



TRANSITIONS OF CARE: IT'S MORE THAN JUST MEDICATION RECONCILIATION

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Learning Objectives

- Explain the role of the pharmacist in improving transitions of care
- Identify metrics that can be utilized to justify pharmacists in a transitions of care role
- Discuss strategies that can be used at your institution to implement transitions of care

By show of hands...how many of
you are:

A. Pharmacists/pharmacy technicians?

B. Nurses?

C. Physicians?

D. Administrators?

E. Other?

Audience Poll

Which of the following **best** describes pharmacy involvement in medication reconciliation at your institution/health system:

- a. Pharmacists/pharmacy extenders provide **ONLY** medication history/reconciliation services on admission (ED and/or inpatient)
- b. Pharmacists/pharmacy extenders provide **ONLY** medication reconciliation on discharge
- c. Pharmacists/pharmacy extenders perform medication history/reconciliation on **BOTH** admission and discharge, working with team to correct any/all discrepancies
- d. No current pharmacist involvement in medication reconciliation at admission or discharge
- e. No idea

Definitions

Best Possible Medication History

- Obtaining a comprehensive list of medications from interviewing the patient/caregivers and referencing with at least one additional source

Medication Reconciliation

- Creating the most accurate list possible of all medications a patient is taking and comparing that list against orders

Transition of Care

- The movement of a patient from one health care provider or setting to another

Hospital Readmissions Reduction Program (HRRP)

- Medicare value-based purchasing program that reduces payments to hospitals with excess readmissions

Why Transitions of Care (TOC) Matter

Medication-related problems are implicated as one of the largest causes of readmissions, many of which are deemed preventable

CMAJ. 2011;183:E391-E402.

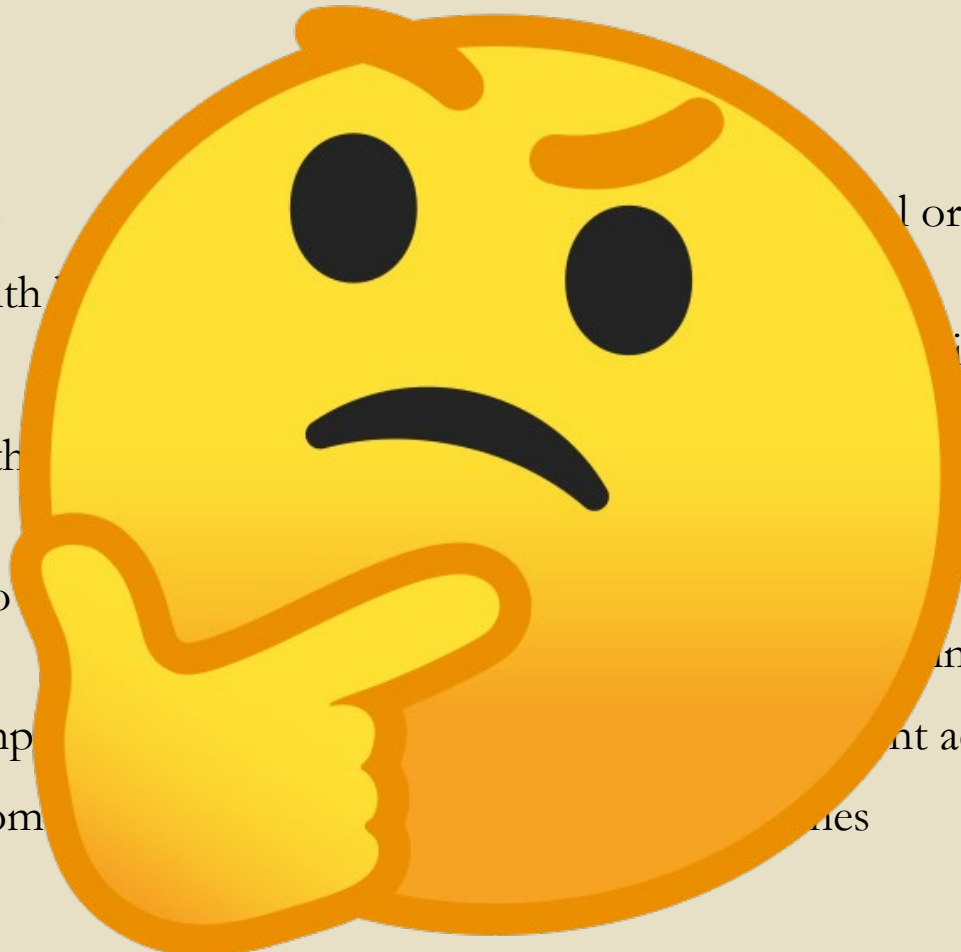
Conditions With the Largest Number of Adult Readmissions by Payer, 2011. April 2014. <https://www.hcup-us.ahrq.gov/reports/statbriefs/sb172-Conditions-Readmissions-Payer.jsp>. Accessed September 16, 2019.

N Engl J Med. 2009;360:1418-1428.

BMC Health Services Research 2013, 13:230. Accessed online September 15, 2019

Patients at Risk During Transitions

- Older adults
 - Limited health
 - End of life
 - Children with needs
 - Patients who medications
 - Cognitive imp
 - Increased com
- l or behavioral
- ies
- ong term care
- meless
- ing index visit
- nt admission
- ies



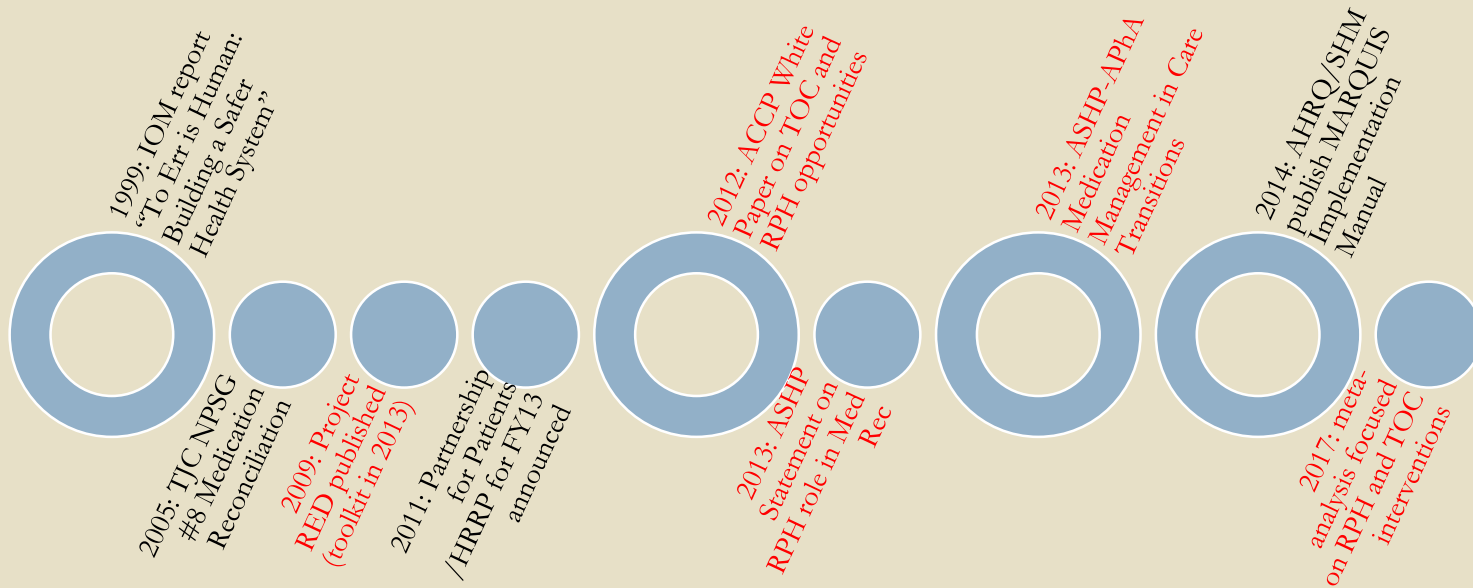
Barriers to Safe Transitions

- Ineffective delivery of team-based care
- Lack of evidence-based treatment decisions
- Lack of healthcare provider accountability
- Inaccurate medication reconciliation
- Unsuccessful communication
- Delayed transfer of critical information
- Non-standardized hand-off
- Untimely follow-up
- Subpar patient/caregiver education

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Evolution of Pharmacy in Transitions of Care



IOM = Institute of Medicine; TJC = The Joint Commission; NPSG = National Patient Safety Goal; Project RED = Project Re-engineered Discharge; HRRP = Hospital Readmission Reductions Program; ACCP = American College of Clinical Pharmacy; ASHP = American Society of Health-System Pharmacists; APhA = American Pharmacists Association; AHRQ = Agency for Healthcare Research and Quality; SHM = Society of Hospital Medicine; MARQUIS = Multi-Center Medication Reconciliation Quality Improvement Study

Project Re-engineered Discharge (RED)

- RCT at Boston Medical Center to evaluate the clinical effect of a re-engineered discharge program among patients admitted to a general medicine service
- 2 groups: Intervention (n=370) vs. standard of care (n=368)
- Primary endpoint: total # of ED visits and readmissions per participant within 30 days
- 3 main interventions
 - Nurse discharge advocate (DA)
 - After hospital care plan (AHCP)
 - Clinical pharmacist call 2 to 4 days after index discharge to review medications
 - Performed medication review with 195 (53%); 103/195 (53%) had at least 1 medication problem requiring intervention
- Results: Intervention group had lower rate of hospital utilization at 30 days (incidence ratio 0.695; $p = 0.009$) and equated to utilization cost savings of ~\$412/discharge

American College of Clinical Pharmacy (ACCP) White Paper

- **Excellent overview of TOC and how pharmacists may contribute by setting:**
 - **Inpatient Pharmacists**
 - Participate on medical rounds, where available
 - Perform thorough medication reconciliation and admission drug histories
 - Apply drug therapy knowledge to anticipate/resolve problems during transitions
 - Assess appropriateness of drug regimens, adherence issues, health literacy
 - Educate patients/caregivers (review additions, deletions and changes; explain rationale)
 - Pharmacist to pharmacist “handoff” when patient transfers level of care (i.e. ICU → medicine floor)
 - Perform discharge medication reconciliation, along with patient interaction to assure follow-up plan
 - Communicate a reconciled medication list to patient’s follow-up provider AND community pharmacist
 - Inpatient or community/ambulatory pharmacist SHOULD provide phone follow-up 2-4 days after discharge to reduce readmissions
 - Dedicated discharge pharmacists, especially when home health is required

ACCP White Paper (cont'd)

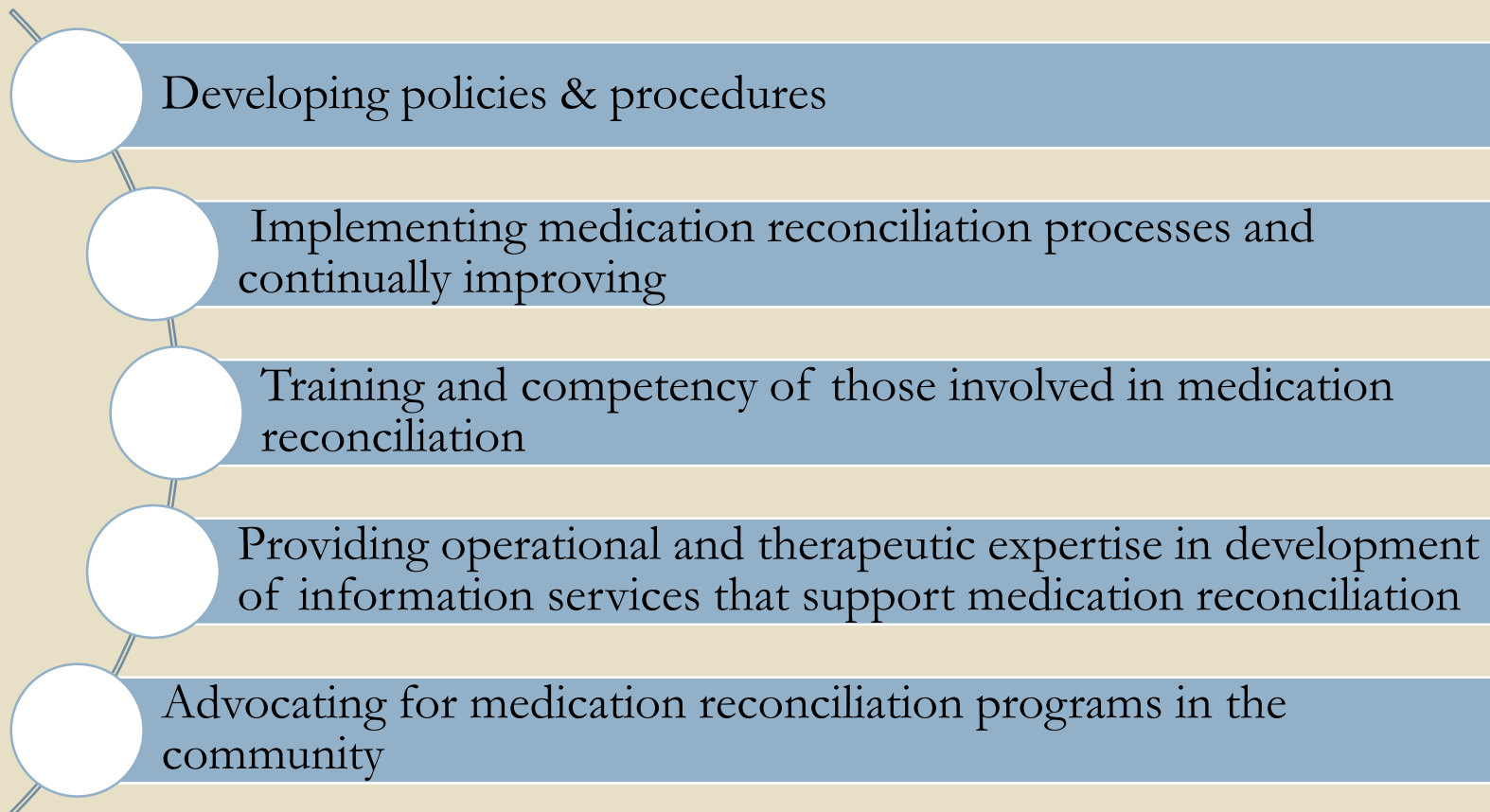
◦ **Long-term Care**

- Consultant pharmacist should perform medication reconciliation on frail, medically complex, older adults being transferred to LTCF
- Medication reconciliation should be performed within 5 days of readmission after hospitalization
- Counsel family members about drug changes

◦ **Community/Ambulatory Pharmacists***

- Clarify potential discrepancies between new medications and home regimen after care transitions
- Review medications and resolve identified drug therapy problems
- Perform home visits (when applicable/necessary)
- Assure patient does not erroneously get discontinued medications (i.e. auto-refill programs)
- Optimize formulary options/cost avoidance
- Assist patients/caregivers in understanding discharge paperwork
- Ownership of accuracy and completeness of medication lists in electronic medical record*

American Society of Health-System Pharmacists (ASHP) Statement on Pharmacist's Role in Medication Reconciliation



ASHP-APhA Medication Management in Care Transitions (MMCT) Best Practices

- In December 2011, ASHP and APhA issued a call for best practices involving pharmacists in TOC
- More than 80 institutions submitted and 8 institutions were selected
- Information shared for each selected institution included: pharmacy initiatives/involvement, patient progression through MMCT process, use of technology, metrics, continuous quality improvement, barriers, cost justification and future plans
- Pharmacy involvement was diverse and included inpatient and outpatient involvement and included pharmacists, as well as pharmacy extenders

ASHP-APhA Medication Management in Care Transitions (MMCT) Best Practices

- Selected metrics cited for pharmacy-driven TOC initiatives:
 - 30-day readmission rates and/or ED utilization
 - Pharmacist interventions (types/classifications, potential to cause harm, physician acceptance)
 - Gaps in therapy/additions to therapy
 - Patient satisfaction scores (HCAHPS)
 - Core measure compliance
 - Patient surveys
 - Average length of stay
 - Prescription capture (as part of cost justification)

Is Medication Reconciliation Enough?

- Pharmacist-led comprehensive medication reconciliation programs reduce adverse drug event-related visits, ED visits and hospital readmissions; however, studies were not homogeneous and many programs had multiple components (i.e. counseling, telephone follow-up, etc.)¹
- Multimodal interventions by multidisciplinary teams involved in transitions of care improve patient outcomes and reduce readmissions when compared to single-modal interventions²
- Pharmacy-supported TOC services have a significant impact on 30-day readmissions and are further enhanced when a patient-centered, post-discharge intervention is included³

Patient follow-up	Odds ratio	95% Confidence Interval
No follow up (9)	0.829	0.705, 0.975
Telephone (12)	0.644	0.529, 0.783
Clinic (5)	0.396	0.233, 0.671
Combination (7)	0.574	0.480, 0.686
Overall (34)	0.678	0.613, 0.749

Learning Assessment #1

According to ASHP, all of the following are suggested roles of the pharmacist in medication reconciliation **EXCEPT**:

- a. Providing therapeutic expertise in IS decisions surrounding medication reconciliation
- b. Development of policies and procedures
- c. Performing all medication histories for admitted patients
- d. Advocating for medication reconciliation programs in the community

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- a. Providing therapeutic expertise in IS decisions surrounding medication reconciliation
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Learning Assessment #2

You are piloting pharmacist-led TOC services at your hospital, which has had hefty penalties under the Hospital Readmissions Reduction Program for the last 3 years. Which of the following metric would be most impactful to show impact?

- a. Prescription capture
- b. Averted drug events
- c. Improvement in HCAHPS scores
- d. 30-day readmission rates

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- a. Prescription capture
- b. Averted drug events
- c. Improvement in HCAHPS scores
- d. **30-day readmission rates**



Norton Healthcare's Journey

It all started in
summer 2017...



By show of hands...

- How many of your hospitals have a retail pharmacy?
- How many of your hospitals offer bedside delivery prior to discharge?
- Is your utilization of bedside delivery optimized, especially for high risk patients?

Pharmacy Pilot – Norton Women’s and Children’s Hospital

- Development of Pilot



- Outcomes/metrics for Pilot

- Prescription capture – Meds to Beds (M2B)
 - Overall growth in capture rate/revenue
 - Capture growth in pilot group vs. non-pilot group
- Medication discrepancies/averted medication events
- 30-day readmission rates – M2B vs. no M2B

Inclusion Criteria on Patient List

INCLUSION CRITERIA

High risk patients → anyone with ≥ 1 of the following*:

- PTA medications ≥ 8
- LACE+ score $> 58^\dagger$
- ≥ 1 target medication (anticoagulants, antifungals, PO vancomycin, etc.)

AND

Pilot attending physician (7 hospitalists)

*Each bullet = five points

† LACE+ is a validated tool to predict death or readmission after discharge based on: Length of stay (L); Acuity of admission (A); Comorbidity/Charlson score (C); ED utilization in previous 6 months (E); and other factors that include age, sex, teaching status of discharge institution, number of urgent admissions in previous year, number of elective admissions in previous year, case-mix score, number of days on alternative level of care status (+)

PHARMACY WORKFLOW

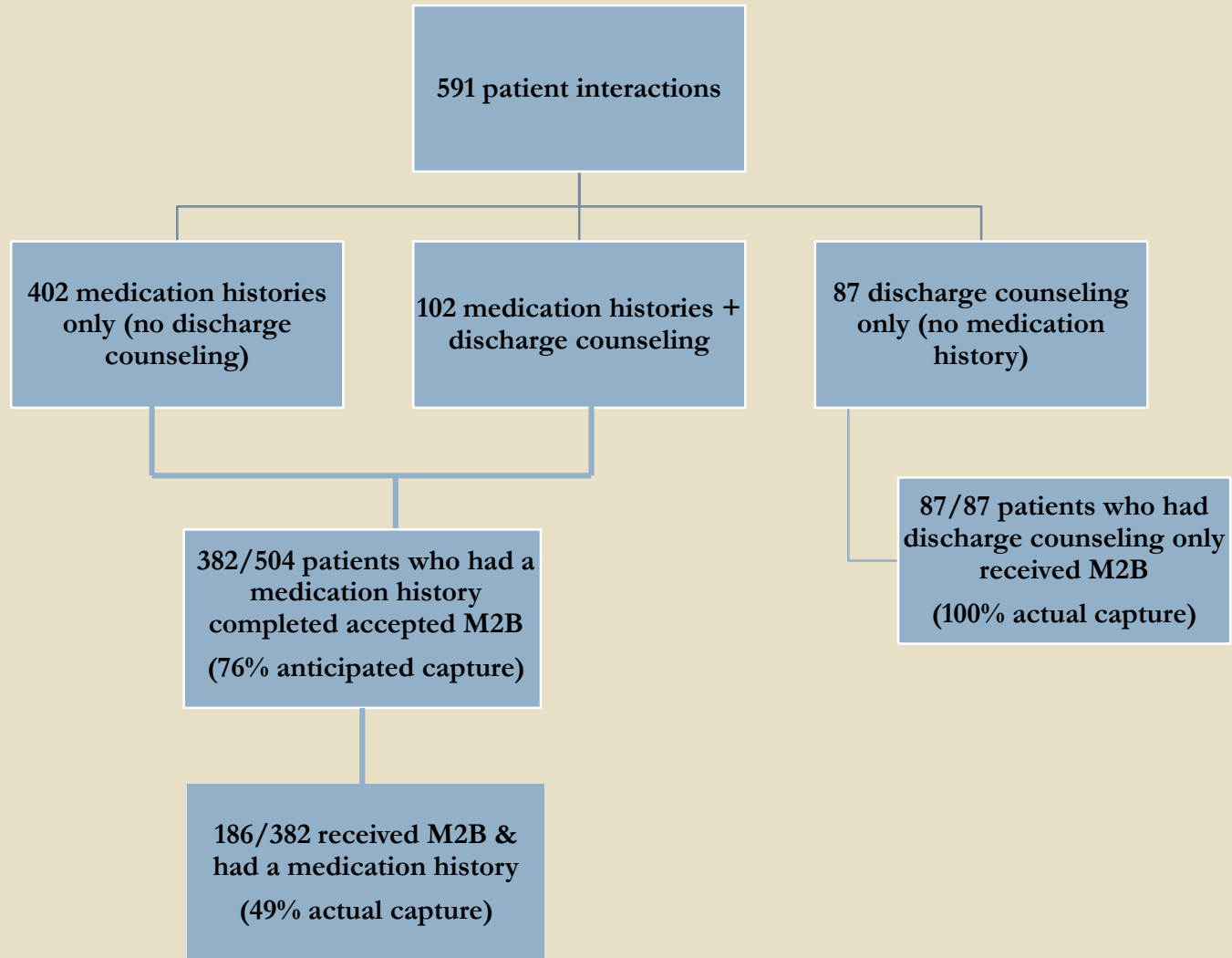
Assess patient list to determine new admits with highest scores & anticipated discharges using M2B

Complete medication histories and offer M2B and make appropriate interventions with attending

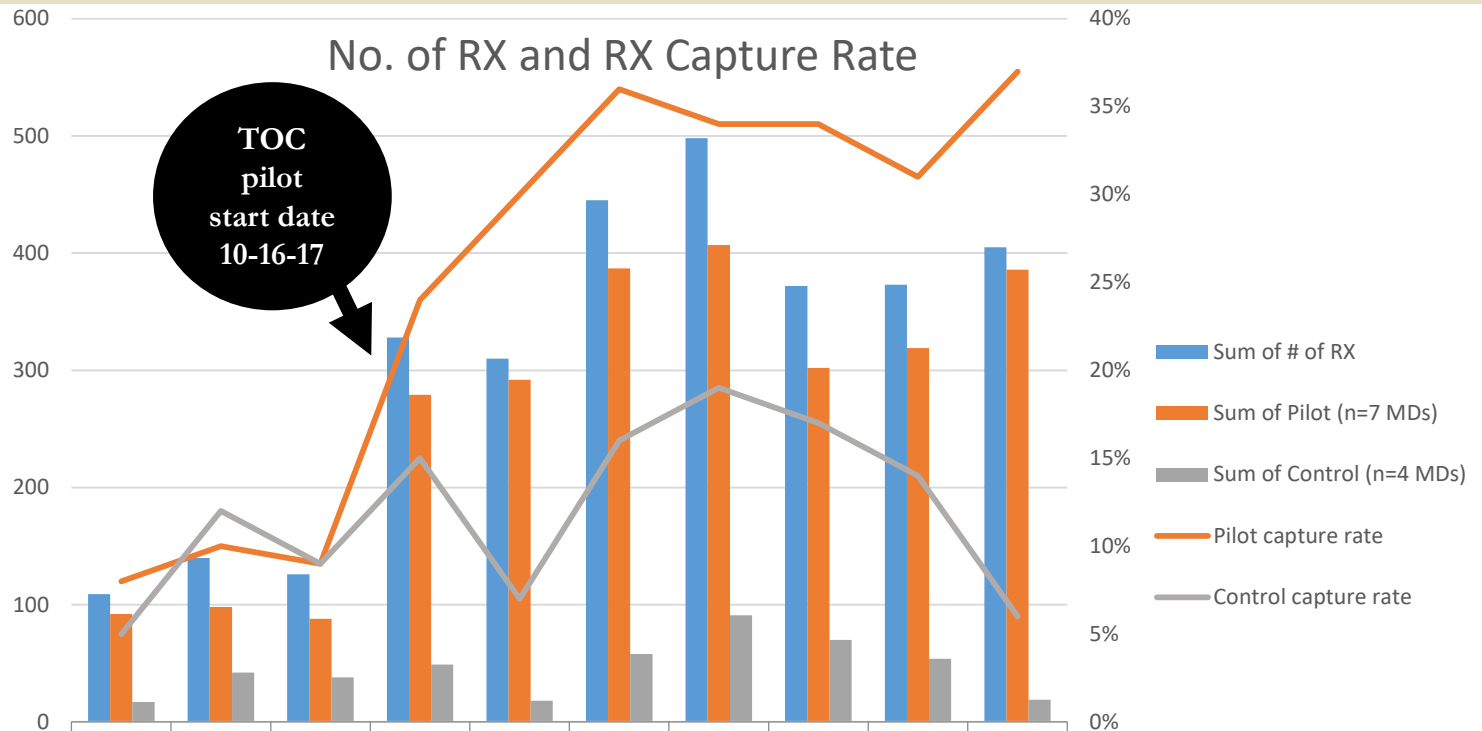
Coordinate with CM & MD to reconcile discharge medications and send RXs to retail pharmacy

Work with outpatient pharmacy to resolve any barriers and provide counseling to patients

Pilot Patient Interactions



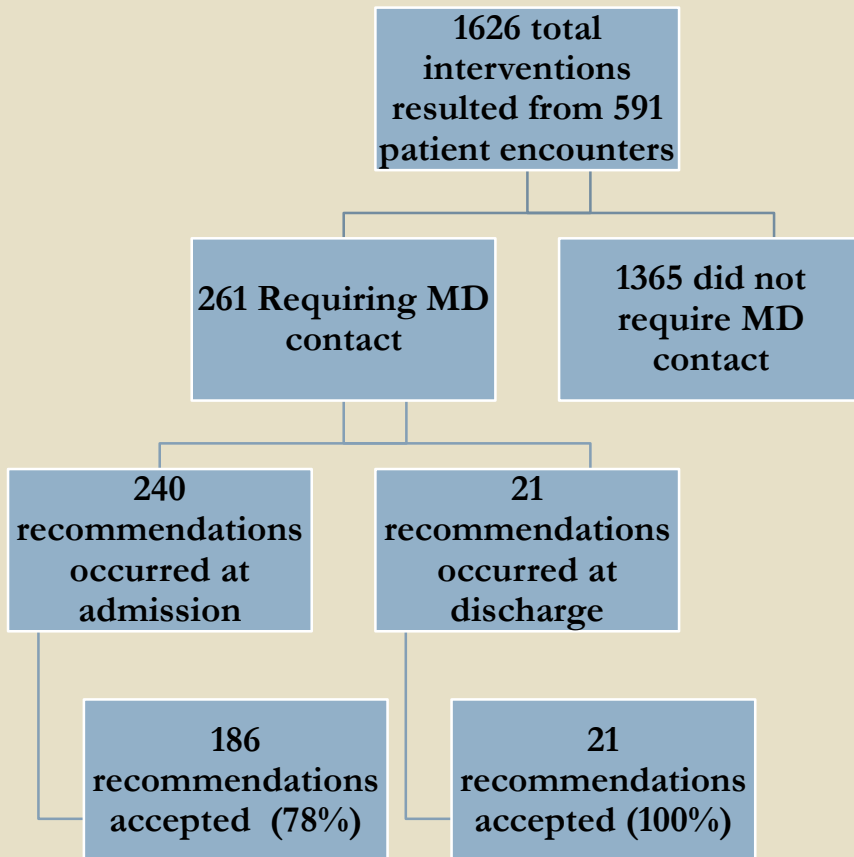
Prescription Capture



**TOC
pilot
start date
10-16-17**

	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Sum of # of RX	109	140	126	328	310	445	498	372	373	405
Sum of Pilot (n=7 MDs)	92	98	88	279	292	387	407	302	319	386
Sum of Control (n=4 MDs)	17	42	38	49	18	58	91	70	54	19
Pilot capture rate	8%	10%	9%	24%	30%	36%	34%	34%	31%	37%
Control capture rate	5%	12%	9%	15%	7%	16%	19%	17%	14%	6%

Pharmacist Interventions



Interventions per patient	No. (%) patients N = 591
0	165 (28%)
1	93 (16%)
2	88 (15%)
3	68 (12%)
4	42 (7%)
5	38 (6%)
6 or more	97 (16%)
Total	591 (100%)

- 72% of patients had 1 or more errors
- 41% of patients had ≥ 3 errors

30-Day Readmission Data

591 patient interactions

All patients in this pilot had at least one of the following and were all deemed “high risk”:

- PTA medications ≥ 8
- LACE+ score > 58
- ≥ 1 target medications (anticoagulants, antifungals, PO vancomycin, etc)

273 received M2B

318 did not receive M2B

Excluded if:

- Discharged to a facility
- No RX at discharge
- Hospice/other

189 received counseling

84 did not receive counseling

163 received ≥ 1 RX at an outside pharmacy and d/c home

29/189 readmitted
(30-day readmission rate = 15%)

17/84 readmitted
(30-day readmission rate = 20%)

43/163 readmitted
(30-day readmission rate = 26%)

TOC Pilot Alignment with Norton Healthcare Goals

Reaching for
Zero

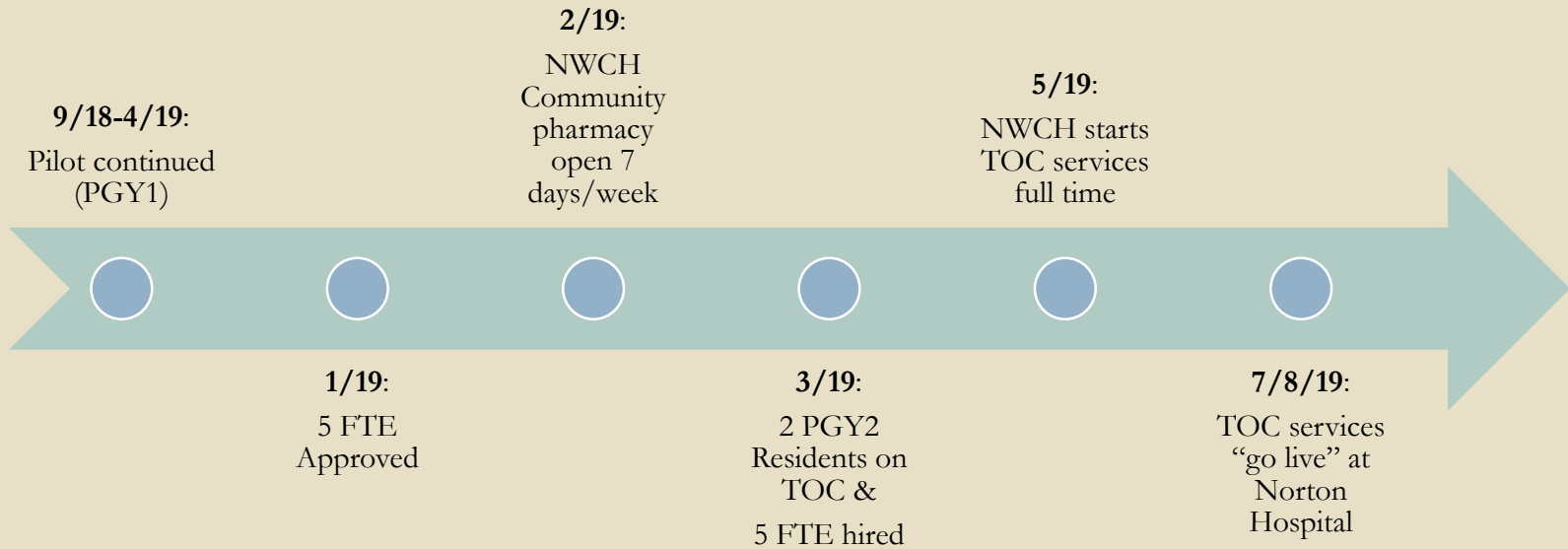
Patient
experience

30-day
readmission
rates

Stewardship

Revenue

Progression Timeline



Refined Workflow

Focus on High Risk Patients

- Scored list that assigns points for the following:
 - Polypharmacy – > 15 PTA meds have highest score
 - LACE+ score > 58 points
 - Diabetes (uncontrolled)
 - Target medications
 - Specialty medications
 - Individuals with NHC insurance plan
- Patient-centric vs. Physician-centric
- Standardized notes in EMR (10/1/2019)

Patient Interactions

Admission:

- Medication history/correct errors/update PTA list
- Identify potential adherence issues
- Offer Meds to Beds → update pharmacy in EMR

Discharge (patients going HOME with M2B):

- Review AVS for accuracy → work with MD to correct errors
- Discharge counsel on all new medications
- Assist with financial/insurance barriers
- Optimize chronic disease state management

Scored List in Electronic Medical Record

☆ Inpatient TOC 83 Patients Refreshed 1 minute ago Search Current Location

TOC Score	Patient Name	Room/Bed	Attending	Admit Date	Admission Med Rec Complete?	Meds to Beds	Discharge Rx Status	RPH Med Hx	Discharge Med Rec Complete?	Discharge order signed?	RPH D/C Counseling	Anticoag TOC	LAC Score	Expected Discharge Location
56			—	10/13/2019		✓	—	✓		—	—	—	76	Home with HH VNA
45			Tuong, Hieu T, MD	10/11/2019	✓	✓	—	✓		—	—	—	79	home
45			Al Jajeh, Ammar, MD	10/10/2019	✓	✓	—	✓		—	—	—	64	HOME POTENTIAL HH
26			Case, Kimberly, MD	10/09/2019		✓		✓		—	—		60	home
26			Tuong, Hieu T, MD	10/12/2019			—	✓		—	—	—	76	home
25			Tuong, Hieu T, MD	10/13/2019	✓	✓	—	✓		—	—	—	77	home
20			Thomas, Kathy J., MD	10/11/2019		✓		✓		—	—	—	32	home
20			Ajmani, Deep, MD	10/07/2019	✓	✓	—	✓		—	—	—	74	home
20			Ajmani, Deep, MD	10/09/2019	✓	✓	—	✓		—	—	—	40	REHAB VS RETURN HOME
20			Ajmani, Deep, MD	10/12/2019	✓	✓	—	✓		—	—	—	30	home

[RX Meds to Beds](#)
[Stewardship Monitoring](#)
[Index](#)
[Ancillary Orders](#)
[Rx Snapshot](#)
[Overview](#)
[Anticoag Monitoring](#)

RX Meds to Beds

Transitions of Care (TOC) : 45

PTA meds > 15: 20 points (Up 20 points since last review) - [Last updated: 10/15/19 1107] [Comment](#)

LACE Score > 58: 5 points (Up 5 points since last review) - [Last updated: 10/15/19 1107] [Comment](#)

Elevated Hgb A1C, Blood Glucose, or insulin drip order: 20 points (Up 20 points since last review) - [Last updated: 10/15/19 1107] [Comment](#)

This patient has either an elevated Hgb A1C > 9 in past 30 days, a Blood Glucose reading > 350 during admission, or has had an Insulin Drip order.

Hemoglobin A1C Results (Last 30 days)

10/12/19
0308

Hgb A1C **10.8**

Glucose (Last result from the past 72 hours)

TOC Service Metrics

- Prescription capture & capture rates/revenue
- Interventions made at admission and discharge
 - Dose/frequency errors
 - Restarted or omitted in error
 - Drug-drug/drug-disease contraindications
 - Chronic disease optimizations

In process:


- 30-day readmission rates
- HCAHPS scores surrounding medications
- Communication with nurse navigators/providers to solve barriers

Service Impact

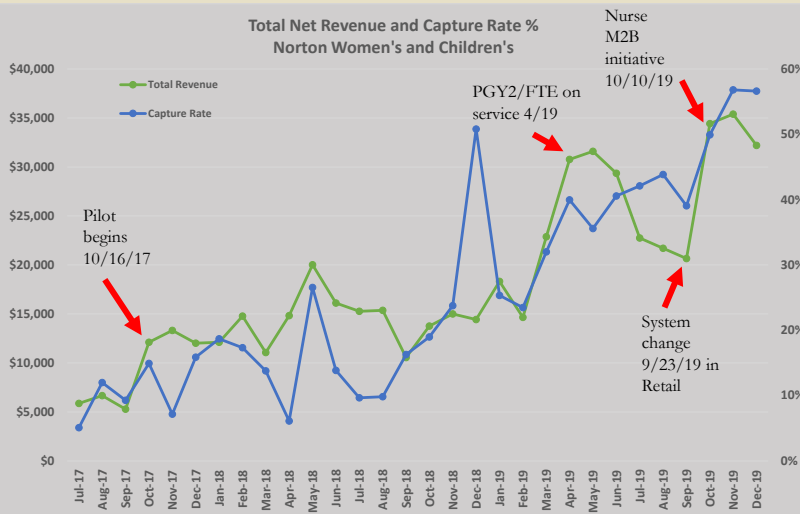
	Women's & Children's 5/6 – 12/31/2019	Norton Hospital 7/8 – 12/31/2019	Total
Medication History	2,032	1,080	3,112
Discharge Counseling	1,733	1,063	2,796
BOTH Med Hx & Discharge Counseling	1,431	565	1,996

Pharmacist Interventions

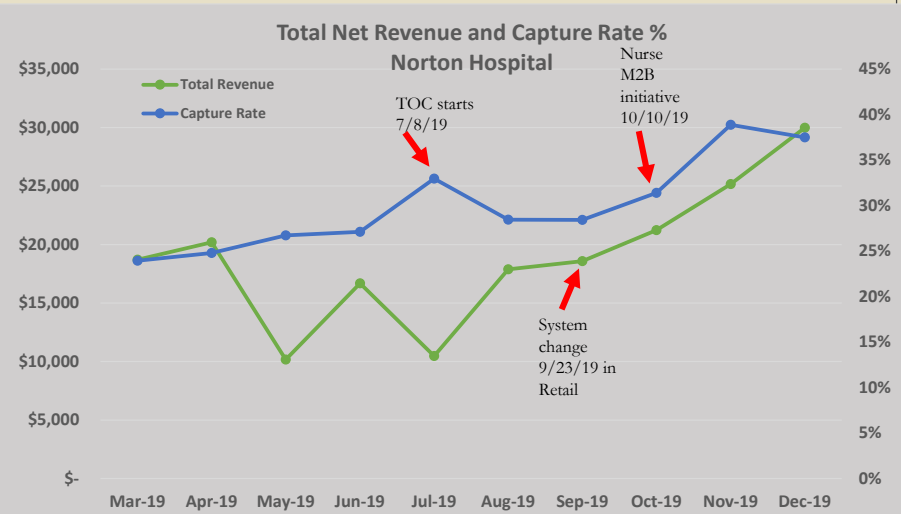
Includes interventions requiring provider contact from May 6 – December 31, 2019

- 
- 1,972 recommendations
 - 753 at time of discharge
 - 586 therapy optimizations
 - 89% accepted by provider

Capture Rate and Net Revenue



Information for NWCH is based on “pilot physicians” for 2017-18 data and all hospitalists for 2019 – as of spring 2019, this is not inclusive of all TOC patients that are touched during stay



Information for Norton Hospital is based on 19 physicians, mostly hospitalists, that account for the most discharges – this is not inclusive of all TOC patients that are touched during stay

Next Steps

- Finalize standardized metrics and methods of reporting for service line → dashboard and automated reports (in progress)
- Create tools in electronic medical record to easily capture data/metrics (complete)
- Expand services to other 2 adult hospitals
- Continue to partner with stakeholders (physicians, care management, nursing, pharmacy) to provide medication expertise for complex patients at high risk for readmission
- Discharge phone calls for highest risk patients → partner with other ongoing initiatives
- Explore opportunities to partner with Norton outpatient providers
- Continue to plan for ambulatory pharmacy expansion

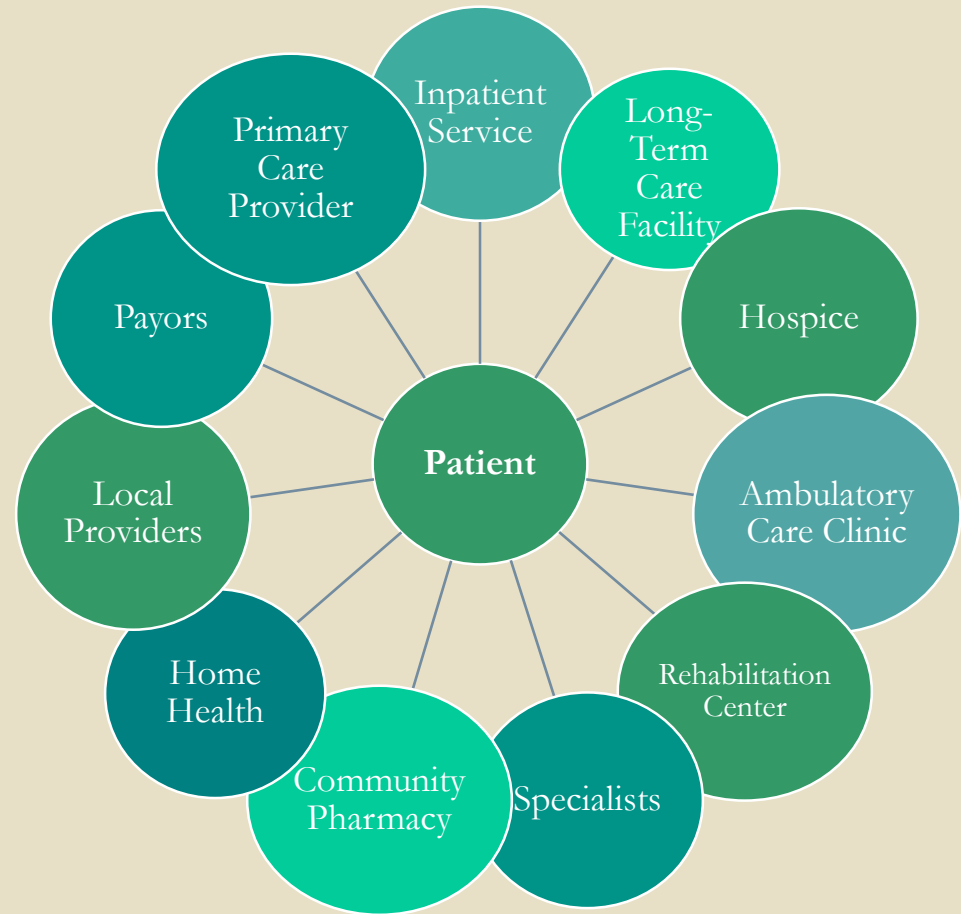


Transitioning
to the
Community

...

Where is the Disconnect?

- During transitions of care, it is important to consider the many components of the healthcare system that the patient may come into contact with and where potential problems may arise
- Inadequately performed care transitions can result in:
 - Poor patient/caregiver understanding
 - Medication errors
 - Patient/caregiver stress
 - Poor outcomes



Role of the Community Pharmacist

- **Medication Reconciliation Following Discharge**
 - Often includes a verbal history of medication changes from the patient or caregiver and review of the discharge summary from the hospital
- **Medication Therapy Management/Comprehensive Medication Review**
 - Allows the pharmacist to identify and resolve drug therapy problems in collaboration with the patient and prescriber
- **Medication Education**
 - Provision of information to the patient regarding proper use of their medications, adverse effects, and signs or symptoms of worsening disease
- **Promotion of Medication Adherence**
 - Adherence packaging, medication boxes, adherence counseling, refill management, medication synchronization, etc.
- **Follow-up**
 - Routine follow-up regarding medication adherence, adverse effects, un-resolving symptoms, etc.
 - Relaying information to providers to encourage medication changes or need for further evaluation

Impact of the Community Pharmacist

- Community pharmacists are in a unique position to provide high-touch services to patients to ensure safety and efficacy of their medications, especially during transitions of care
- **Example Program: Home-Connection**
 - In-home medication management service designed for independently living older adults
 - Utilizes 2 pharmacists (one full-time and one part-time pharmacy resident), 2 technicians, 1 intern
 - After an initial CMR/evaluation pharmacists/certified pharmacy technician visit with each patient at least once per week to provide the following services: continuous medication monitoring, individualized medication packaging, communication with other healthcare providers when indicated, provision of updated medication records, special delivery/pick-up for new, changed, or discontinued medications, and collaborative drug therapy management

Home Connection Program

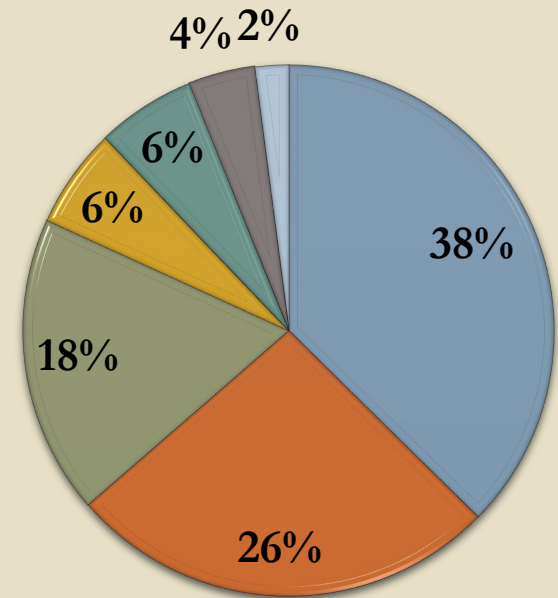
- How are patients identified?
 - Referred by Providers
 - Referred by Home Health
 - Referred by Facilities
 - Word-of-mouth
- How is the pharmacist compensated?
 - Private pay
 - Long-term care insurance

Evaluating the Impact of the Community Pharmacist

- A 2015-2016 evaluation of the Home-Connection program revealed that 99 drug therapy problems were identified in 88 enrolled patients over a 4-week period
- 50 identified drug therapy problems required recommendations to the provider, of which 100% were accepted

Type of Drug Therapy Problem Intervention (n=99)

- Adherence
- Need Additional Drug
- Adverse Drug Reaction
- Unnecessary Drug
- Dose too high
- Dose too low
- Ineffective Drug



The Case of RS

- RS is a 96 YOM with history significant for odynophagia who recently presented to inpatient service for esophageal dilation procedure. Upon discharge, the patient was prescribed the following medications and utilized the institution's Meds-to-Beds service:
 - **Docusate 10 mg/mL liquid (10 mL by mouth twice daily) - received**
 - **Esomeprazole 40 mg oral powder (1 packet by mouth twice daily in place of pantoprazole/sucralfate) - received omeprazole 40mg capsules**
 - **Furosemide 10 mg/mL liquid (2 mL by mouth daily in the morning) - received furosemide tablets**
 - **Metoprolol Succinate 50 mg ER tab (1 tab by mouth daily) – no Medications sent**
 - **Potassium Chloride 10 mEq powder (1 packet by mouth every other day) - only received partial fill and was awaiting remainder to be mailed**
 - Apixaban 2.5 mg tab (1 tab by mouth twice a day) on med list but not received
 - Lisinopril 5 mg tab (1 tab by mouth daily) on med list but not received
 - Memantine 10 mg tab (1 tab by mouth at bedtime) on med list but not received
 - Tamsulosin 0.4 mg cap (1 cap by mouth at bedtime) on med list but not received
- Patient's home levothyroxine was not included in discharge medication list

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Opportunities for Improvement in Care Transitions

- Meet the patient where they are!
- Provide the patient/caregiver with resources for success
- Integrate with local providers and community pharmacists
 - Improves outcomes
 - Increases patient satisfaction
 - Increases quality of life
 - Improves patient safety
- Education
- Follow-up

Opportunities for Improvement in Care Transitions

- Increased communication between all members of the healthcare team.
- Understanding the importance of all parties involved.
- Patient-centered approach.
- Recognizing that one size does not fit all.
- Do what works for each individual patient based upon their specific needs and available resources.
- **Always remember that the end goal for everyone is the welfare of the patient!**

Bottom Line:

*Communication is key to successful
transitions.*

Group Discussion/Activity

- What is your pharmacists' role currently in medication reconciliation and/or transitions of care?
- If you could do one thing to advance pharmacy's involvement in the medication reconciliation process or transitions of care, what would it be?
 - How do you go about leveraging resources?
 - What would you want to measure?
 - Who are your champions?

Resources to Get You Started

- [MATCH Medication Reconciliation Toolkit](#) (Institute for Healthcare Improvement and Northwestern Memorial Hospital partnership)
- [MARQUIS Implementation Manual](#) (several resources online for download or via links; 14 month mentored program now available for \$4,700 after application process)
 - [Best Practice Medication History Tutorial](#)
- [Re-Engineered Discharge \(RED\) Toolkit](#) (Agency for Healthcare Research and Quality and Boston University Medical Center partnership focused on reducing readmissions)
- [ASHP-APhA Medication Management in Care Transitions Best Practices](#) (Joint 2013 publication highlighting 8 organizations for pharmacist's role in transitions of care)
- [The Joint Commission Transitions of Care \(ToC\) Portal](#)



QUESTIONS?

Amy L. Perpich, PharmD, BCPS
Cathy Hanna, PharmD