Master of Science in Healthcare Quality and Safety Capstone Presentations

JCPH Capstone Presentations

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Using a Health Information Exchange to Improve Medication Reconciliation

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Camden Coalition of Healthcare Providers

- Founded in 2002
- Non-profit, grant funded
- Mission: To improve the health status of all Camden residents by increasing the capacity, quality and access to care in the city

The Problem

Reconciling medications across care transitions

Medication Reconciliation

"...the process of identifying the most accurate list of all medications a patient is taking—including name, dosage, frequency and route—and using this list to provide correct medications for patients anywhere within the healthcare system" (IHI 2012)

The Reality

The Cost

Medications removed from home (in yellow bag):

- Naproxen
- Amlodipine (2)
- Lonazepam
- Advair (2)
- Saxagliptin
- Dexamethasone
- Clonazepam
- Ibuprofen
- Sitagliptin (2)
- Quetiapine
- Paroxetine
- Neurontin

The Solution

The Technology

- Health Information Exchanges
  - "for information to follow patients, wherever and whenever they seek care, in a private and secure manner so that teams of doctors, nurses, and care managers can provide coordinated, effective and efficient care."

- HIE Growth
  - 52 HIEs in 2009
  - 161 HIEs in 2010

Project Aim

Improve the medication reconciliation process during transitions in care for Camden city patients at risk for hospital readmission through the use of a health information exchange.

Project Goal: 100% reconciliation

Camden, New Jersey

Camden Health Information Exchange (HIE)

- ## 95% of Camden residents
- ## Data from 3 hospitals
  - ADT transactions
  - Lab results
  - Radiology results
  - Discharge summaries
- ## 120+ HIE users

Hospitals

LTC/
Rehab

Providers

Hospice

Behavioral
health

Home
Health

Jail

Project Team

- Sandi Selzer, PM
- Ken Gross, PhD, Research/Eval
- Jason Turi, RN, Care Transitions
- Hilda Mateo, LPN, Care Transitions

Project Methodology

Plan: Recognize an opportunity and plan a change;

Do: Carry out a small scale study to test the change;

Study: Review the test, analyze the results, and identify learnings;

Act: Take action based on learnings. If the change did not work, go through the cycle again with a different intervention. If the change was successful, incorporate that learning on a broader scale, and begin the cycle again to sustain the improvement (Tague 2004).

Patient Population: "Transitional Utilizers"

- 2+ hospital admission in past 6 months
- 2+ chronic conditions
- 5+ medications
- Language barrier or low health literacy level
- Lack of family or community support

Patient Sample

Number of patients	11 transitional utilizers
Mean age of patient sample	52
Mean number of providers per patient	7
Mean # of chronic conditions per patient	8
Most common chronic conditions	Hypertension (12%) Anxiety/depression (12%) Heart disease (12%) Diabetes (11%) High cholesterol (11%) Asthma/COPD (9%)

PDSA #1: Original Med Rec Process

ADMISSION DATE: 02/13/2012   DISCHARGE DATE: 02/16/2012

PRIMARY CARE PHYSICIAN: ████████

PRINCIPAL DIAGNOSIS AT DISCHARGE: Bronchitis.

OTHER IMPORTANT DISCHARGE DIAGNOSES:
1. End-stage renal disease on hemodialysis.
2. Diabetes mellitus.
3. Hypertension.

CONDITION ON DISCHARGE: Ambulatory. *Taking*

DISPOSITION: The patient discharged to home. *Flexeril 10mg TID Add back to list pt taking*

DISCHARGE MEDICATIONS:
1. Aspirin 81 mg.
2. ~~Carvedilol 12.5 mg.~~ *Carvedilol 25mg twice a day. (Dr. Doher t.*
3. Cinacalcet 30 mg.
4. Folic acid.
5. Vitamin B complex.
6. Furosemide 40 mg tablet. → *Taking 80mg Zanger*
7. Hydralazine 25 mg tablet.
8. Lisinopril 10 mg tablet. → *taking 20mg Doherty*
9. Sevelamer 800 mg oral tablet. *needs new Rx*
10. Simvastatin 20 mg oral tablet. → *needs new Rx*
11. Tamsulosin 0.4 mg oral capsule.
12. Tramadol 50 mg oral tablet. → *needs new Rx*   *Needs new Rx*
13. Tylenol 325 mg oral tablet. → *needs new Rx*   *for Renal Caps*
14. ~~Levofloxacin 250 mg.~~ *d/c*

FOLLOWUP PLAN: The patient to follow up with ████████ primary care physician in 1-2 weeks following *Docs* discharge.   *not need script*

CHIEF COMPLAINT: Fever and cough.

The Change: New Med Rec Form

Patient Name _____ DOB: _____

Med Name	Pt. knows Reason for Med (Y/N)	Dose	Freq	Prescribed By	Date Last Refill	Does pt. Take med? (Y/N)	Why not? (I/T/C/M/ S/L/F)	On Provider's Med list?	New Rx needed?

Are you careless at times about taking your medications?   Y N S
When you feel better do you sometimes stop taking your medications? Y N S
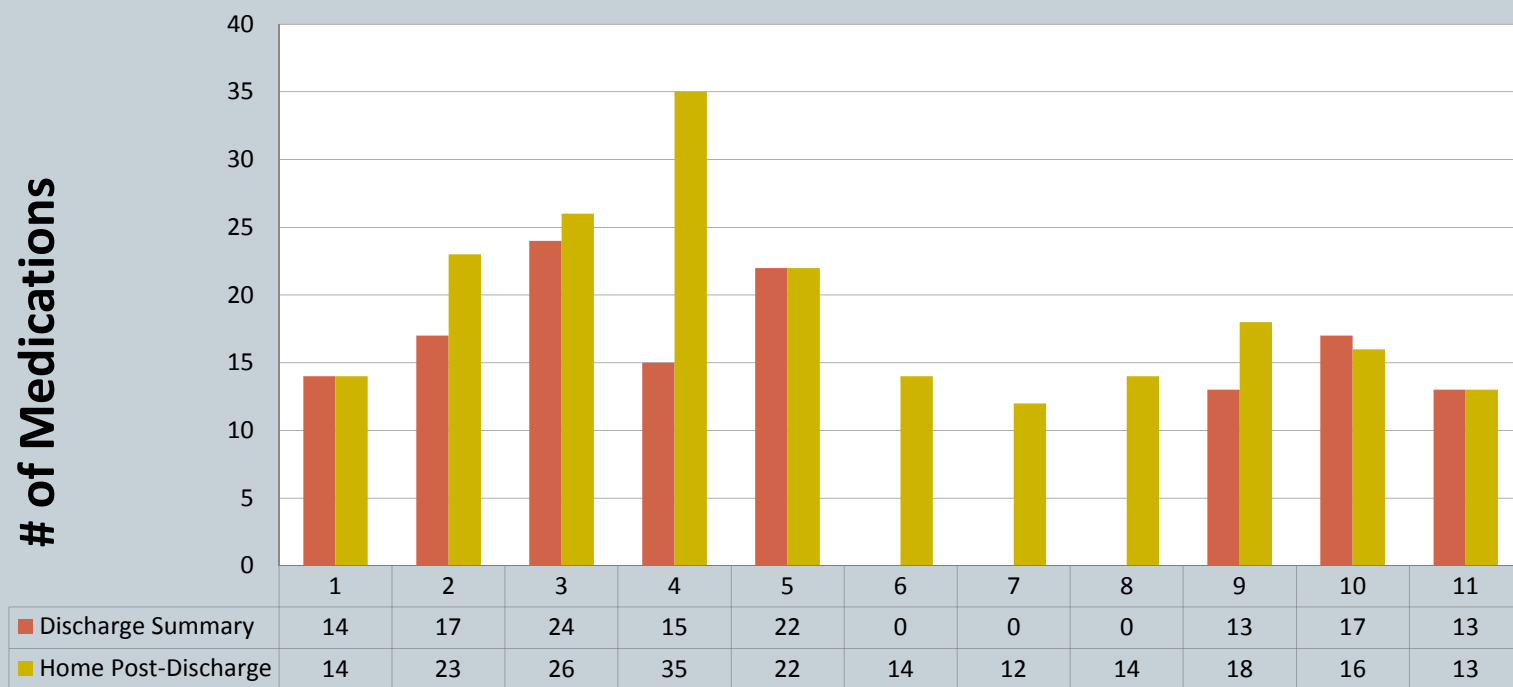**Sometimes when you feel sick, do you stop taking this medicine? Y N   S**
Do you ever miss taking your medication? Y   N S

PDSA #1 Results

Patient Medications: Discharge to Home

	1	2	3	4	5	6	7	8	9	10	11
▪ Discharge Summary	14	17	24	15	22	0	0	0	13	17	13
▪ Home Post-Discharge	14	23	26	35	22	14	12	14	18	16	13

Source of Medication List

PDSA #2: Med Rec in HIE

Medication List

Medication List

MEDICATION	SIG	START DATE
Carvedilol 25 mg [tablet] [Substitutions Permitted] –	1 tab(s) PO BID	06/05/2012
Renagel 800 mg [tablet] [Substitutions Permitted] –	2 tab(s) PO TID	06/05/2012
loperamide 2 mg [capsule] [Substitutions Permitted] –	1 cap(s) PO Q4H	06/05/2012
Simvastatin 20 mg [tablet] [Substitutions Permitted] –	1 tab(s) PO once a day (at bedtime)	06/05/2012
hydrALAZINE 25 mg [tablet] [Substitutions Permitted] –	1 tab(s) PO TID	06/05/2012
Flomax 0.4 mg [capsule] [Substitutions Permitted] –	1 cap(s) PO once a day	06/05/2012
Lasix 80 mg [tablet] [Substitutions Permitted] –	1 tab(s) PO QAM	06/05/2012
Lisinopril 20 mg [tablet] [Substitutions Permitted] –	1 tab(s) PO once a day	06/05/2012
Nephrocaps Vitamin B Complex with C and Folic Acid [capsule] [Substitutions Permitted] –	1 cap(s) PO once a day	06/05/2012

PDSA #2 Results

Limitations

- Care Transitions Program
- HIE Infancy
- Discharge Summaries
- Data Exchange

Next Steps

- ## PDSA #3
  - Communications (newsletters, monthly meetings, etc.)
  - EMR flags
- ## Technical
  - Tablets for Care Transitions Team
  - CCD exchange across providers
- ## Adaptive
  - Provider education on HIE and medication reconciliation
  - Workflow improvements

Thank you!

Questions?