Reducing Adverse Drug Events Across the Care Continuum

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Qualis Health

- A leading national population health management organization
- The Medicare Quality Innovation Network - Quality Improvement Organization (QIN-QIO) for Idaho and Washington

The QIO Program

- One of the largest federal programs dedicated to improving health quality at the local level

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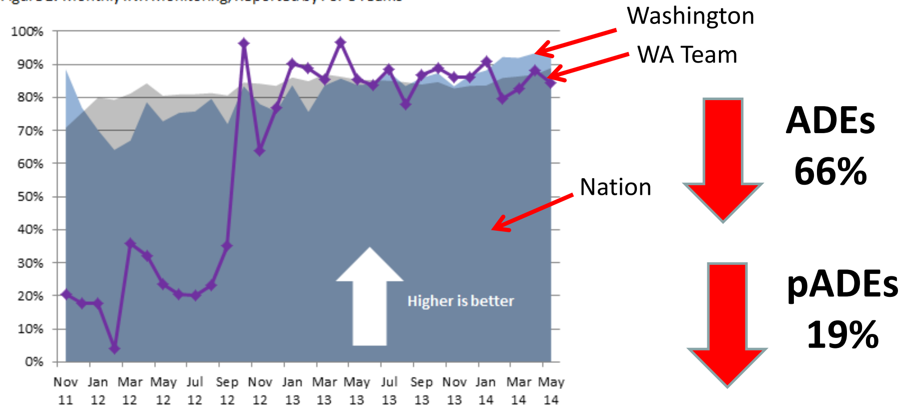
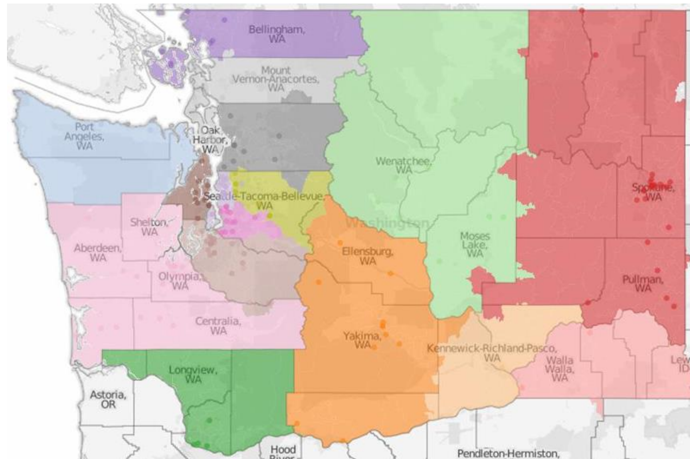
Patient Safety & Clinical Rx Services (PSPC) Collaborative

Figure 1: Monthly INR Monitoring, Reported by PSPC Teams



Sixteen Care Transitions Communities



www.Medicare.QualisHealth.org/CommunityPerformanceReport

Adverse Drug Events (ADEs)

An injury resulting from medical intervention related to a drug

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Today's Journey

- Impact of ADEs on the healthcare system
- Focus on Transitions
- Key Medications involved in ADEs
- Successful Practices and Tools

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Transitions

Disequilibrium

"The lack of stability individuals experience when moving from one developmental place to the next"

Jean Piaget

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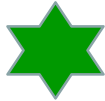
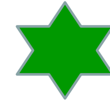
High Risk Medications Focus





Anticoagulants
Diabetic Agents
Opioids

ADEs and Emergency Hospitalizations

Table 4. National Estimates of Medications Commonly Implicated in Emergency Hospitalizations for Adverse Drug Events in Older U.S. Adults, 2007–2009.*

Medication	Annual National Estimate of Hospitalizations (N=99,628)		Proportion of Emergency Department Visits Resulting in Hospitalization
	no.	*% (95% CI)*	*%*
Most commonly implicated medications†			
Warfarin	33,171	33.3 (28.0–38.5)	46.2
Insulins	13,854	13.9 (9.8–18.0)	40.6
Oral antiplatelet agents	13,263‡	13.3 (7.5–19.1)	41.5
Oral hypoglycemic agents	10,656	10.7 (8.1–13.3)	51.8
Opioid analgesics	4,778	4.8 (3.5–6.1)	32.4
Antibiotics	4,205	4.2 (2.9–5.5)	18.3
Digoxin	3,465	3.5 (1.9–5.0)	80.5
Antineoplastic agents	3,329‡	3.3 (0.9–5.8)‡	51.5
Antiadrenergic agents	2,899	2.9 (2.1–3.7)	35.7
Renin–angiotensin inhibitors	2,870	2.9 (1.7–4.1)	32.6
Sedative or hypnotic agents	2,469	2.5 (1.6–3.3)	35.2
Anticonvulsants	1,653	1.7 (0.9–2.4)	40.0
Diuretics	1,071‡	1.1 (0.4–1.8)‡	42.4
High-risk or potentially inappropriate medications§			
HEDIS high-risk medications	1,207	1.2 (0.7–1.7)	20.7
Beers-criteria potentially inappropriate medications	6,607	6.6 (4.4–8.9)	42.0
Beers-criteria potentially inappropriate medications, excluding digoxin	3,170	3.2 (2.3–4.1)	27.6

Budnitz D et al. Emergency Hospitalizations for Adverse Drug Events in Older Americans.

Safety Risks with Anticoagulants

Complex dosing and monitoring

Narrow Therapeutic index

Food/Drug Interactions

Patient Adherence

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Safety Risks with Diabetic agents

Dose adjustments

Multiple products available

Administration and dosing errors

Pharmacology of the drugs

Complex disease

Patient Adherence

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Safety Risks with Opioids

Top Prescribed Medication

Dependency and Tolerance

Drug Interactions

Multiple strengths and forms available

Prescribing and administration errors

Monitoring requirements

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Characteristics of Patients at Higher Risk for ADEs

Polypharmacy (>5 meds)

Elderly > 80

Low Literacy level

Medications –Warfarin, Insulin, Oral Hypoglycemics, and Opioids

4 or more co-existing health conditions

History of mental/emotional illness

Re-hospitalization in past 30 days

Limited support system at place where they live

Non-adherence to medication regimen

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High Alert Medication Best Practices

Expert team for coordination and management of patients

Standard protocols and guidelines

Medication double check process

Annual and ongoing staff training

Report events and near misses

Involve patients and family

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Breakout

Which Best Practice could make the most difference in improving safety with medications?

How would you operationalize this?

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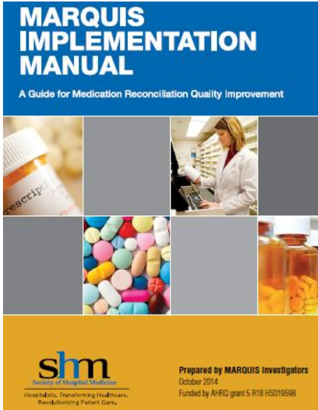
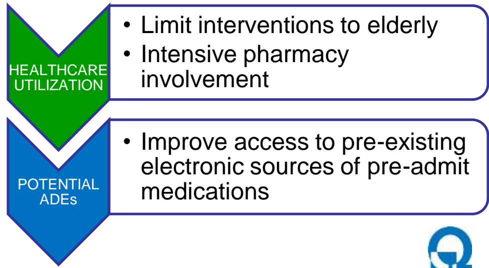
MED REC



Interventions	Admit Med History	Communicate w/ PCP	Patient Counsel	D/C Med Rec
Rx		x	x	x
Rx	x	x	x	x
Rx	x			x
Rx		x	x	x
IT	x			
IT	x			x



MARQUIS Med Recon Materials

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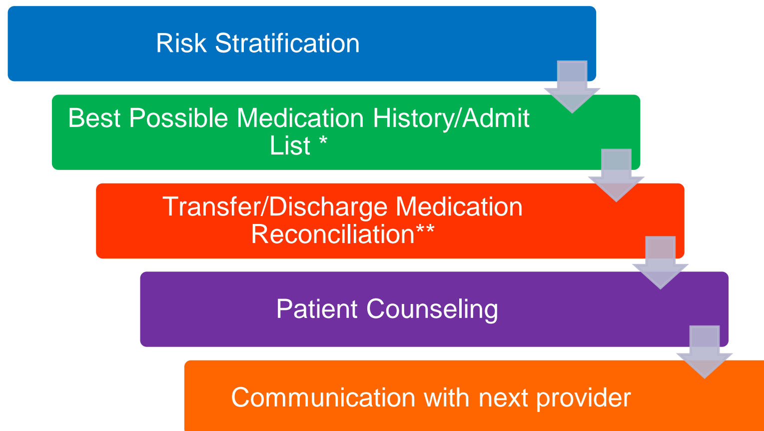
Intervention Bundle



Society of Hospital Medicine, MARQUIS Manual. October 2014.

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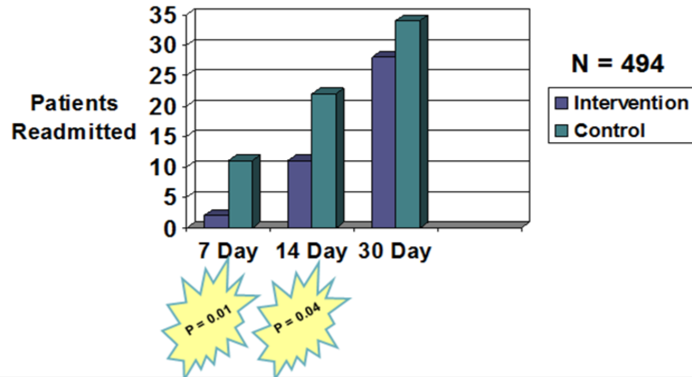
Medication Reconciliation Post-Discharge



J Am Pharm Assoc. (2003). 2013 Jan-Feb;53(1):78-84

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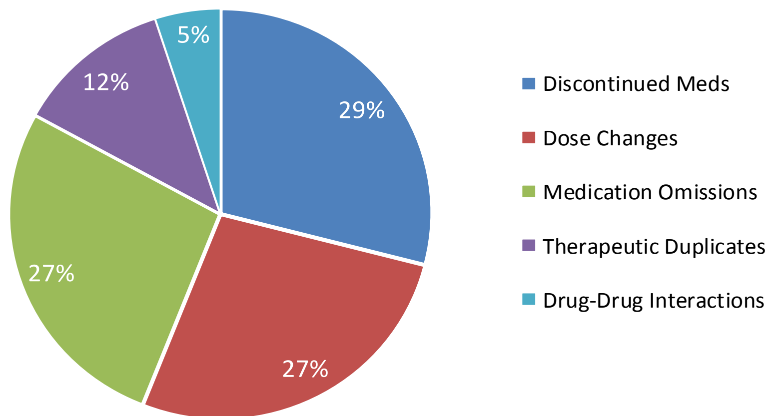
Medication Discrepancies



80% of patients had at least one medication discrepancy
31% of drug interactions were clearly contraindicated

J Am Pharm Assoc (2003). 2013 Jan-Feb;53(1):78-84.

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Business Case For Med Rec

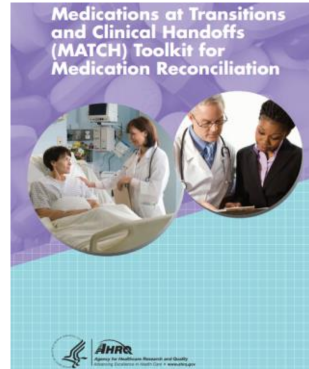
1 in 100 errors found by Pharmacist Med Rec = Harmful ADE*

2:1

Return on Investment (ROI)*

AND: ⬇ Readmissions
⬇ Penalties

⬆ Regulatory compliance
⬆ Staff/Patient satisfaction



Cost of an ADE = $4633 - $10,365

*Society of Hospital Medicine, MARQUIS Manual. October 2014.

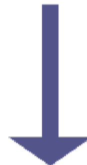
Financial Savings

Results:

For every 25 patients that receive pharmacist medication reconciliation, One hospital readmission is prevented.

Prevention of one medical hospital readmission is an estimated savings of $15,000

2012 3,000 patients



Projected $1.6 million in savings

Kilcup M, Schultz D, et al. Post-discharge pharmacist medication reconciliation: Impact on readmission rates and financial savings. J Am Pharm Assoc. 2013: Jan/Feb, 53:1.

Social Marketing

"The systematic application of marketing to achieve specific behavioral goals for a social good"

CHANGING BEHAVIOR

Medication List

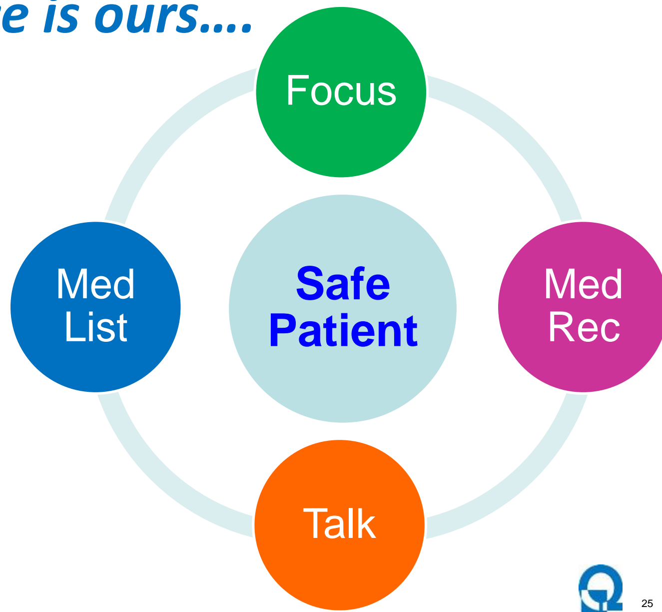
	What I'm taking	Form (pill, injection, liquid, patch, etc.)	Dosage	How Much and When	Use (regularly or occasionally)	Start/Stop Dates (1/5/05 - 3/5/05) (1/5/05 - ongoing)	Notes, Directions, Reasons for Use
* Be sure to include ALL prescription drugs over-the-counter drugs, vitamins, and herbal supplements.							
1							
2							
3							
4							

Partners in Safety Campaign – Walworth, TX

- ✓ Paper Med Cards
- ✓ Educational Programs
- ✓ Community Involvement
- ✓ Provider/Patient Coordination

17% Medication list accuracy

The choice is ours….



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WA-C3-QH-1728-04-15

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