Clinical Administration PRN-Integrating an Established Performance Improvement Plan (PI) Method for Implementing Change

Activity Number: 0217-0000-16-121-L04-P 1.50 hours of CPE credit; Activity Type: A Knowledge-Based Activity

Monday, October 24, 2016

1:30 p.m. to 3:00 p.m.
Great Hall 5

Moderator: Elizabeth L. Michalets, Pharm. D., FCCP, BCPS
Regional Assistant Dean of Clinical Affairs, Mission Health and UNC Eshelman School of Pharmacy, University of North Carolina Eshelman School of Pharmacy, Asheville, North Carolina

Agenda

1:30 p.m.	Applying Established Performance Improvement (PI) Methods for Accelerating Change on the Frontlines of Care *Todd D. Sorensen, Pharm. D.* Professor and Associate Department Head, University of Minnesota, Minneapolis, Minnesota
1:55 p.m.	The Weave: Implementing Pharmacist Clinical Prescriptive Authorities *Harminder Sikand, Pharm. D., FASHP, FCSHP* Clinical Director/Residency Director, Scripps Mercy Hospital, San Diego, California
2:20 p.m.	Best Practices and Challengers in Pharmacy Technician-Assisted Medication Reconciliation *Matthew C. Tanner, Pharm. D., BCPS* Clinical Coordinator and Residency Program Director, Salem Hospital, Salem Oregon
2:45 p.m.	Panel Discussion *Harminder Sikand, Pharm. D., FASHP, FCSHP* *Todd D. Sorensen, Pharm. D.* *Matthew C. Tanner, Pharm. D, BCPS*

Conflict of Interest Disclosures

Elizabeth L. Michalets: no conflicts to disclose
Harminder Sikand: no conflicts to disclose
Todd D. Sorensen: no conflicts to disclose
Matthew C. Tanner: no conflicts to disclose

Learning Objectives

1. To compare and contrast a variety of established and validated performance improvement (PI) methods that can be used to implement new processes or practice models within a health system.

2. To describe strategies for meeting regulatory requirements and improving post discharge comprehensive medication reviews and patient engagement .
3. To identify challenges and best practices for engaging staff and key stake holders into the change process.
4. To describe challenges and best practices for implementing inpatient pharmacist clinical prescriptive authorities within a health system using an established performance improvement (PI) model.
5. To identify opportunities for engaging staff members and administrators into the change process.
6. To review how to achieve a balance between clinical and financial implications.
7. To describe strategies for implementation or expansion of a pharmacy technician driven medication reconciliation program using an established performance improvement (PI) model.
8. To identify opportunities for engaging staff members and administrators into the change process and achieving a balance between clinical and financial implications.
9. To identify opportunities within a participant's practice setting for utilizing performance improvement during medication reconciliation within a health system.

Self-Assessment Questions

Self-assessment questions are available online at www.accp.com/am

Applying Established Performance Improvement (PI) Methods for Accelerating Change on the Frontlines of Care

Todd D. Sorensen, Pharm.D., FAPhA, FCCP
Professor, University of Minnesota
Executive Director, Alliance for Integrated Medication Management

Conflict of Interests

Todd Sorensen has no Conflicts of Interest to report.

Learning Objectives

- To compare and contrast a variety of established and validated performance improvement (PI) methods that can be used to implement new processes or practice models within a health system
- To describe strategies for meeting regulatory requirements and improving post discharge comprehensive medication reviews and patient engagement
- To identify challenges and best practices for engaging staff and key stake holders into the change process

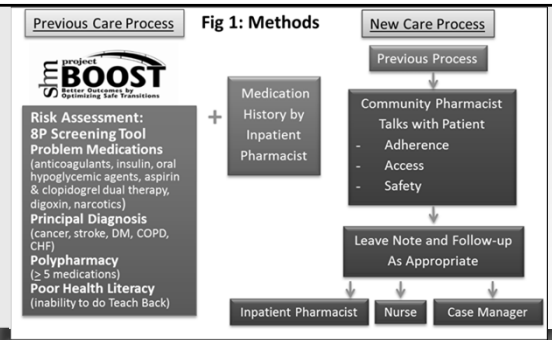
Using "ChimeIn" today

- Text answers to 435.215.4567
- Format: question number (space) answer
- Example: 17997 a

Transforming a patient's medication experience at the point of Hospital Discharge

Crescent Community HEALTH CENTER

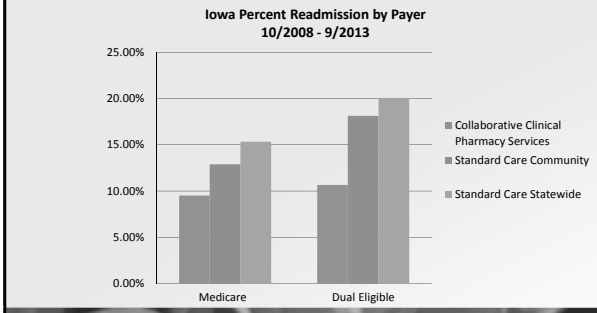
Mercy Medical Center--Dubuque & Dyersville



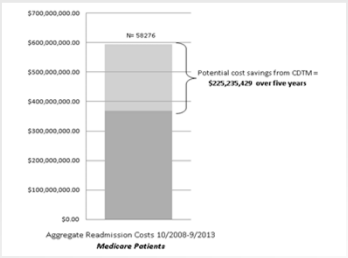
Number of readmissions and 30 day readmission rates were recorded and calculated for high risk patients managed in new vs. old pathway

Population	Total # seen	Number readmitted	30 day readmission rate
High Risk Patients Seen	156	27 hospital readmissions by 22 high risk patients	17.3%
			P<0.01
High Risk Patients Not Seen	104	38 hospital readmissions by 31 high risk patients	36.5%

Dates of Evaluation: October 7th 2013 – January 6th 2014



Iowa Potential Cost Savings



A Value Proposition in Dubuque, IA

We will provide medication management services to 80% of the 1,000 patients identified as high risk before they are discharged for a cost of $182,000 while saving the hospital $1.3 million from preventable readmissions.

What did you hear in this story?

- Free text answer
- Text 17999 plus your answer to 435.215.4567

Everyone in health care should have two jobs: to do the work and to improve how the work is done.

Maureen Bisognano
Former CEO, IHI

With which of the following QI approaches do you have experience?

a) IHI-QI (Model for Improvement)
b) Lean (TPS)
c) Both
d) Neither

• Text 17997 plus your answer to 435.215.4567

Have you ever participated in a "PDSA" or PDCA" cycle?

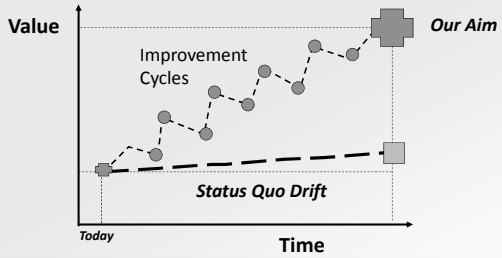
a) Yes
b) No

• Text 17998 plus your answer to 435.215.4567

Comparing QI Methods

IHI Approach vs. Lean

Goal: *Accelerating Change in an Organization*



Lean/Toyota Production System (TPS)

- Integrated philosophy, set of principles and tools
- Application in health care based on Toyota production system, focused on understanding and eliminating process "waste" by
  - Stabilizing/Leveling work load
  - Standardizing how work is performed
  - Identifying and solving problems daily
  - Engaging everyone in process improvement
  - Valuing a common way of performing work
  - Focusing on system effectiveness rather than functional efficiency

Waste and Value

- Value is judged by the patient
- Value adding activities in a process change the form, fit or function of the product or service
- Activities that do not add value are "waste" - all they add is cost

Tools Applied in Lean

- A3 / Systematic Problem Solving
- Value stream mapping
- Standardized work
- 5S (visual control)
- Poka-Yoke (mistake-proofing)
- Kaizen (incremental tests of change)
- Just in Time

Lean - Summary

Lean is a production system. Its ideal outcomes, change concepts and tools are adapted to reduce waste and variation in systems where the concept of a value stream applies.

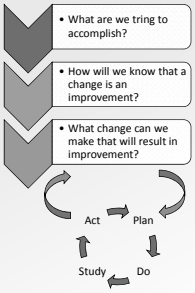
IHI Approach to Quality Improvement

- Seeks to formulate and codify generalizable knowledge that, when applied in other systems, can yield predictable improvements.
- Relies on "Profound Knowledge"
  - Will – moral engagement and energetic action to improve
  - Ideas – proposed changes that can be tested, adapted and ultimately implemented
  - Execution – techniques and methods that translate theory into actual improvement

Foundation – The Model for Improvement

Tools Applied in the Model for Improvement

- Aim statement
- Driver diagram
- Population of Focus
- PDSA Cycles
- Run Charts
- *As well as concepts from Lean*



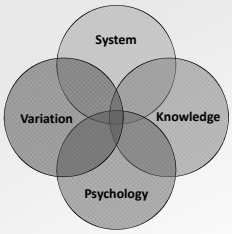
Steps in an IHI-QI Initiative

1. Plan the Initiative
   - Content Theory and Aim
   - Execution Theory and Plan
2. Develop, test and pilot changes
3. Implement, sustain and control
4. Spread changes through the extended system
5. Evaluate and "pass forward"

Emphasizes
- Aims and measures
- Initial small tests of change
- Widespread testing
- Implementation and spread

IHI-QI Approach - Summary

Application of an array of conceptions frameworks and methods drawn from many disciplines in order to understand and influence complex adaptive systems.



Comparing Methods

Similarities
- Start with "purpose of the system"
- Employ simplified models to define quality problems, identify solutions and test them (A3 / MfI)
- Daily application of experimental methods (kaizen, PDSA)
- Measurement is essential
- Culture transformation: personal accountability to cooperative understanding

Differences
- Repetitive product production vs. spread of evidence-based practices
- Value vs. Profound Knowledge as guiding principles
- QI built into standard work vs. project-based, time bound
- Manager as coach vs. executive sponsorship

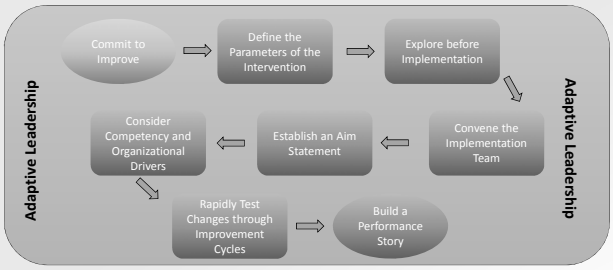
The key to quality improvement:
Start with Leadership, then focus on Process

- ***Vision for change***, with clarity and consistency
- ***Team development*** – leadership team, implementation team
- ***Explore the landscape*** – personnel and organizational factors
- ***Administrative-Practitioner partnerships*** for quick-paced experimentation
- ***Commit to measurement*** – finding truth through quantitative and qualitative analysis
- ***Develop a performance story*** - including requests and offers

Applying Quality Improvement to Post-Discharge Medication Reviews

What would be the first step in pursuing quality improvement for medication use during care transitions?

- Free text answer
- Text 18000 plus your answer to 435.215.4567



Speaker Contact Information

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The Weave: Implementing Pharmacist Clinical Prescriptive Authorities

Harminder Sikand Pharm D., FCSHP.,FASHP., FCCP
Director of Clinical Services and Residency Programs
Scripps Mercy Hospital, San Diego CA
Clinical Professor UCSF and UCSD School of Pharmacy

Scripps Health

- 4 Hospitals on 5 campuses
  - Level 1 Trauma (1)
  - Leve 2 Trauma (1)
  - Comprehensive Stroke Center (1)
  - STEMI Receiving center (2)
  - Certified Stroke Center (1)
- Teaching Programs by Site
  - Internal Medicine (2)
  - Family Practice (1)
  - Podiatry (1)
  - Pharmacy (2)
- Fellowships
  - HMO
  - Cardiology
  - Orthopedics
  - OBGYN
  - Rheumatology
  - Endocrinology
  - Interventional Cardiology
  - Allergy and Immunology
  - Hospice and Palliative care
  - Gastroenterology/Hepatology


Scripps Mercy San Diego


Scripps Mercy Chula Vista


Scripps Memorial La Jolla


Scripps Encinitas


Scripps Green

Conflict of Interest

- NONE

Learning Objectives

1. To describe challenges and best practices for implementing inpatient pharmacist clinical prescriptive authorities within a health system using an established performance improvement (PI) model
2. To identify opportunities for engaging staff members and administrators into the change process
3. To review how to achieve a balance between clinical and financial implications

Strategic Planning

"People and their managers are working so hard to be sure things are done right, that they hardly have time to decide if they are doing the right things."

Stephen R. Covey

Roadmap

- Our journey
  - Adopting problem solving strategies, and changing the way we manage to include continuous improvement
- Tools and techniques utilized
- What we learned:
  - Outcomes
  - Reflections

A3-Thinking

- Scripps adopted lean management principles in 2014 – "value by design"
- Department of Pharmacy mapped an inpatient value stream, identified goals for the department
- Lean tools and Rapid improvement event (RIE) helped:
  - Clinical Team become familiar with lean principles and A3 thinking and problem solving
  - Solve a problem - inconsistent application and understanding of our pharmacist authorities policy

A3 Thinking

What is A3 It?

- Documented process of identifying gap between where we are and where we want to be. Identifies stepwise journey to solution. Should be able to be understood within 5 min.

Benefits of A3 Thinking

- Engagement / Communication
- Concise presentation of facts and information, tells the story on a single A3-sized (11x17) piece of paper

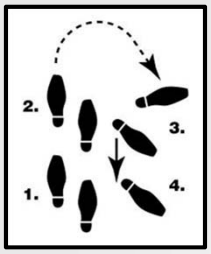
BOX 1: REASON FOR ACTION	BOX 4: GAP ANALYSIS	BOX 7: COMPLETION PLAN
BOX 2: CURRENT STATE	BOX 5: SOLUTION APPROACH	BOX 8: TARGET CONDITION
BOX 3: TARGET STATE	BOX 6: RAPID EXPERIMENTS	BOX 9: REFLECTIONS

Why Do an Rapid Improvement Event (RIE)?

- Formalized activities used to achieve rapid and dramatic improvements to progressively shift culture
- RIEs are grounded in the concept of continuous improvement, taking apart and putting together in a better way
- RIEs empower and unleash the creative power of people who actually do the work, in order to design more effective and efficient processes , *and not requiring leadership's hands-on involvement* at every step of the way
- RIEs are targeted on improving a specific Value Stream.

Adopting New Ways

- Hoping to create different behavior by explaining or trying to convince people generally doesn't work
- We don't behave a certain way because we lack information. We behave one way or another because it's a habit
- What can work is deliberately practicing a different routine, which over time changes how you think
- But don't try to *run 20 miles* in your first workout! Begin with some starter practice routines, which help you learn fundamentals and build some initial confidence in the new pattern you are trying to learn



THAT'S WHAT KATA ARE

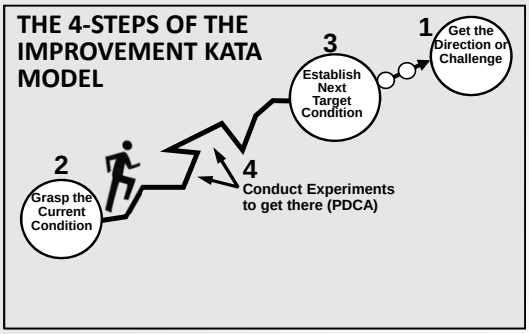
Kata are practice routines that help us adopt new ways of acting and thinking

What the Improvement Kata and Coaching Kata are About

Scientific Thinking Pattern
+
Deliberate Practice (Kata)

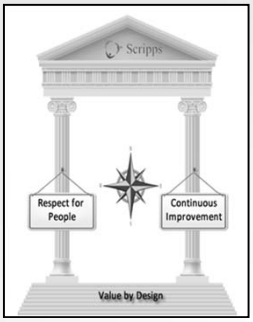
Making Scientific Thinking a Skill that Can be Learned by Anyone

THE 4-STEPS OF THE IMPROVEMENT KATA MODEL



Lean Cultural Pillars

- Respect for People
  - Customer focus
  - Engagement
  - Professionally challenge
  - No fear
  - Physical and mental safety
- Continuous Improvement
  - Eliminate waste
  - Value added
  - Quality, cost



Lean – Continuous Without End

- **Lean:** "the hard work that makes everything easier"
- **Continuous Improvement** – presumes that EVERYTHING can be improved continuously, without end
- Endless pursuit of perfection, requires innovation and evolution
- **Everything we do in life is a process**
- We can continually improve a process – make it easier, make it more consistent, make it faster, make it cheaper.
- **Eliminate Waste**:

Wasted Energy	Wasted Money	Wasted Resources	Wasted Time

Value vs Non-Value

- This is not " what you do is not valuable" nor whether the step must be done in the process
- Shorthand method of classifying activities within a process
- The process has many discrete actions
- Within a process map or discussion, this shorthand allows us to quickly identify steps that are value and non-value and provide focus on non-value
- Non value steps = Waste
- **>90% of every process is Waste – non-value!!!**

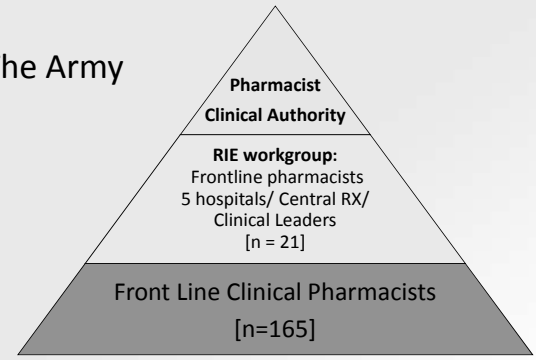
What We Wanted to Achieve

- **Development of people** – exposure to A3 thinking
  - Front Line
  - Leadership
- **Single set of pharmacist clinical authorities** across all 5 hospitals
  - Unified understanding and application
- **Clear/concise guidance document**
- P&T authority **expansion**
- Clinical Pharmacist **engagement** each site
- Clinical Pharmacist **leaders participation** each site
- **Standardized education** across the system

The Challenge

- 5 hospital system
- Composed of Teaching and Community hospitals and Central Pharmacy services (Telepharmacy and Float Pharmacist Team)
- Independent medical staff (not on payroll)
- Site based Pharmacy and Therapeutics committees
- Individual formularies
- Separate pharmacist based privileges

The Army



What it Took

- Sponsor (1- Leadership)
- Process owners (2- Leadership)
- Facilitators (2- Leadership)
- Team Leader (1- Clinical Pharmacist)
- Subcommittee Leaders (3- Clinical Pharmacist)
- Lean management education (2 - hour session)
- Pre-meetings (4 meetings, weekly)
- Clinical Pharmacist meetings: 5 sites & central staff (12 sessions)
- Actual RIE : 4 days in two separate events
- Post RIE work off line (3 groups)
- Actual time spent – April 2015-January 2016
- Actual staff involved - 21

OUR GOAL - Pharmacist Authorities

Issue:

- Update system policy & protocols governing
- One of the first works that was "systematized" by leadership decision

What we found:

- Not well understood (staff/management)
- Outgrown/not relevant in some areas
- No standardized education process for clinical pharmacist regarding

What we evaluated: (as pre-work for the Rapid Improvement Event)

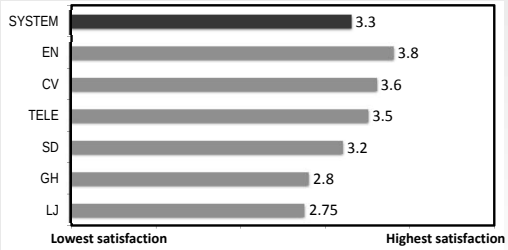
- What was the practice surrounding pharmacist authorities at each site?
- What was the understanding regarding the pharmacist authorities ?
- Where the pharmacist authorities still relevant?

Where We Started (current state)

- Existing authorities
  - **Renal Dosing** **- Pharmacokinetics** **- IV to PO**
  - **Range Orders Clarification** **- Drug d/c** **- PRN**
- Clinical Pharmacist survey asked:
  - Which authorities are "broken"
  - How well do you understand the protocols
- Team prioritized the top pharmacist authorities
- Mapped each authority with clinical pharmacists at **ALL** sites
- Determined pain points – collected all perceived issues
- Grouped like items – fishbone diagram
- Determined root problems - used the 5 whys

Satisfaction Score Pharmacist Authorities

- Average system baseline satisfaction = 3.3 out of 5



Source of data: in-person staff exercise #1

Top 3 Most Problematic Protocols Identified

- PRN Indication Clarification
- Range Order Clarification
- Discontinuation Order Clarification

Baseline Knowledge Assessment

Pre Survey Question-Renal Dosing Protocol

A 60 yr male admitted for pneumonia with a CrCl = 40 mL/min is prescribed *Levofloxacin 750mg IVPB Q24hr, Famotidine 20mg IV BID and Digoxin 0.25mg PO DAILY*

Per Pharmacist authority you can change:

A. Levofloxacin order to Q48hr

B. Levofloxacin Q48hrs and the Famotidine to DAILY

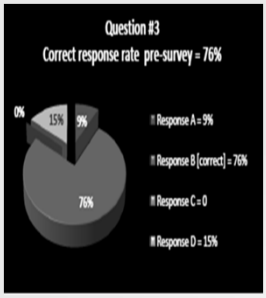
C. Levofloxacin Q48hr and contact the MD regarding Famotidine

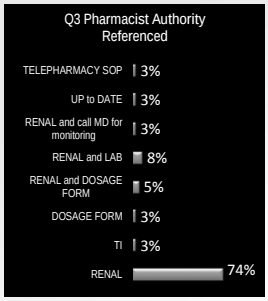
D. Levofloxacin Q48hr, contact the MD regarding Famotidine & Digoxin

Source of data: Survey Monkey pre-survey #1

Pre Survey Answers -Renal Dosing Protocol

Source of data: Survey Monkey pre-survey #1





Lean Methods for Problem Solving

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Box 1 – Reason for Action

This is your opening line to your story; what's going on and why should we care?

- Could anyone on your team and even a spouse, mother, or friend understand in one minute or less?

Problem statement to describe:

- Is the problem actually many problems?
  - Who is impacted? What problem solvers should we engage?
  - What is the impact? TRUE NORTH ALIGNMENT
  - Where/When in the process is this problem occurring?
  - Where (physically) is the problem occurring?
- Whatever you do, **don't jump to solutions or create a problem to fit a nifty 'solution.'**

Box 1 Reason for Action

- Variation in understanding and application of the Pharmacist Authorities
- Convenience tools (i.e., PFOs) for application of Pharmacist Authorities do not meet needs of front-line pharmacist.
- Efforts of standardization (SW Formulary Standardization/SWOS/WBO, etc.), make some aspects of the Pharmacists Authority Policy and Protocols irrelevant.
- No defined education for the Pharmacist Authorities; existing tribal training is not sufficient for adherence and application.

Photo taken by H.Sikand

Define the GAP - Box 2,3,4

Box 2: Current

Gap

- ✓ Problem
- ✓ Identify Current
- ✓ Identify Target
- ✓ Determine Gap
- ✓ Determine countermeasures
- ✓ Test Countermeasures
- ✓ Repeat as needed

Box 3: TARGET

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Box 2 - Current State

Pharmacist Authorities policies and protocols, are fraught with variation in interpretation and application, leading to disparity in adherence

Some protocols are too specific for practical use; others are too vague to provide needed guidance

The policy and protocols do not meet the pharmacists' needs.

Photo taken and use approved by M. Flaherty

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Box 3 -Target State

Metrics (what will be measured?):	Current	Target
Staff Satisfaction	3.3	5
Reduce variation in correct response (application of protocol)	43% [Q1] 47% [Q2] 76% [Q3] 81% [Q4] 81% [Q5]	100% Q1-5
100% frontline pharmacists educated	0	100%

- No variation in understanding and application
- Consistently interpreted and applied
- Clear, concise and not open to interpretation
- Meet the needs of the frontline staff (ranking score to equal to 5 of 5)
- Have a defined education plan that is documented and validated

Photo taken by H.Sikand

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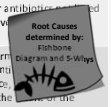
Box 4 - Gap Analysis

ROOT CAUSES PRN ORDERS W/O QUALIFIER CLARIFICATION	ROOT CAUSES RANGE ORDER CLARIFICATIONS	ROOT CAUSES DRUG DISCONTINUATION CLARIFICATION
No standard application of authority for pain medications with severity ranking (mild, moderate, severe).	Protocol's guidance not clear how far authority extends.	Protocol does not address all situations (for pain medications and anti-emetics).
Current protocol not segregated into medications that would lend themselves to more uniform judgement by pharmacists.	Protocol does not fit current practice.	Protocol does not address how to handle blanket orders.
Protocol does not provide guidance for handling ALL PRN orders without indication.	Not clearly defined when a written clarification order is required.	Protocol interpreted differently, leads to inconsistent application and varied expectations of the medical staff.
No guidance to rank / file PRN orders with same indication.	Protocol is designed around regulatory compliance and not the patient.	No guidance for antibiotics ordered for post-operative prophylaxis.
Protocol does not address multiple drugs with the same indication.	No guidance for RN to select IV or PO.	Difficult to determ should be discon takes precedence understanding the order.



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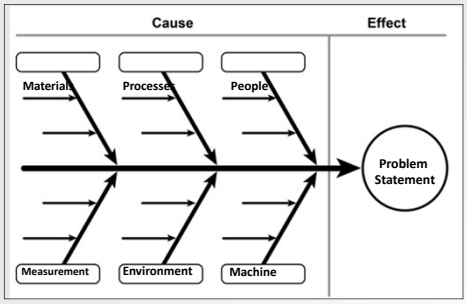
Fishbone Diagram

Used to derive possible causes to a problem



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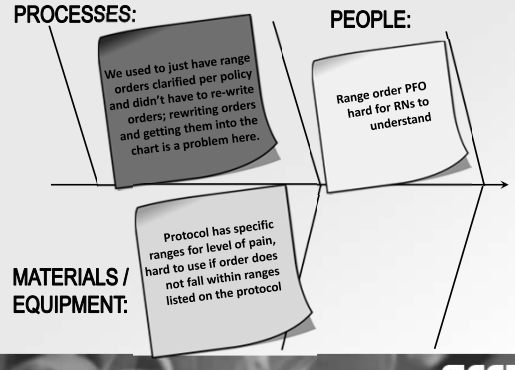
EXAMPLE – RANGE ORDER CLARIFICATION PROTOCOL



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5 Whys

Why is this a problem?
It wastes space, especially if the list becomes expanded.
And this is problematic because…
Is difficult to isolate the order; RNs cannot find the order among the numerous examples listed; is confusing when handwritten clarifications are provided for medications not on the PFO.
What makes this problematic?
PFO is too specific; does not cover all medications (such as benzo's).
Ultimately, this is a problem because…
PFO lists specific examples of orders, which is limits the value of having a convenience tool.

Box 5 - Solution Approach

Team identified factors that directly impact pharmacist's ability to understand, interpret and apply the 3 most problematic protocols

Photo taken by H.Sikand

Team did the following:

- 3 protocols revised, tested against peer audience to ensure revisions met criteria
- Input from RN and MDs gathered
- Conduct rapid cycle pilot
- Develop education plan for 3 protocols.

Revise Current State Protocols: Target State Use

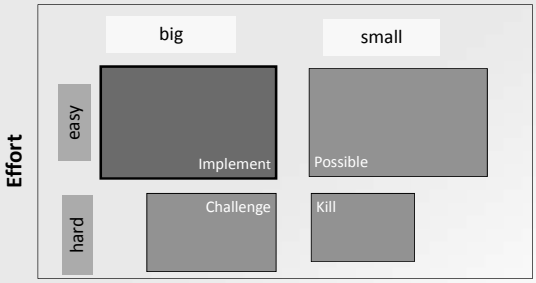
Starting with the select root causes, determine:

IF we _____ [make a change to address the root cause],

THEN we _____ [resolve the root cause]

IF…	THEN…
If we revised the Protocol to include concepts rather than specific examples…	Then, pharmacists would have guidance for handling ALL PRN orders without indication (rather than a select few examples)

Impact Chart -Prioritize Solutions



Find *SOLUTIONS* to the root causes that are high value, low effort

Box 6 Rapid Improvement Experiments – Range Orders

Problems (gap analysis)	Potential Root Causes	Solution Approach (IF, THEN)	Rapid Experiments	Expected Outcomes	Actual Outcomes	What Went Well	What Did Not Go Well	Next Steps	Standard Work Complete
Variation in understanding Lack of consistent execution No defined education PFO not effective	PFO lists specific examples of orders , which limits the value of having a convenience tool Protocol and PFO no longer useful because has not	If we remove the PFO, Then: Reduce confusion for RN Expand Rph authority If we use lowest	Presented to group, received feedback Revised protocol based on feedback Presented revised	No variation Consistent execution Defined education	Removed PFO Addressed ambiguity in protocol Expanded Rph authority	Nomogram understood and well received New and improved protocol provided	No consensus on indicatn range Not able to address all scenarios Not enough time	Get RN and MD feedback Rapid cycle test of protocols P&T approval	Yes

Testing

Rapid improvement projects Q 2 week cycles:

- Determine pain points with current authorities
- Determine what should be our future focus
- Evaluate outcomes from baseline

Rapid Cycle Test–Pharmacist Authority Protocols

Purpose: Test usefulness & application revised PRN clarification & Range Orders Protocol

Methods:

- Four representatives (2 super users and 2 additional staff pharmacist) from each site and central staff participate in rapid cycle testing
- September 14-17 2015, representatives tallied data
- Super users at each site will teach the revised protocol to ensure understanding on pharmacist authorities outlined in the protocol.
- Representatives will process orders per current methods however orders that meet criteria (see criteria section) will be additionally assessed for application to the revised protocol. Information will be collected on the following:
  - order is handwritten or from a preformatted order (PFO)
  - applicable protocol used
  - order able to be processed clearly using the revised protocol
  - order unable to be processed clearly using the revised protocol
- Orders that are not able to be processed via the revised protocol will have further assessment to determine reasons

Rapid Cycle Test– Range Orders and PRN Clarification Protocols

Protocol	# of Orders processed	# of Order UNABLE to be processed	Reasons
Range	23	2	• 2 boxes checked for pain scale on PFO, which to use? • Norco 1 q4h mild, 2 moderate + Perc 1-2 tabs for severe
PRN	44	11	• Not on list – Flonase, Calmoseptine, Qvar,B&O suppository, Xanax, Tizanidines, lorazepam, alprazolam • Norco only pain med ordered • Motrin & Tylenol prn pain • MD wrote PRN indication not on protocol

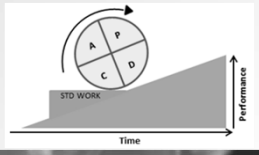
Standard Work ?

- Agreed upon **best practice - current best known way**
- **Secures improvement**
- Helps ensure consistency in a process and continually produces the **best result**.
- Can be remembered by three W's:

_____ does _____ and _____.

WHO **WHAT** **WHEN**

Standard Work secures improvement



Standard Work

Standardization ….

- Reduces variation – everyone knows what and how to do it.
- Enables flow.
- Eliminates waste.
- Fuels Continuous Improvement – without standard there can be no Kaizen – Taiichi Ohno
- Does not stay the same – people performing work should continuously question and improve the work.
- If process is working fine, do it faster, find the additional waste.

Standard Work

- **Why Implement Standard Work?**
- To make it possible to identify and eliminate variations in operator work
- To sustain the gains achieved from improvement ideas and events
- To provide a baseline for future improvement
- The most efficient way to produce a quality product

Standard Work and Variation Reduction are key in creating a foundation of stability

Education Plan
Goals of Standard Work

- Provide everyone who performs a task with a well-documented, visual system that guides them through the proper execution of that task
- Ensure everyone performing a task follows a consistent reproducible process that minimizes opportunities for variation and error
- Ensure work flows smoothly through the process in a stable, predictable and consistent manner with acceptable cycle times and quality
- Provide consistent sequence and layout of activities so that the task can be easily shared with multiple workers during periods of high demand.
- Make training easy, consistent and effective

Considerations for Developing Standard Work

- When work is over-standardized, it becomes dehumanized
- Standard work must include leader standard work
- Aim for guidance over dictation; consistency over precision
- Encourage predictable stable flow rather than blindly following standards

FOUR Challenges of Standard Work

1. All work instructions must be written, reviewed and approved by the employees who actually do the work.

FOUR Challenges of Standard Work

2. Whenever possible, visual controls should be used instead of textual process documentation
   - Standard work instructions should be incorporated directly into and referenced as the work is done (point of use).
   - Proper standard work instructions are visuals rather than narratives.
   - Instructions should be incorporated into the tools (e.g., databases and forms) and referenced as the task is completed – not displayed or referenced alongside as the task is being done

FOUR Challenges of Standard Work

3. Standard work must provide real-time feedback to the workers that the tasks they are doing are being performed correctly and at the correct speed.

FOUR Challenges of Standard Work

4. Leaders must also adopt **standard** work that governs how they interact with their employees
   - Allowing leadership to engage with workers in an unpredictable or random manner, even when well-intentioned, destroys morale and accountability.
   - Leaders must learn to integrate themselves into specific touch points (e.g., team huddles) rather than micromanaging or ignoring work done by their teams.

FOUR Challenges of Standard Work

- Leader standard work should include these critical components:
  - Daily team reflection
  - Gemba walks
  - Response to upsets
  - Mentoring
  - Strategy deployment

Standard Work

Process	Administration Route Conversion	Last Updated		Owner	
Done of Process		Rev. Number		Cycle Time	
Performed by	Clinical Pharmacists	Revised by			

Standard Work

Tip | Tollgate | WIP | Crit Step | Safety Team

	Major Steps	Details (if applicable)	Diagram, Work Flow, Picture, Time Grid
1	Pharmacist identifies trigger for route conversion per protocol	Trigger source: • New order received by pharmacist • Communication request from nursing • Sxetn7 flag/trigger • Identified on patient care rounds • Pharmacist profile review	
2	Identify type of route conversion	1. IV to PO or PO to IV, proceed to step 3. 2. IR oral dosage form (i.e. tablet/capsule to solution), convert dosage form. No written order required. 3. Extended release form (ER, CD, CR, DR), contact prescriber unless within therapeutic interchange policy	
3	Assess if medication eligible for route conversion	Refer to Table 2 included in Protocol C for eligible medications.	
4	Review patient inclusion criteria for conversion	Reference Protocol C for inclusion and exclusion criteria. IV to PO: • Functioning gastrointestinal tract • Currently taking or being administered at least one scheduled oral medication and/or eating/tolerating a minimum of full liquids or tube feeds (≥50%) • Clinically stable and improving PO to IV: • Patient can no longer take oral medication • Enteral route is not available or inappropriate	
5	Review patient chart for exclusion criteria	Refer to exclusion factors table included in Protocol C.	
6	Assess if patient candidate for conversion	If no: - Reassess patient as needed on following day(s) - If received communication request from nursing, contact nurse and inform of ineligibility - If Sxetn7 trigger, leave as 'unreviewed' for pharmacist follow up following next day If yes: Proceed to Step 7	
7	Write order for route change per 'P&T authority'	Order (i.e. dose/frequency) should be written according to conversion table in protocol. Process and enter order into Centricity.	
8	Quantifi intervention as 'Route change (for follow up)' as primary intervention	Include drug name and primary intervention type. Close intervention unless follow-up needed (i.e. change back to PO from IV).	

Completion and Metrics - Box 7 and 8

- Completion Plan – Who/What/When – what has not been completed in the event.
  - Should be completed within 20 days of completing event.
- **Confirmed State – Box 8 – should equal box 3**
  - What are metrics from Target State
  - Checking metrics 30,60,90 days out from event
  - Determination if meeting our objectives
- Assessment ongoing over 90 days – are objectives being met (as measured by metrics), are current countermeasures still appropriate?

Box 7 - Completion Plan

WHAT	WHO	by WHEN
Typed Protocol and St Work	Kim / Naz / Tam / Nancy	8/31
Define Clinical Manager support for project	Process Owners: Harminder and Troy, Clinical Managers	9/1
RN / MD Feedback	CMs, Site Leads, select RNs Melissa and Hospitalists	9/9
Rapid Cycle Test Instructions Data collection & Analysis	Thien / Yodit	9/14-17 9/9 9/21
Finalize Protocol	Team Leads: Kim / Tam / Naz	9/21
P&T Approval	Clinical Managers	9/22
Education Develop Education Tool Revise Standard Work Educate front line	 Kim / Bobby / Jeff Merriam / Ederlyn Site Leads	 9/15 9/8 9/23-30
Change Management Process	Yaofay / Astin	10/1
2nd Event	All	10/12-13
Post Survey	Melissa / John	10/30

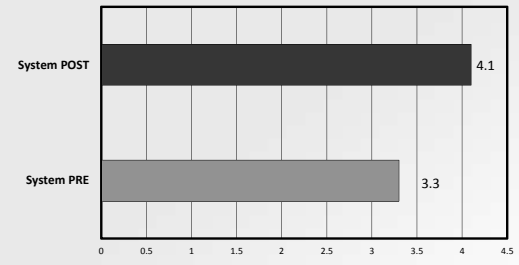
Box 8 – Target State (Metrics)

True North	Metric	Definition	Unit	Where	How Often	Current State	Target State
Quality	Satisfaction: meeting front line pharmacists needs.	Measurement of staff satisfaction for meeting (the pharmacists, patients and prescribers) needs in facilitating workflow efficiency and appropriate patient care. Using a scale of 1 thru 5 (5 being most satisfied).	Likert scale 1-5	Survey	Quarterly	3.3	5
Quality	Reduce variation in correct response (application of protocol).	5 patient based, situational questions regarding the action taken by the pharmacist when the Pharmacist Authorities were applied.	%	Survey	Quarterly	43% [Q1] 47% [Q2] 76% [Q3] 81% [Q4] 81% [Q5]	100% Q1-5
Education	100% of frontline pharmacists complete education.	An outcome of the RIE is an education plan for new protocols. Team developed instruction plan to educate to the protocol standard work. Education will be in-person small group sessions. An LMS module will be developed to compliment the live training.	%	In person validation	Once	0	100%

Metrics

- Survey I responses: n = 63 / 165 (38%)
- Survey II responses: n = 90 / 165 (55%)
- Education Metric:
  - n = 165
  - Pharmacists across the system for RIE I and 144 for RIE II.
  - We achieved 99% education compliance for RIE I and 94% for RIE II

Clinical Pharmacist Satisfaction Score Post RIE



Outcomes- Clinical Pharmacist Response

Metric	Mode	Current State	Target State (1/15)	GOAL
Staff Satisfaction N= 90	Staff satisfaction for meeting (the pharmacists, patients and prescribers) needs Scale 1 thru 5; 1 = does not satisfy; 5 = completely satisfies	3.3	4.1	5
Decrease variation in understanding and application N= 90	Survey, patient case-based questions Increased correct response	81%	85%	100%
Education of Frontline Pharmacists N= 144	Comprehensive education of new protocols	0	94%	100%

PHARMACIST AUTHORITIES RIE I What were the outcomes?

- Reduced 3 protocols to 2 protocols (Drug Discontinuation Protocol eliminated – content moved to more appropriate policy or protocol)
- Eliminated PRN and RANGE PFOs
- Developed Standard Work and workflow diagrams to further support the use of the new protocols.
- Developed and implemented a rapid cycle testing mechanism to pilot the protocols and make changes, prior to go live.
- PRN Clarification – Devised ranking guidance for pain medications and antiemetics; increased the medications on list; provided guidance for duplicate orders – when to discontinue, stratify or clarify with the prescriber.
- RANGE Clarification – Devised a nomogram for mild, moderate and severe pain medication orders by medication potency; addressed ambiguity and expanded the pharmacist's authority.
- Plan for education and implementation of education.
- Developed a change management process for Pharmacist Authorities Policy and Protocols.

Pharmacist Authorities RIE II outcomes?

- Improved guidance :
  - Guidance document created
  - To complete "Pharmacy to Dose" orders with or without a defined protocol
  - For adjusting medication orders based on a patient's renal function
  - Outlining the laboratory costs for frequently ordered labs
  - On renal function monitoring and medication modification
- Expanded list of approved references
- Developed a guidance document
- Eliminated IV to PO Order set
- Developed Standard Work and workflow diagrams to further support the use of the new protocols.
- Implemented a rapid cycle testing of new renal dosing rule created in Sentr7.
- Developed and executed a plan for education and implementation of education.
- Implemented a change management process for Clinical Services

NEXT STEPS for RIE TEAM

- Improving methods for continuous improvement / sustainment of completed work, thru change management process and weekly staff huddles.
- LMS competency to be published January 1st 2016
- Project close out – mid January
- Celebration – mid January

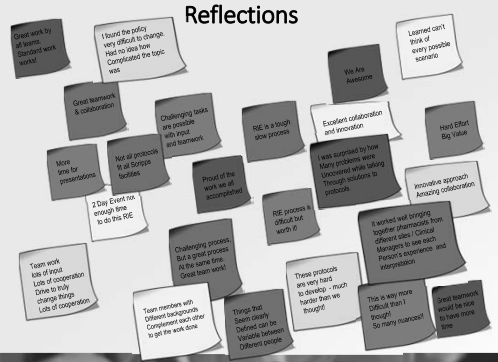
What We Learned

- Limits of standardizing processes – effort needed to "reprogram" staff
- Defining the real problem, rather than assuming we know
- Working through the A3 steps helped us come to solutions we would not have otherwise
- Engaging the frontline with regard to the work the perform daily was true success
- Education developed by the frontline was accurate, meaningful and well received by peers
- Problem solving for "Knowledge Workers" requires more thought (when proposing solutions) and takes longer

What We Learned

- We were over-ambitious in trying to compress a 4 day event into 2 days – learning is a process that takes time
- Deliverables list from the event included rapid tests and analysis of new processes and new decisions, revision of protocols, development of standard work and development of education
- We learned to let the front line lead, and left our titles at the door
- We saw future leaders emerge from the groups
- We witnessed true collaboration, across the system, each staff represented

Box 9 Reflections



The Team

Photo taken and approved use by K.Scott

Best Practices and Challenges in Pharmacy Technician Assisted Medication Reconciliation

Matthew Tanner, PharmD, BCPS
Salem Health

Conflict of Interest

- I have no conflicts to disclose.

Learning Objectives

- To describe strategies for implementation or expansion of a pharmacy technicians driven medication reconciliation program using an established performance improvement (PI) model
- To identify opportunities for engaging staff members and administrators into the change process and achieving a balance between clinical and financial implications
- To identify opportunities within a participant's practice setting for utilizing performance improvement during medication reconciliation within a health system

Salem Health

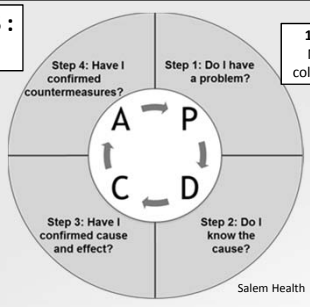
- Hospital Overview:
  - 454 licensed beds
  - Community hospital with an affiliation with Oregon Health Sciences University
- Emergency Department Statistics:
  - Level II trauma center
  - Highest volume emergency department in Oregon with 105,000 visit annually

4 Step Problem Solving

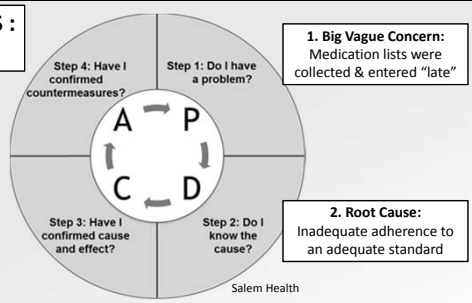
- Kaizen
  - Japanese for "improvement"
  - Mindset to promote problem solving with the goal of empowering workers at all levels
- Lean
  - Framework for problem solving with the goal to create standards and systems to eliminate waste

4 STEP PROCESS : INITIAL

1. Big Vague Concern: Medication lists were collected & entered "late"



4 STEP PROCESS : INITIAL



1. Big Vague Concern: Medication lists were collected & entered "late"

2. Root Cause: Inadequate adherence to an adequate standard

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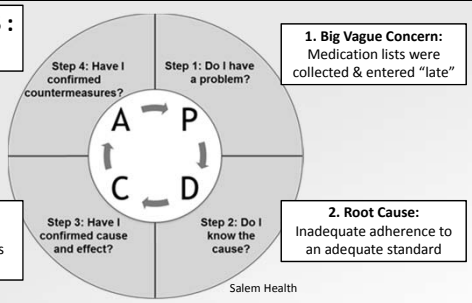
4 STEP PROCESS : INITIAL



1. Big Vague Concern: Medication lists were collected & entered "late"

3. Hypothesis: If nurses were better trained, then timeliness would be improved.

2. Root Cause: Inadequate adherence to an adequate standard

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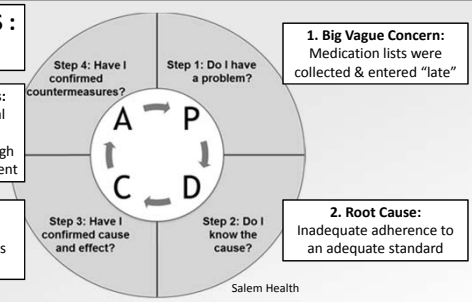
4 STEP PROCESS : INITIAL

4. Test Our Hypothesis: Worked for pre-surgical admissions, but not patients admitted through the emergency department



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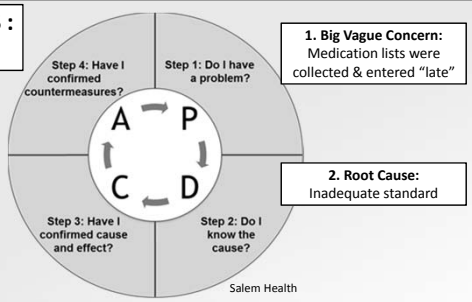
4 STEP PROCESS : REBOOT



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2. Root Cause: Inadequate standard

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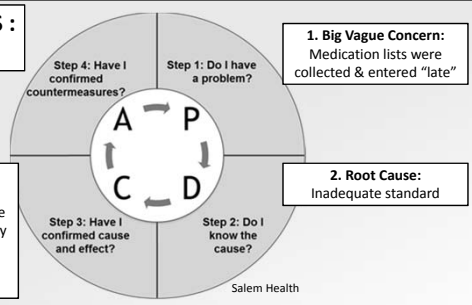
4 STEP PROCESS : REBOOT



1. Big Vague Concern: Medication lists were collected & entered "late"

3. Hypothesis: If another healthcare professional gathered the medication list (pharmacy technicians), then timeliness would be improved.

2. Root Cause: Inadequate standard

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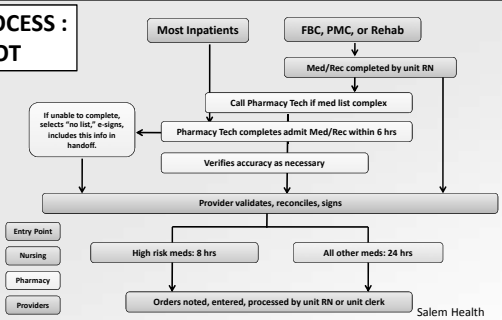
4 STEP PROCESS : REBOOT



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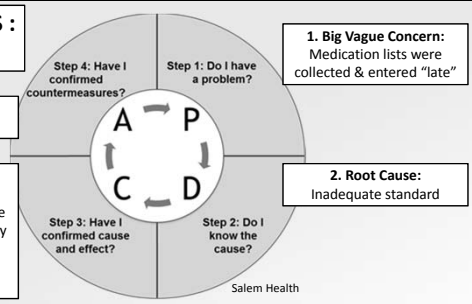
4 STEP PROCESS : REBOOT



1. Big Vague Concern: Medication lists were collected & entered "late"

4. Test Our Hypothesis See next slides

3. Hypothesis: If another healthcare professional gathered the medication list (pharmacy technicians), then timeliness would be improved.

2. Root Cause: Inadequate standard

Results – Original 4 Step Process

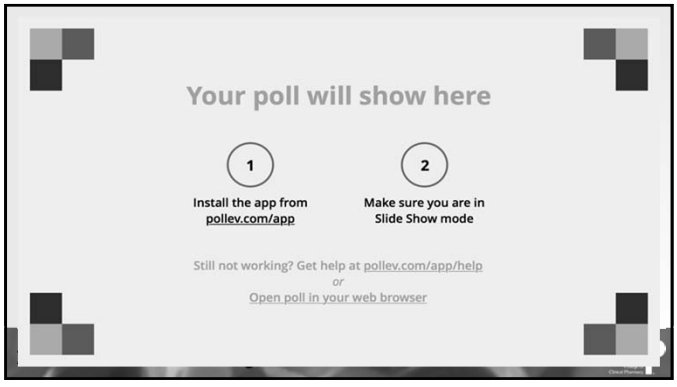
- Initiation of Medication History by Pharmacy Techs
  - Overall: 12 minutes before admission time
  - ED Patients: 30 minutes before admission time
  - Direct Admits: 42 minutes after admission time
- Baseline:
  - Nurses *always* started collection of information after admission time

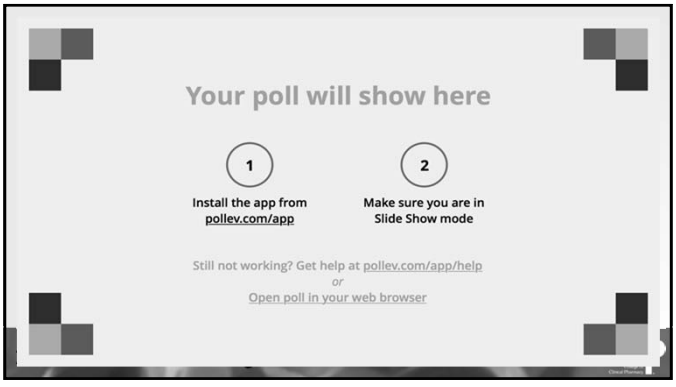
Program Expansion

- Initial Pilot (2009)
  - Following the pilot results, nursing provided the budget to cover expansion to use pharmacy technicians to collect medication histories on unanticipated admissions hospital wide
- Other Milestones:
  - 2010: Expanded to provide coverage 24 hours per day all days per week
  - 2013: Expanded to include pre-surgical admission
- Current staff & volume (excluding pre-surgical admissions):
  - 6.5 FTE dedicated to medication history collection
  - 50 – 65 medication histories daily for unplanned admissions

Expansion of the pharmacy technician programs brought a number of important questions including….

What is the quality of medication histories collected by the pharmacy technicians? How do you place a "value" on this program?





Quality Assessment Data

- Demonstrate that specialty trained pharmacy technicians are able to gather a medication history with similar efficacy to a pharmacist
  - **Primary Endpoint**: Percent accuracy of pharmacy technician generated medication histories
  - **Hypothesis:** Specially trained pharmacy technicians can collect a medication history with greater than 90% accuracy
  - **Methodology:**
    - Prospective cross sectional study of patient's admitted from the emergency department to a non-intensive care units
    - Two interviews conducted: (1) Medication history pharmacy technicians and (2) APPE student with oversight from a pharmacist preceptor

Quality Assessment Data

Pharmacy Technician Medication History	Student Pharmacist Medication History	Match	Pharmacist Review	Pharmacist Decision	Technician Accurate
metformin 1000 mg BID	metformin 1000 mg BID	Yes	No	NA	Yes
insulin glargine 30 units qPM	insulin glargine 25 units qPM	No	Yes	pharmacy technician	Yes
lisinopril 10 mg qday	lisinopril 20 mg qday	No	Yes	student pharmacist	No
atorvastatin 40 mg daily	not listed	No	Yes	atorvastatin 20 mg daily neither	No

In this example, 2 out of 4 medications would be classified as accurate equaling a 50% accuracy.

Quality Assessment Data

Characteristic	Study Group (n = 97)
Age, mean ± SD (range)	65 ± 19
Male, n (%)	49 (50.5)
Number of medicines prior to admission ± SD (range)	7.5 ± 7
Number of medicines on admission ± SD (range)	5.5 ± 5
Admission Time of Day, n (%)	
Day 06:00 – 16:00	62 (64)
Swing 16:00 – 23:00	19 (19.6)
Night 23:00 – 06:00	16 (16.5)

- Percent accuracy:
  - Average: 91.7%
  - Median: 100 % (IQR 83.3 – 100%)
  - Medication histories were 100% accurate in 67% of patients

Financial Justification Data

- Describe the types of medication discrepancies identified by pharmacy technicians during the medication reconciliation process and then estimate the associated costs avoidance
  - **Primary Endpoint**: Cost avoidance achieved by collection of medication histories as calculated by the model published by the Agency for Healthcare Research and Quality (AHRQ) in the Medications at Transitions and Clinical Handoffs (MATCH) Toolkit

Financial Justification Data

		Model Inputs	Institutional Inputs	Final Calculation
	Number of discrepancies / patient	-	8.1	8.1
x	Number of inpatient admissions / year	-	26,078	26,078
=	Potential discrepancies that can be avoided	-	211,232	211,232
x	Percent of patients with discrepancies that would result in an ADE	1- 2.5 %	-	1 – 2.5%
x	% effectives of the process	85%	-	85%
x	Cost of an average ADE	$2500 - $4800	-	$2500 - 4800
=	Annual net savings			$4,488,680 - $21,545,664

Lessons Learned

- Listen to your frontline staff
  - Frontline provider staff provided the impetus for this project
  - Frontline nursing staff voiced concerns about lack of specialized knowledge and bandwidth
- Identify opportunities to enhance collaboration
  - Original test of change in ED only
  - Pre-surgery nurses "wanted in" – nearly doubling the volume in 2013
- Data collection is important
  - "Prove" the perception that it "takes longer" and there are "more of them"
  - Ability to quantitavely address concerns raised by Finance & other parties

Best Practices and Challenges in Pharmacy Technician Assisted Medication Reconciliation

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