



Medicines Management

*Prepared and Presented
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*Day 1
17 August 2010
1415-1600*

Patientsikkert Sygehus Medicines Management Driver Diagram and Change Package

Outcomes

Provide safe and effective medicines management (Reduce adverse drug events: r/t high risk processes and medicines e.g. medicines at the interface ,anticoagulation)

Primary Drivers

Reliable Medicines Management Processes

Coordination of care

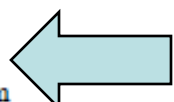
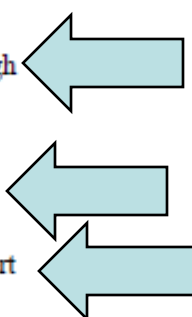
Patient and family involvement

Secondary Drivers

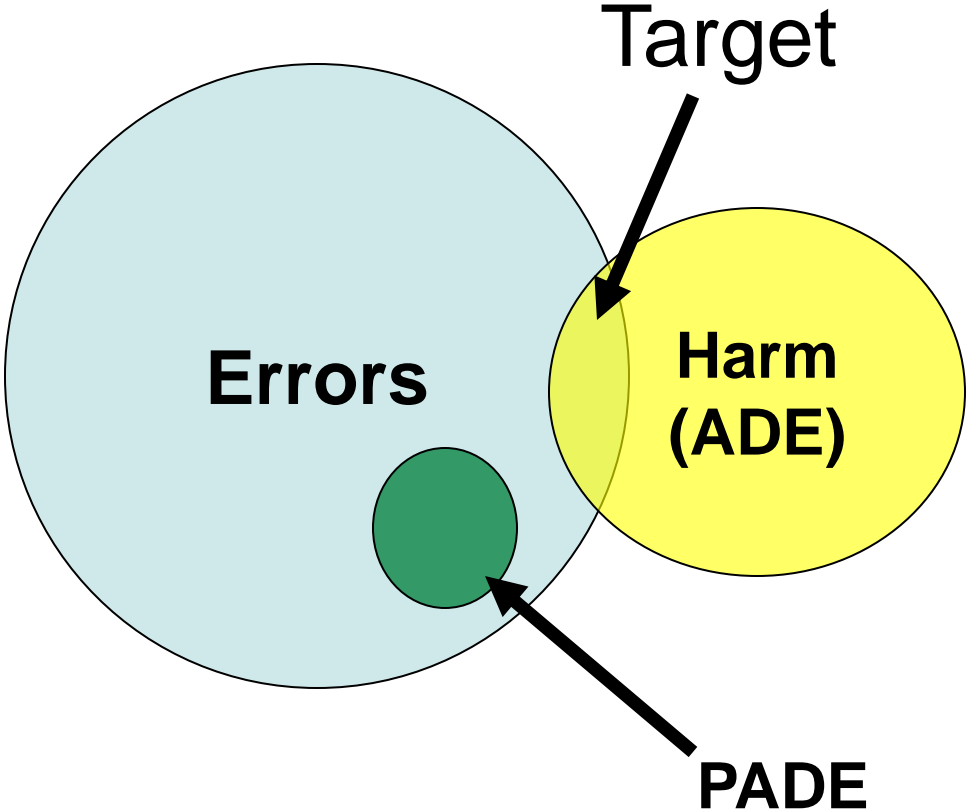
- Use protocols and algorithms for high risk meds
- Routine and reliable patient and laboratory monitoring
- Identify high risk areas using FMEA
- Pharmacy consultation service
- Identify patients at risk with high-alert medications
- Standardize recovery protocols (e.g. opiate over-sedation)

- Medication reconciliation
- "One stop" delivery system
- Reliable in-hospital handoffs
- Communication with primary care
- High risk medicines management Services

- Patient and family education
- Self management protocols



Medication Errors and Harm



Adapted from David Bates, MD

Global Trigger Tool

- 40 harm events per 100 admissions
- 50% medication related
- Common harm:
 - Bleeding
 - Hypotension
 - Hypoglycemia
 - Delirium,
 - Lethargy, and
 - Bradycardia

5 Million Lives Focus

- Anticoagulants
 - Heparin and Warfarin
- Narcotics/Opiates
 - Patient Controlled Analgesia
- Insulin
- Sedatives
 - Midazolam



Medication Reconciliation Lessons Learned From “Operation Life”

Purpose of Medication Reconciliation

- Ensure that we know what the patient is taking
- Base treatment decisions on that information
- Communicate changes to others who need to know

Admission Components

- Collecting the best possible list of home medicines on admission
- Verifying the list: correcting discrepancies
- Comparing that list with admission medicines orders
- Ensuring that all are aware of changes: passing the information to others

Discharge Components

- Compare the discharge medicines with:
 - The inpatient medicines
 - The home list
- Advise on which medicines to continue or discontinue
- Advise on dose changes
- Advise on new medicines
- Share with patient and next provider in care



Failure Mode and Effects Analysis

Definition

- *Failure modes and effects analysis (FMEA)* analyses potential failures of systems, components or functions and their effects. Each component is considered in turn, its possible modes of failure defined and the potential effects delineated.

What is a Failure Mode?

- **A Failure Mode is:**
 - The way in which the component, product, or process could fail to perform its intended function
 - Failure modes may be the result of upstream operations or may cause downstream operations to fail
 - Things that could go wrong

In Order To Do An FMEA Three Questions Must Be Answered

1. How likely is the equipment or process to fail?
2. What is the significance if it fails?
3. And how likely is it that someone will be able to detect this failure?

Rating Scales

- **Severity**
1 = not severe, 10 = very severe
- **Occurrence**
1 = not likely, 10 = very likely
- **Detection**
1 = likely to detect, 10 = not likely to detect

Calculate RPN

- Decide where to focus effort
- Determine recommended actions for those steps with high RPN

Guidelines

- Process should be guided by well defined objective
- Limited and bounded scope
- Visible support from top leaders for the process and commitment to use the team findings to improve safety

Wetterneck et al, FMEA Team Performance in Health Care: A Qualitative Analysis of Team Member Perception, J.Patient Safety, Vol 5, Number 2, June 2009

Guidelines

- Skilled and effective facilitator of FMEA process
- Multidisciplinary teams and include process owners and frontline staff
- Emphasize, support and monitor attendance
- Assess baseline knowledge of FMEA process

Guidelines

- Inform team members of expected time commitment based on scope
- Encourage and support communication among team members
- Monitor progress of the FMEA team towards goal
- Evaluate outcomes of team and use lessons learned for future teams and improvement

How safe is our medication system?

Structure + Process → Outcome

- Structures in place
 - Method to review adverse outcomes
 - Competency assessments
- Process
 - Are the processes functioning as designed?
- Outcomes
 - Are we harming patients?

Principles of a Safe System

- Prevent errors and harm
 - Use standardization and simplification
 - Examples: Protocols and checklists
- Detection
 - Improving methods to detect harm and errors
 - Improve monitoring
- Mitigation
 - Prevent or ameliorate the impact
 - Have rescue protocols and antidotes available
- Engage patients and families

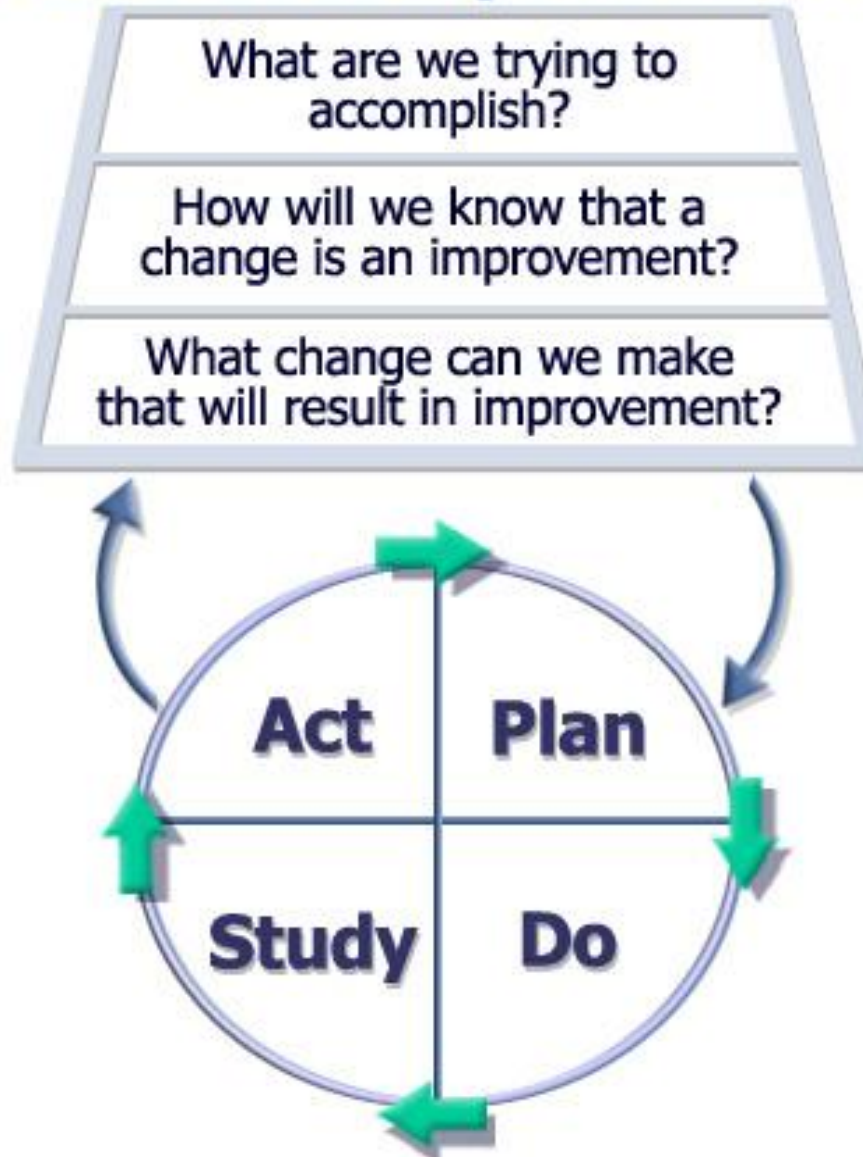
Change Concepts

- A change concept is a general notion or approach to change that has been found to be useful in developing specific ideas for changes that lead to improvement.
- Creatively combining these change concepts with knowledge about specific subjects can help generate ideas for tests of change.

Some Change Concepts for Improving Health Care Service

- Standardize
- Simplify
- Do tasks in parallel
- Use multiple processes
- Minimize handoffs
- Synchronize to a common point in time
- Use pull systems
- Move steps closer together
- Mass customize services to individual patient
- Give access to information to patients
- Listen to patients
- Reach agreement on expectations
- Develop contingency plans

Model for Improvement



The Improvement Guide, API, 1996

Key Language for Stating the Objective of the Test

Probably Change

Test

Redesign

Eliminate

Reduce

Deliver

Relocate

Probably No Change

Recruit

Distribute

Continue

Examine

Discuss

Teach

Technology

- Computers prevent many medication errors
- Must be fully implemented
- Must include “*Clinical Decision Support System*”
- Almost 50% of the order entry systems in the United States failed the AHRQ/Leapfrog “*Flight Simulator*”

Integrating Model for Improvement and Technology

- “If you cannot do it with paper, you cannot do it with vapor”
- Must test design before invest in technology upgrades
- Technology can help spread a poor system more quickly
- Technology can provide for higher reliability if well designed and implemented



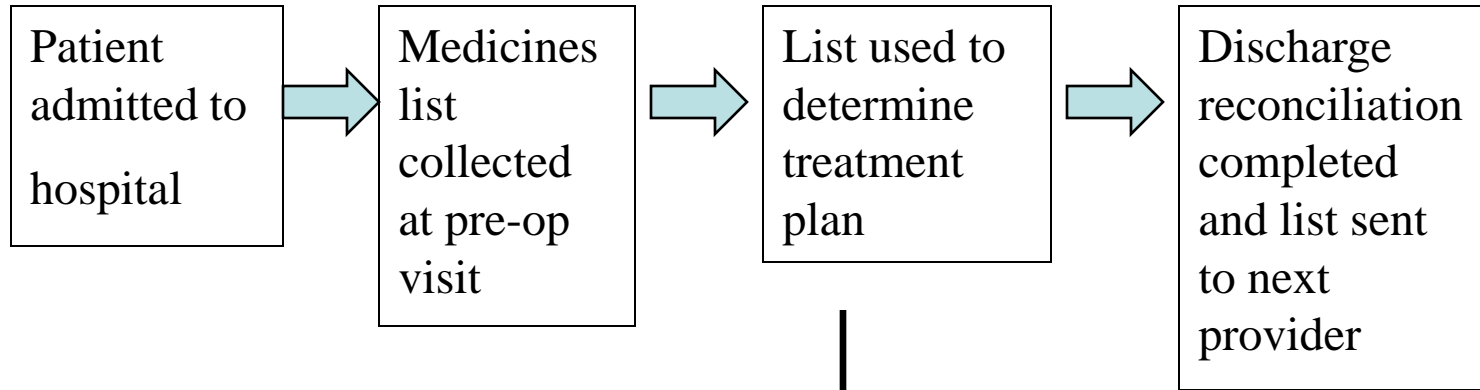
Breakout Exercise

The “Set Up” for Reliability

- Select a topic whose outcome you want to improve; articulate the outcome goal
- Determine a high volume segment for initial design testing
- Build a high level flow chart for that segment
- Determine where the defects occur in the current system
- Determine where your design work will begin with by identifying where the commonest defects occur
- Verbalize the reliability (hint: it is always 95%)

Topic: Medicines Reconciliation

Segment: Elective Surgery Patients: Orthopedic



List is not used while patient is in hospital

Our aim is to ensure that the list is used to determine inpatient treatment plan in at least 95% of the patients.

Report Out Formula For Your Team

- Identify the topic area whose processes you have chosen to make more reliable
- Describe the segment on which you will test your design
- Describe your high level flow chart (5 boxes maximum)
- Determine in which box most of your defects occur
- Describe generally the process you want to make more reliable
- State your reliability goal for the process in the segment

Put it Together

You have a first segment, with an articulated process goal, a clear outcome goal connected to the process with some good medical evidence. In addition you have now set up a theoretical design using the prevent, identify, mitigate and with the knowledge of failures how to redesign

- Now you need to design your first test of change
- and
- Determine the tempo of change you will “dance to”

Design the First Test of Change

Describe the change

Determine

- Who
- What
- When
- Where
- With What/How