



SINI 2017

27th Summer Institute
in Nursing Informatics

Clinical Practice, Health, and the Internet of Things

July 11-14, 2017

University of Maryland School of Nursing, Baltimore, MD



Using Health IT to Improve Patient Engagement and Team Communication

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Overview

- Background
 - Review current state of healthcare team communication
 - Define patient engagement
- Describe a series of projects that leverage health IT to improve team communication, patient engagement, and patient safety
- Review lessons learned
- Discussion

First, Do No Harm

- Ineffective communication is a leading root cause of medical errors

ANNUAL DEATHS

Medical harms and errors are the third leading cause of death nationally

400,000

129,476



STROKE

138,080



CHRONIC LOWER
RESPIRATORY
DISEASE

574,743



CANCER

597,743



HEART
DISEASE

**MEDICAL
HARMS**

Team Communication Challenges

- Multiple handoffs
- Involvement of numerous professional and paraprofessional providers
- Varied communication methods
- Simultaneous parallel conversations
- Information silos
- Inconsistent beliefs re: patient/family role on care team

Team Communication is Suboptimal: BWH Baseline Data

- Asked ICU and Oncology patients (or caregiver), bedside RN, and physician from primary team about the patient's overall goal for hospitalization

Goals of Care among Hospitalized Patients (Haberle 2011)

1. Be Cured
2. Live Longer
3. Improve & Maintain Health
4. Be Comfortable
5. Accomplish a personal life goal
6. Provide support for family
7. Other

No. (%) of patients with X unique responses

Category	N=88	%
No. with 1 unique response	21	24%
No. with 2 unique response	44	50%
No. with 3 unique response	23	26%

Patient Engagement



+



Patient Activation

Interventions/tools
designed to promote
activation and positive
health behaviors

Precondition for patient-centered care

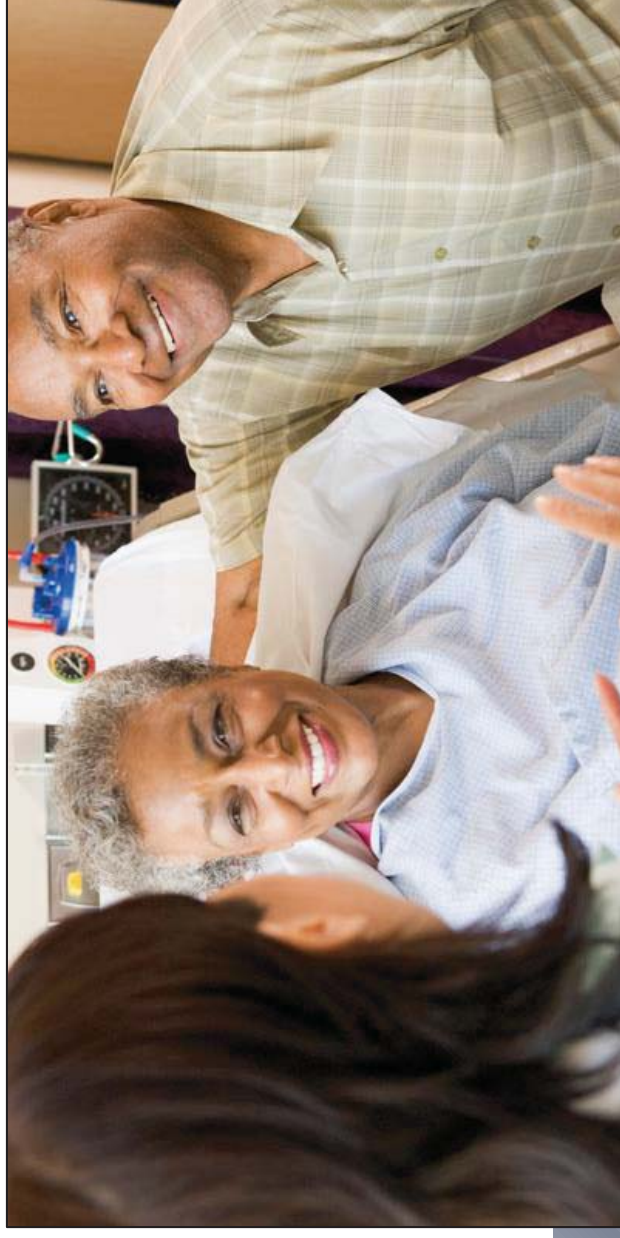
Activated, Engaged Patients are More likely to...

- ✓ Engage in preventive behavior (check-ups, screenings, and immunizations)
- ✓ Engage in healthy behavior such (healthy diet, regular exercise)
- ✓ Avoid health-damaging behavior (smoking and illegal drug use)
- ✓ Incur less costs

BWH PROSPECT Project

Promoting Respect and Ongoing Safety through Patient Engagement Communication and Technology

- Goal: To transform the intensive care environment through implementation of a patient-centered intervention to engage patients and care partners in the plan of care



Patient-Centered Tool Kit (PCTK) Components



“Patient-facing”



“Provider-facing”



PROSPECT

PROVIDER FACING TOOLS

Safety Checklist

Plan of Care
Patient Thread
Care Team
Provider Thread

BWH PROSPECT modu

Patient Plan of Care

Nursing Plan of Care Worksheet

Safety Checklist Worksheet

Safety Checklist

Patient :

Item	Safety Screen (MD w/RN present at rounds)	RN Performance
Patient/Family Toolkit	We have given the RN an opportunity to present any new patient or family input (from the Patient SatisfActive model, Toolkit, or Microblog). <input type="radio"/> Yes <input type="radio"/> No	
Vent Bundle	Is the patient on mechanical ventilation? <input checked="" type="radio"/> Yes <input type="radio"/> No	
HOB elevation	Indicated <input type="text"/>	Last documented HOB angle:
Spontaneous Awakening Trial	Indicated <input type="text"/>	Performed this calendar day Passed
Spontaneous Breathing Trial	Contraindicated- Hemodynamic instability (up titration of pressors) <input type="text"/>	Performed this calendar day Failed

Multidisciplinary Plan of Care Platform

The screenshot displays the BWI PROSPECT multidisciplinary plan of care platform. The interface is organized into several key sections:

- Header:** Displays patient information: "Prospect, Patti", "41y F - 31 bed 1 - #51247682". Navigation options include "Plan of Care", "Team", "Patient Thread", and "Provider Thread".
- Sub-headers:** "Patient", "Nursing Plan of Care", "Safety Checklist", "Plan of Care", "Worksheet".
- Health Concerns:** "I am concerned about a DVT".
- Patient's Goals:** "Overall Goal: Live Longer".
- Goal for today:** "To get out of bed".
- Care Preferences:** "I would like my sister involved in my care".
- Summary:** "My care team is helping me to meet my goals: Somewhat".
- Clinical Problems:** Confusion, Infection, Comfort Alteration, Skin Integrity Impairment.
- Care Team Goals:** Temp <100.5, Pain level <4, Improved skin integrity.
- Patient Schedule:** LAB: BLOOD DRAW (Morning), PHYSICAL THERAPY CONSULT (Evening), X-ray Chest Portable (Afternoon), PHYSICAL THERAPY CONSULT (Add button).

Nursing Plan of Care

Plan of Care Patient Thread Care Team Provider Thread

BWH PROSPECT modu

Only the content on the 'Patient Plan of Care' is visible to the patient

R= Resolved =Not available for Patient View =Available for Patient View Active Goals/Planned Assessments/Interventions

Onset Date	R	Problems	Goal(s)	Planned Assessments and Interventions	Outcome Status
10/12/2014		<p><input type="checkbox"/> Comfort alteration <input type="checkbox"/></p> <p><input checked="" type="checkbox"/> SENSORY</p>		<p><input checked="" type="checkbox"/> Pain management goal 1 <input type="checkbox"/></p> <p><input checked="" type="checkbox"/> Scale used Numerical (0-10)</p> <p><input checked="" type="checkbox"/> Other <input type="checkbox"/> Patient will appear comfortable</p> <p><input checked="" type="checkbox"/> Assess pain every 2 hours</p> <p>T & R q 2 hrs w/ PROM increase oob as tol</p>	No change
				RASS scale every 2	No change

10/12/2014

NEURO

Add Problem

Comfort alteration

Pain management goal 1

Scale used Numerical (0-10)

Other Patient will appear comfortable

Assess pain every 2 hours

T & R q 2 hrs w/ PROM increase oob as tol

RASS scale every 2

Clinical Care Classification System Problems and Outcomes

Nursing Plan of Care Documentation

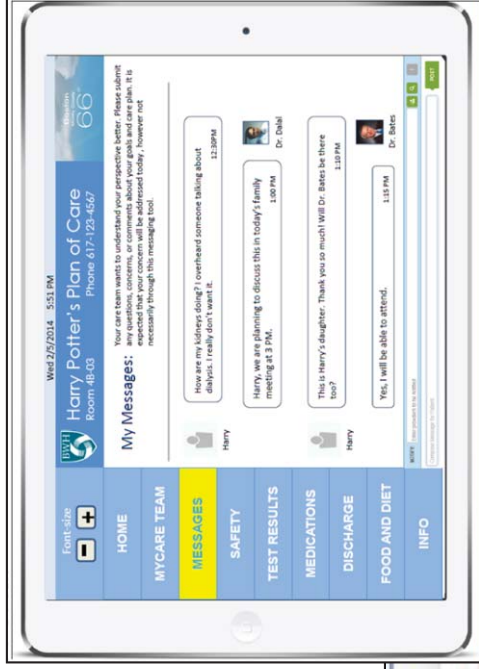
Patient Plan of Care Problems With Infobuttons

Patient Educational Content

The screenshot displays a patient's care plan and educational resources. At the top, patient information for Bart Emartest is shown, including room number 17A-112 and phone number 67. A navigation menu includes Home, Messages, Safety, Test Results, Medications, Food and Diet, Discharge, Info, Feedback, and Log Out. The 'My Concerns' section lists 'Skin integrity impairment' and 'Infection risk'. Below this, the 'My Other Clinical Problems' section lists 'Skin integrity impairment' and 'Infection risk'. The 'Preventing pressure ulcers' section provides information on pressure ulcers and lists prevention steps: spending most of the day in a bed or chair, being overweight or underweight, being unable to control bowels or bladder, having decreased feeling in an area of the body, and spending a lot of time in one position. The 'Self-care' section notes that caregivers should check the patient's body every day from head to toe. The bottom portion of the image shows a table with columns for 'Onset Date', 'Problem', 'Goal(s)', and 'Plan of Care'. The table contains entries for 'SKINWOUND CARE' and 'INFECTION' with associated goals and interventions.

Onset Date	Problem	Goal(s)	Plan of Care
05/24/2015	Skin integrity impairment	Skin will remain intact	Turn and Reposition every 2 hours, Offload tubes, Float heels/Prevent skin tears, change xeroform b/l LE bil
05/24/2015	Infection	Temp will be < 100.5	Antibiotics, MRSA precautions, VRE precautions, CDIFF precautions
05/27/2015	Comfort alteration	Pain management goal 0, Scale used (C/POT(0-8))	Assess pain every 2 hrs, fentanyl drip and ivb prm

Patient-Centered 'Microblog' Functionality



Patient Portal:

Patient sends a message to the care team.



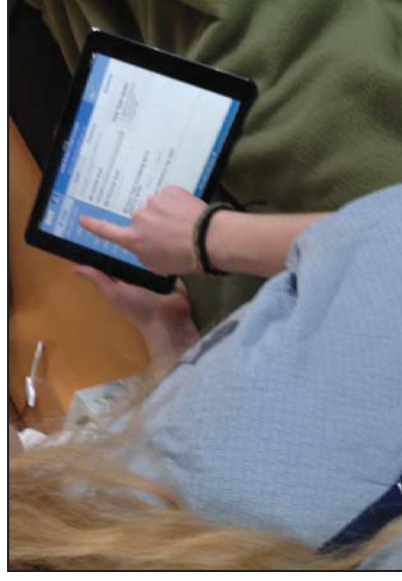
Provider Portal:

Care team can view and respond using 'patient thread' and 'provider thread'

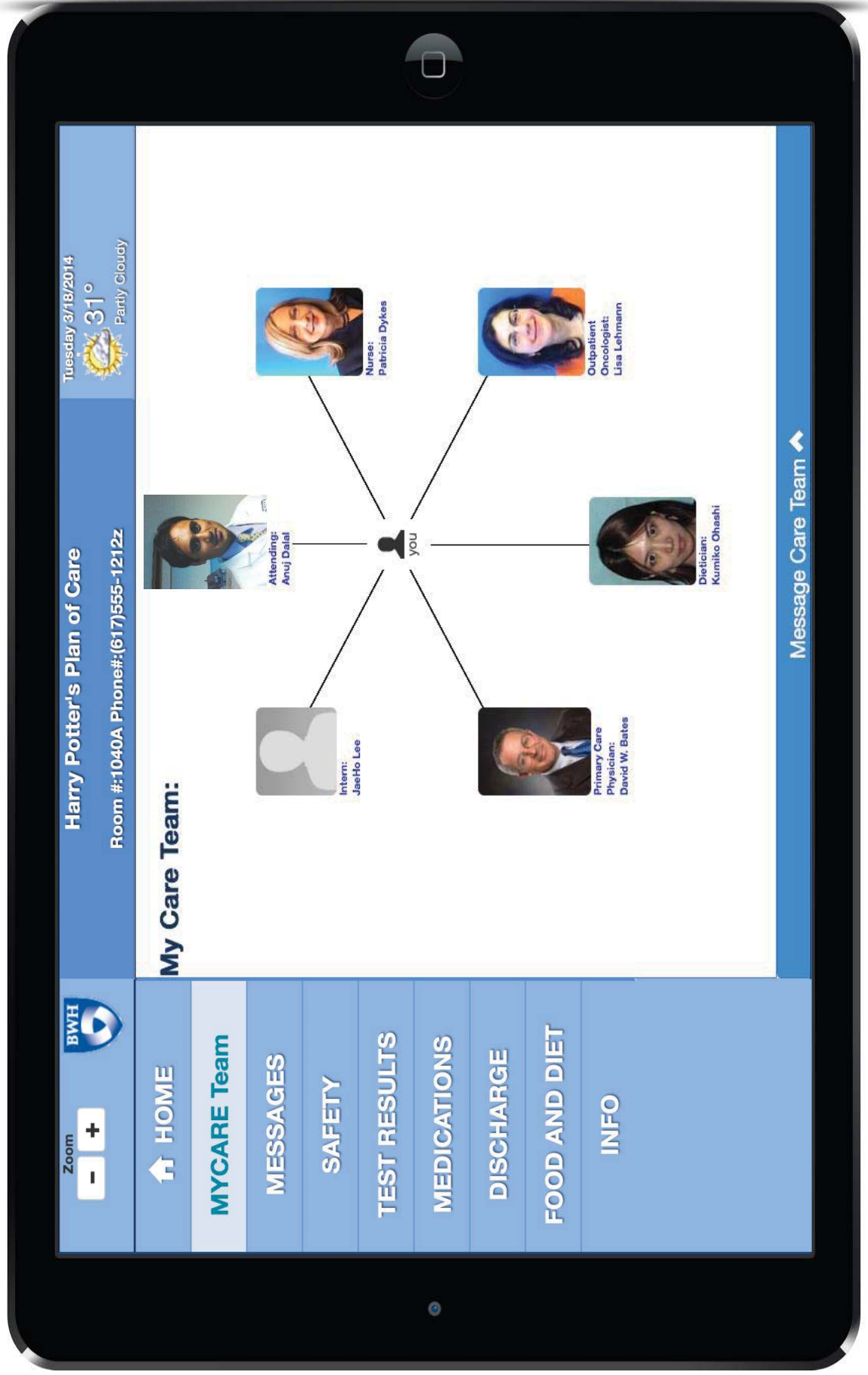


PROSPECT

PATIENT FACING TOOLS



My Care Team



Zoom



Patti Prospect's Plan of Care

Room #:3B-311 Phone#:

Monday 9/15/2014



58°

Mostly Cloudy

[HOME](#)

[MY CARE TEAM](#)

[MESSAGES](#)

[SAFETY](#)

[TEST RESULTS](#)

[MEDICATIONS](#)

[FOOD AND DIET](#)

[DISCHARGE](#)

[INFO](#)

[FEEDBACK](#)

[LOG OUT](#)

Goals

Problems

Schedule

Choose your goals, preferences, and provide feedback on your care.

My Overall Goal:

Be comfortable

My Daily Goal:

Get out of bed

My Care Team is helping me to meet my goals:

Not at All

Somewhat

Completely

My Preferences related to my care:

I would like my sister to be involved in my care

Care Team Goals:

- Improve respiratory status
- Prevent skin breakdown
- Free of pain
- Adequate nutrition

[Message Care Team](#)

Zoom



Patti Prospect's Plan of Care

Room #:3B-311 Phone#:

Monday 9/15/2014

58°



Mostly Cloudy

 HOME

MY CARE TEAM

MESSAGES

SAFETY

TEST RESULTS

MEDICATIONS

Schedule

Team Goals:

<4
ove skin integrity
><100.5

Message Care Team

Your care team wants to hear from you. This is meant for non-urgent communications.

Write your message here

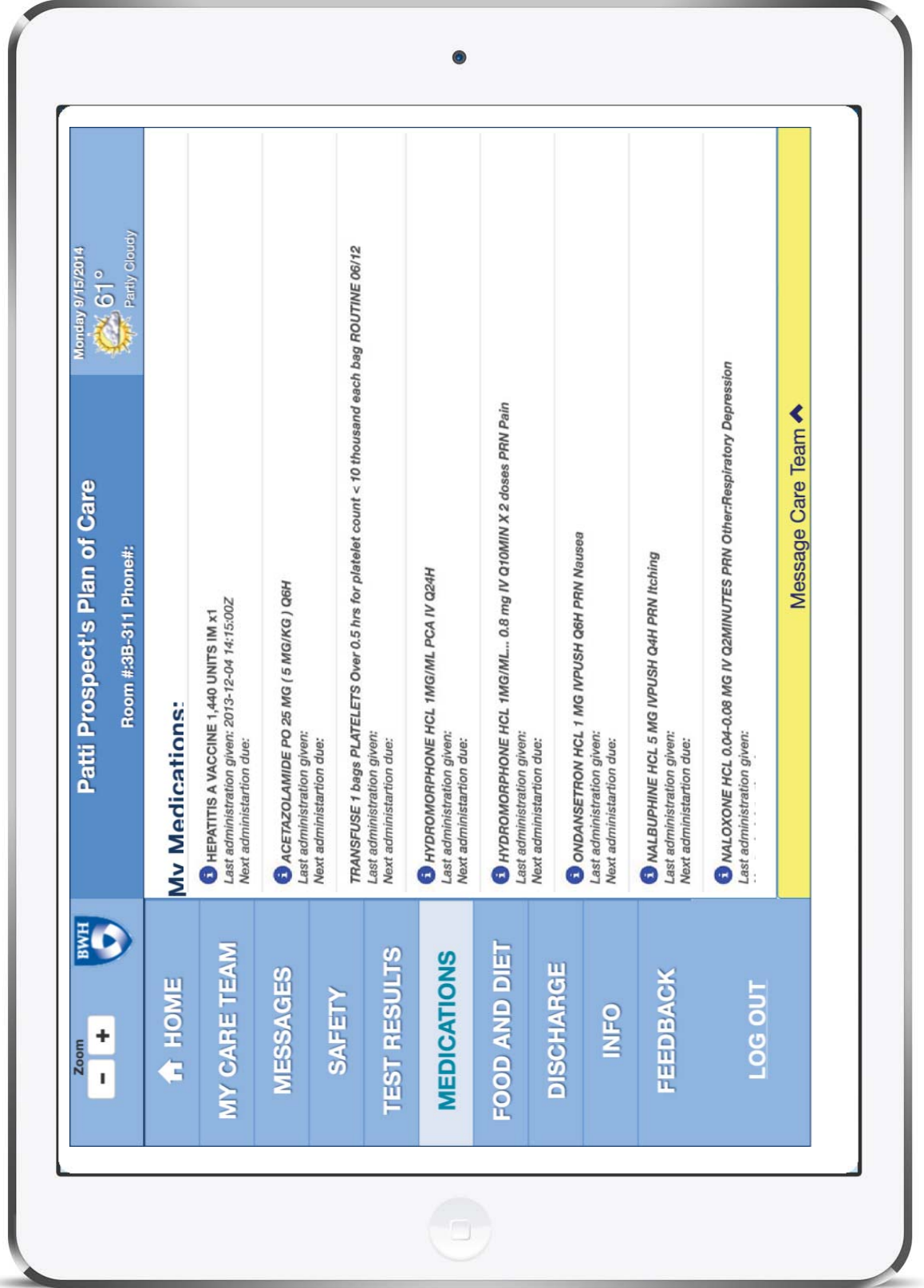
Send 



My Safety Concerns



My Medications



Zoom



Patti Prospect's Plan of Care

Monday 9/15/2014

58°



Mostly Cloudy

Room #:3B-311 Phone#:

HOME

MY CARE TEAM

MESSAGES

SAFETY

TEST RESULTS

MEDICATIONS

FOOD AND DIET

DISCHARGE

INFO

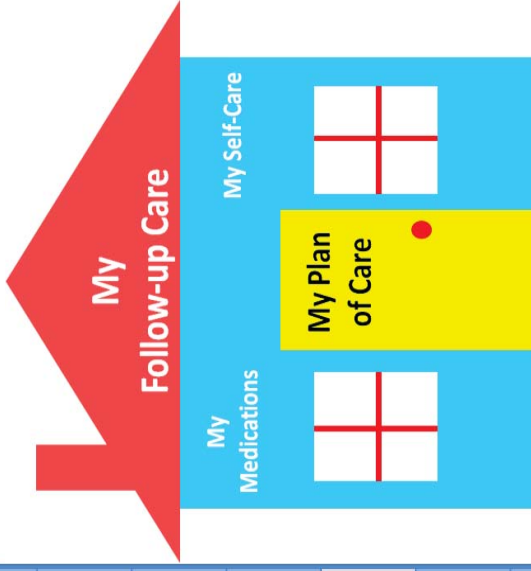
FEEDBACK

LOG OUT

My Discharge Checklist:

Please only check the items that you know are complete, it will help you get home safely.

If you have questions, ask your care team or send them a message by clicking the MESSAGES tab.



My Follow Up Care

- I understand where I am going after I leave the hospital.
- My family or someone close to me knows that I am coming home (leaving the hospital) and is prepared to provide the support I need.
- I have a follow-up appointment scheduled with my doctor.
- I will be willing and able to get to and keep that appointment.
- I have the name and phone number of a person I should contact if a problem arises after I leave the hospital.

My Medications

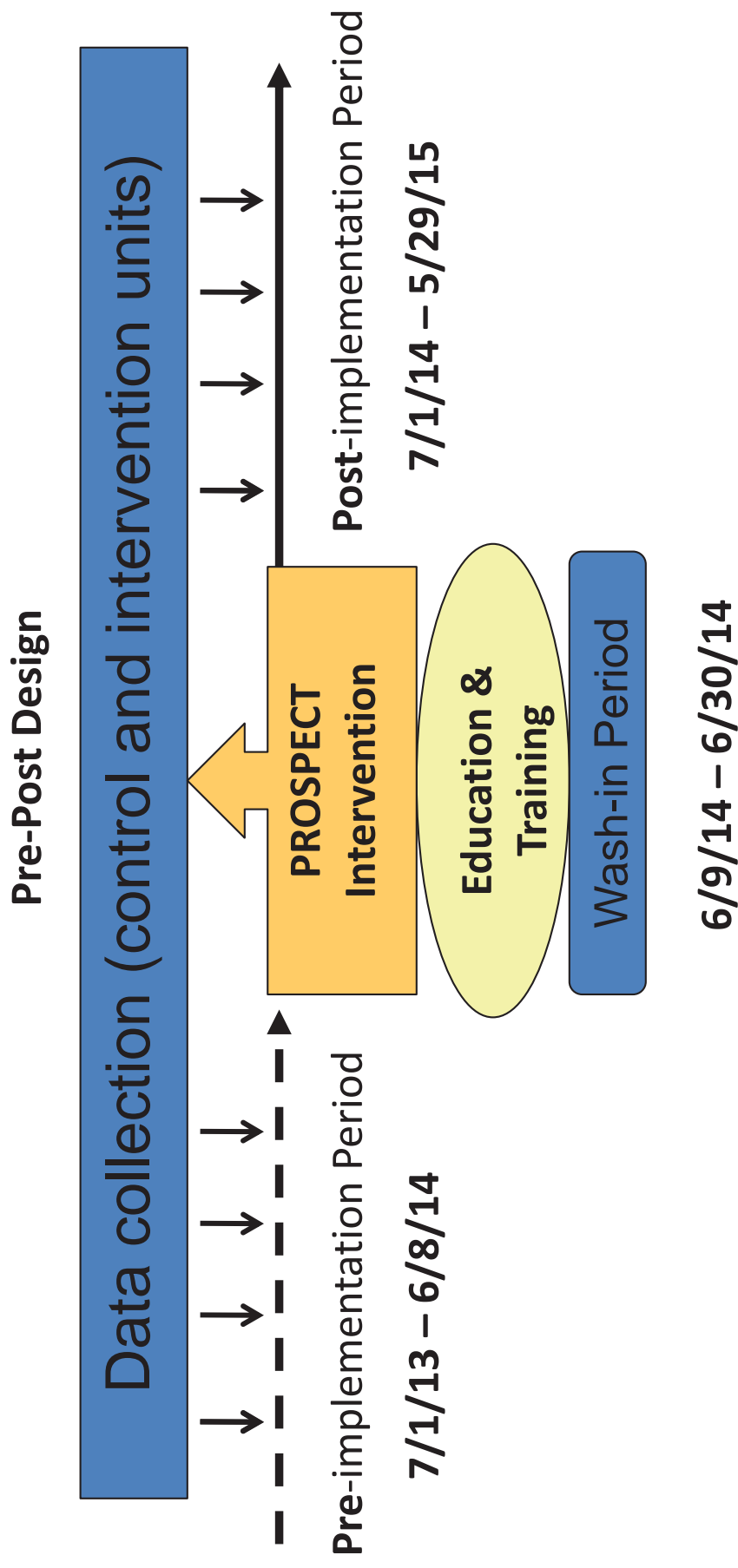
My Self-Care Management

My Plan of Care

Message Care Team

PROSPECT Research Question and Study Design

Does the PROSPECT framework positively impact satisfaction, care plan concordance, and lead to reduction in adverse events and healthcare resource utilization and costs?



Findings*

- Patient Feedback:

- “It’s a really great idea. We’re always asking questions so this way we won’t have to chase anyone down”
- *(In response to “My Care Team page) “These are my friends! I’ve known them for 7 years. It’s nice to see their pictures here”*
- “With something like this, you know what’s going on”
- “This is great! Patients need more info about risks, safety, medications, ‘who is my doctor’ ”
...



PROSPECT Team

BWH Research Investigators

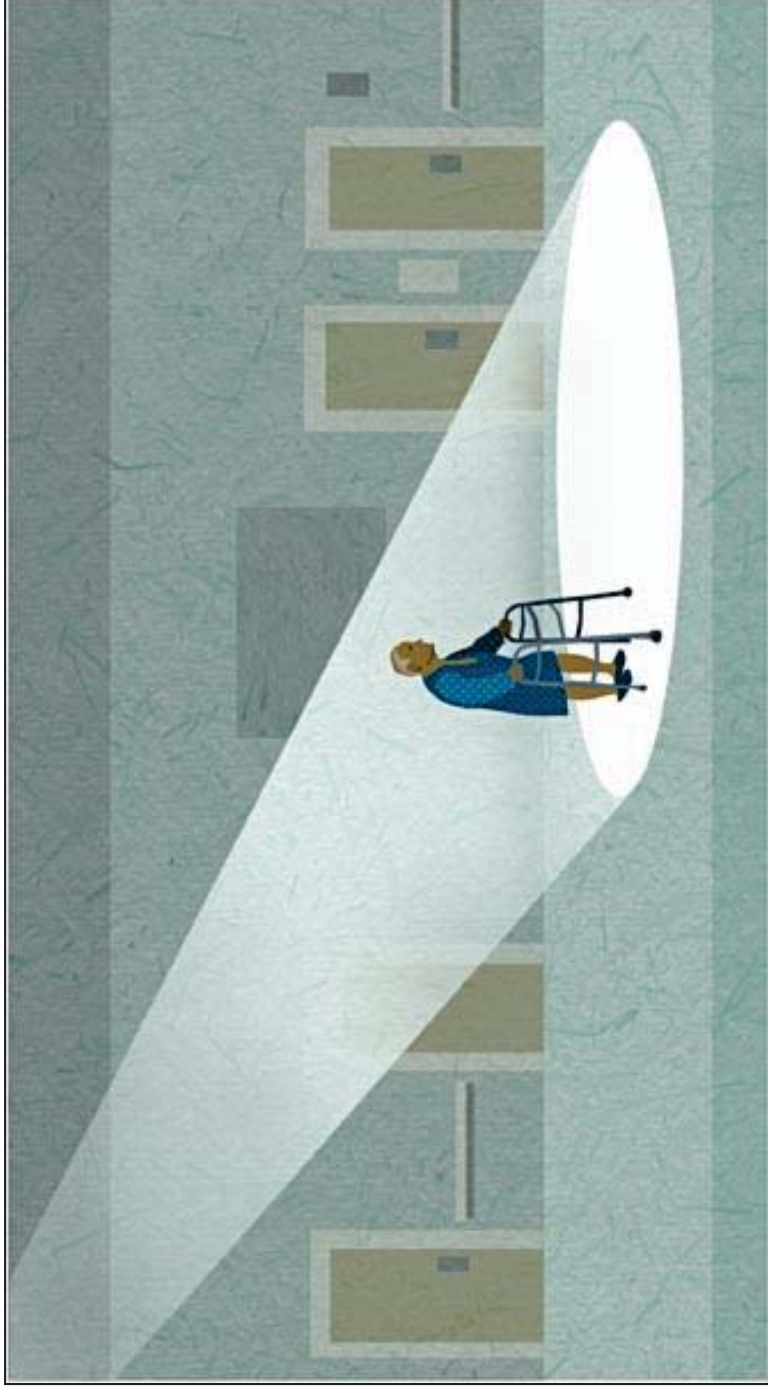
- David Bates – *Principal Investigator*
- Sarah Collins – *Co-Investigator/Nursing Informatics Specialist*
- Anuj Dalal – *Co-Investigator*
- Patricia Dykes – *Co-Investigator/Director*
- Priscilla Gazarian – *Co-Investigator*
- John Hanna – *Research Assistant*
- Jaeho Lee – *Graphical Design*
- Lisa Lehmann – *Co-Investigator*
- Stuart Lipsitz – *Biostatistician*
- Kelly McNally – *Research Assistant*
- Eli Mlaver – *Research Assistant*
- Conny Morrison – *Research Assistant*
- Kumiko Ohashi – *Project Manager*
- Sucheta Ravindran – *Research Assistant*
- Ronen Rozenblum – *Co-Investigator*
- Lipika Samal – *Co-Investigator*
- Diana Stade – *Research Assistant*
- Cathy Yoon – *Data Analyst*

Clinical Leadership

- Oncology
 - Ted Alyea – *Medical Director*
 - Eddy Chen – *Medical Oncologist*
 - Katie Fillipon – *Nursing Director*
 - Marsha Malone – *Nursing Director*
- MICU
 - Kathleen Leone – *Nursing Director*
 - Anthony Massaro – *Medical Director*

Other Collaborators

- Frank Chang – *Developer*
- George Getty – *Developer*
- Deborah Williams – *Database Programmer*
- Maureen Fagan – *Executive Director for Patients and Families*
- Care Thread Inc.



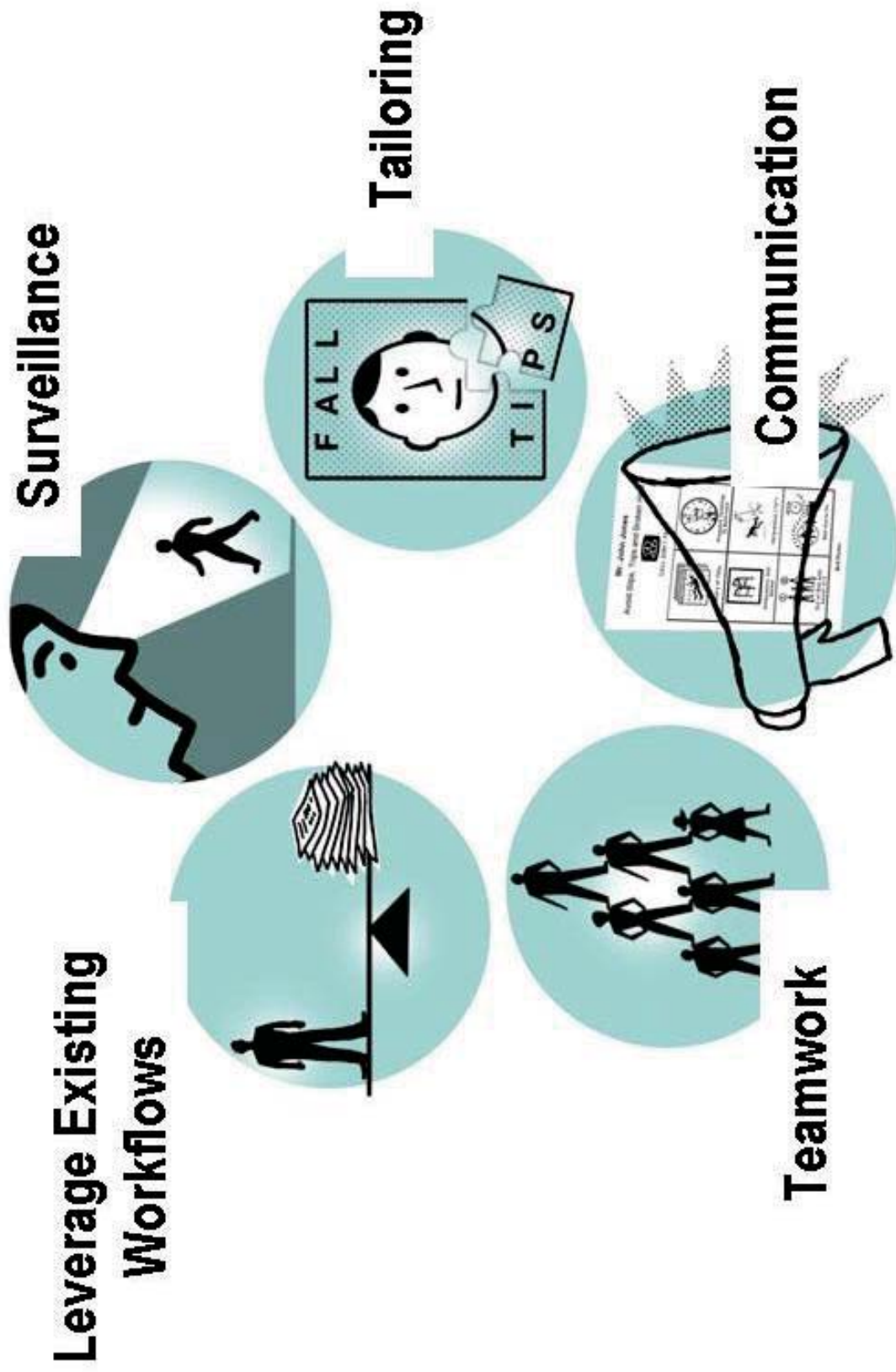
FALL TIPS (TAILORING INTERVENTIONS FOR PATIENT SAFETY)



Fall TIPS (Tailoring Interventions for Patient Safety)

- 2 year mixed methods study funded by Robert Wood Johnson Foundation:
 - Qualitative phase:
 - why hospitalized patients fall?
 - what interventions are effective and feasible in hospital settings?
 - Randomized control trial: to test a fall prevention toolkit designed to address issues identified during qualitative phase.

The Fall TIPS Toolkit Requirements



The Fall TIPS Toolkit: Fall Risk Assessment/Tailored Plan

FALL T.I.P.S.

TAILORING INTERVENTIONS FOR PATIENT SAFETY




Patient Name: **Jane Doe**

MRN: 12345678 (BWH)

Location: 14-10A

Morse Fall Scale: For more info, scroll over each response below

<u>History of Falls:</u> past 3 months:	<input checked="" type="checkbox"/> Yes (25)
<u>Secondary Diagnosis:</u>	<input type="checkbox"/> Yes (15)
<u>Ambulatory Aid:</u>	<input type="radio"/> None / Bed Rest / Nurse Assist (0) <input checked="" type="radio"/> Crutch / Cane / Walker (15) <input type="radio"/> Furniture (30)
<u>IV or Hep Lock Present:</u>	<input type="checkbox"/> Yes (20)
<u>Gait:</u>	<input type="radio"/> Normal / Bed Rest / Wheel Chair (0) <input checked="" type="radio"/> Weak (10) <input type="radio"/> Impaired (20)
<u>Mental Status:</u>	<input type="radio"/> Oriented to own ability (0) <input checked="" type="radio"/> Overestimates, forgets limitations (15)
Morse Fall Score:	65

Interventions

Safety documentation

*Safety Precautions

Document previous fall

Review Medication List

Consultations

Consult with MD/Pharmacist

PT consult

Assistance with toileting

Toileting schedule using:

Bed Pan

Commode

Assist to bathroom

Assistance with ambulating

Provide Ambulatory aid:

Crutches

Cane

Walker Other Device

IV assistance when walking

Out of bed with assistance:

1 Person 2 Persons

Bedside assistance

Bed/Chair alarm turned on

Bed close to nurse station

Frequent checks; re-orientation

Print Documents

Bed Poster Plan of Care English Spanish

Patient Education:

English Spanish

For more information about Fall prevention [visit our website](#).

For more information about Fall TIPS project [contact our team](#).

Go To [Status Dashboard](#)

For Fall TIPS [Training Guide](#)

Fall risk

Tailored plan

FALL T.I.P.S.

TAILORING INTERVENTIONS FOR PATIENT SAFETY





Fall Prevention Plan of Care

Problem: *Patient is at risk for falls*****

Patient Name: Jane Doe

MRN: 12345678

Printed: March 04, 2009

Patient has a history of falls	<input type="checkbox"/> Safety Precautions <input type="checkbox"/> Document circumstances of previous falls	 History of Falls
Patient uses ambulatory aid	<input type="checkbox"/> Place WALKER at bedside	 Ambulatory Aid: Walker
Patient's gait is Weak	<input type="checkbox"/> Patient needs AssistX1	 Out of Bed with Assist
Patient overestimates ability; forgets limitations	<input type="checkbox"/> Bed/Chair alarm turned on <input type="checkbox"/> Move pt. close to nurse station <input type="checkbox"/> Freq Checks; re-orientation; distractions	 Bed/Chair Alarm On

Total Morse Fall Score: 65

Sign/Credentials Patricia C. Dykes R.N Date/Time 3/04/09

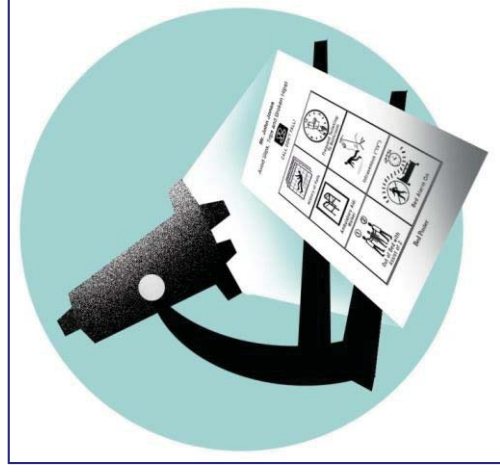
Fall Prevention in Acute Care Hospitals A Randomized Trial

Patricia C. Dykes, RN, DNSc; Diane L. Carroll, RN, PhD, BC; Ann Hurley, RN, DNSc; Stuart Lipsitz, ScD; Angela Benoit, BComm; Frank Chang, MSE; Seth Meltzer, Ruslana Tsurikova, MSc, MA; Lyubov Zuyov, MA; Blackford Middleton, MD, MPH, MSc

- Findings:

- Patient falls were significantly reduced on intervention units.

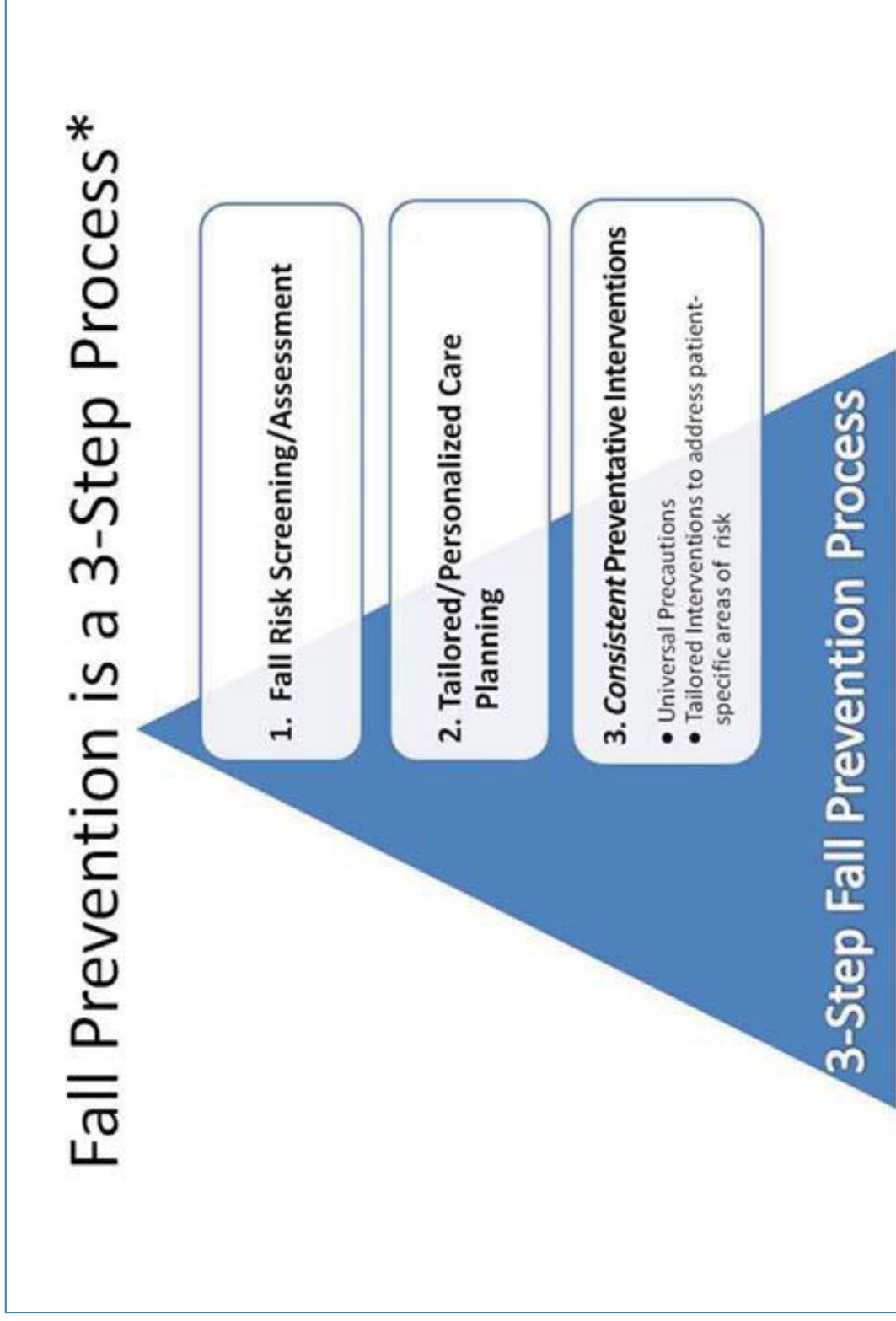
**There were fewer falls in
intervention units than in
control units**



**Patients aged 65 or older
benefited most from the Fall
TIPS toolkit**

**No significant effect was noted in
fall related injuries**

Fall Prevention Lessons Learned



Fall Prevention Lessons Learned

- Fall TIPS reduced falls by 25% but >90% of falls are preventable...what happened?
 - Why did some patients with access to the Fall TIPS Toolkit fall?
 - What factors are associated with falls in younger patients?
 - What factors are associated with falls in older patients?
 - Secondary analysis of fallers (cases) n=48 and 144 matched controls exposed to the Fall TIPS toolkit*
 - Found that in all cases, planned interventions were not followed consistently by the patient (most frequently) or the nurse
 - i.e., Out of bed with assistance

How do we get patients to CONSISTENTLY follow their fall prevention plan?

BWH Patient Safety Learning Lab

Patient-Centered Fall Prevention Toolkit



Primary Aim:

- To engage patients and their family caregivers as well as providers in the design and development of a fall prevention toolkit.



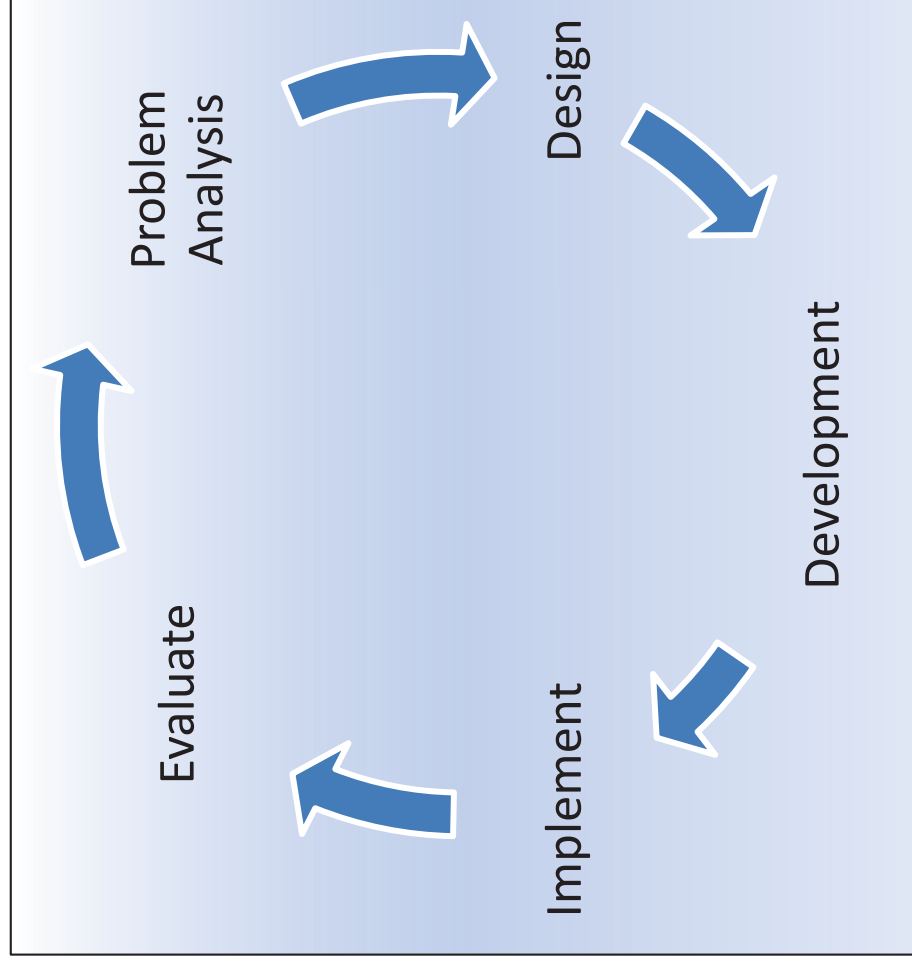
Agency for Healthcare Research and Quality
Advancing Excellence in Health Care



Northeastern University
Healthcare Systems Engineering Institute

Mixed Methods/Participatory Design Approach

- Surveys, observations, semi-structured interviews
 - Nurses, patients, families
- Interviews recorded, analyzed for themes
- Focus end-user requirements for patient participation in 3-step fall prevention process
- Feedback on prototype tools
 - Electronic
 - Paper



Fall TIPS Paper Tool Prototype







FALL RISK ASSESSMENT

EVIDENCE-BASED FALL INTERVENTIONS

Date: _____ Patient Name: _____

PARTNERS HEALTHCARE FOUNDED BY BRIGHAM AND WOMEN'S HOSPITAL AND MASSACHUSETTS GENERAL HOSPITAL

FALL RISK ASSESSMENT
Why you are at risk for falling while in the hospital










1. You have fallen recently.		
2. You have a medical condition and are taking medications that may make you dizzy, unsteady, or cause you to urinate frequently.		
3. You need a walking aid to walk safely.		
4. You have an intravenous ("IV") or other equipment attached to you.		
5. Your walk is unsteady.		
6. You may forget or not want to call for help to get out of bed.		

INJURY RISK ASSESSMENT

- Age (85 years old or older, frailty)
- Bones (osteoporosis, risk or history of fracture, etc)
- Coagulation (risk for bleeding, low platelet counts or taking anticoagulation)
- Surgery (recent), lower limb amputation or major abdominal or thoracic surgery

PARTNERS HEALTHCARE FOUNDED BY BRIGHAM AND WOMEN'S HOSPITAL AND MASSACHUSETTS GENERAL HOSPITAL

How can we work together to prevent you from falling while you are in the hospital?

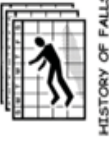
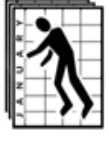










				
Tell your nurse about recent falls.	The bed/chair alarm is on to remind you and your nurse that you need help to get out of bed.	Ask for help to move the IV pole or other equipment.	Call for help to get out of bed. You may need assistance to get up safely.	We will stay with you while you use the toilet or commode
				Other plans?
Call for help to use the commode.	Call for help to use the bathroom.	Your nurse may help you move by using special equipment. He or she will explain how the equipment works.	Be sure to use your crutches, cane or walker.	

Patient Comfort Rounds, Because we care
We are coordinating & formalizing the excellent care we give by anticipating your needs. We are rounding every _____ to make sure:

- Your pain is controlled
- Assist you with toileting
- Make sure you are comfortable
- Your Personal Items are within reach
- Environment is safe

We are coordinating the care we give you by anticipating your needs.

Requirement: Validate Icons with Patients

Fall Risks Assessment Concepts	Initial Mean CIV Score (Patient)	Initial Icon	Dislikes	Suggested Improvements	Final Icon	Final Mean CIV Score (Patient)	Final Mean CIV Score (Nurse)
History of Falls	2.8		-looks like a cage -days are too small	-use "January" instead of days as header		3.0	3.2
You have a medical condition and are taking medications that may make you dizzy, unsteady, or cause you to urinate frequently.	3.2		-black background -only a prescription -seemingly unrelated to falls	-eliminate background -perhaps draw patient as well as prescription		3.0	3.1
You need an ambulatory aid (walking aid) to walk safely.	3.7		-only includes one device	-possibly include more devices		3.4	3.6
You have an intravenous ("IV") or other equipment attached to you.	3.1		-shows the act of tripping	-standing patient with IV		3.7	3.7
Your gait is unsteady.	2.6		-looks like someone slipping on wet floor, not unsteady gait	-draw person looking unsteady -lines around arms/legs to indicate unsteadiness -feet misaligned -put stars around head -some iterations too closely resemble dancing		3.0	3.0
You may forget (or refuse) to call for help to get out of bed.	2.3		-suggests deep thoughts rather than desired concept	-draw a patient sitting on bed looking confused -use question marks -include phone or call bell -have person with string tied around finger to indicate remembering -include stop sign		3.1	2.7

Fall Risks

(Check all that apply)



History of Falls



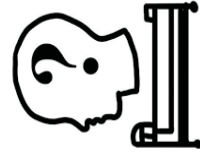
Walking Aid



IV Pole or Equipment



Medication Side Effects



May Forget or Choose Not to Call

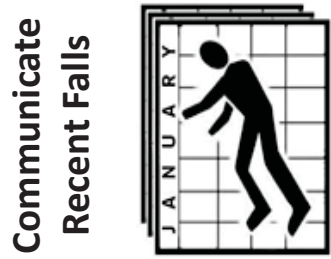


Unsteady Walk



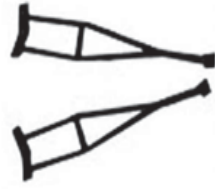
Fall Interventions

(Circle selection based on color)



Communicate Recent Falls

Use Ambulatory Aid



Crutches



Cane



Walker

IV Assistance When Walking



Toileting Schedule: Every __ hours



Bed Pan



Commode



Bathroom

Bed Alarm On



Assistance Out of Bed

①









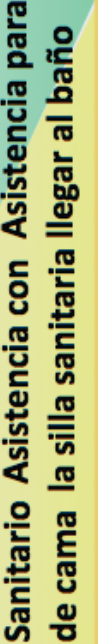






②



None

Laminated Paper Fall T.I.P.S.

<p>Nombre:</p> <p>Riesgos de Caídas (Marque todo lo que corresponda)</p>		<p>Fecha:</p> <p>Intervenciones Para Caídas (Circule la sección basada en el color)</p>	
<p> Historia de Caídas previas <input type="checkbox"/></p> <p> Efectos adversos a medicamentos <input type="checkbox"/></p> <p> <u>Ayudante</u> para caminar <input type="checkbox"/></p> <p> Equipos para intravenosas (IV) <input type="checkbox"/></p> <p> Marcha inestable <input type="checkbox"/></p> <p> Olvida llamar o decide no pedir ayuda <input type="checkbox"/></p>	<p> Ayudas para caminar</p> <p>Muletas Bastón Caminador</p>	<p> Horario para ir al baño : Cada ___ horas</p> <p> Sanitario Asistencia con Asistencia para de cama la silla sanitaria llegar al baño</p>	<p> Asistencia para salir de la Cama</p> <p>Una persona Dos personas</p>
<p>Comuniqué caídas recientes</p> <p></p>	<p>Ayudante con IV/Equipos para caminar</p> <p></p>	<p>La alerta de la cama está funcionando</p> <p></p>	<p>Asistencia para salir de la Cama</p> <p>Una persona Dos personas</p>
<p>Fall risk assessment</p>		<p>Tailored plan based on patient's determinants of risk</p>	

Usability Results: Fall TIPS Paper Tool

Survey Question	Old (N=27)		New (N=27)		p-value
	Mean	Variance	Mean	Variance	
1. I think that I would like to use these tools frequently.	2.333	0.846	3.704	1.217	<.001
2. I find the tools unnecessarily complex.	3.148	1.746	1.667	1.077	<.001
3. I think the tools are easy to use.	2.692	1.502	4.222	0.949	<.001
4. I think that I would need the support of a fall prevention expert to be able to use these tools.	1.852	0.593	1.500	0.660	.112
5. I find the various functions in the tools are well-integrated.	2.593	0.866	3.852	1.131	<.001
6. I think there was too much inconsistency in available tools.	2.704	1.293	2.111	1.179	.06
7. I would imagine that most people would learn to use these tools very quickly.	2.889	1.333	4.296	1.063	<.001
8. I find the tools very cumbersome to use.	3.296	1.755	2.222	1.872	.005
9. I felt very confident using these tools.	3.222	1.103	4.259	1.046	<.001
10. I needed to learn a lot of things before I could get going with these tools.	2.423	1.134	1.852	0.823	.04
11. I am satisfied with the tools to support the fall prevention process at this hospital.	2.481	1.028	3.704	1.293	<.001

Katsulis Z, Ergai A, Leung WY, Schenkel L, Rai A, Adelman J, Benneyan J, Bates DW, **Dykes PC**. Iterative user centered design for development of a patient-centered fall prevention toolkit. **Appl Ergon**. 2016 Sep; 56:117-26. PMID: 27184319.

System Usability Scale, responses ranged from 1 (strongly disagree) to 5 (strongly agree).

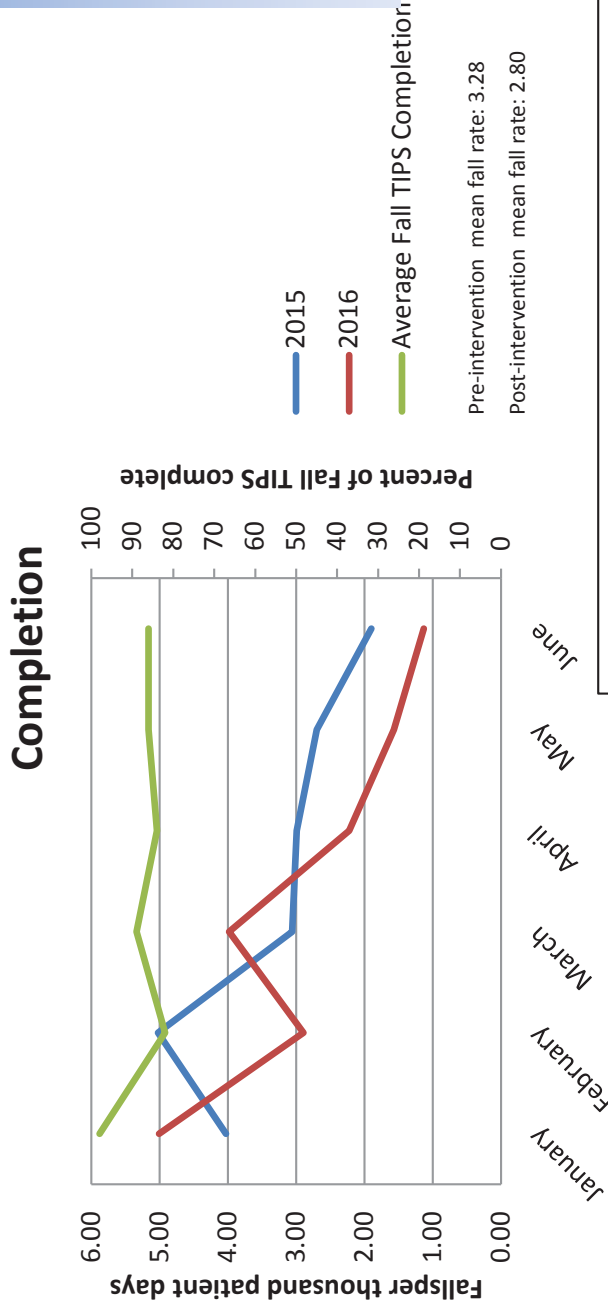
Fall TIPS Poster Pilot Test

- January – June 2016
- Targeted units with fall/injury rates above hospital and state mean

Site/ Number of Units	Service	Number of Beds
Brigham and Women's Hospital/3	Neuroscience Intermediate Care	43
Brigham and Women's Hospital/2	Medical Intermediate Care	31
Brigham and Women's Hospital/2	Oncology	20
Montefiore Medical Center/1	Medical Intermediate Care	36

Fall TIPS Pilot Test Results

Average Fall Rate 2015 vs. 2016 with Average Fall TIPS



Fall TIPS Adherence: 82%

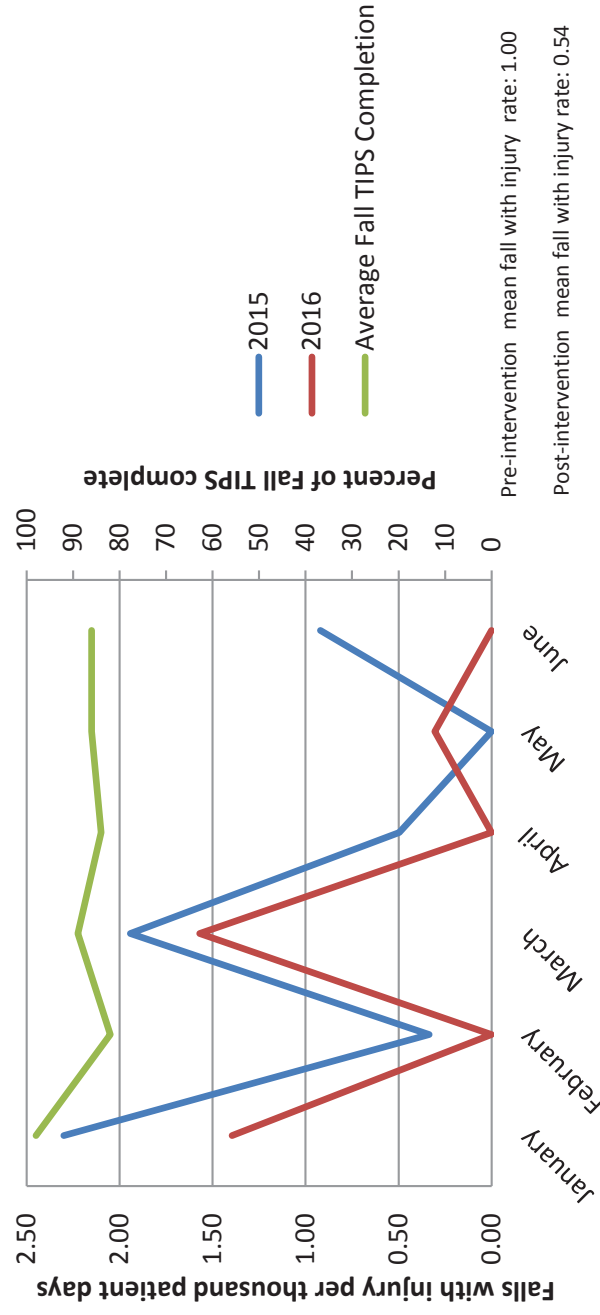
Pre-Fall TIPS Fall Rate: 3.28

Post Fall TIPS Fall Rate: 2.80

Pre-Fall TIPS Injury Rate: 1.00

Post Fall TIPS Injury Rate: .54

Average Fall Rate with Injury 2015 vs. 2016 with Average Fall TIPS Completion



In Press: Dykes PC, Duckworth M, Cunningham S, Dubois S, Driscoll M, Feliciano Z, Ferrazzi M, Fevrin F, Lyons S, Lindros M, Monahan A, Paley M, Jean-Pierre S, Scanlan M. Pilot Testing Fall TIPS (Tailoring Interventions for Patient Safety): a Patient-Centered Fall Prevention Toolkit. The Joint Commission Journal on Quality and Patient Safety. 2017

Patient-centered Fall Prevention Tools

- Laminated paper Fall T.I.P.S.
- Web-based and mobile patient portals to access Fall T.I.P.S.
- Patient Safety Plan Screensaver for providers



Patient Portal: Fall TIPS

Zoom



Patti's Plan of Care

Monday 4/25/2016

Room #: 4C-561

SAFETY

- Reminders

- Fall TIPS

- MySafeCare

MY CARE TEAM

PREFERENCES

TEST RESULTS

MEDICATIONS

FEEDBACK

INFO

LOG OUT

Below are your selected Fall Risk Factors.

Status: Approval Pending

Medication Side Effects

Walking Aid

IV and/or Equipment

Unsteady Walk

Forget or Choose not to Call

Your suggested plan of care is

Assistance with Bathroom needed every 2 hour(s)

Use Cane

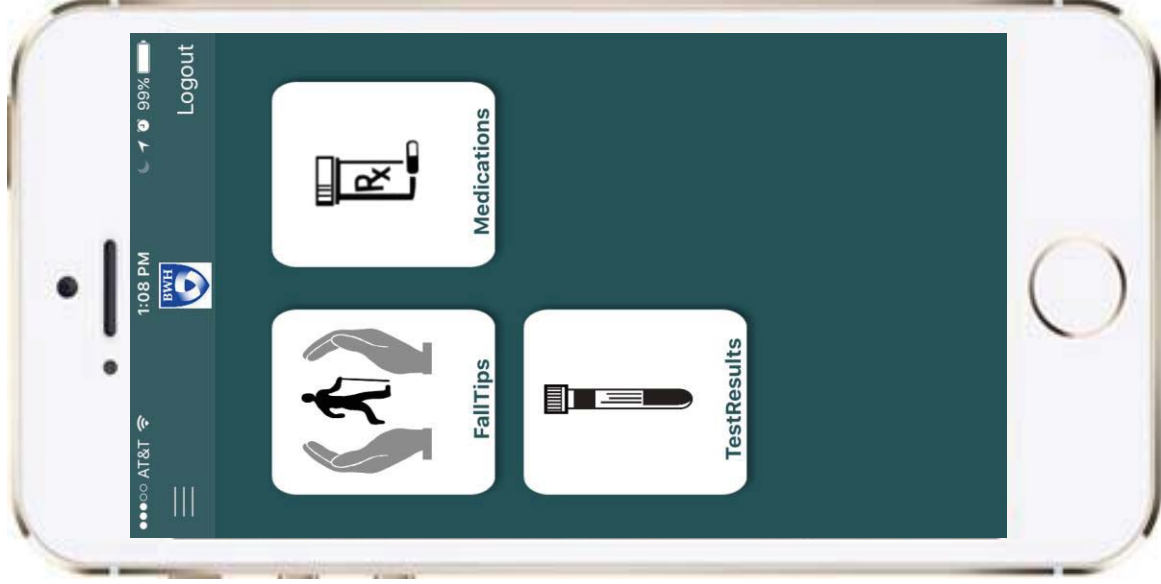
IV Assistance when walking

1 Person assist

Bed Alarm On

Update Plan

Patient Portal (Mobile Application view)–Fall T.I.P.S. displayed



Patient Room Desktop Screensaver

Patient Preferences:

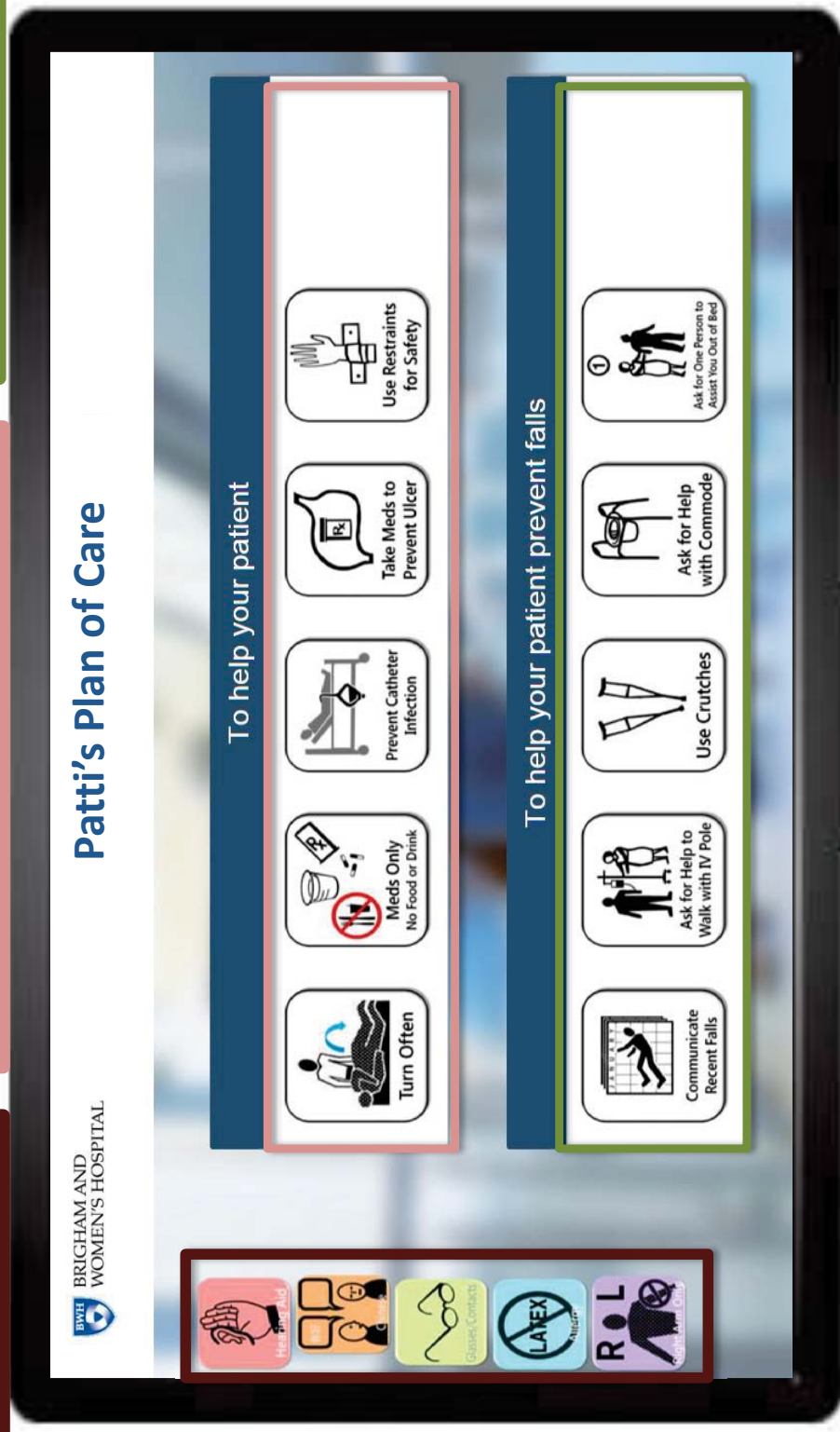
Hearing aid, translator, glasses/contacts, latex allergy, arm restriction

Safety Reminders:

Braden score, diet order, catheter infection, ulcer, restraints, PT exercises etc

Fall Prevention:

Toileting schedule, help to walk with IV Pole, use ambulatory aid etc



Thank You: BWH/NEU Patient Safety Learning Lab Team



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Patient-centered Fall Prevention

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Conclusions

- Making care better:
 - Will involve partnering with patients.
 - Will require high-tech and low-tech solutions
 - Clinician attitudes still have a ways to go
 - Will be highly multidisciplinary
 - Roles of nurses and other clinicians will change
- Health IT is opening new doors and we need to take advantage!



in Nursing Informatics

SINI 2017

Clinical Practice, Health, and the Internet of Things

July 11-14, 2017

University of Maryland School of Nursing, Baltimore, MD



Thank you



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