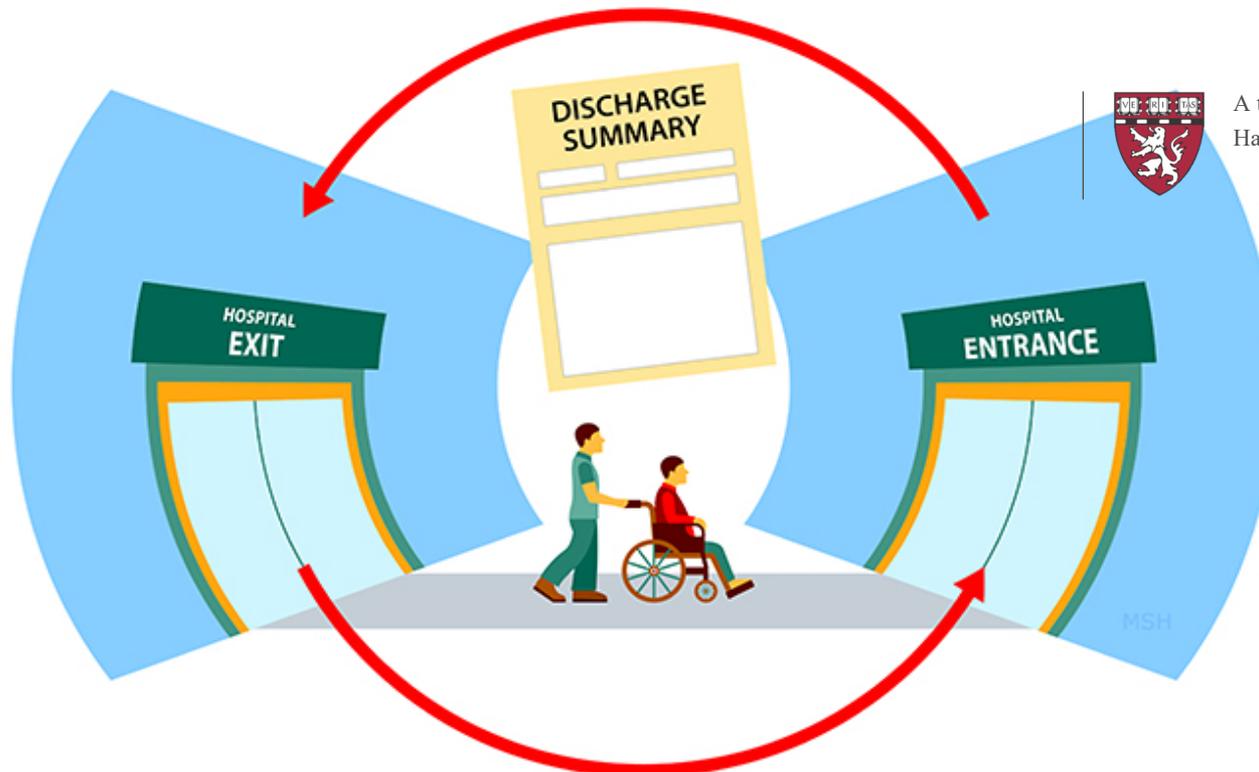




A teaching hospital of
Harvard Medical School



6 Weeks, 6 Transitions: Lessons Learned from One Patient

Anita Vanka, MD, FHM, FACP

Hospitalist
Beth Israel Deaconess Medical Center

Assistant Professor of Medicine
Harvard Medical School

Boston, MA

Conflict of Interest Disclosure

- I have no financial relationships with a commercial entity producing healthcare-related products and/or services.



Beth Israel Deaconess
Medical Center



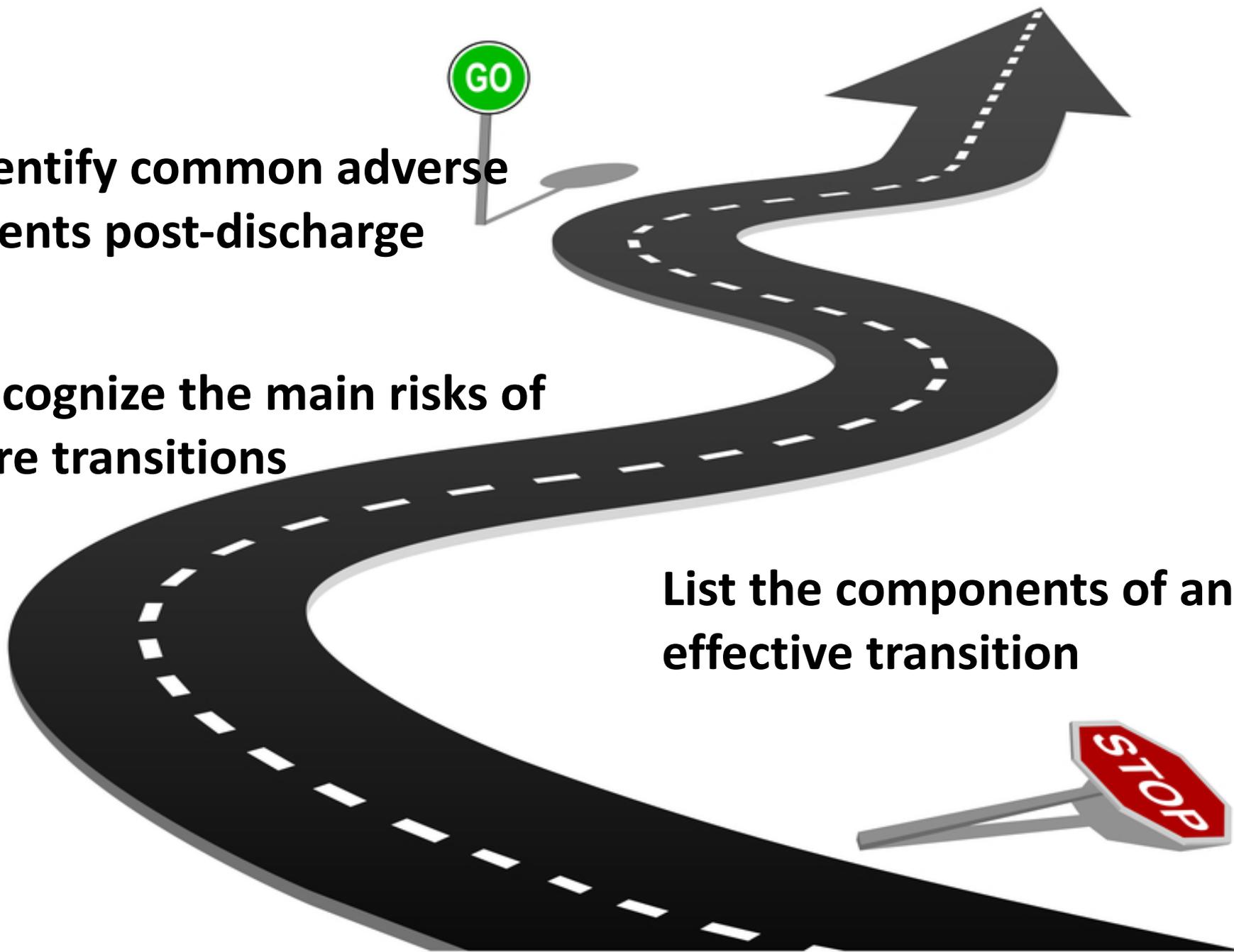
A teaching hospital of
Harvard Medical School



Identify common adverse events post-discharge

Recognize the main risks of care transitions

List the components of an effective transition



Our patient: Ms. D

- 71 y/o woman who lives at home with her husband
- Originally from Ireland, came to the US at age 15
- Has been married > 50 years
- She has 4 children, 7 grandchildren, 1 great-grandchild
- Former secretary
- Uses a walker and a prosthesis at home
- Husband helps with many ADLs



Beth Israel Deaconess
Medical Center



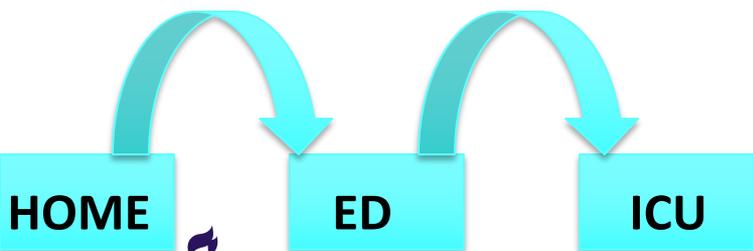
A teaching hospital of
Harvard Medical School

Our patient: Ms. D

- Past Medical History
 - Diabetes mellitus
 - HTN
 - Orthostatic hypotension
 - Peripheral neuropathy
 - PVD s/p right BKA
 - Chronic back pain
- Takes 25 different medications daily
 - Opiates
 - Anti-HTN meds
 - Insulin pump
 - Anxiolytics
 - Antiplatelets



- Severe confusion, fall, decreased urine output over 2-3 days
- Recently started on NSAIDs for shoulder bursitis
- Brought to the ED for evaluation
- Diagnosed with acute kidney failure, hyperglycemia, severe confusion
- Admitted to the Intensive Care Unit

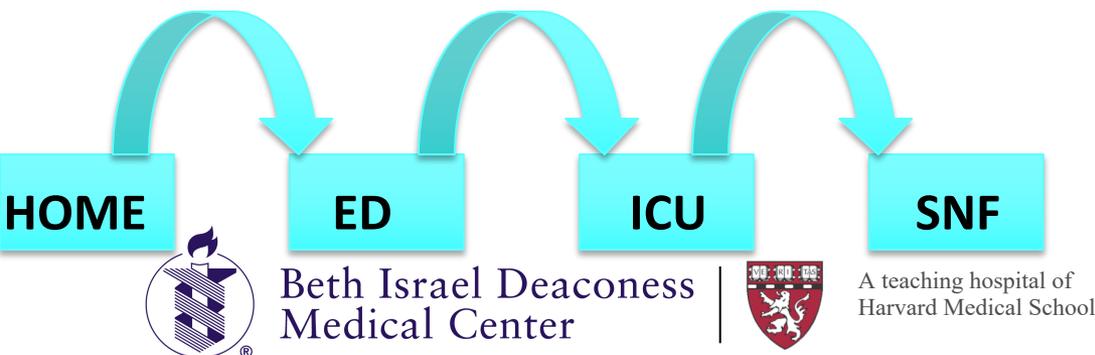


Beth Israel Deaconess
Medical Center



A teaching hospital of
Harvard Medical School

- Mental status slowly clears
- Kidney function improves
- Course complicated by severe high blood pressure
- Started on new anti-hypertensive agents
- Methadone started for pain control
- Insulin pump discontinued, long-acting insulin started
- Discharged to a skilled nursing facility



- Develops acute kidney failure again
- Changes to blood pressure medication regimen due to side effect
- Diagnosed with urinary tract infection, started on antibiotics
- Pain regimen changed
- Discharged to home on a Saturday

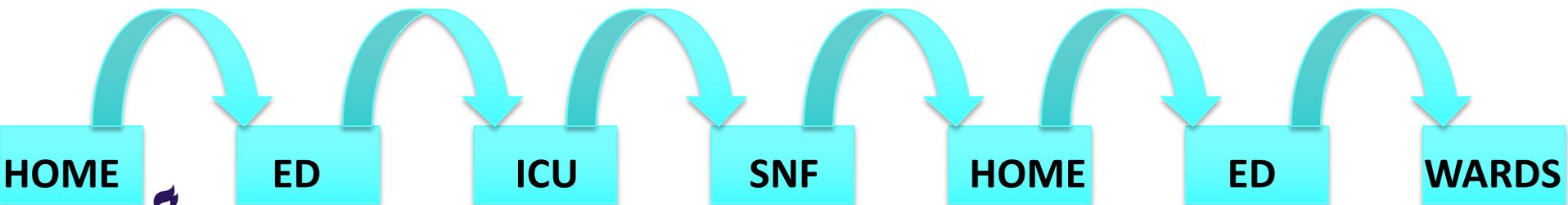


Beth Israel Deaconess
Medical Center



A teaching hospital of
Harvard Medical School

- Decreased urine output
- Two falls at home
- Slightly confused
- Noted by VNA to have “many many old meds around the house”
- Presents to the ED
- Found to be in acute kidney failure & hyperglycemic
- Admitted to Medicine

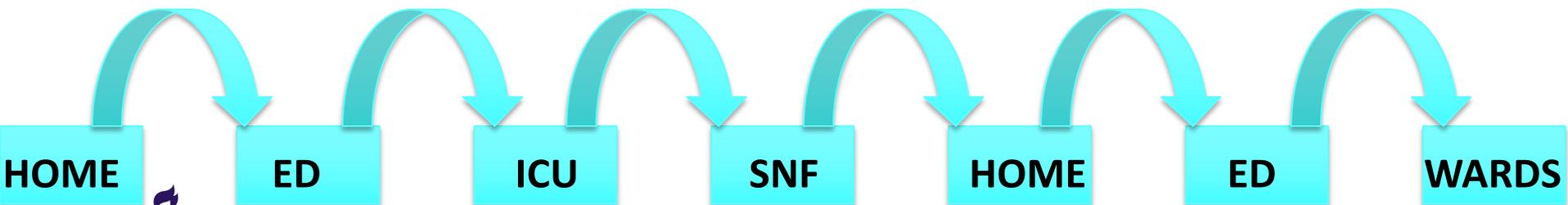


Beth Israel Deaconess
Medical Center



A teaching hospital of
Harvard Medical School

- Diagnosed with urinary retention again
- She was taking old oxycodone and morphine that she had at home
- She had re-initiated her insulin pump on her own
- Urinary retention resolves with foley placement
- Patient stabilized on long-acting insulin, methadone
- Discharged home with VNA



Beth Israel Deaconess
Medical Center

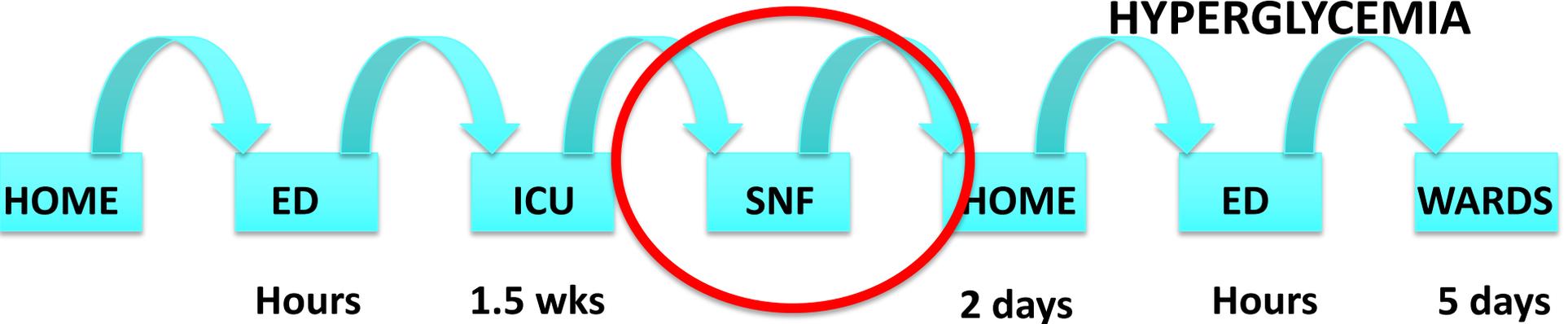


A teaching hospital of
Harvard Medical School

SIX MAJOR TRANSITIONS OVER SIX WEEKS

**INDEX DIAGNOSIS:
AKI, AMS,
HYPERGLYCEMIA**

**READMISSION
DIAGNOSIS:
AKI, AMS,
HYPERGLYCEMIA**



10/25



Beth Israel Deaconess
Medical Center



A teaching hospital of
Harvard Medical School

11/9

12/5

How do we define Transitions in Care?



“Set of actions designed to ensure the coordination and continuity of health care as patients transfer between different locations or different levels of care within the same location”



Beth Israel Deaconess
Medical Center



Coleman EA. Falling Through the Cracks: Challenges and Opportunities for Improving Transitional Care for Persons with Continuous Complex Care Needs. J Am Geriatr Soc 2003;51(4):549-555.

Prevalence of Post-hospital Transitions

- Hospitalized Medicare beneficiaries
 - 73% -> HOME
 - 17% -> SNF or Acute Rehab
 - 10% -> Different hospital or within the same hospital
- Number of transfers within 30 days
 - 61% single transfer
 - 18% two transfer
 - 8.5% three transfers
 - 4.3% four or more transfers



Why is this important?

- Vulnerable time for patients
 - Shorter length of stay
 - Possible worsening of functional impairments
 - Changes in treatment regimen
 - Discontinuities during their transitions



Beth Israel Deaconess
Medical Center



A teaching hospital of
Harvard Medical School

Medical Errors Related to Discontinuity of Care from an Inpatient to an Outpatient Setting

Carlton Moore, MD, Juan Wisnivesky, MD, Stephen Williams, MD, Thomas McGinn, MD

J GEN INTERN MED 2003;

MAIN RESULTS: Forty-nine percent of patients experienced at least 1 medical error. Patients with a work-up error were 6.2 times (95% confidence interval [95% CI], 1.3 to 30.3) more likely to be rehospitalized within 3 months after the first

association between medication continuity errors (odds ratio [OR], 2.5; 95%CI, 0.7 to 8.8) and test follow-up errors (OR, 2.4; 95%CI, 0.3 to 17.1) with rehospitalizations.

CONCLUSION: We conclude that the prevalence of medical errors related to the discontinuity of care from the inpatient to the outpatient setting is high and may be associated with an increased risk of rehospitalization.



Beth Israel Deaconess
Medical Center



A teaching hospital of
Harvard Medical School

Risks of Transitions

- Adverse drug events
- Missed results from pending tests
- Lack of appropriate follow-up



Beth Israel Deaconess
Medical Center



A teaching hospital of
Harvard Medical School

Risks of Transitions

- Adverse drug events
- Missed results from pending tests
- Lack of appropriate follow-up



Beth Israel Deaconess
Medical Center



A teaching hospital of
Harvard Medical School

ORIGINAL ARTICLES

Adverse Drug Events Occurring Following Hospital Discharge

*Alan J. Forster, MD, FRCPC, MSc,¹ Harvey J. Murff, MD,² Josh F. Peterson, MD,²
Tejal K. Gandhi, MD, MPH,³ David W. Bates, MD, MSc³*

¹Division of General Internal Medicine and Ottawa Health Research Institute, University of Ottawa, Ottawa, Ontario, Canada; ²Division of General Medicine, Vanderbilt University, Nashville, TN, USA; ³Division of General Medicine, Brigham and Women's Hospital, Harvard Medical School, Boston, MA, USA.

87% of ADEs associated with certain meds

Almost all cases associated with new med or
dose change

Risk of ADE increased with number of
medications prescribed



Beth Israel Deaconess
Medical Center



A teaching hospital of
Harvard Medical School

Discharge medication list

Discharge Medications:

1. Calcitrate-Vitamin D (calcium citrate-vitamin D3) 315-250 mg-unit Oral daily
2. Fish Oil (Omega 3) 1000 mg PO BID
3. carboxymethylcellulose sodium 1% Drops OU RPN dryness
4. Albuterol Inhaler 1 PUFF IH Q6H:PRN shortness of breath
5. Calcitriol 0.25 mcg PO DAILY
6. Citalopram 40 mg PO DAILY
7. Clopidogrel 75 mg PO DAILY
8. Cyanocobalamin 1000 mcg PO DAILY
9. cycloSPORINE 0.05 % OU TID
10. Docusate Sodium 100 mg PO BID
11. FoLIC Acid 1 mg PO DAILY
12. Glucagon 1 mg IM PRN low blood sugar
13. Levothyroxine Sodium 88 mcg PO DAILY
14. Lisinopril 20 mg PO DAILY
15. Metoclopramide 10 mg PO QIDACHS
16. Omeprazole 20 mg PO DAILY
17. Senna 2 TAB PO DAILY:PRN constipation
18. Tiotropium Bromide 1 CAP IH DAILY
19. Amlodipine 10 mg PO DAILY
20. Labetalol 600 mg PO TID
21. Glargine 18 Units Bedtime
Insulin SC Sliding Scale using HUM Insulin
22. Lidocaine 5% Patch 2 PTCH TD DAILY
23. Methadone 12.5 mg PO DAILY
24. Multivitamins 1 TAB PO QAM
25. Acetaminophen 650 mg PO Q6H



What happened to our patient after discharge from the SNF?

- Discharged on a Saturday
- Given new script for Methadone
- Pharmacy did not have the medication
- Began taking opiates that she had at home (oxycodone, morphine)
- Developed urinary retention, subsequent AKI, and altered mental status



Beth Israel Deaconess
Medical Center



A teaching hospital of
Harvard Medical School

Frequency and Predictors of Prescription-Related Issues after Hospital Discharge

Sunil Kripalani, MD, MSc¹

Megan Price, MS²

Victoria Minilunas, MD, MSc³

BACKGROUND: In the period immediately following hospital discharge, patients often experience difficulty with medication management. The problems related to patients' handling of discharge prescriptions are not well characterized.

CONCLUSIONS: About 7% of patients reported prescription-related issues within a few days of hospital discharge. High-risk patients should be identified and offered additional assistance prior to discharge and receive a follow-up phone call to assess if discharge prescriptions have been filled. *Journal of Hospital Medicine* 2008;3:12–19. © 2008 Society of Hospital Medicine.

¹ Division of General Medicine, Department of Internal Medicine, University of Colorado School of Medicine, Denver, Colorado

prescription-related issues, most often not filling discharge prescriptions. In multivariable analyses, prescription-related issues were more common among adults age 35-49; women; patients with Medicare HMO coverage, Medicaid, or no insurance; adults with higher severity of illness ratings; and patients prescribed 6 or more medications or an inhaler. Predictors of fewer problems were being age 65 or older; having HMO or commercial insurance; being prescribed antibiotics, anticoagulants, or angiotensin II receptor blockers; and having a major diagnosis in the skin or musculoskeletal categories.

CONCLUSIONS: About 7% of patients reported prescription-related issues within a few days of hospital discharge. High-risk patients should be identified and offered additional assistance prior to discharge and receive a follow-up phone call to assess if discharge prescriptions have been filled. *Journal of Hospital Medicine* 2008;3:12–19. © 2008 Society of Hospital Medicine.

Medications on Admission:
 The Preadmission Medication List:
 1. Calcitriol 0.25 mcg PO
 2. Citalopram 40 mg PO DA
 3. Clopidogrel 75 mg PO D
 4. Cyanocobalamin 1000 mcg
 5. cycloSPORINE 0.05 % OU
 6. Docusate Sodium 100 mg
 7. Fish Oil (Omega 3) 1000 mg
 8. Gabapentin 400 mg PO D
 9. Glucagon 1 mg IM PRN 1
 10. Levothyroxine Sodium 88 mcg
 11. Lorazepam 1 mg PO Q6H
 12. Metoclopramide 10 mg
 13. Calcitriol 0.25 mcg PO
 14. carboxymethylcellulose sodium 100 mg-unit Oral daily
 15. Folic Acid 1 mg PO DA
 16. Morphine SR (MS Contin) 10 mg
 17. Albuterol Inhaler 1 P
 18. Tiotropium Bromide 1 P
 19. Multivitamins 1 TAB P
 20. Omeprazole 20 mg PO D
 21. Oxycodone (Immediate Release) 5 mg
 22. Senna 2 TAB PO DAILY:
 23. Morphine SR (MS Contin) 10 mg
 24. Lisinopril 20 mg PO D
 25. Insulin Pump SC (Sensilin) 10 units/hr
 Aspart (Novolog) (non-for

Discharge Medications:
 1. Calcitriol 0.25 mcg PO
 2. Fish Oil (Omega 3) 1000 mg
 3. carboxymethylcellulose sodium 100 mg-unit Oral daily
 4. Albuterol Inhaler 1 P
 5. Calcitriol 0.25 mcg PO
 6. Gabapentin 400 mg PO D
 7. Oxycodone (Immediate Release) 5 mg
 8. Lisinopril 20 mg PO D
 9. Folic acid 1 mg daily
 10. MVI one tab daily
 11. Pantoprazole 40 mg daily
 12. Tiotropium MDI daily
 13. Levothyroxine 88 mcg daily
 14. Metoclopramide 10 mg qACHS
 15. Ciprofloxacin 250 mg BID x 1-5 days
 16. Omeprazole 20 mg daily
 17. Acetaminophen 650 mg
 18. Tiotropium Bromide 1 P
 19. Amlodipine 10 mg P
 20. Labetalol 600 mg P
 21. Glargine 18 Units
 22. Insulin SC Sliding Scale
 23. Lidocaine 5% Patch
 24. Methadone 12.5 mg
 25. Multivitamins 1 TAB P

Discharge Medications:
 1. Glargine 20 units qHS
 2. Novolog 12 units qAM, 32 units at lunch/dinner
 3. Novolog sliding scale
 4. Amlodipine 5 mg BID
 5. Methadone 5 mg BID
 6. Lidocaine 5% Patch
 7. Oxycodone (Immediate Release) 5 mg
 8. Acetaminophen 650 mg
 9. Ciprofloxacin 250 mg BID x 1-5 days
 10. Nyctanox 10 mg
 11. Gabapentin 400 mg PO D
 12. Pantoprazole 40 mg daily
 13. Doxycycline 100 mg BID
 14. Folic acid 1 mg daily
 15. Oseltamivir 75 mg BID
 16. Cilastatin 150 mg BID
 17. Calcium 1000 mg
 18. Clonidine 0.1 mg BID
 19. Cyclosporine 100 mg BID
 20. Folic acid 1 mg daily
 21. MVI one tab daily
 22. Pantoprazole 40 mg daily
 23. Tiotropium MDI daily
 24. Levothyroxine 88 mcg daily
 25. Metoclopramide 10 mg qACHS
 26. Ciprofloxacin 250 mg BID x 1-5 days
 27. Omeprazole 20 mg daily

- 4 new medications started
 - 5 prior medications discontinued
 - 1 old medication omitted

- 5 new medications started
 - 2 prior medications discontinued
 - Duplication of two PPIs
 - 2 dosing changes
 - 1 old medication omitted





ELSEVIER

JAMDA

journal homepage: www.jamda.com



Original Study

Medication Reconciliation in Continuum of Care Transitions: A Moving Target

Liron Danay Sinvani MD^{a,*}, Judith Beizer PharmD^{a,b}, Meredith Akerman MS^c,
Renee Pekmezaris PhD^{a,c,d,e,*}, Christian Nouryan MA^a, Larry Lutsky PhD^f, Charles Cal RN, MS, MBA^f,
Yosef Dlugacz PhD^{a,f}, Kevin Masick PhD^f, Gisele Wolf-Klein MD^{a,d,e}

JAMDA 2013;14:668-672

Number of meds per patient increased with each transition: (6.5 -> 10.7 -> 12.6)

Average of 7.5 medication changes per patient per transition



Beth Israel Deaconess
Medical Center



A teaching hospital of
Harvard Medical School

Medication discrepancies across multiple care transitions: A retrospective longitudinal cohort study in Italy

Marco Bonaudo^{1*}, Maria Martorana¹, Valerio Dimonte¹, Alessandra D'Alfonso², Giulio Fornero³, Gianfranco Politano⁴, Maria Michela Gianino¹

PLOS ONE | <https://doi.org/10.1371/journal.pone.0191028> January 12, 2018

Results

Of 366 included patients, 25.68% had at least one discrepancy. The most frequent type of discrepancy was from medication omission (N = 74; 71.15%). Only discharge from a long-stay care setting (T4) was significantly associated with the onset of discrepancies (p = 0.045). When considering a lack of adequate documentation, not as missing data but as a discrepancy, 43.72% of patients had at least one discrepancy.



Beth Israel Deaconess
Medical Center



A teaching hospital of
Harvard Medical School

Risks of Transitions

- Adverse drug events
- Missed results from pending tests
- Lack of appropriate follow-up



Beth Israel Deaconess
Medical Center



A teaching hospital of
Harvard Medical School

Patient Safety Concerns Arising from Test Results That Return after Hospital Discharge

Christopher L. Roy, MD; Eric G. Poon, MD, MPH; Andrew S. Karson, MD, MPH; Zahra Ladak-Merchant, BDS, MPH; Robin E. Johnson, BA; Saverio M. Maviglia, MD, MSc; and Tejal K. Gandhi, MD, MPH

Background: Failure to relay information about test results pending when patients are discharged from the hospital is an important patient-safety problem. Few data are available on the epidemiology of test results pending at discharge and physician awareness of these results.

Objective: To determine the prevalence, characteristics, and physician awareness of potentially actionable laboratory and radiologic test results returning after hospital discharge.

Design: Cross-sectional study.

Setting: Two tertiary care academic hospitals.

Patients: 2644 consecutive patients discharged from hospitalist services from February to June 2004.

Measurements: The main outcomes were the prevalence and characteristics of potentially actionable test results returning after hospital discharge, awareness of these results by inpatient and primary care physicians, and satisfaction of inpatient physicians with current systems for follow-up on test results. The authors prospectively collected data on test results pending at the time of discharge and, as results returned after discharge, surveyed hospitalists, junior residents, and primary care physicians about those results that were potentially actionable according to a physician-reviewer.

Results: A total of 1095 patients (41%) had 2033 test results return after discharge. Of these results, 191 (9.4% [95% CI, 8.0% to 11.0%]) were potentially actionable. Surveys were sent regard-

ing test results in the surveys with responses, physicians had been unaware of 65 (61.6% [CI, 51.3% to 70.9%]); of these 65, they agreed with physician-reviewers that 24 (37.1% [CI, 25.7% to 50.2%]) were actionable and 8 (12.6% [CI, 6.4% to 23.3%]) required urgent action. Inpatient physicians were dissatisfied with their systems for following up on test results returning after discharge.

Limitations: The authors were unable to determine whether physicians' lack of awareness of test results returning after discharge was associated with adverse outcomes.

Conclusions: Many patients are discharged from hospitals with test results still pending, and physicians are often unaware of potentially actionable test results returning after discharge. Further work is needed to design better follow-up systems for test results returning after hospital discharge.



Pending Laboratory Tests and the Hospital Discharge Summary in Patients Discharged To Sub-Acute Care

Stacy E. Walz, MS¹, Maureen Smith, MD, MPH, PhD^{1,2,3}, Elizabeth Cox, MD, PhD⁴, Justin Sattin, MD⁵, and Amy J. H. Kind, MD^{1,6,7}

J Gen Intern Med 26(4):393-8

Only 11% of these tests were documented in the discharge paperwork



Beth Israel Deaconess
Medical Center



A teaching hospital of
Harvard Medical School

Risks of Transitions

- Adverse drug events
- Missed results from pending tests
- Lack of appropriate follow-up



Beth Israel Deaconess
Medical Center



A teaching hospital of
Harvard Medical School

Tying Up Loose Ends

Discharging Patients With Unresolved Medical Issues

Carlton Moore, MD; Thomas McGinn, MD, MPH; Ethan Halm, MD, MPH

Greater than 1 in 4 of discharged patients had recommendations for an outpatient work-ups

36% of these work-ups were not completed

- DC summaries with documentation of recommended work-up increased likelihood of work-up being completed
- Increased time to initial post dc visit with PCP decreased likelihood of work-up being completed

Background: Patients discharged from the hospital often have medical problems requiring outpatient follow-up. This study examines the frequency of recommendations for outpatient work-ups for unresolved medical problems at the time of discharge and the completion of these work-ups.

Methods: We conducted a retrospective analysis of patients discharged from a large teaching hospital between January 1, 2005, and December 31, 2005. The medical record was reviewed to identify physician recommendations for outpatient medical recommendations and whether the workups were completed.

Results: Of 693 hospital discharges, 191 discharged patients (27.6%) had 240 outpatient workups recommended by their hospital physicians. The types of workups were diagnostic procedures (47.9%), subspecialty referrals (35.4%), and laboratory tests (16.7%). The most

commonly recommended workups were diagnostic procedures to be completed by the primary care physician. Of recommended workups, 36% were not completed. Increasingly, primary care physicians were recommended to complete workups (P = .002), and increasing the time to the initial post-discharge visit with the primary care physician decreased the likelihood of workup completion.

Documentation of outpatient workup recommendations was common. Primary care physicians were more likely to document recommendations associated with

documentation of recommendations. Future research should focus on interventions to improve the quality and dissemination of discharge information to primary care physicians.

Arch Intern Med. 2007;167:1305-1311

Back to our patient: what is her understanding & perspective?



Beth Israel Deaconess
Medical Center



A teaching hospital of
Harvard Medical School

Discharge instructions from the ICU:

You were admitted on 10/30 for altered mental status, high blood sugars, and high blood pressures. Your confusion and high blood pressures required a stay in the ICU. You were put on several medications to manage your blood pressure and at discharge it is moderately well controlled. You should follow up with your primary care provider for further monitoring and treatment.

You came to the hospital with high blood sugars. You were taken off your insulin pump and were put on long acting and short acting insulin. Please continue this insulin regimen until you see your endocrinologist.

In addition, you were on many pain medications at home, which likely contributed to your confusion. You have been taken off your home medications and put on a long-acting opioid medication, methadone, with plans to slowly titrate it down. At discharge please see your primary care physician for further management of your pain.



“I felt the doctors and the nurses did a good job taking care of me. I didn’t know I had problems with my blood pressure. I remember I had a problem with my kidneys, but I don’t know what caused it. At the rehab, I had some physical therapy. I don’t think I had any problems while I was there. I didn’t know I had a urine infection or problems with my kidneys again.”



Beth Israel Deaconess
Medical Center



A teaching hospital of
Harvard Medical School

“I couldn’t get methadone when I went home. I had so much pain so I took oxycodone and morphine that I had at home. I didn’t know what else to do. I didn’t know the morphine was causing the problems with my kidneys. But I know now not to take this anymore.”

“I feel I have a good system with my medications. I divide my morning medications, evening medications, and once-a-day medications in different plastic bags. I put away old medications in the back of the bathroom shelf.”



Beth Israel Deaconess
Medical Center



A teaching hospital of
Harvard Medical School



MAYO CLINIC PROCEEDINGS

Original Article

Patients' Understanding of Their Treatment Plans and Diagnosis at Discharge

Amgad N. Makaryus, MD^a, Eli A. Friedman, MD^b   [Mayo Clin Proc. 2005 Aug;80\(8\):991-4.](#)

RESULTS

Of the 47 patients surveyed, 4 were excluded. Of the remaining 43 patients, 12 (27.9%) were able to list all their medications, 16 (37.2%) were able to recount the purpose of all their medications, 6 (14.0%) were able to state the common side effect(s) of all their medications, and 18 (41.9%) were able to state their diagnosis or diagnoses. The mean number of medications prescribed at discharge was 3.89.

CONCLUSIONS

Less than half of our study patients were able to list their diagnoses, the name(s) of their medication(s), their purpose, or the major side effect(s). Lacking awareness of these factors affects a patient's ability to comply fully with discharge treatment plans. Whether lack of communication between physician and patient is actually the cause of patient unawareness of discharge instructions or if this even affects patient outcome requires further study.



Beth Israel Deaconess
Medical Center



A teaching hospital of
Harvard Medical School

Hospitalized Patients' Understanding of Their Plan of Care

KEVIN J. O'LEARY, MD, MS; NITA KULKARNI, MD; MATTHEW P. LANDLER, MD; JIYEON JEON, MPH;
KATHERINE J. HAHN, BS; KATHERINE M. ENGLERT; AND MARK V. WILLIAMS, MD

CONCLUSION: A substantial portion of hospitalized patients do not understand their plan of care. Patients' limited understanding of their plan of care may adversely affect their ability to provide informed consent for hospital treatments and to assume their own care after discharge.



Beth Israel Deaconess
Medical Center



A teaching hospital of
Harvard Medical School

O'Leary K et al. Hospitalized Patients' Understanding of their Plan of Care. Mayo Clin Proc 2010;85(1):47-52.

Quality of Discharge Practices and Patient Understanding at an Academic Medical Center

Leora I. Horwitz, MD, MHS^{1,2}; John P. Moriarty, MD¹; Christine Chen, MD³; Robert L. Fogerty, MD, MPH¹; Ursula C. Brewster, MD⁴; Sandhya Kanade, MD³; Boback Ziaeeian, MD⁵; Grace Y. Jenq, MD⁶; Harlan M. Krumholz, MD, SM^{2,7,8,9}

JAMA Intern Med. 2013;173(18):1715-1722.

Results The 395 enrolled patients (66.7% of those eligible) had a mean age of 77.2 years. Although 349 patients (95.6%) reported understanding the reason they had been in the hospital, only 218 patients (59.6%) were able to accurately describe their diagnosis in postdischarge interviews. Discharge instructions



Beth Israel Deaconess
Medical Center



A teaching hospital of
Harvard Medical School

Risks of Transitions

- Adverse drug events
 - Number of meds, types of meds, number of transitions, adherence post-discharge
- Missed results from pending tests
 - Documentation, communication, awareness
- Lack of appropriate follow-up
 - Documentation, time to follow-up



Beth Israel Deaconess
Medical Center



A teaching hospital of
Harvard Medical School

Components of an Effective Transition

- **Communication between sending & receiving providers**
- **Medication reconciliation**
- **Preparation of patient & caregiver**
- **Communication re: contingencies**
- **Follow-up plan for pending tests**
- **Plan for follow-up appointment**



Beth Israel Deaconess
Medical Center



A teaching hospital of
Harvard Medical School

References

- Bonaudo M, et al. Medication discrepancies across multiple care transitions: A retrospective longitudinal cohort study in Italy. PLOS One 2018; 13(1): e0191028.
- Coleman EA. Falling Through the Cracks: Challenges and Opportunities for Improving Transitional Care for Persons with Continuous Complex Care Needs. J Am Geriatr Soc 2003;51(4):549-555.
- Coleman E, Min S, Chomiak A, Kramer A. Posthospital Care Transitions: Patterns, Complications, and Risk Identification. Health Serv Res 2004;39(5):1449-1466.
- Cook R, Render M, Woods D. Gaps in the continuity of care and progress on patient safety. BMJ 2000;320:791-4.
- Kosecoff J, Kahn KL, Rogers WH, et al. Prospective payment system and impairment at discharge. The 'quicker-and-sicker' story revisited. JAMA 1990;264(15):1980-3.
- Institute of Medicine. Crossing the Quality Chasm: a New Health System of the 21st Century. Washington, DC; National Academy Press, 2001.
- Thomas E.J., et al. Incidence and types of adverse events and negligent care in Utah and Colorado. Med Care 2000;38:261-71.
- Leape L.L. et al. The nature of adverse events in hospitalized patients. Results of the Harvard Medical Practice Study. NEJM 1991;324:377-384.
- Forster A, Murff H, Peterson JF, et al. The Incidence and Severity of Adverse Events Affecting Patients after Discharge from the Hospital. Ann Intern Med 2003;138(3):161-7.
- Forster A, Clark H, Menard A, et al. Adverse events among medical patients after discharge from hospital. CMAJ 2004;170(3):345-9.
- Moore C, Wisnivesky J, Williams S, et al. Medical Errors Related to Discontinuity of Care from an Inpatient to an Outpatient Setting. J Gen Intern Med 2003;18:646-51.
- Doctoroff L, McNally D. Handoffs in Hospital Medicine. Hosp Med Clinic 3 (2014): e1-14.
- Forster A, Murff H, Peterson J, et al. Adverse Drug Events Occurring Following Hospital Discharge. J Gen Intern Med 2005;20:317-23.
- Kripalani S, Price M, Vigil V, et al. Frequency and Predictors of Prescription-Related Issues after Hospital Discharge. Journal of Hospital Medicine 2008;3:12-19.



References

- Coleman E, Smith J, Raha D, et al. Posthospital Medicine Discrepancies. *Ach Intern Med* 2005;165:1842-1847.
- Sinvani L, et al. Medication Reconciliation in Continuum of Care Transitions: A Moving Target. *JAMDA* 2013;14:668-672.
- Roy C, et al. Patient Safety Concerns Arising from Test Results That Return after Hospital Discharge. *Ann Intern Med* 2005;143:121-8.
- Walz S, Smith M, Cox E, et al. Pending Laboratory Tests and the Hospital Discharge Summary in Patients Discharged to Sub-Acute Care. *J Gen Intern Med* 2010;26(4):393-8.
- Moore C, McGinn T, Halm E. Tying Up Loose Ends. *Arch Intern Med* 2007;167:1305-1311.
- Misky G, Wald H, Coleman E. Post-Hospital Transitions: Examining the Effects of Timing of Primary Care Provider Follow-up. *Journal of Hospital Medicine* 2010;5:392-7.
- Jencks S, Williams M, Coleman E. Rehospitalizations among patients in the Medicare Fee-for-Service Program. *NEJM* 2009;360:1418-28.
- Makaryus AN, Friedman EA. Patients' understanding of their treatment plans and diagnosis at discharge. *Mayo Clin Proc* 2005;80(8):991-4.
- O'Leary K et al. Hospitalized Patients' Understanding of their Plan of Care. *Mayo Clin Proc* 2010;85(1):47-52.
- Horwitz et al. Quality of Discharge Practices and Patient Understanding at an Academic Medical Center. *JAMA* 2013;173(18):1715-22.
- Hansen L, Young R, Hinami K, Leung A, Williams M. Interventions to Reduce 30-Day Rehospitalization: A Systematic Review. *Ann Intern Med* 2011;155:520-528.
- Rennke S, Nguyen O, Shoeb M, Magan Y, Wachter R, Ranji S. Hospital-Initiated Transitional Care Interventions as a Patient Safety Strategy. *Ann Intern Med* 2013;158:433-440.

