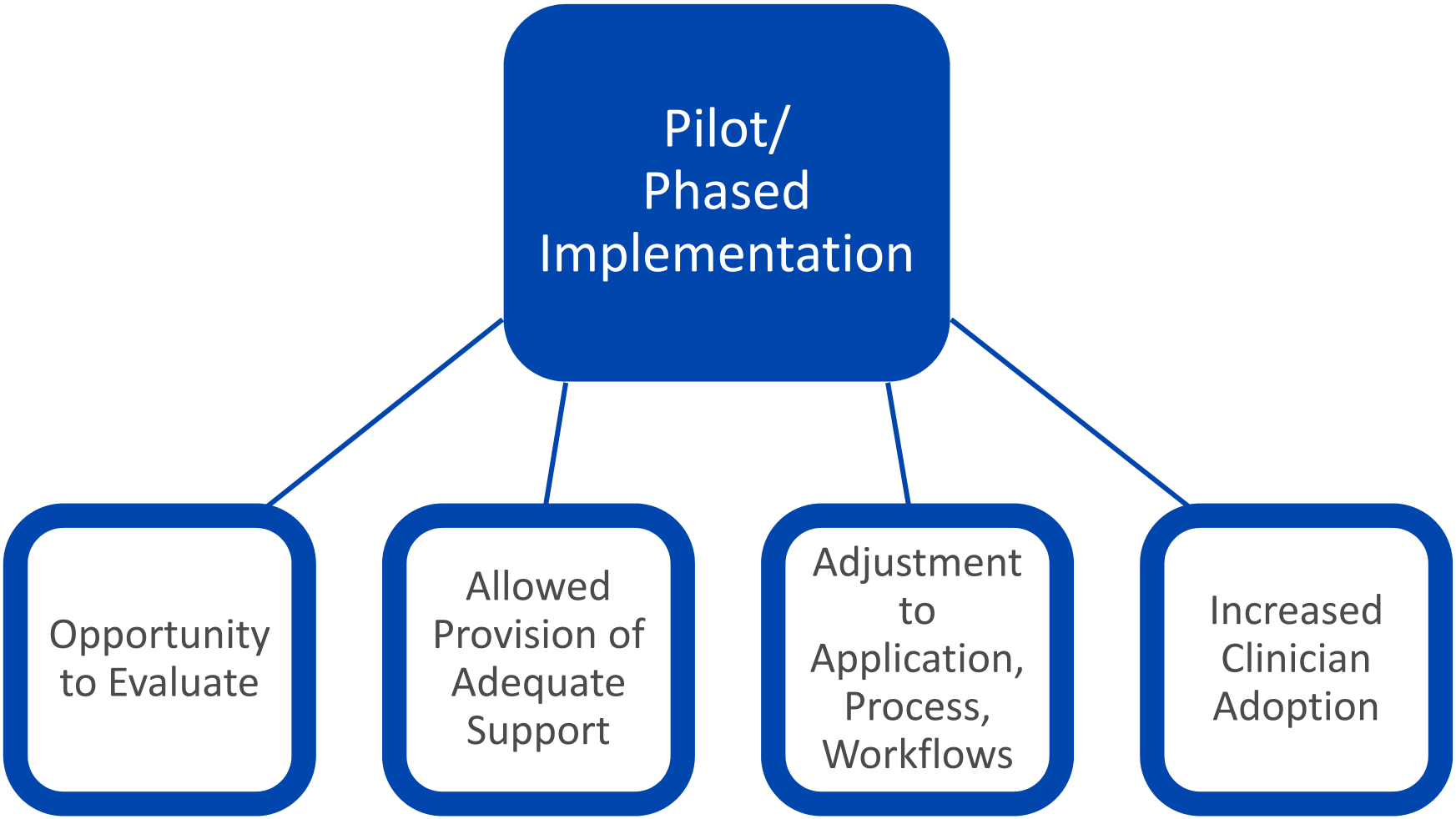
Approach – Awareness and Communication Strategies

Approach – Change Management

- Daily Huddles
- Medical Rounds
- Tip Sheets
- Physician Champions
- Quality Audits
- Nursing Education Days

Success Factors

Success Factors – Implementation



Success Factors – Education

Compact Timeline – April to December 2014

1178
Total Trained
(306 Classes)

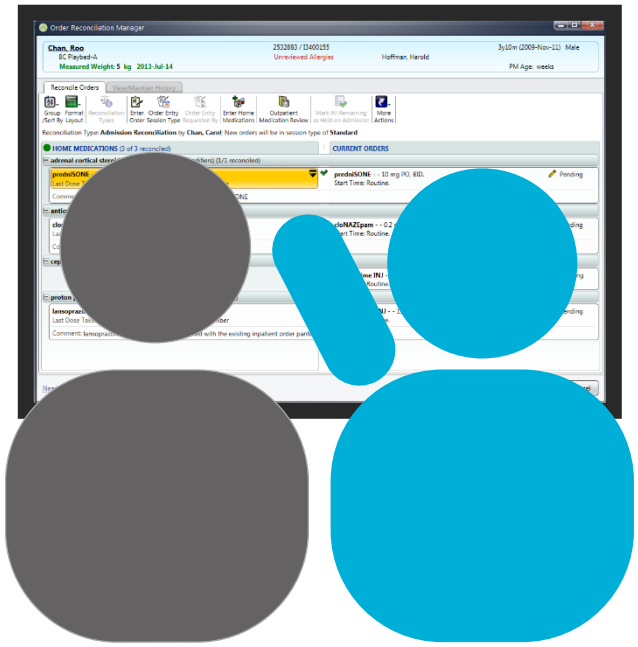
122
Total Super Users
Trained
(27 Classes)

Success Factors – Education

Pilot/Phased Implementation
Allowed Us to Evaluate and Adjust
Education Iteratively

Success Factors – Education

‘Elbow to Elbow’ Coaching



- Ensured Accuracy – Critical for Confidence and Adoption
- Reinforced Processes
- As You Need It Education and Targeted Refreshers

Lessons Learned

Lessons Learned – Feedback Sessions

- Effective Support Model
- Electronic Process Well Received
- Improved Patient Safety
- Straightforward Home/Pre-Admission Medication Entry/Reconciliation Processes
- Accurate Electronic Medication Lists
- Hybrid Workflow and Discharge MedRec Challenging

Pilot End User Feedback

Just wanted to let you know that after a week of using the system many, many times, I have to say, that despite the little issues I'm really starting to enjoy it. There are a lot of benefits to this new system that I'm appreciating.

Thanks for all your work getting us up and going!

- Neurosurgery NP

Cardiology Fellow Super MedRec Elf!

Lessons Learned – Education

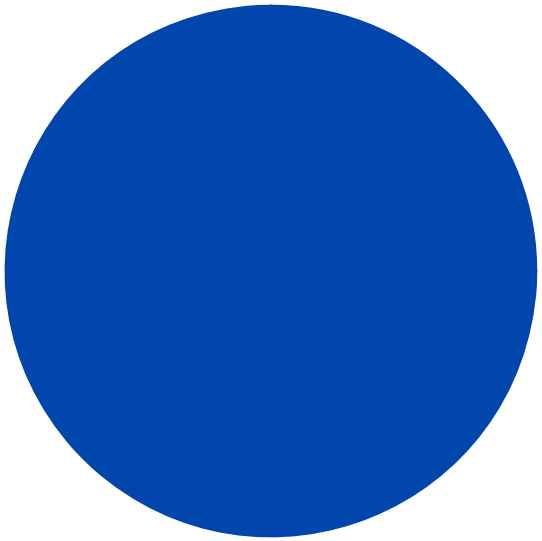
- Senior Leadership Support for Sufficient Education and Adoption
- Application Needs to be More Intuitive
- Surgical Services are More Challenging
- Continual Challenge of Building Skilled Users

Lessons Learned – Process Change

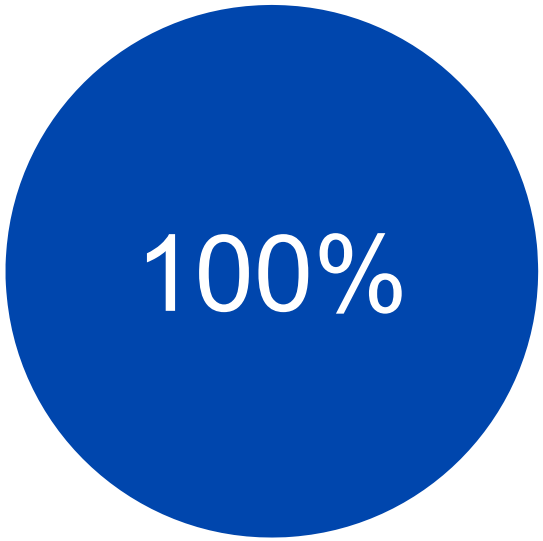
- Process Change = More Education and Support
- Software Affects Process and Impacts Compliance
- Electronic Process Can Never be Exactly the Same as Paper Process

Evaluation

Evaluation – Compliance Reports

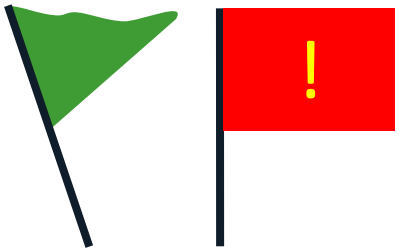


Paper Process Reports Based on Sampling



Electronic Process Reports Based on 100% of Admissions

Evaluation - Compliance



Admission/Transfer Reconciliation Flags

Assigned Location	Patient Name	Order Rec	Ne Doc
4D-4823-A	Testmedrec, Sveta MLMtwo		
4D-4828-A	Testmedrec, Carol Piglet		

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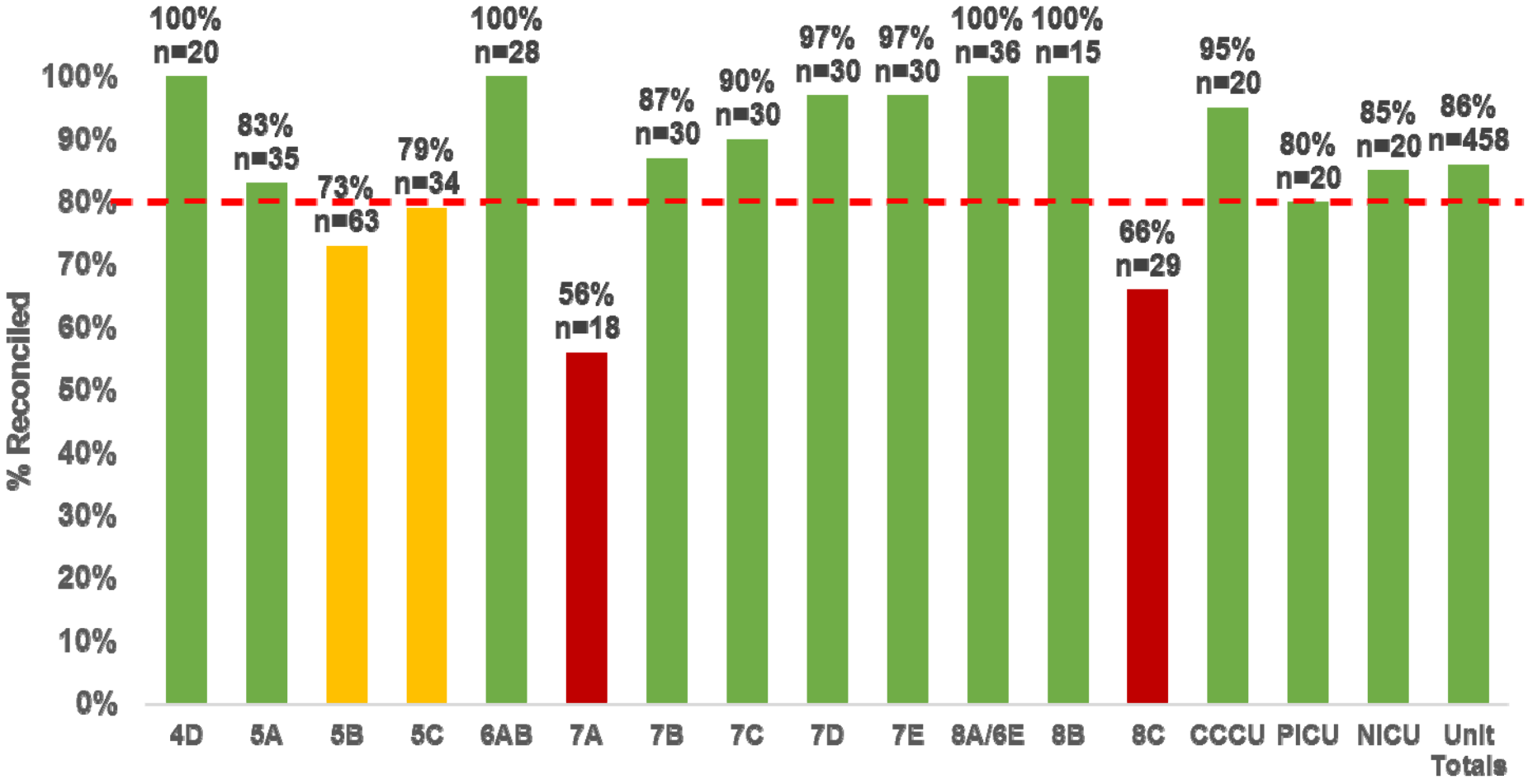
Admission Transfer Discharge
Medication Reconciliation Audit Report
Unit: 7C

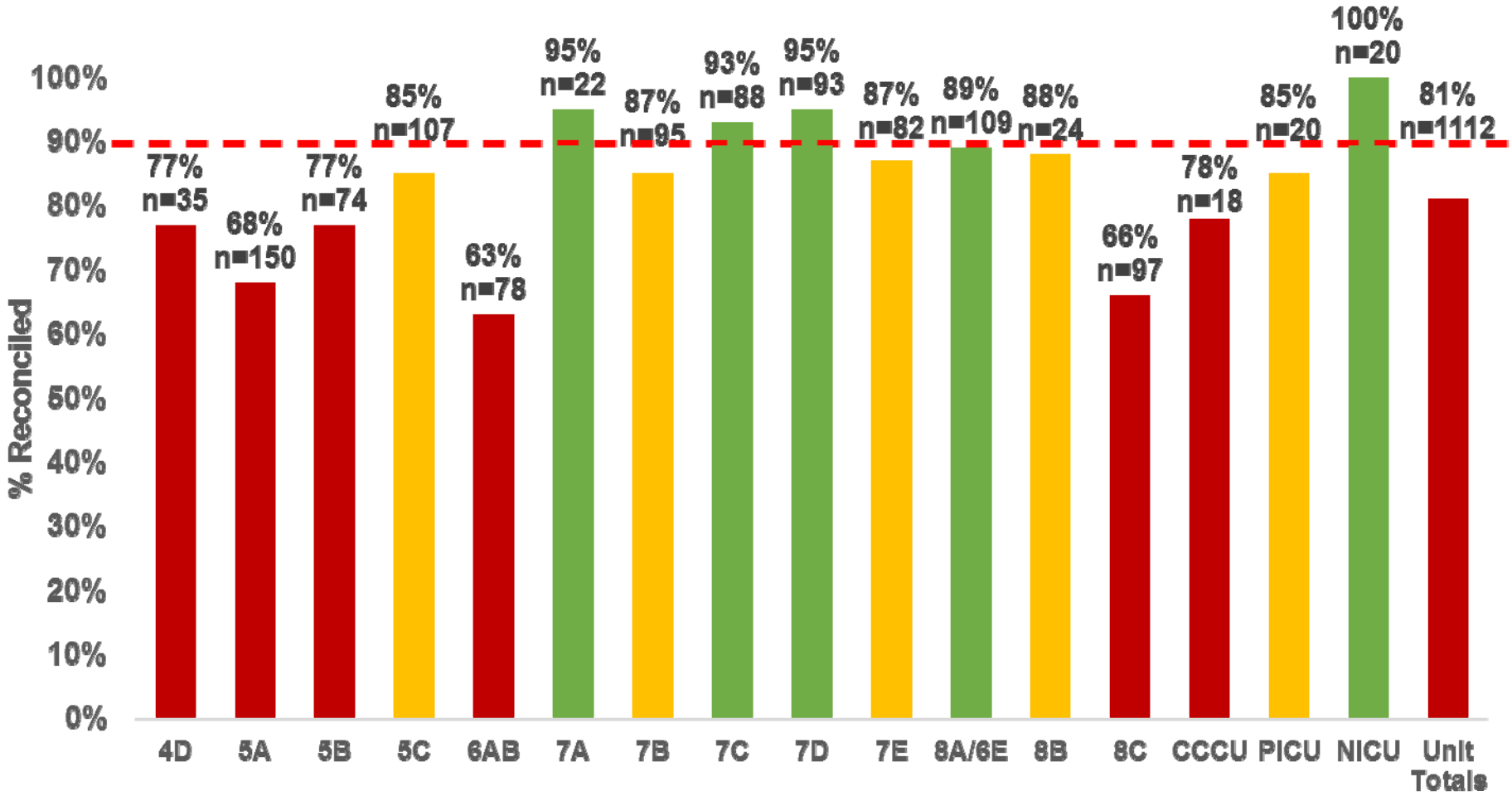
rpt-mra-01

Current Service	MRN	Patient Name	Room	Current Provider	Admit Date	Home Medication History (OMR)	Admission Order Rec	BPMH Note	Nurse who completed Admission Assessment Note	Location From	Service From	Transfer Date	Transfer Order Rec	Discharge Order Rec
General Surgery	2533188	Incredible, Dash	7C-7883	Gerace, Rocco	2014-03-11 14:07	Complete	Outstanding	Complete		8C	Immunology	2014-09-17 11:22	Outstanding	Not Done
Cardiology	2533156	Stefanovic, Test Mpi	7C-7853	Hellmann, Jonathan	2014-02-26 14:36	Complete	Complete	Not Done					New	Complete
GI/Hepatology/Nutrition	2533154	Matharu, Pruby	7C-7853	Mclorie, Gordon	2014-02-26 11:01	Not Done	Outstanding	Not Done					New	Not Done
Allergy	2533143	Matharu, Lilly	7C-7854	Hilliard, Robert	2014-02-24 14:31	Complete	Outstanding	Complete	Chan, Carol				New	Not Done
Diag. Imaging	2438091	Smith, Joe H	7C-7871	Hoffman, Harold	2011-08-26 15:54	Incomplete	Complete	Complete	Chan, Carol				New	Incomplete

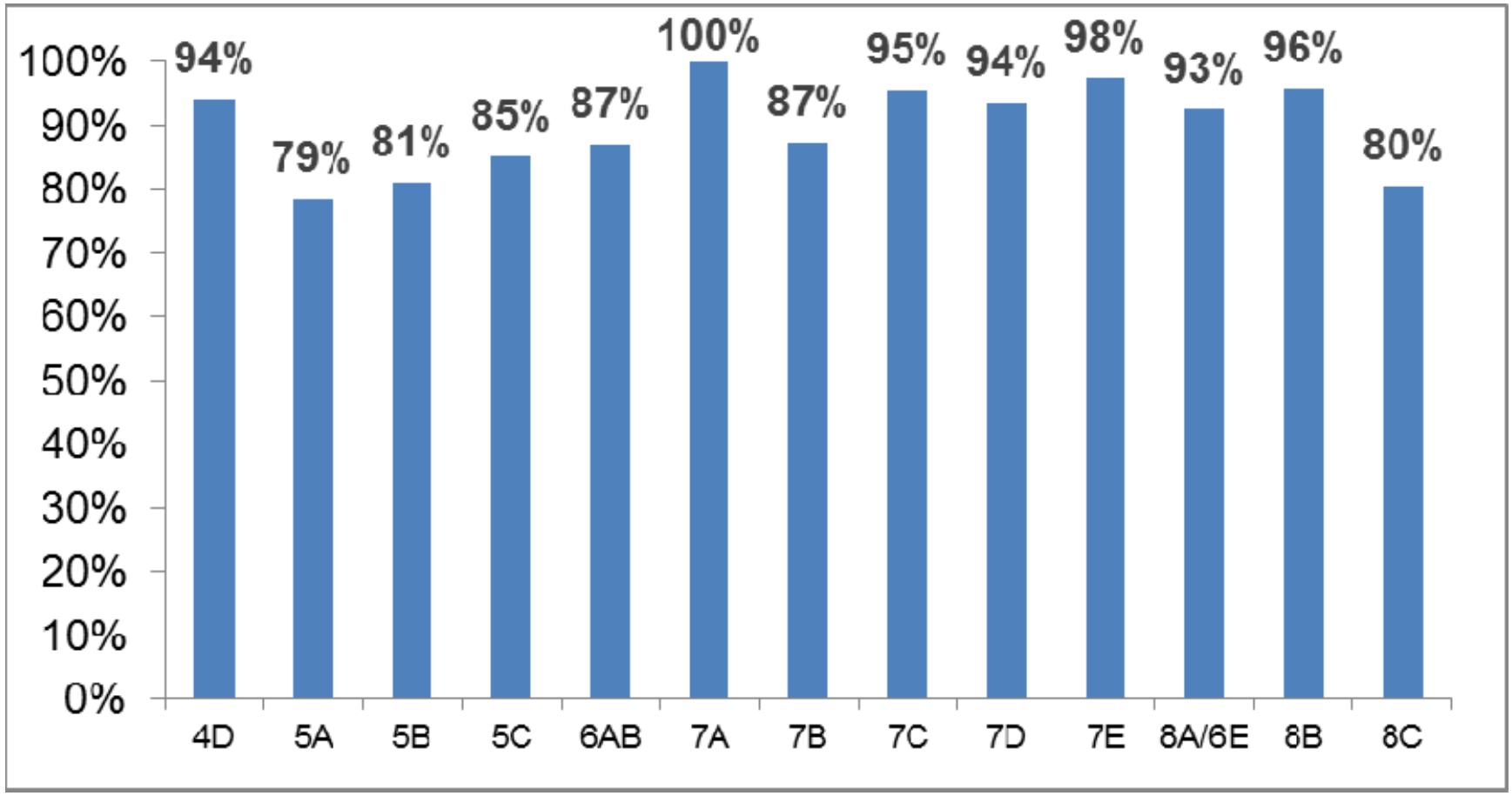
Admission Paper MedRec Compliance December 2013



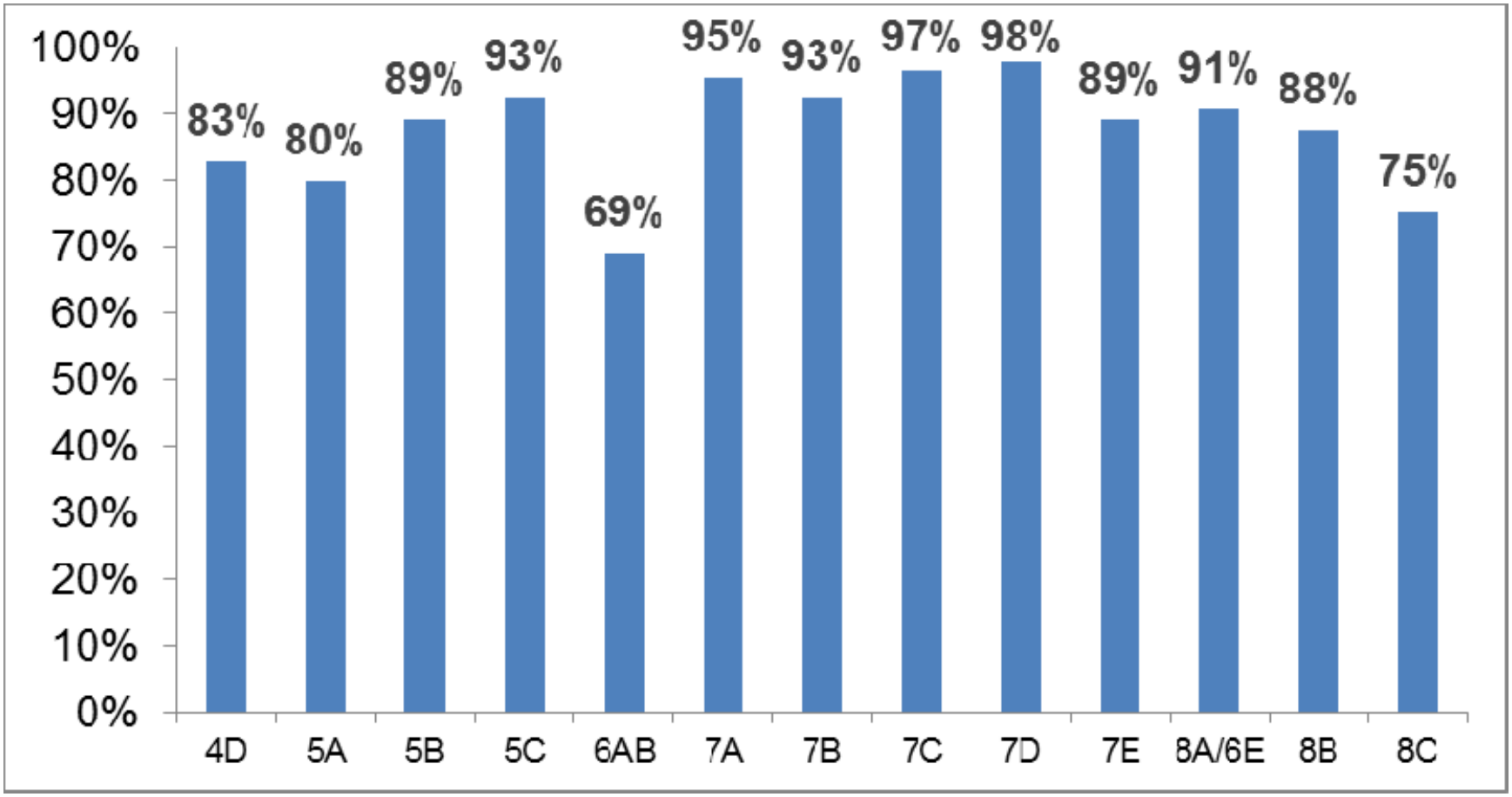
Admission Electronic MedRec Compliance December 2014



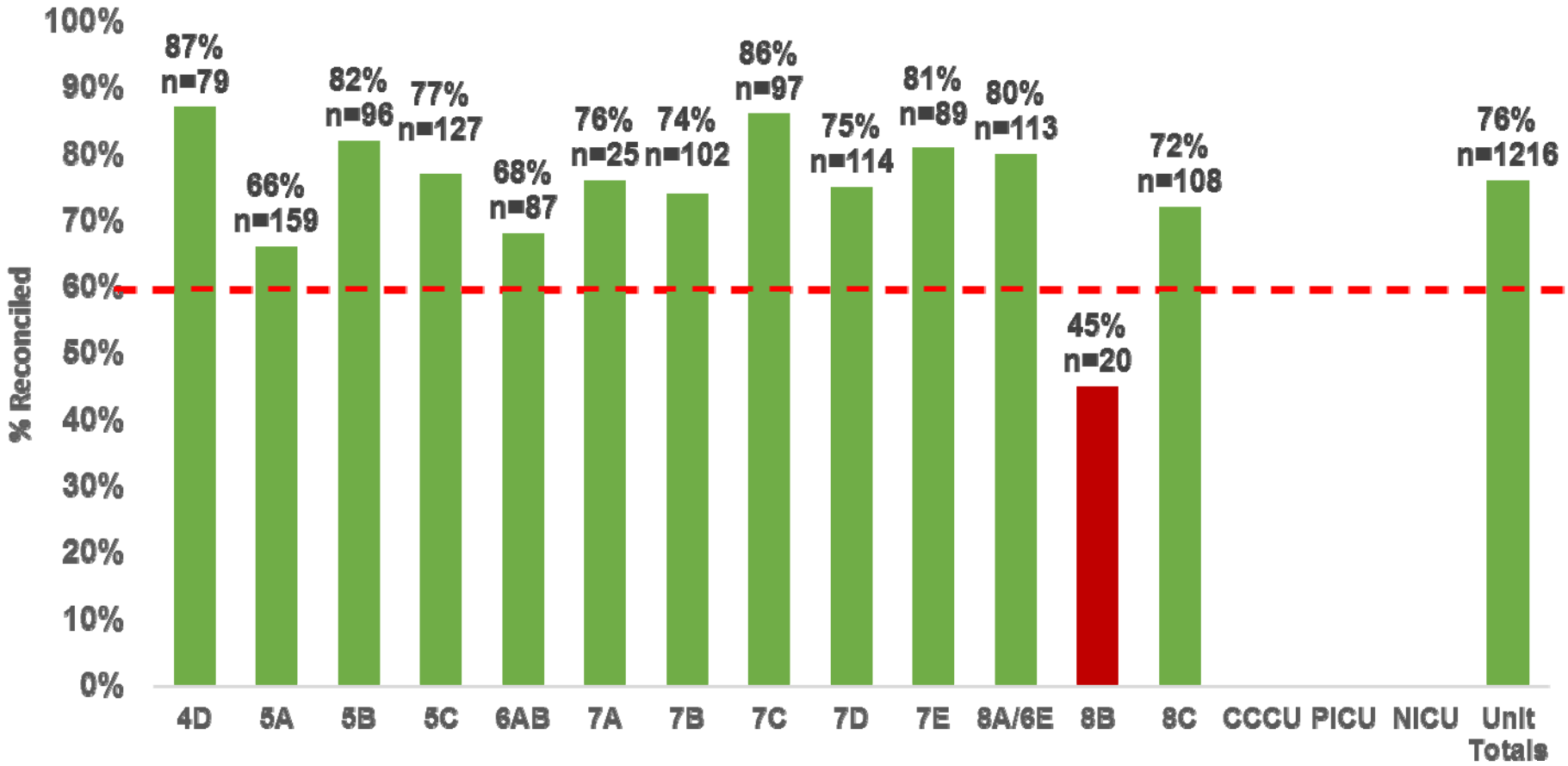
December 2014 Admission Orders Rec Compliance (MD/NP)



December 2014 BPMH Compliance (RN/Phm)



Discharge Medication Reconciliation December 2014

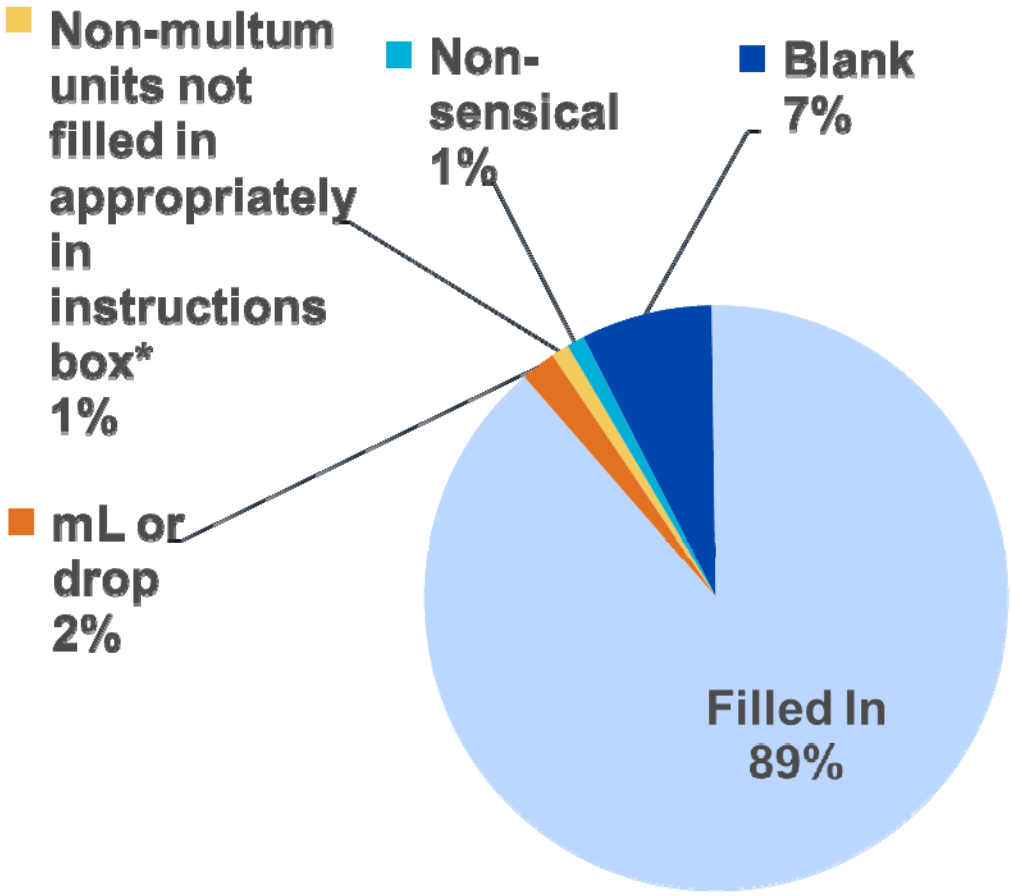


Evaluation – Quality Audits

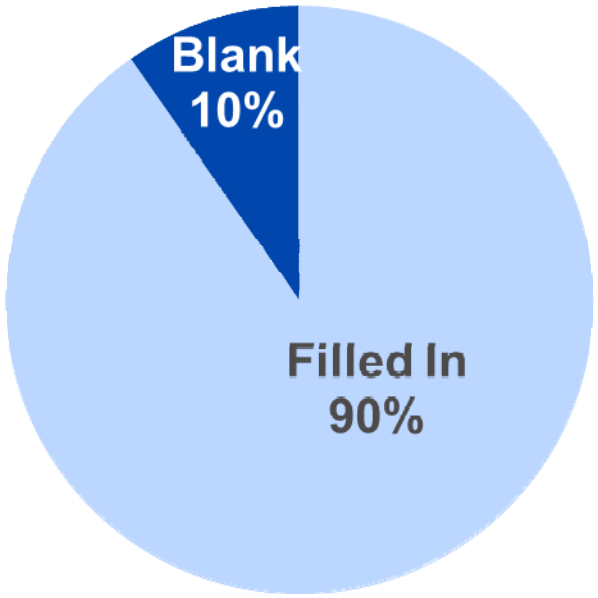
Quality Chart Audits

Feedback/ Refreshers

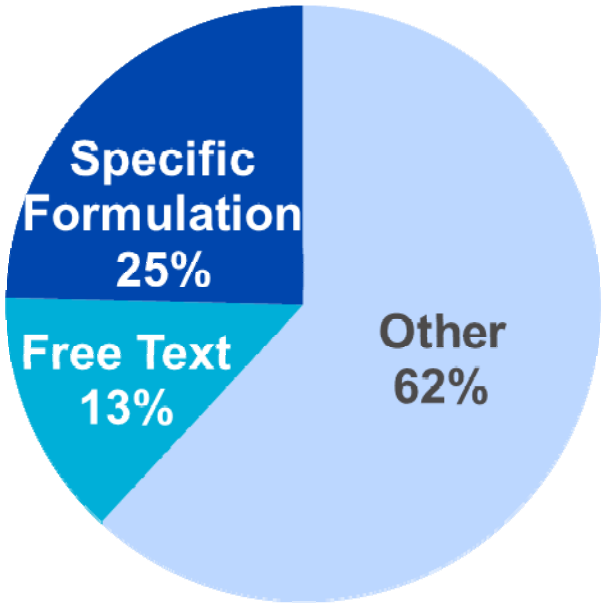
Different Types of Dosage Units Used



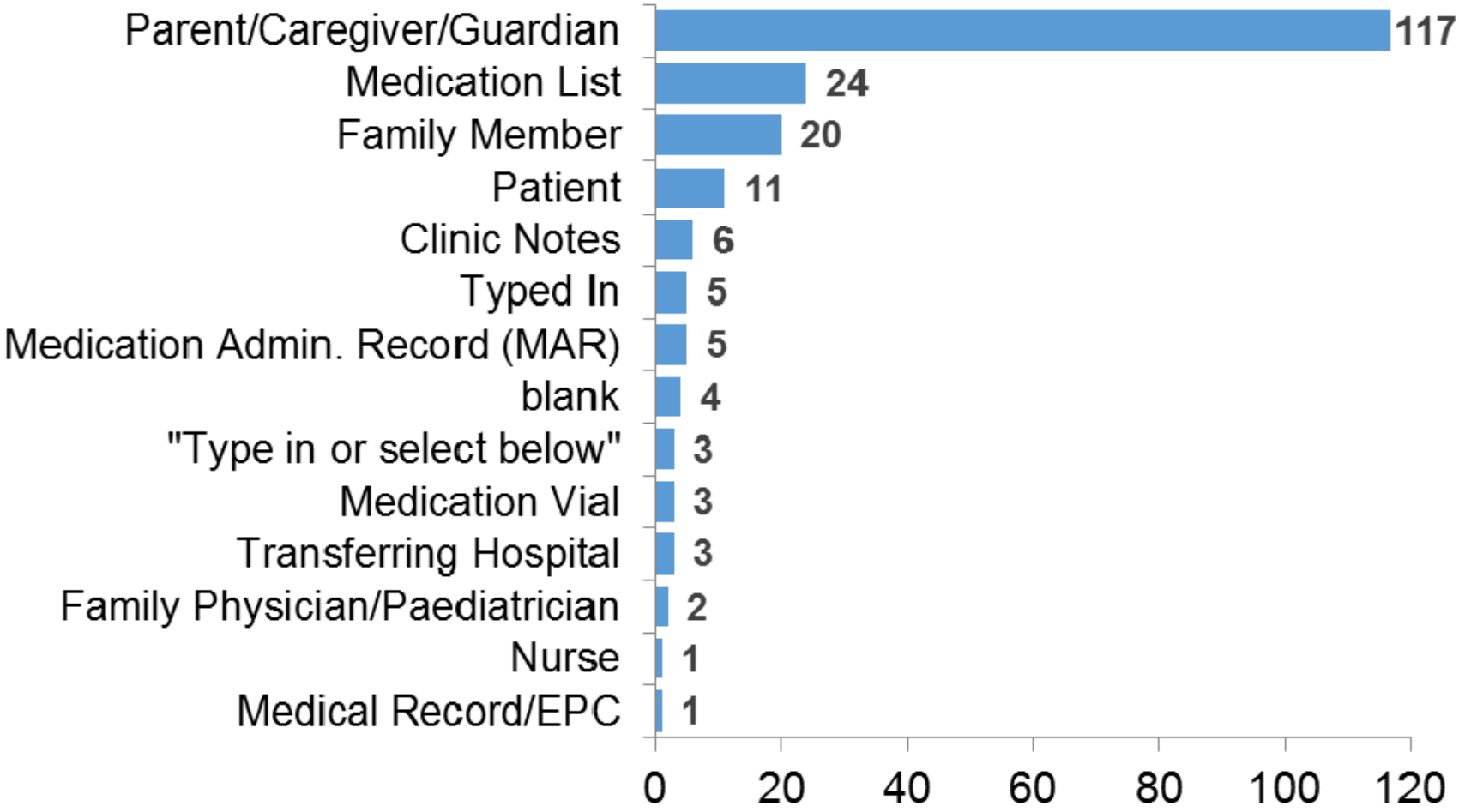
Dose



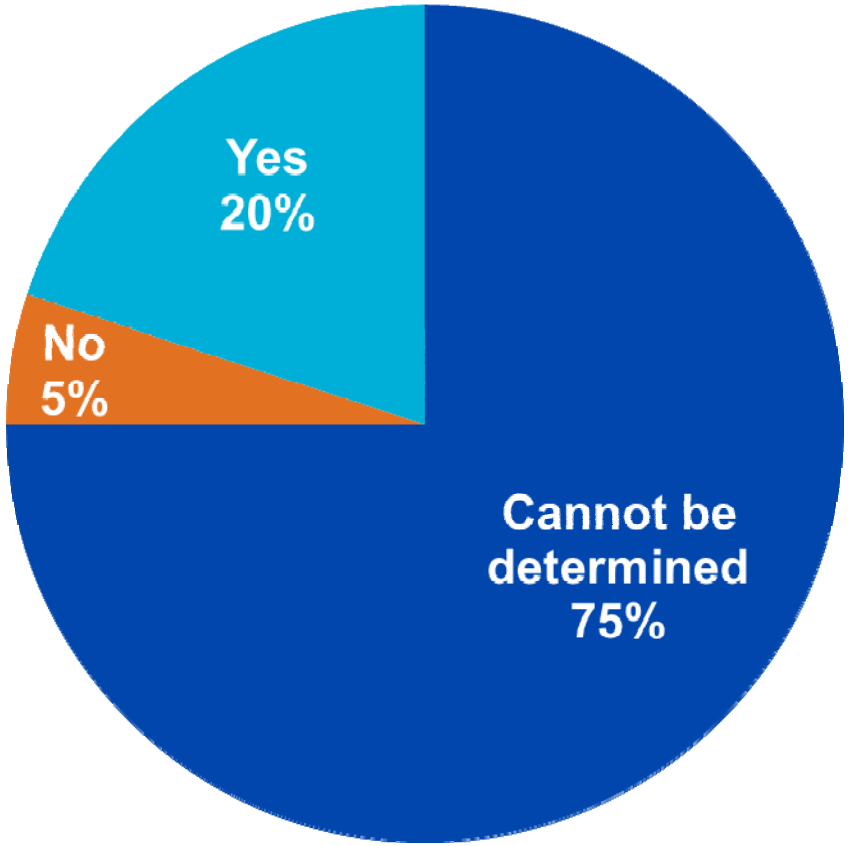
Drug Entry Type



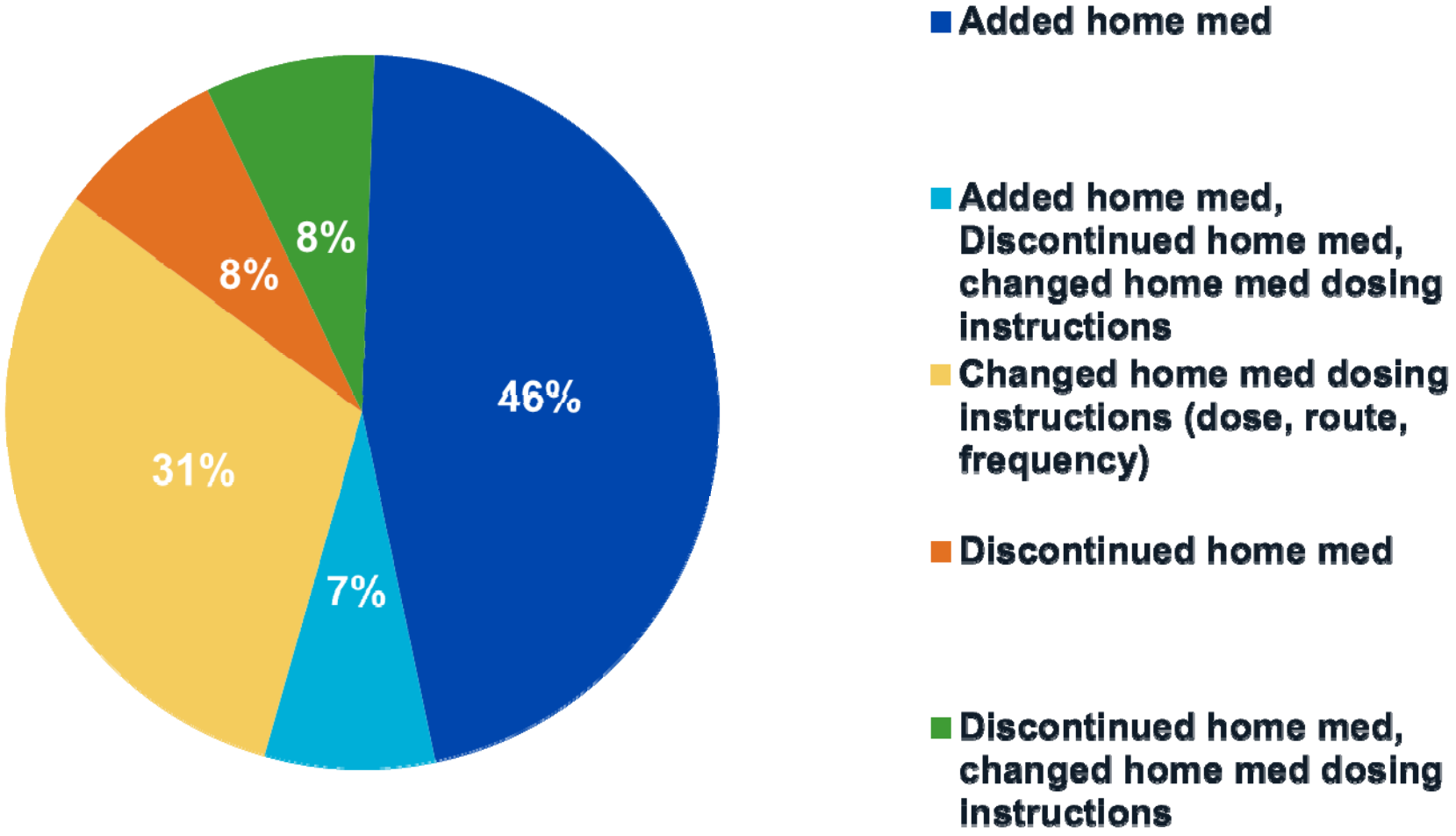
Information Source



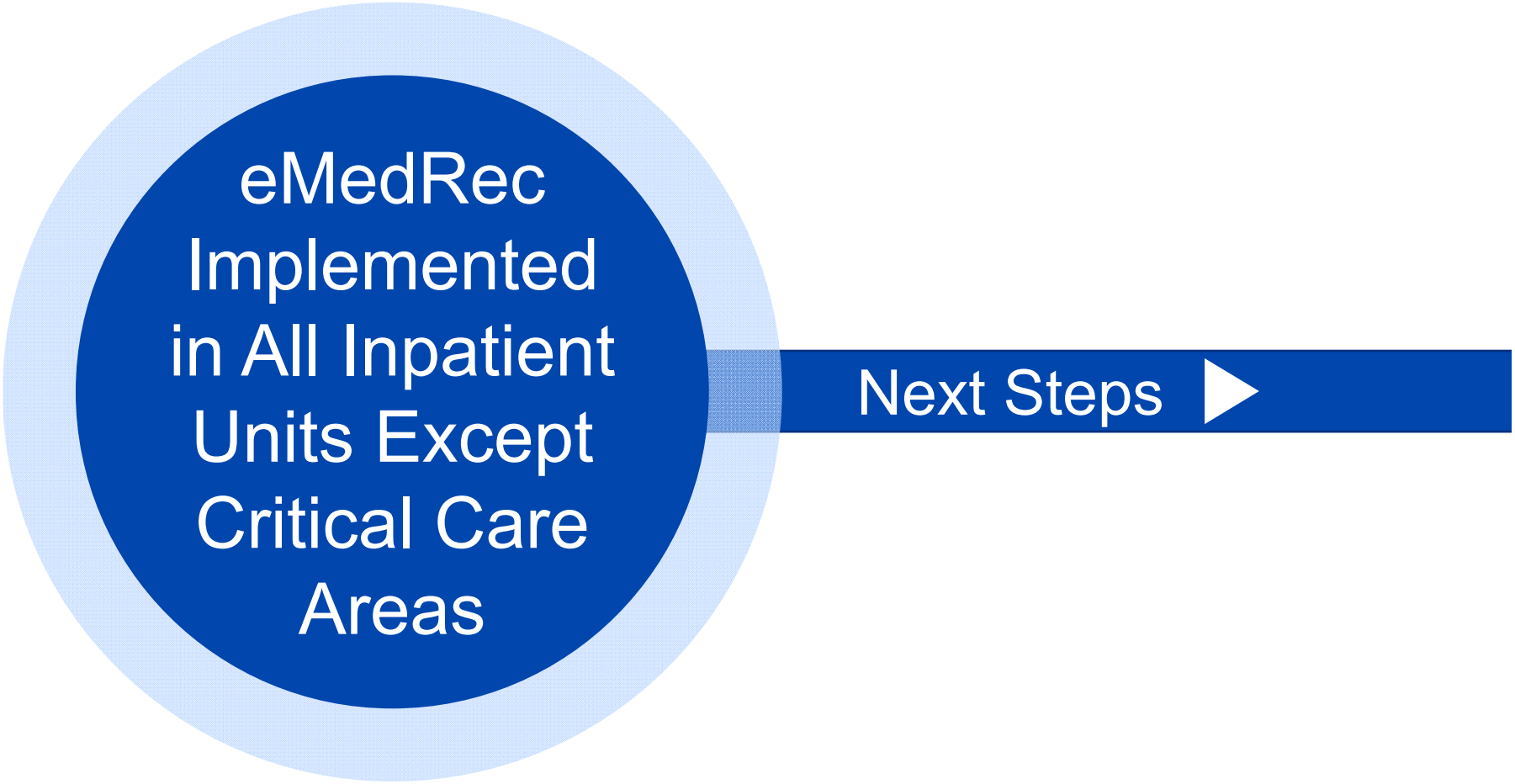
Are Undocumented Discrepancies Resolved?

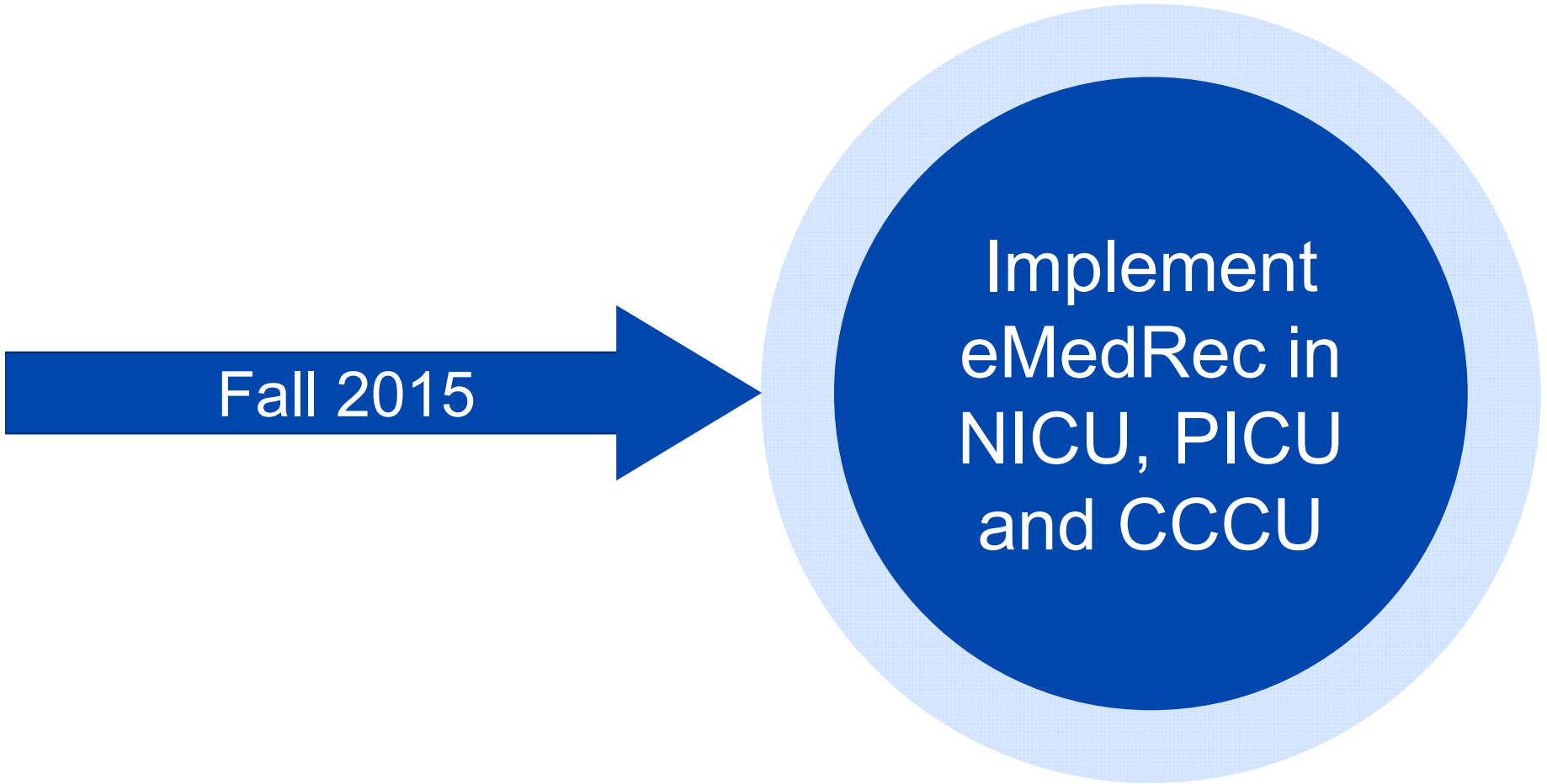


Types of Changes Made to Home Meds after Reconciliation Completion



Summary


eMedRec Implemented in All Inpatient Units Except Critical Care Areas
Next Steps


Fall 2015
Implement eMedRec in NICU, PICU and CCCU

Perfection is not a claim, it is an aim.

Thank you!

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