



Hospital Story

IV Heparin Improvement Project

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Disclosure

Nicholas Kostek has indicated that he has no relevant financial relationships to disclose in regard to the content of this presentation.



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Objective

- Discuss Kaiser's Northern California IV heparin improvement project

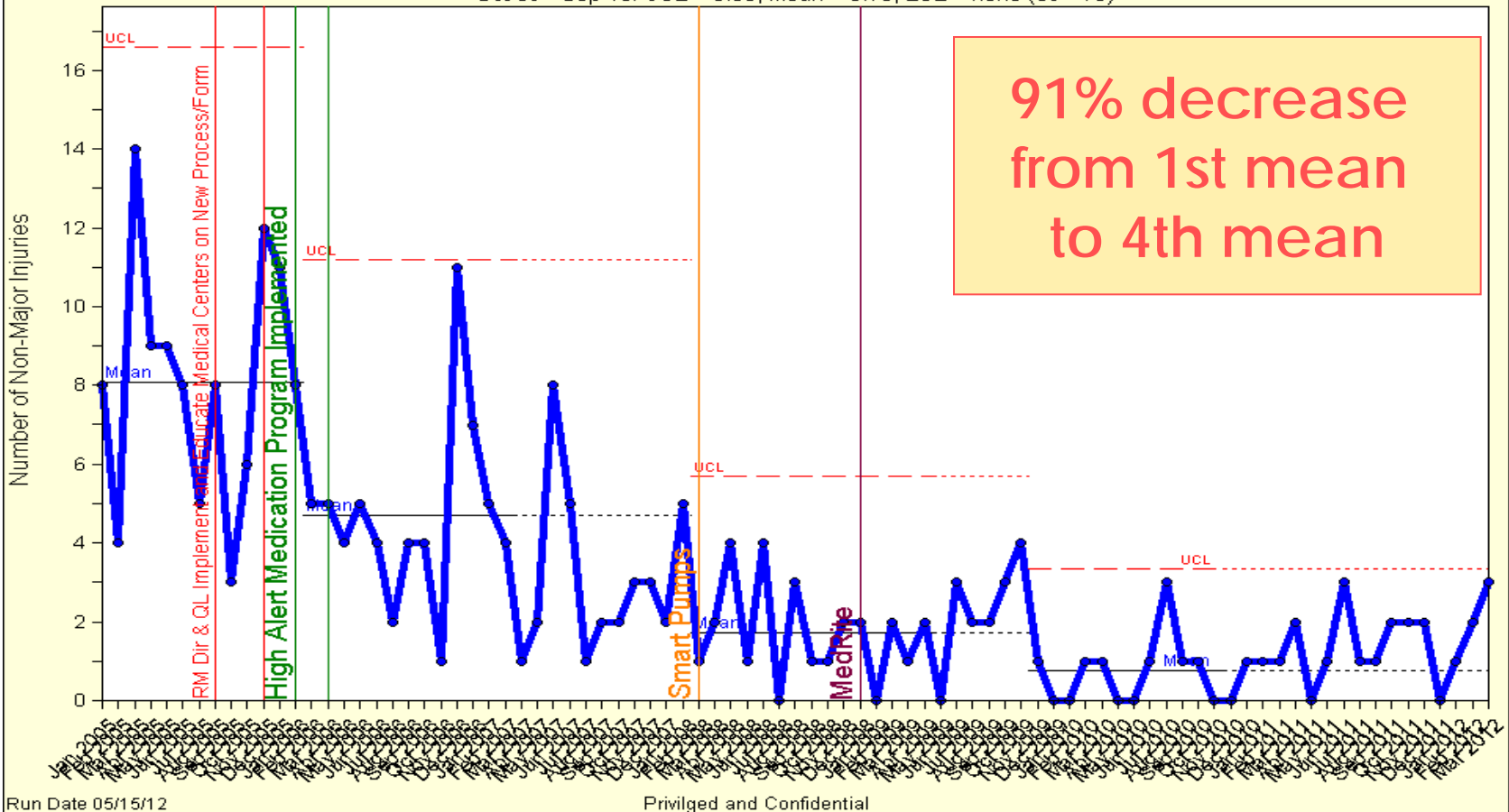


High Alert Medication Errors

High Alert Medication RRFs - Injury, Non-Major - Jan 2005 - Mar 2012

c chart

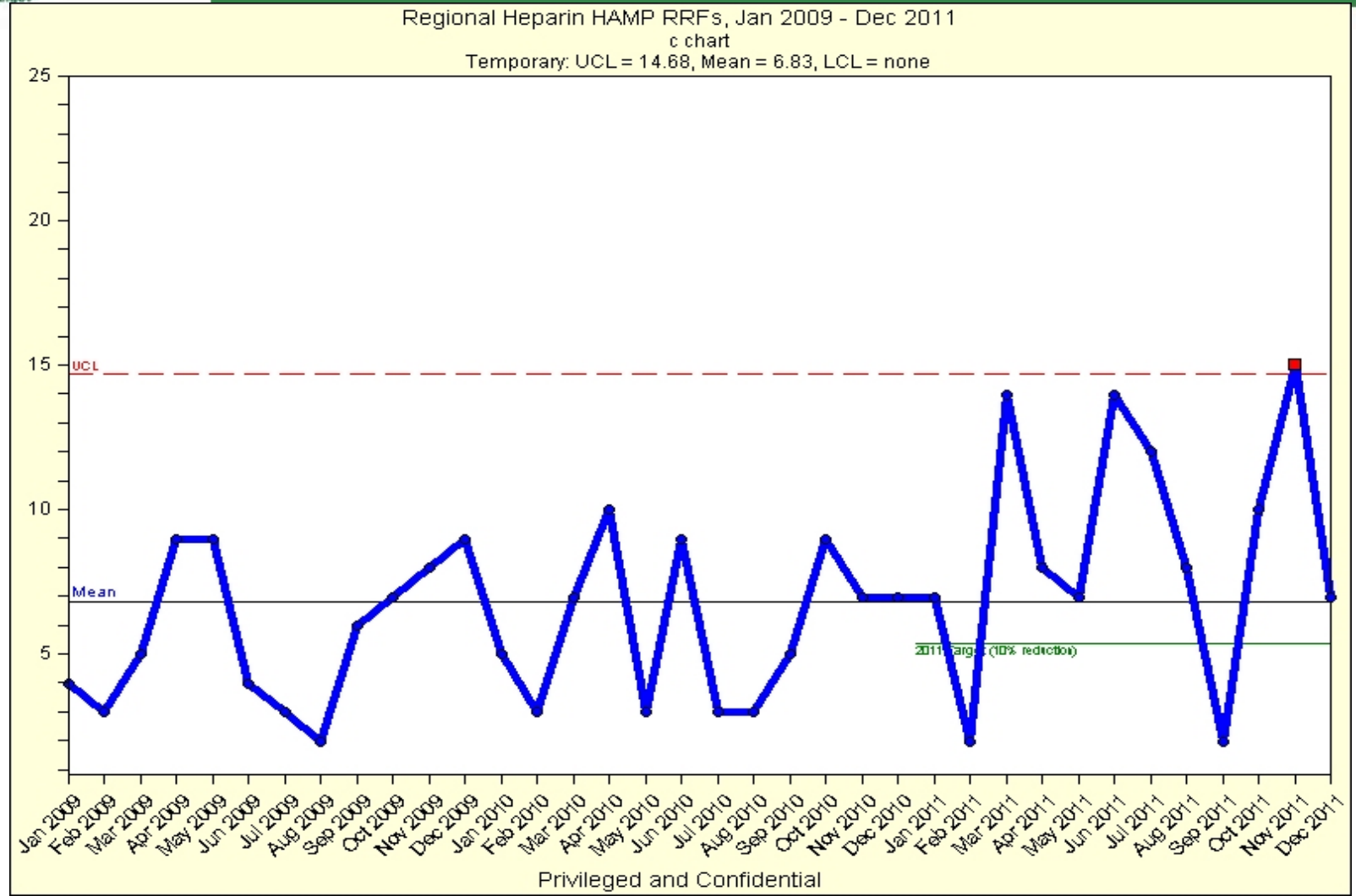
Jan 05 - Dec 05: UCL = 16.60, Mean = 8.08, LCL = none (1 - 13)
 Jan 06 - Jan 07: UCL = 11.19, Mean = 4.69, LCL = none (14 - 26)
 Jan 08 - Mar 09: UCL = 5.68, Mean = 1.73, LCL = none (38 - 52)
 Oct 09 - Sep 10: UCL = 3.35, Mean = 0.75, LCL = none (59 - 70)



91% decrease
 from 1st mean
 to 4th mean



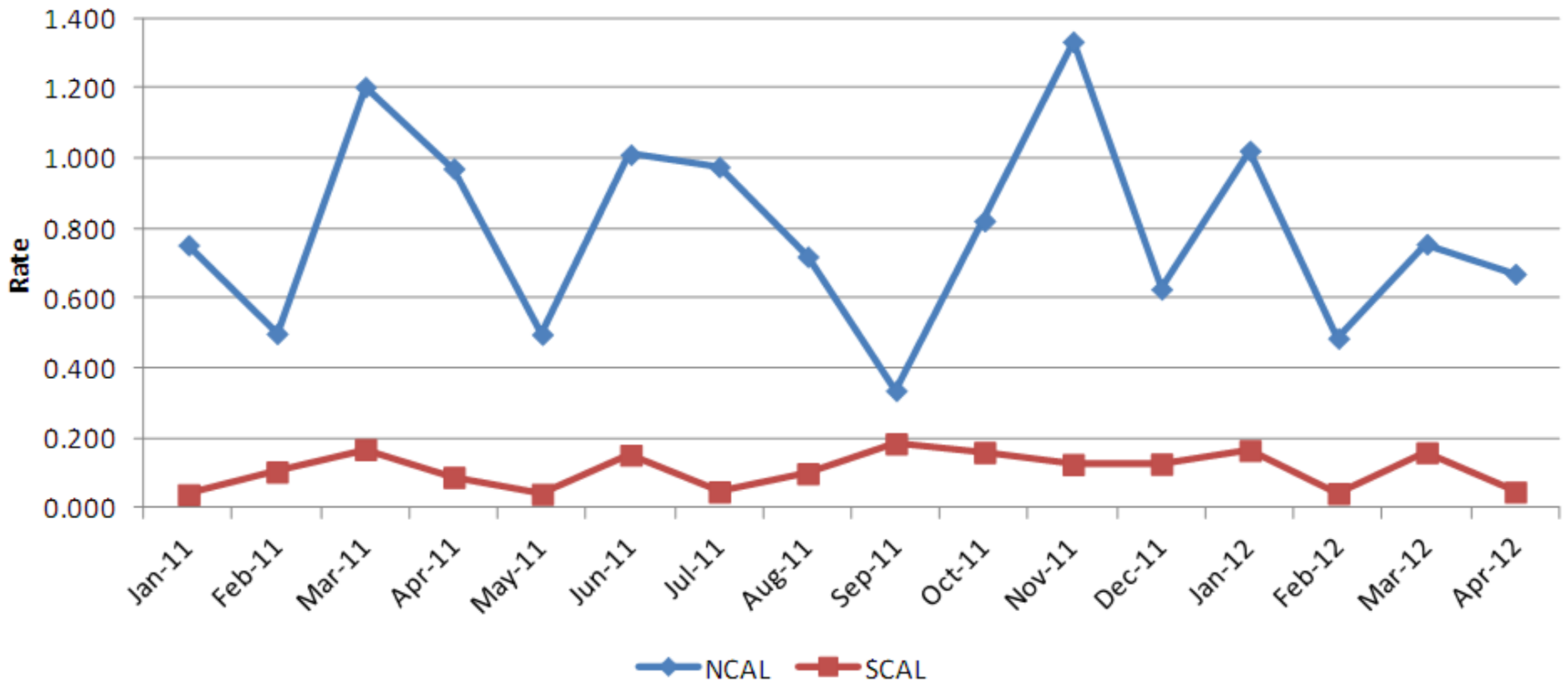
Heparin Infusion Errors





Heparin Infusion Error Rate

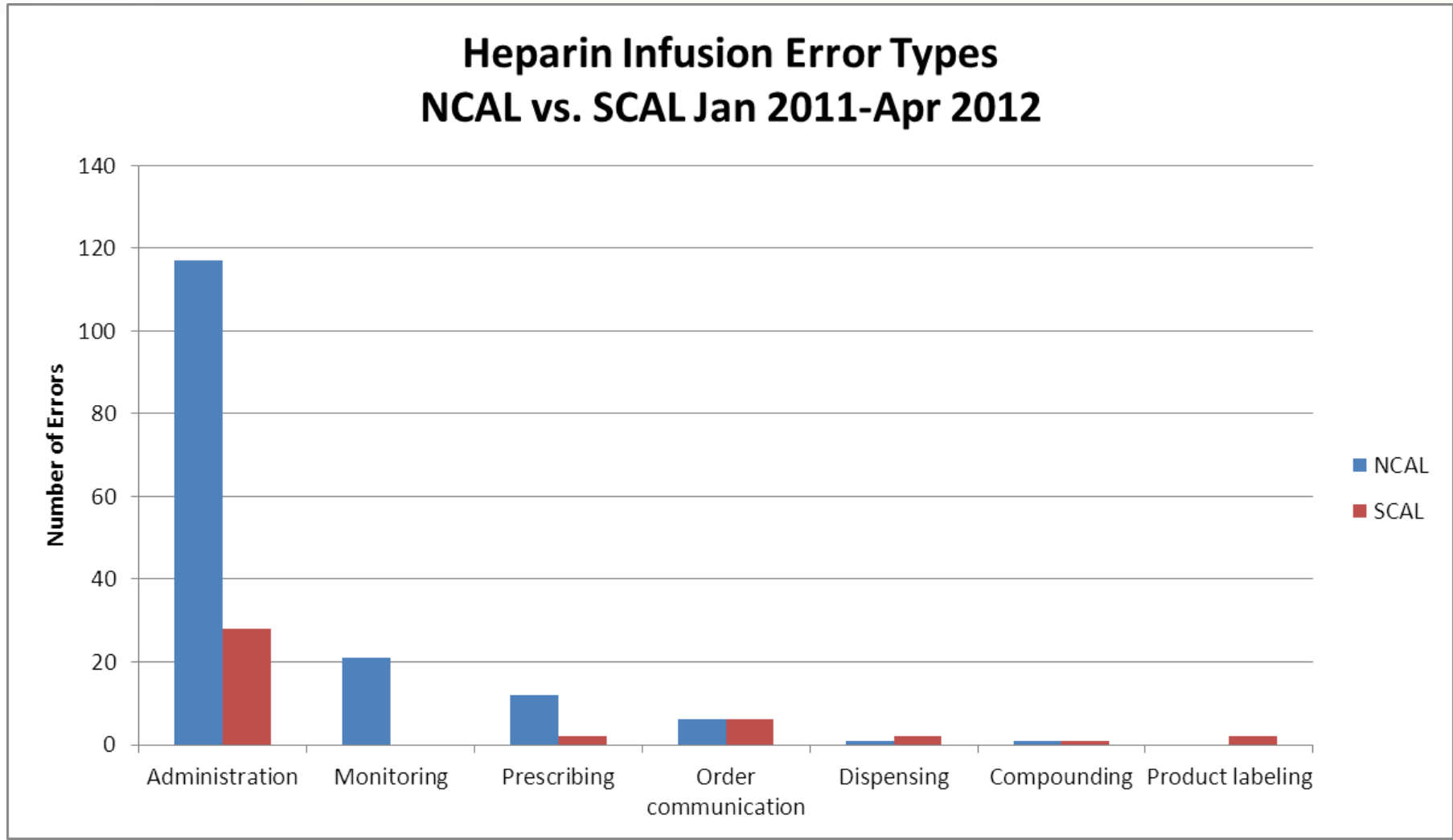
Heparin Infusion-Related Medication Error Rate
of errors/# of heparin infusions administered
Jan 2011 - Apr 2012





Heparin Error Types

Heparin Infusion Error Types NCAL vs. SCAL Jan 2011-Apr 2012





Process Improvement

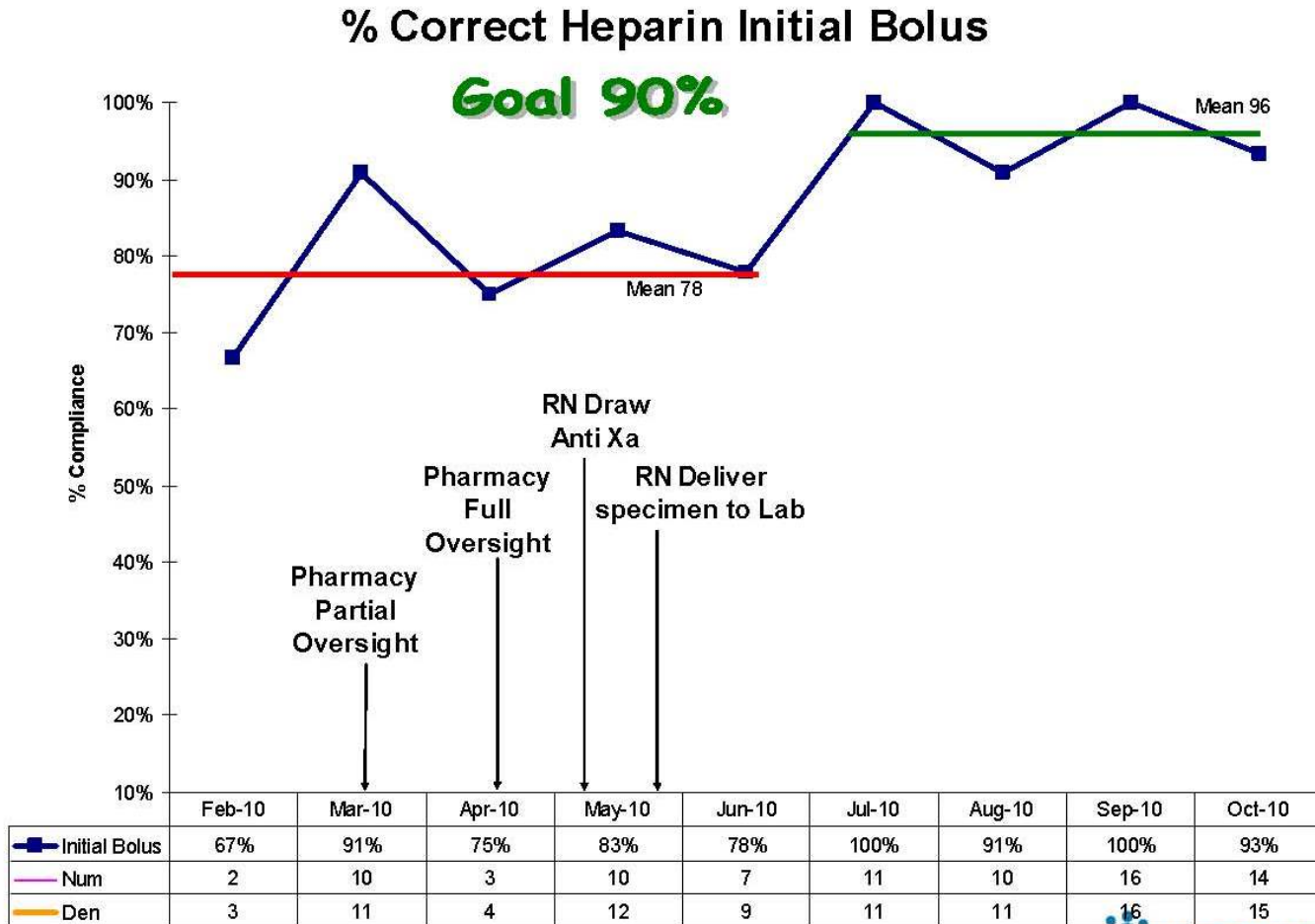
- Phase 1 - Initial pharmacy involvement
 - Pharmacist available for consultation with nursing
- Phase 2 - Increased collaboration and communication
 - RN calls pharmacy with every anti-Xa level to discuss dosage adjustments using algorithm
- Phase 3 – Proactive Pharmacy Consultation
 - Pharmacy monitors anti-Xa levels and calls RN to discuss dosage and rate changes



Measures

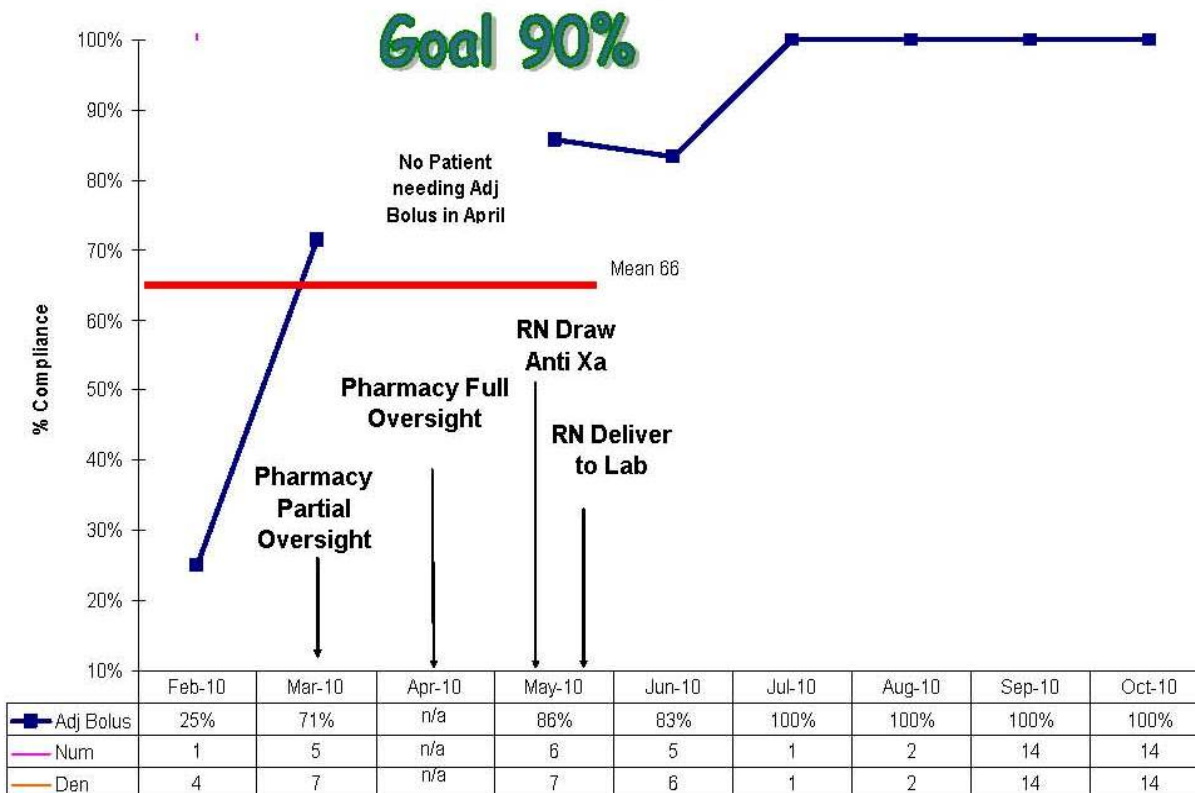
- IV Heparin Dosing Adjustment
 - % correct initial boluses administered
 - % correct adjustment boluses based upon anti-Xa result
 - % correct infusion adjustments based upon anti-Xa result

Initial Heparin Bolus



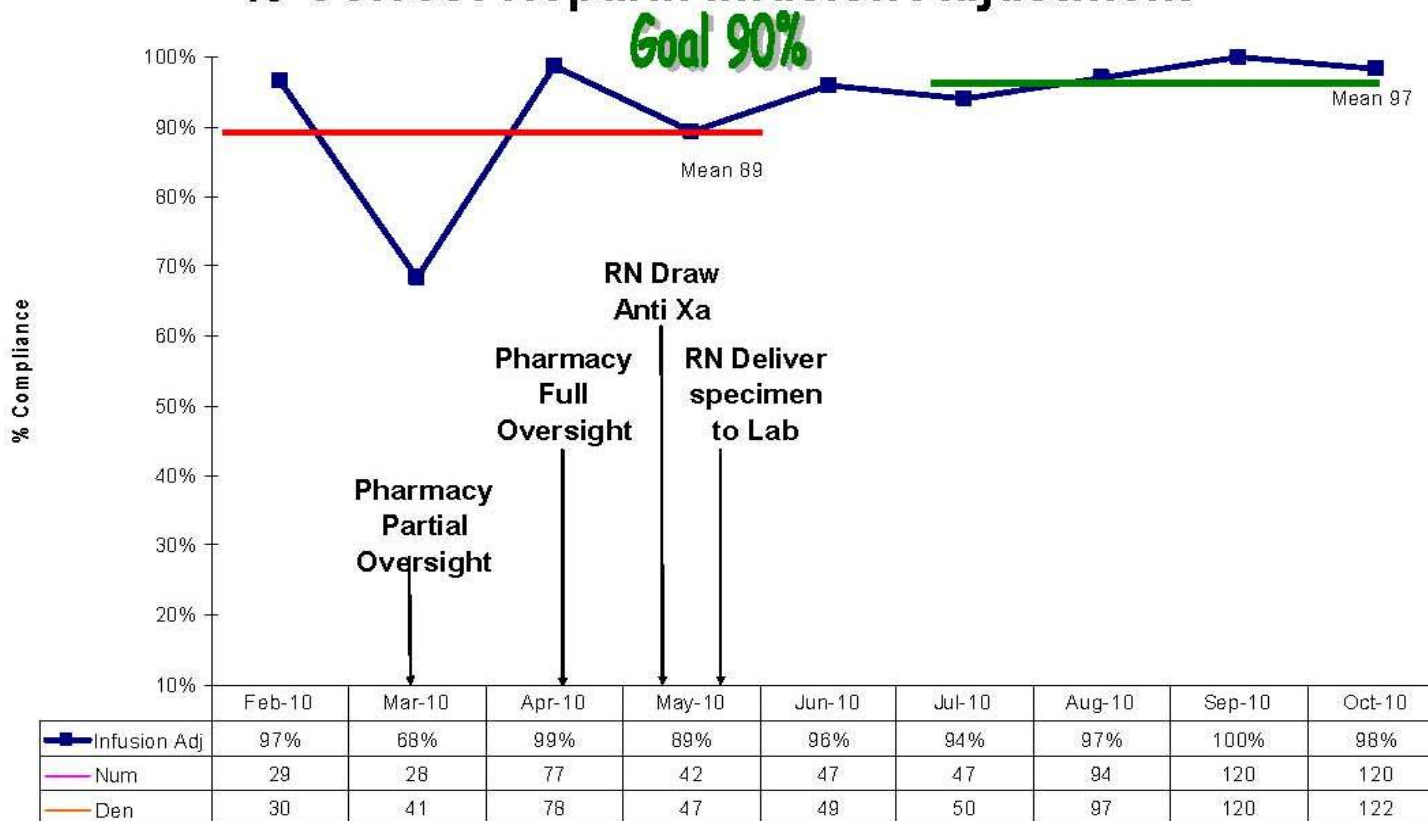
Heparin Adjustment Bolus

% Correct Heparin Adjustment Bolus



Heparin Infusion Adjustment

% Correct Heparin Infusion Adjustment



Barriers

- The silo effect
- Resource allocation
- Competencies and training
- Workflow changes



Advice

- Identify and prioritize high risk threats
- Think outside the box
- Collaboration is key
- Data drives performance improvement





Next Steps

- June 2012
 - “Heparin per Pharmacy” protocol and workflow
 - Review new Epic tools with staff
- July 2012
 - Education for ancillary departments (nursing, lab) and physicians
- September 2012
 - “Heparin per Pharmacy” placeholder in all IV heparin order sets



Oakland-Richmond IV Heparin Project Team

- **Team Members:**

- Patrick Fleming RN
- Lois Wong RN
- Joe Wells Lab
- Minh Lam Pharmacy
- Philip Kim HBS MD

- **Co-Leads:**

- Chaethana Vijay HBS MD
- Restie Crisologo Pharmacy Director

- **Improvement Advisors:**

- Vangie Ford & Cheryl Spooner

- **Sponsors:**

- Ricardo Escobar AQL East Bay
- Dan Dong Pharmacy Area Director

- **Oversight:**

- Medication Interdisciplinary & Safety Committee

- **Medical Center Mentor:**

- Julie Rowell

Questions and Discussion?

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