Improving Post-Admission Medication Reconciliation among Inpatient Providers through Cognitive Feedback: the “red dot”.

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UNIFIED QUALITY IMPROVEMENT SYMPOSIUM

MARCH 31 2017

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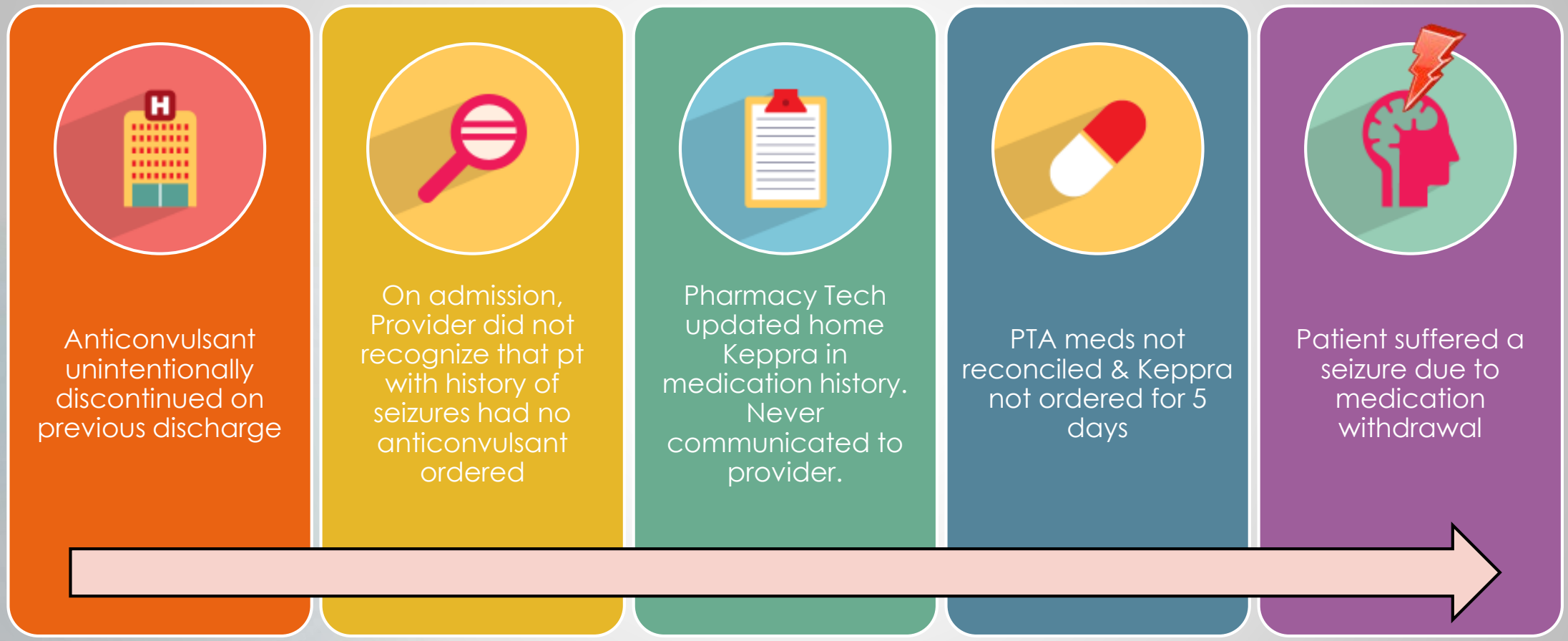
Background

- Serious preventable medication errors occur in 3.8 million inpatient admissions (MTC, 2008) and cost approximately $16.4 billion annually (NEHI, 2008).
- An estimated 7,000 deaths in the U.S. each year are due to preventable medication errors. (IOM, To Err is Human, 1999)
- 22% of preventable medication reconciliation errors occur during admissions, 66% during transitions in care, and 12% during discharge. (J Qual Patient Saf, 2006)
- Hospitalized patients are more likely to experience an unintentional discontinuation of medications (JAMA, 2011).
- Computerized medication reconciliation tools are associated with a decrease in unintentional medication discrepancies upon admission (Arch Int Med, 2009).

Our Patient Safety Story



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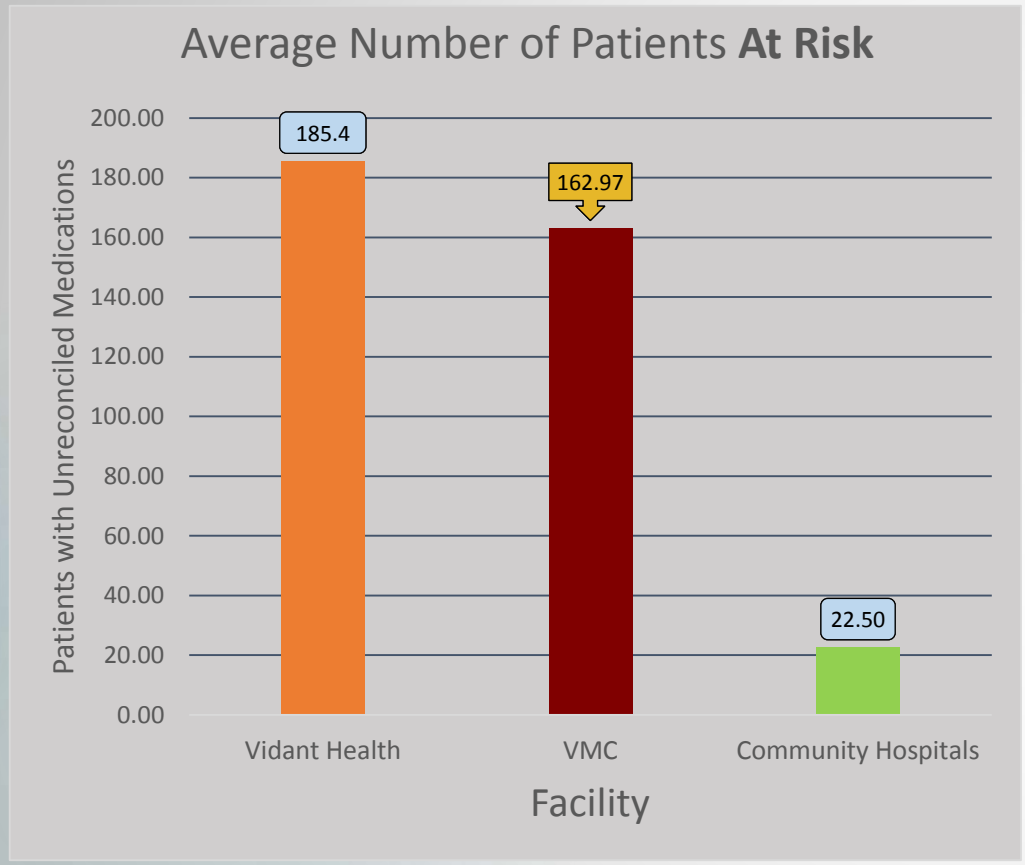
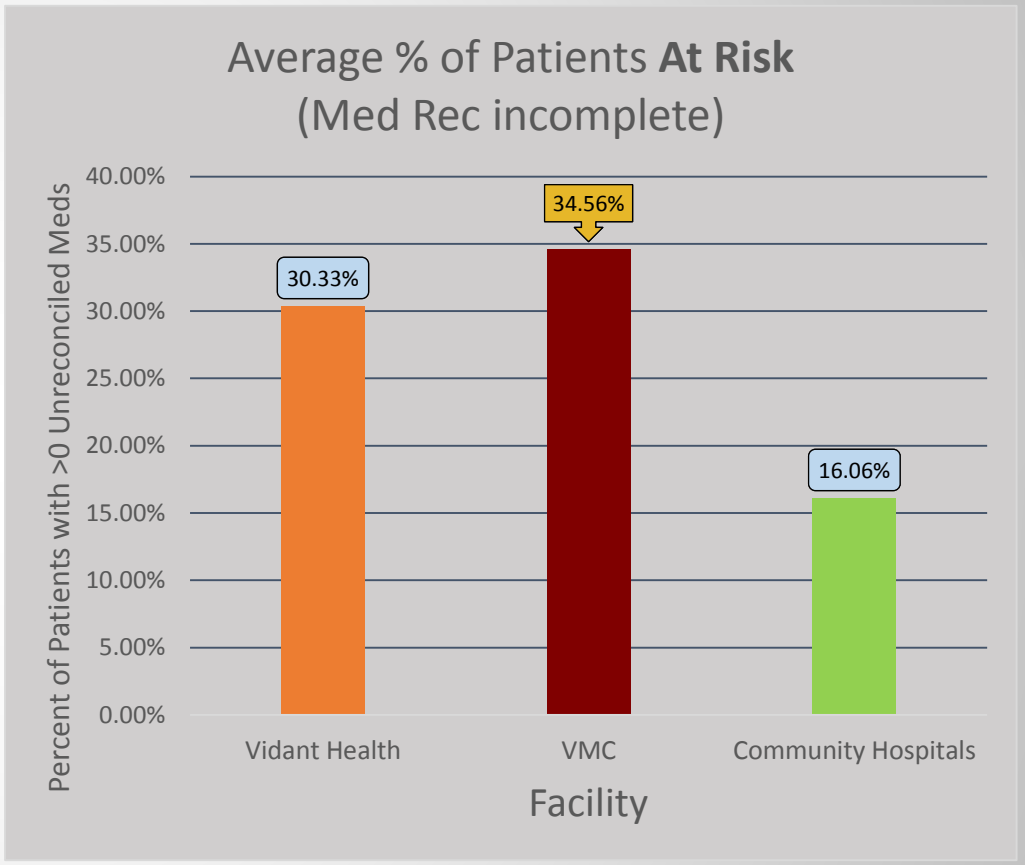
Problem Magnitude





Retrospective Aggregate Data 05/2016 – 07/2016

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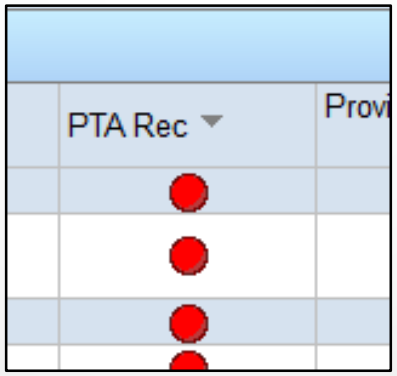
Aim Statement

- To reduce the number of patients **at risk** of medication-related adverse events or near misses by > 50% by improving post-admission medication reconciliation.
- **Measurement of change:** Census of patients **at risk** across Vidant Health.
- **Interventions**:

Provider Education



Cognitive Feedback - "the Red Dot"

Periodic Feedback

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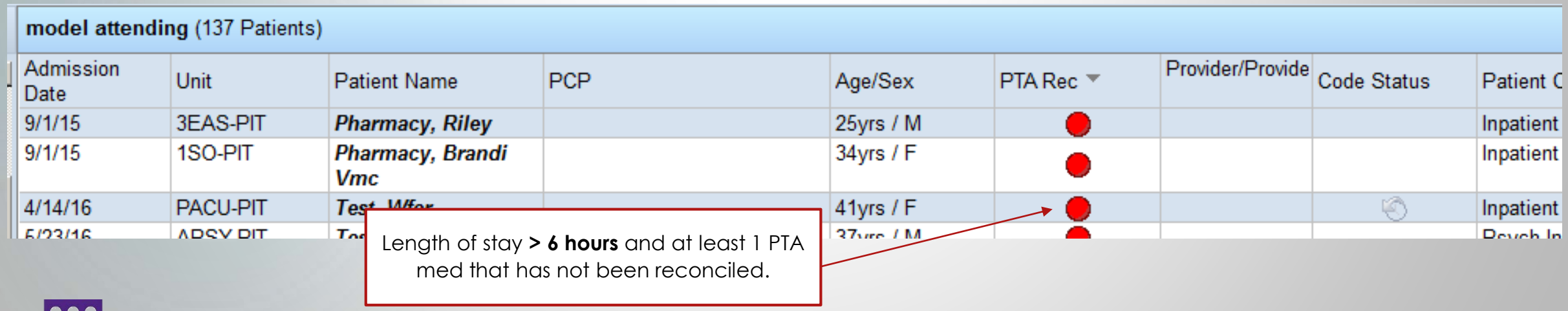
Cognitive Feedback

- **"Red Dot"** – Real time feedback directly on MyList.
- **Built-in functionality** – Double click the red dot to go straight to Med Rec order entry activity
- **Cognitive Aid** – Replaces the need to "remember to follow up".
- **Transparency** – Team Senior residents (and Attendings) can keep track of which patients still have outstanding med rec.



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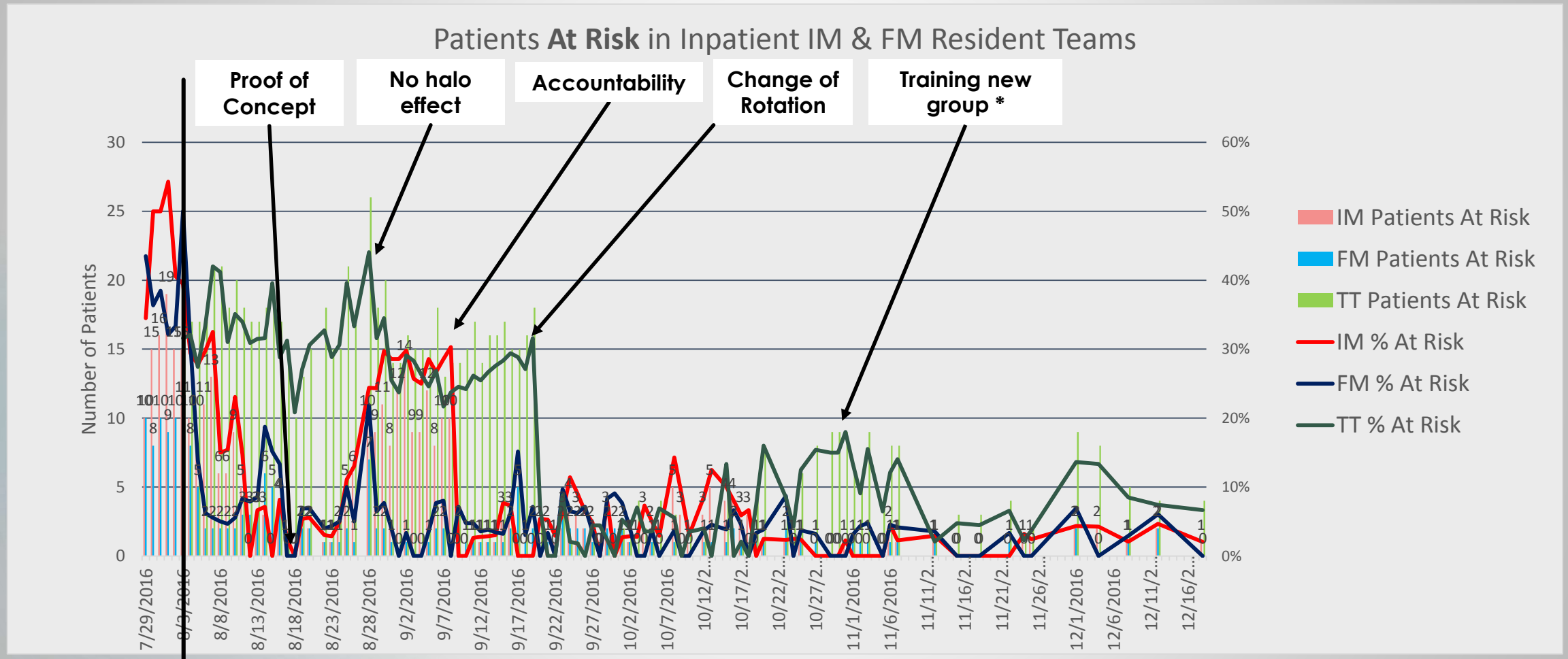
Outcomes



* = Multiple factors including change of rotation and off service residents not part of the initial education group.

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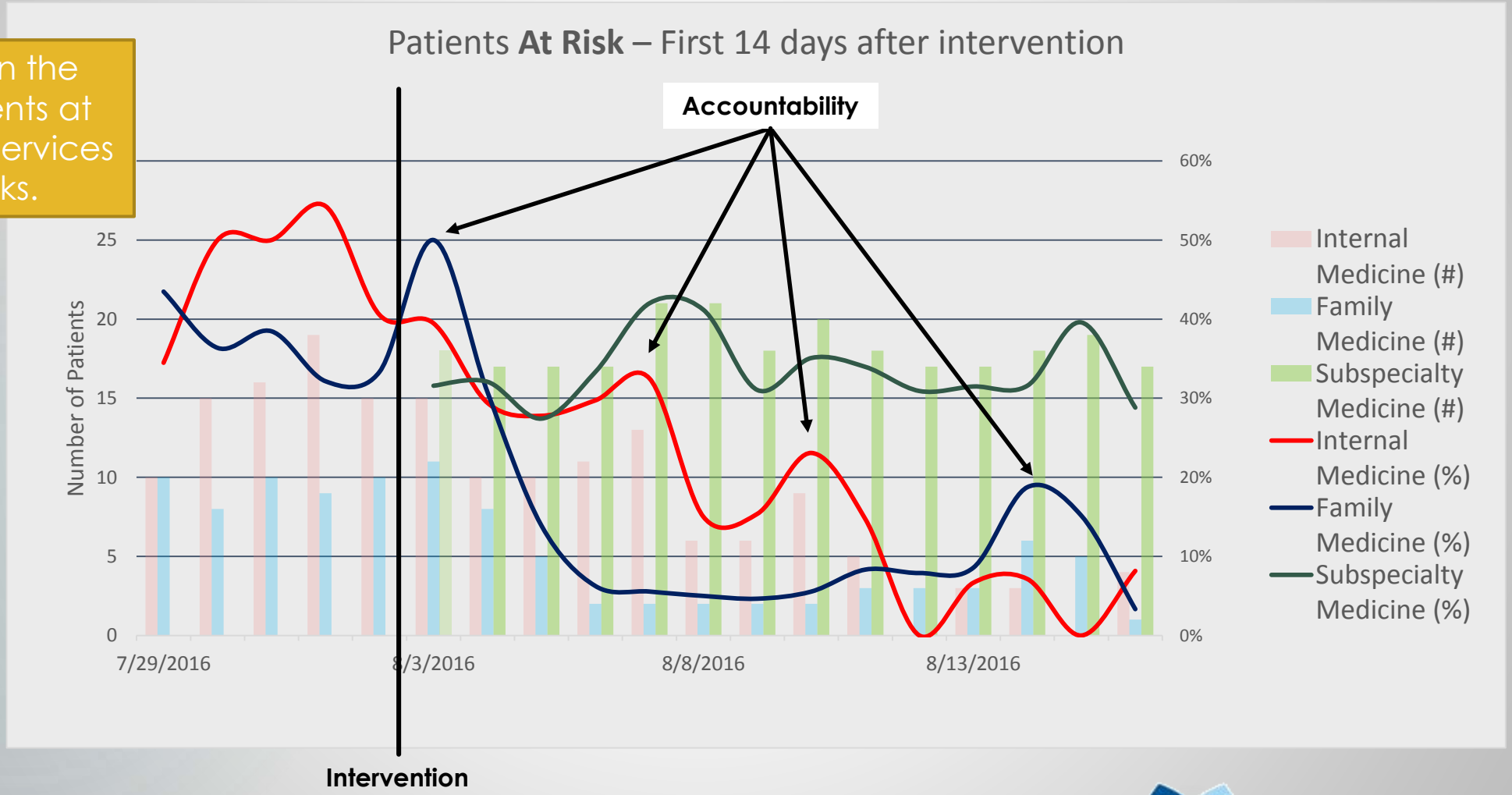
Outcomes

Over 70% drop in the number of patients at risk on IM & FM services in the first 2 weeks.



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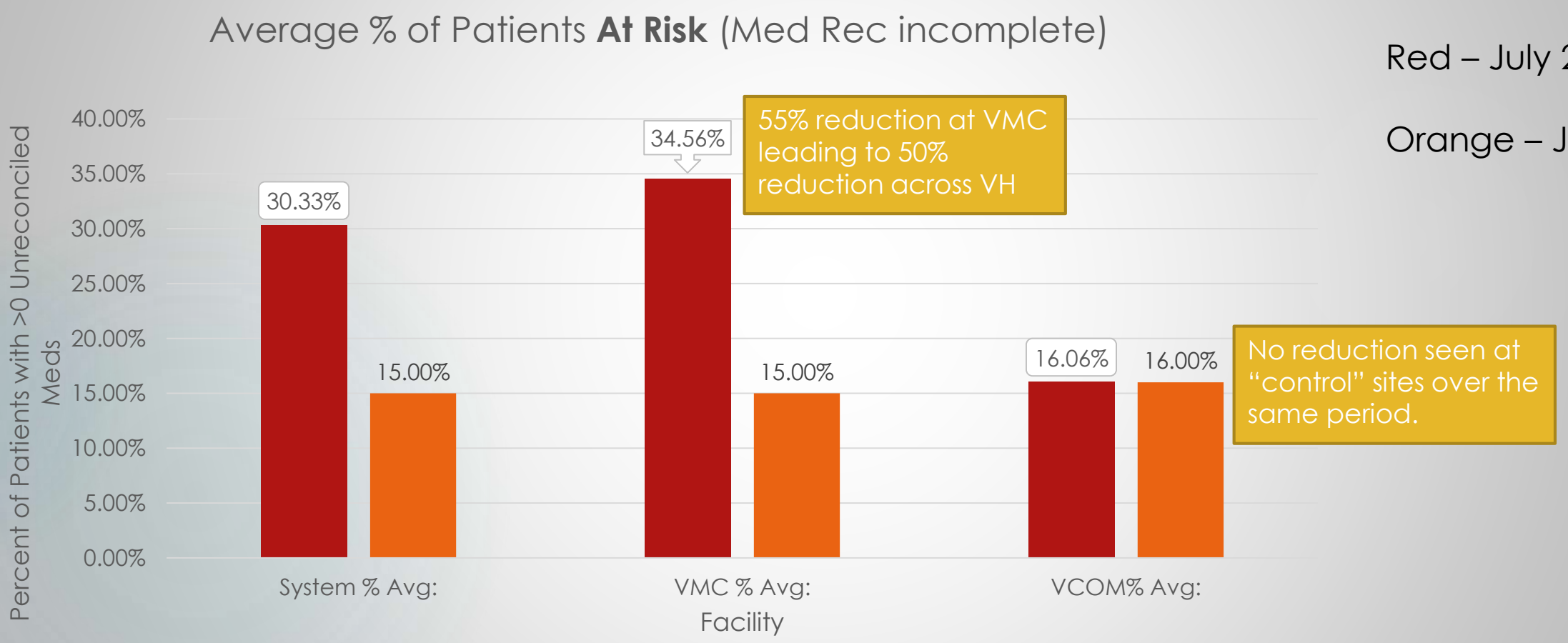
Overall Results



Red – July 2016

Orange – Jan 2017

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Accountability = Sustainability

- The Right Way to Hold People Accountable (Peter Bregman, Harvard Business Review, 2016)
  1. **Clear expectations** – provider education
  2. **Clear capability** – new cognitive aid in EHR list
  3. **Clear measurement** – absence of "red dot" on patient list
  4. **Clear feedback** - attending could monitor and provide feedback
  5. **Clear consequences** - "it isn't about punishment"; should the consequences be viewed from the eyes of the patient?

- Personal accountability = self-reflection, non-punitive, better individual actions leads to better team performance

Lessons Learned

- Medication Reconciliation is complex but integral to high quality, safe patient care.
- Provider education with the appropriate EHR tools is an **effective intervention** for improving clinical behavior. (Providers want to do the right thing)
- **Proof of concept outside residency training** – Introduced to ECHI Hospitalist Service, with excellent results (>75% risk reduction within first week). As of Mar 2017, VMC has > 70% fewer patients at risk.
- **Accountability = Sustainability**. Will this model work for other initiatives? Can we use the new definition of accountability and apply it to all clinical decision support?

Future Potential

- Risk prioritization for admitted patients
- Ambulatory and ED medication reconciliation
- Discharge-Readmit medication reconciliation workflow (ongoing)
- Assessment in regional hospitals by Pharm Tech as proxy for quality medication history (test hypothesis)


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