The Fall TIPS Program: Connecting Research to Evidence-Based Care

Patricia C. Dykes PhD, RN, FAAN
Overview

1. Describe the extent of the problem of patient falls

2. Discuss the components of an evidence-based fall prevention program using Fall TIPS as a model
   • Discuss roll-out of Fall TIPS
The Problem of Patient Falls

• Falls are a leading cause of death and disability.
  – ~33% of older adults fall each year
• Hospitalization increases the risk for falls.
  – ~3% hospitalized patients fall
  – ~30% of inpatient falls result in injury
• Patient falls and injurious falls are employed as national metrics for nursing care quality.
  – The incidence of patient falls and related injuries are publicly reported by acute care hospitals.
  – As of October 2008, costs associated with fall-related injuries in hospitals are no longer reimbursable under Medicare.
Fall Prevention in Acute Care Hospitals: The Evidence Circa 2007

• Fall risk factors well established
  – Inpatient fall prevention research identified risk factors and fall risk assessment tool validation
  – Risk assessment insufficient for preventing falls

• Paper-based fall prevention guidelines recommended multifaceted, tailored interventions

Insufficient evidence to support a specific protocol that links nursing fall risk assessment to a tailored plan to prevent falls.
Example: Using the EHR for Fall Prevention Care Planning

• 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 an EHR-based fall prevention toolkit designed to address issues identified during qualitative phase.

Supported by the Robert Wood Johnson Foundation, Dykes PI
Fall TIPS (2007-2009): Qualitative Results Summary

• Communication related to fall risk status and the plan to prevent falls is highly variable.

• Inconsistent communication across team members is a barrier to fall prevention collaboration and teamwork.
  – Non-nursing team members do not view fall risk assessment/plan in medical record.
  – Inadequate, incomplete, or incorrect information at the bedside (i.e., generic “high risk for falls” signs are not useful).

• All stakeholders (care team members, patients and family members) must work together to prevent patient falls.
Fall TIPS (2007-2009): Toolkit Requirements
The Fall TIPS Toolkit: Fall Risk Assessment/Tailored Plan

Patient Name: Jane Doe
MRN: 12345678 (BWH)
Location: 14-10A

**Morse Fall Scale:**
- History of Falls - past 3 months: Yes (25)
- Secondary Diagnosis: Yes (15)
- Ambulatory Aid: None / Bed Rest / Nurse Assist (0), Crutch / Cane / Walker (15), Furniture (30)
- IV or Hep Lock Present: Yes (20)
- Gait: Normal / Bed Rest / Wheel Chair (0), Weak (10), Impaired (20)
- Mental Status: Oriented to own ability (0), Overestimates, forgets limitations (15)

**Morse Fall Score:** 65

---

**Interventions**
- Safety Precautions
- Document previous fall
- Review Medication List
- Consult with MD/Pharmacist
- PT consult

**Assistance with ambulating**
- Provide Ambulatory aid: Crutches, Cane, Walker, Other Device
- IV assistance when walking
- Out of bed with assistance: 1 Person, 2 Persons

**Assistance with toileting**
- Toileting schedule using: Bed Pen, Commode, Assist to bathroom

**Bedside assistance**
- Bed/Chair alarm turned on
- Bed close to nurse station
- Frequent checks, re-orientation

**Print Documents**
- Print/Save, Save

---

**For more information about Fall prevention visit our website**
**For Fall TIPS Training Guide**
**Go To Status Dashboard**
**For more information about Fall TIPS project contact our team**
# Fall Prevention Plan of Care

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

<table>
<thead>
<tr>
<th>Patient Name: Jane Doe</th>
<th>MRN: 12345678</th>
<th>Printed: March 04, 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient has a history of falls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient uses ambulatory aid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient's gait is Weak</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient overestimates ability; forgets limitations</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Safety Precautions
- Document circumstances of previous falls
- Place WALKER at bedside
- Patient needs Assist
- Bed/Chair alarm turned on
- Move pt. close to nurse station
- Freq Checks; re-orientation; distractions

**Total Morse Fall Score:** 65

Sign/Credentials: Patricia C. Dykes RN  Date/Time: 3/04/09
Fall TIPS: 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 in hospitals is a 3-step process:
  2. Developing a plan of care that is tailored to patient-specific areas of risk.
  3. Implementing the plan CONSISTENTLY.
  4. Patient engagement is essential.

Strategies and tools to facilitate the 3-step fall prevention process will prevent patients from falling!
Fall TIPS Next Steps

1. Identify ways to disseminate Fall TIPS outside of the electronic health record.
   – Can be used in any hospital
   – Provides clinical decision support

2. Develop tools and strategies to engage patients and families in the 3-step fall prevention process.
Laminated Paper Fall T.I.P.S.

Fall risk assessment

Tailored plan based on patient’s determinants of risk
Fall TIPS Pilot Test Results: BWH

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

- Pre-intervention mean fall rate: 3.28
- Post-intervention mean fall rate: 2.80

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

- Pre-intervention mean fall with injury rate: 1.00
- Post-intervention mean fall with injury rate: 0.54

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: 0.54
Fall TIPS Pilot Test Results: MMC

Klau 4 Fall Rates 2015 vs. 2016 with Fall TIPS Completion Rates

Pre-intervention mean fall rate: 3.04
Post-intervention mean fall rate: 3.10
Fall TIPS Adherence: 91%
Pre-Fall TIPS Fall Rate: 3.04
Post Fall TIPS Fall Rate: 3.10
Pre-Fall TIPS Injury Rate: .47
Post Fall TIPS Injury Rate: .31

Klau 4 Fall with Injury Rates 2015 vs. 2016 with Fall TIPS Completion Rates

Pre-intervention mean fall with injury rate: 0.47
Post-intervention mean fall with injury rate: 0.31
Pilot Testing Fall TIPS (Tailoring Interventions for Patient Safety): a Patient-Centered Fall Prevention Toolkit

Patricia C. Dykes PhD, RN & (widget), Megan Duckworth BA, Stephanie Cunningham RN, Sasha Dubois RN, Melissa Driscoll RN, Zinnia Feliciano RN, Michael Ferrazzi RN, Farah E. Fevrin RN, Stephanie Lyons RN, Mary Ellen Lindros EdD, RN, Allison Monahan RN, Matthew M. Paley RN, Saby Jean-Pierre RN, Maureen Scanlan RN, MSN, NEA-BC

Background

Patient falls during an acute hospitalization cause injury, reduced mobility, and increased costs. The laminated paper Fall TIPS Toolkit (Fall TIPS) provides clinical decision support at the bedside by linking each patient's fall risk assessment with evidence-based interventions. Strategies were needed to integrate this evidence into clinical practice.

Methods

The Institute for Healthcare Improvement’s Framework for Spread is the conceptual model for pilot implementation of Fall TIPS at Brigham and Women's Hospital (BWH; Boston) and Montefiore Medical Center (MMC; Bronx, New York). The key to translating the evidence into practice was engaging stakeholders by leveraging existing shared governance structures, identifying unit champions, holding training sessions for all staff, and implementing auditing to assess and provide feedback on protocol adherence and patient outcomes.
Fall Prevention in Acute Care Hospitals: The Evidence Circa 2018

• Patient falls are a common problem and can be prevented using the 3-step fall prevention process.
• EHR clinical decision support can link patient-specific risk factors to interventions most likely to prevent a fall.
• Tools are available for use in clinical care to integrate the 3-step fall prevention process into the workflow.
• Engaging patients and family in the 3-step fall prevention process ensures that they understand their risk factors and can play a role in ensuring that the fall prevention plan is implemented consistently.
Thank You: BWH/NEU Patient Safety Learning Lab Team

Brigham and Women’s Hospital
- David Bates
- Alex Businger
- Sarah Collins
- Brittany Couture
- Anuj Dalal
- Patricia Dykes
- Sarah Khorasani
- Lisa Lehmann
- Eli Mlaver Ronen
- Rozenblum Jeffrey
- Schnipper Kumiko
- Schnock

Partners HealthCare
- Frank Chang
- Ramesh Bapanapalli
- Mohan Babu Ganasekaran
- Gennady Gorbovitsky

Patient-centered Fall Prevention
- Patricia Dykes Srijesa
- Khasnahsib
- Emily Leung
- Awatef Ergai
- Jillian Hines
- Zachary Katsulis
- Ramesh Bapanapalli
- Mohan Babu Ganasekaran
- Jason Adelman
- Maureen Scanlan

Northeastern Institute of Healthcare Systems Engineering
- James Benneyan
- Corey Balint
- Jennifer Coppola
- Nicholas Fasano
- Zachary Katsulis
- Meredith Clemmens
- Lindsey Baldo
- Awatef Ergai
- Dominic Breuer
- Jillian Hines
- Jessica Cleveland
Components of an Evidence-based Fall Prevention Program
Components of an Evidence-based Fall Prevention Program

• Universal fall precautions
• 3-Step Fall Prevention Process:
  1. Fall risk assessment
  2. Tailored fall prevention care planning
  3. Consistent implementation of the tailored care plan
• Post fall management strategy
• Implementation strategies
  – Unit-based champions
  – Competency
  – Continuous quality improvement strategies
    • Peer coaching
Evidence-based Fall Prevention

TYPES OF FALLS
Types of Falls and How to Prevent Them

Accidental falls:

- Occur in those who have no risks for falling
- Usually caused by environmental hazard/error in judgment
- 14% of falls

Prevented through universal fall precautions

Types of Falls, cont.

Anticipated physiological falls:
• Occur in those who have risk for falling
• MFS includes 6 items that can predict this type of fall.
• 78% of falls

Prevented through fall risk assessment using validated tool and tailored care planning/interventions

Types of Falls, cont.

Unanticipated physiological falls:
• Occur in those who have no risks for falling
• Caused by physiologic changes
  —Such as seizure
• 8% of falls

Most difficult to prevent. Some may not be preventable.

Evidence-based Fall Prevention Strategies

• Universal Fall Precautions
• 3-Step Fall Prevention Process
  1. Fall risk assessment (FRA)
  2. Tailored fall prevention care planning
  3. Consistent implementation of the tailored care plan
• Post fall management
Universal Fall Precautions

• Cornerstone of any hospital fall prevention program
• Train all hospital staff who interact with patients.
• Apply to all patients at all times
  • Clear pathways.
  • Wipe up spills immediately.
  • Provide access to call bell.
  • Provide non-skid footwear.

Creates hospital culture that values fall prevention
3-Step Fall Prevention Process

1. **Conducting fall risk assessment**
2. Completing tailored fall prevention care planning
3. Consistently implementing the plan
Step 1- Fall Risk Assessment

- Identifies patients at risk for falling
- Provides baseline measure of patient-specific areas of risk
- Aids in clinical decision making
- Informs tailored or personalized preventative measures, care plans, and communication strategies

Standardized fall risk assessment is prerequisite to implementing evidence-based fall prevention intervention protocol.
Completion of the MFS

• MFS requires a chart review and **direct** observation of the patient

• MFS should be completed at least once per shift
  – Scores may fluctuate from daytime to night time

• Completion of the MFS requires training

• MFS requires competency assessment
### Risk Factors for Falls Identified by Morse Fall Scale

- **History of falling**
- **Secondary diagnosis** — Associated with incontinence, vision problems, multiple medicines, orthostatic hypotension
- **Ambulatory aid**
- **IV therapy/heparin (saline) lock**
- **Gait**
- **Mental status**

**Areas of Risk**

<table>
<thead>
<tr>
<th>Areas of Risk</th>
<th>Numeric Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. History of falling</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td>Yes</td>
<td>25</td>
</tr>
<tr>
<td>2. Secondary diagnosis</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td>Yes</td>
<td>15</td>
</tr>
<tr>
<td>3. Ambulatory aid</td>
<td></td>
</tr>
<tr>
<td>None/bed rest/nurse assist</td>
<td>0</td>
</tr>
<tr>
<td>Crutches/cane/walker</td>
<td>15</td>
</tr>
<tr>
<td>Furniture</td>
<td>30</td>
</tr>
<tr>
<td>IV or IV access</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td>Yes</td>
<td>20</td>
</tr>
<tr>
<td>5. Gait</td>
<td></td>
</tr>
<tr>
<td>Normal/bed rest/wheelchair</td>
<td>0</td>
</tr>
<tr>
<td>Weak</td>
<td>10</td>
</tr>
<tr>
<td>Impaired</td>
<td>20</td>
</tr>
<tr>
<td>6. Mental status</td>
<td></td>
</tr>
<tr>
<td>Oriented to own ability</td>
<td>0</td>
</tr>
<tr>
<td>Overestimates or forgets limits</td>
<td>15</td>
</tr>
</tbody>
</table>

Risk 1: History of Falling

- **Score 0** if *none of the following* are true:
  - Patient has fallen during this hospitalization.
  - Patient has immediate history of falls within the past 3 months. *This is the most significant indicator for falling.*
- **Score 25** if *one or more* of the above are true.

<table>
<thead>
<tr>
<th>History of Falls</th>
<th>No</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>25</td>
<td></td>
</tr>
</tbody>
</table>

**Interventions:**

- Use safety precautions.
- Communicate risk status via plan of care, change of shift report, and signage.
- Document circumstances of previous fall.
Risk 2: Secondary Diagnosis

- **Score 0** if only **1 active** medical diagnosis.
- **Score 15** if **more than 1** medical diagnosis is active for current admission.

Think about factors that may increase risk for falls that are related to multiple medical problems:
- Illness/multiple medications
- Side effects such as dizziness, frequent urination, and unsteadiness
- Vision problems

<table>
<thead>
<tr>
<th>Secondary Diagnosis</th>
<th>No</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>15</td>
</tr>
</tbody>
</table>

**Interventions:**
- Consider implementing a toileting and rounding schedule
- Review medication list

Patients with multiple medical diagnoses are often on multiple medications. Along with the physical symptoms from the secondary diagnoses, this increases their risk for falls.
Risk 3: Ambulatory Aid

- **Score 0** if patient walks without a walking aid or uses a wheelchair or is on bed rest and does not get up at all.
- **Score 15** if patient uses crutches or a walker.
- **Score 30** if the patient walks clutching onto furniture for support (e.g., needs help, but does not ask or does not comply with order for bed rest or to use an ambulatory aid).

<table>
<thead>
<tr>
<th>Ambulatory Aid</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>None/bed rest/nurse assist</td>
<td>0</td>
</tr>
<tr>
<td>Crutches/cane/walker</td>
<td>15</td>
</tr>
<tr>
<td>Furniture</td>
<td>30</td>
</tr>
</tbody>
</table>

**Interventions:**

- Use ambulatory aid at bedside if needed.
- Review dangers of using furniture or hospital equipment as an ambulatory aid.
- Assess ability to use ambulatory aid.
- Consider PT consult.
Risk 4: **Intravenous/Heparin (Saline) Lock**

- **Score 0** if the patient does not have an IV, heparin (saline) lock.
- **Score 20** if the patient has an IV, heparin (saline) lock.

<table>
<thead>
<tr>
<th>IV/Heparin (Saline) Lock</th>
<th>No</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>20</td>
</tr>
</tbody>
</table>

**Interventions:**

- Implement toileting/rounding schedule.
- Tell patient to call for help with toileting.
- Review side effects of IV medications.
Risk 5: Gait

- **Score 0** if the patient has a normal gait.
  - Walks with head erect. Arms swinging freely at the side. Striding without hesitation.

- **Score 10** if the patient has a weak gait.
  - Stooped, but able to lift head without losing balance. If furniture required, uses as a guide (feather-weight touch). Short steps, may shuffle.

- **Score 20** if the patient has an impaired gait.
  - Difficulty rising from chair (needs to use arms; several attempts to rise). Head down; watches ground while walking. Cannot walk without assist; grabs at furniture or whatever available. Short, shuffling gait.
  - Wheelchair: score according to gait used at transfer.

**Interventions:**
- Help patient get out of bed.
- Consider PT consult.

<table>
<thead>
<tr>
<th>Gait</th>
<th>Normal</th>
<th>Weak</th>
<th>Impaired</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>10</td>
<td>20</td>
</tr>
</tbody>
</table>

Assess your patient’s gait while they are walking with their ambulatory aid.
Risk 6: Mental Status

To test mental status: Ask the patient, “Are you able to go to the bathroom alone or do you need assistance?”

- Normal: patient response is consistent with orders or kardex.
- Overestimates/forgets limitations: patient response is inconsistent with ambulation order or unrealistic.

- **Score 0** if the patient’s mental status is normal.
- **Score 15** if the patient is considered to overestimate his/her abilities or is forgetful of limitations.

<table>
<thead>
<tr>
<th>Mental Status</th>
<th>Normal</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forgets or overestimates</td>
<td>15</td>
<td></td>
</tr>
</tbody>
</table>

**Interventions:**

- Use bed/chair alarm or virtual monitoring.
- Place patient in visible location.
- Encourage family presence.
- Do frequent rounding.
ABCs of Harm

• Patient is at high risk for injury if they fall with:
  – **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, major abdominal or thoracic surgery

Interventions:

• Communicate that the patient is at an increased risk for injury if they fall.
• Emphasize the importance of following their personalized fall prevention plan.
3-Step Fall Prevention Process

1. Conducting fall risk assessment
2. Completing tailored fall prevention care planning
3. Consistently implementing the plan
Step 2- Tailored Fall Prevention Care Planning

• Review areas of risk identified by Morse Fall Scale for specific patient.
• Select interventions to address each area of risk.
• Communicate tailored fall prevention plan to all staff who interact with patient. Also share it with patient and their family members.
3-Step Fall Prevention Process

1. Conducting fall risk assessment
2. Completing tailored fall prevention care planning
3. Consistently implementing the plan

Carry out the plan consistently to prevent falls—patient engagement can help!
Step 3- Consistently Implementing the Plan

Patient engagement

• Engaging patients and family in the 3-step fall prevention process ensures that they understand their risk factors and can play a role in making sure that the fall prevention plan is implemented consistently.

• Conduct the fall risk assessment with the patient then develop the tailored prevention plan together based on the risk factors identified.

• Consistently educate and remind the patient how to implement the plan.
Patient Engagement Audits

• Nurse Champions on each unit will conduct and submit 5 audits/month with the following data via REDCap:
  1. Is the patient’s Fall TIPS poster updated and hanging at the bedside?
  2. Can the patient/family verbalize the patient’s fall risk factors?
  3. Can the patient/family verbalize the patient’s personalized fall prevention plan?

Peer feedback is an essential component of the Fall TIPS audit
Tools to Support Fall TIPS Rollout

- Fall TIPS training module
- Monthly training webinars
- Fall TIPS Audit Guide
- Fall TIPS RN, PCA, and Patient Guides (1-page)
- Fall TIPS email: PHSFallTIPS@partners.org
- Website: www.falltips.org
Fall TIPS Implementation Protocol

1. Organizational support
   - Leadership and unit director support
2. Print, laminate paper Fall TIPS
3. Meet with practice committee and unit nurses
   - Recruit champions (for peer support/training and maybe data collection)
4. Conduct fall risk assessment competency training with all staff
   - Using provided training toolkit
5. Track progress weekly
   - How often is Fall TIPS tool completed? (within 24 hours of admission and updated at least once a day)
   - How accurate and up-to-date is the tool?
   - How many days since last fall?
6. Provide continuous feedback
   - Via email and posters
   - In-person rounding on nurses
   - Promote patient engagement and education
Evidence-based Fall Prevention

3-STEP FALL PREVENTION PROCESS

CASE STUDY
Case 1: John

- John, an 82-year-old man with diabetes was admitted to BWH medical unit with chest pain and shortness of breath. On admission, the patient was found to be alert and oriented. He had an IV and was placed on a cardiac monitor.

- During the admission interview, John reported that with his cane, he was independent with walking and transfers. However, the nurse noted that the doctor’s order was for walking with cane and assistance only.

- With further questioning, the patient reported that he had fallen at home several times over the past year, most recently last month.

- As the nurse assisted the patient to the bathroom, she noted that initially he used the bedside table and other furniture as guides and needed to be reminded to use his cane.

- Once he was given a cane, John walked with short, steady steps to the bathroom.
## Patient Name:  

### Fall Risks *(Check all that apply)*

- History of Falls
- Medication Side Effects
- Walking Aid
- IV Pole or Equipment
- Unsteady Walk
- May Forget or Choose Not to Call

### Fall Interventions *(Circle selection based on color)*

- Communicate Recent Fall and/or Risk of Harm
- Walking Aids
  - Crutches
  - Cane
  - Walker
- IV Assistance When Walking
- Toileting Schedule: Every ______ hours
  - Bed Pan
  - Assist to Commode
  - Assist to Bathroom
- Bed Alarm On
- Assistance Out of Bed
  - Bed Rest
  - 1 person
  - 2 people

---

Fall TIPS © Brigham & Women’s Hospital 2016; do not alter without written permission.
Patient Name: John

Fall Risks (Check all that apply):
- History of Falls
- Medication Side Effects
- Walking Aid
- IV Pole or Equipment
- Unsteady Walk
- May Forget or Choose Not to Call

Fall Interventions (Circle selection based on color):
- Communicate Recent Fall and/or Risk of Harm
- Crutches
- Cane
- Walker
- IV Assistance When Walking
- Toileting Schedule: Every 1 hour
- Bed Pan
- Assist to Commode
- Assist to Bathroom
- Bed Alarm On
- Assistance Out of Bed
  - Bed Rest
  - 1 person
  - 2 people

Date: 05/12/2016
Evidence-based Fall Prevention Recap

• Most patient falls are preventable

• An evidence-based fall prevention program includes the following components:
  – Standard definitions
  – Universal fall precautions
  – 3-Step Fall Prevention Process:
    • Fall risk assessment
    • Tailored fall prevention care planning
    • Consistent implementation of the tailored care plan
  – Post fall management

• Implementation requires a continuous quality improvement, interdisciplinary, team-based approach
The Fall TIPS Collaborative: A Partnership for Spread

• Benefits of membership:
  – Ongoing access to the Fall TIPS Toolkit, Fall TIPS training webinars, and the implementation guides
  – Access monthly reports related to your hospital’s progress with engaging patients and family in the three-step fall prevention process relative to other hospitals in our database

• Requirements for membership:
  – Submit de-identified data monthly via REDCap (secure database), related to engaging patients in the three-step fall prevention process, patient falls, and fall-related injuries

Interested in joining? Sign up at www.falltips.org/fall-tips-collaborative/
Thank you!

pdykes@bwh.harvard.edu
skhasnabish@bwh.harvard.edu