Functional Reconciliation: Implementing Outcomes Across the Continuum

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Anita Bemis-Dougherty, PT, DPT, MAS
Kelly Daley, PT, MBA
Laurie Fitz, PT, CLT, STAR/C
Alan Jette, PT, PhD
Live Tweet: #aptacsm  #rehabhopkins

Johns Hopkins - @rehabhopkins

- Michael Friedman - @mkfrdmn
- Anita Bemis-Dougherty - @abemisd1
- Kelly Daley - @KdaleyKelly
- Laurie Fitz - @lsweet2_sweet
- Alan Jette - @jette1
A Quality Improvement Approach to Interdisciplinary Activity & Mobility Promotion Across the Hospital

Johns Hopkins Hospital, Baltimore, MD

This one day course will examine opportunities, strategies and tactics to position, implement, and evaluate interdisciplinary mobility initiatives in the hospital setting using a formal quality improvement approach.

Quality Improvement in Rehabilitation

- The Value Equation, an Essential for Rehabilitation Quality Improvement
- Tenets of Quality Improvement
- Methods of Quality Improvement

Acute Hospital Activity & Mobility Promotion

- The Evidence and Environment to Support Activity and Mobility Promotion
- Measurement and Communication of Function: Strategy, Tool Selection and Design
- The "Activity and Mobility Promotion" Bundle - Toolkit for Culture Change
- Driving Adoption of Activity and Mobility: Engage, Educate, Execute, Evaluate

Featured Speakers:

- Dale Needham, FCPS, MD, PhD
- Michael Friedman, PT, MBA
- Erik Hoyt, MD
- Annette Lavretz, OTR/L

Hopkinsmedicine.org/OACIS/ICURehab

@ICURehab

@RehabHopkins
Health care reform has reinforced the need to maximize value by targeting interventions, eliminating preventable harms, and increasing the utilization of surveillance models to promote health status.

Functional status is an indicator of overall health.

A key element to increasing the awareness of functional decline and appropriately intervening is frequently evaluating and documenting a practical functional assessment among disciplines and utilizing this scale to achieve functional reconciliation.

This session will detail Johns Hopkins Medicines pragmatic approach to functional reconciliation. The speakers also will focus on the population health and the drive for clinical and financial outcomes within the hospital system through post-acute care and into the ambulatory environment.
Objectives

• Define functional reconciliation and identify opportunities for practical use of functional measures to trigger targeted intervention to enhance outcomes or reduce costs along the health care continuum.

• Present considerations and compromises in choosing interdisciplinary functional outcome and status measures as part of a coordinate institutional functional assessment strategy.

• Examine electronic medical record design considerations to support collection, aggregation, and reporting of data to facilitate clinical decision making.

• Discuss practical strategies to implement and communicate coordinated interdisciplinary functional assessment measures across the continuum.
PERSPECTIVE

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Solving the Outcome Measurement Dilemma:

• Need many items or many condition-specific instruments to cover all the relevant functional outcomes across a broad range of patients.

• The traditional administration of extensive instruments is burdensome to patient and clinician.

• Instruments lack the comprehensiveness needed to track patient progress across settings throughout an episode of care.
Why is promoting activity and mobility important?

Body Systems:

- Cardiovascular (orthostatic hypotension, thrombus)
- Musculoskeletal (atrophy and contractures)
- Urinary elimination (infection and dehydration)
- Bowel elimination (constipation and dehydration)
- Metabolic (fluid and electrolyte imbalance)
- Psychosocial (depression)
- Respiratory (hypostatic pneumonia)
- Integumentary (pressure ulcers)

HEALTH STATE
The Value Equation

“Achieving high value for patients must become the overarching goal of health care delivery, with value defined as the health outcomes achieved per dollar spent.” – Michael Porter, PhD Harvard Business School

Value = \frac{Outcome}{Cost}

http://www.healthaffairs.org/healthpolicybriefs/
Waste lives in silos and healthcare silos

Function, Pain, Survivorship, Wellness, and Rehabilitation

Orthopedics, Medicine, Neurology, Primary Care

Hospital
• ICU
• Ward

Post-Acute
• Home Care
• Inpatient Rehab

Ambulatory

Patient and Family

PT #1
PT #2
PT #72

MD PT RN

SLP Admin

Standardized Care
Activity and Mobility Promotion (AMP)
A Problem
Standardizing Patient Outcomes Measurement

Michael E. Porter, Ph.D., M.B.A., Stefan Larsson, M.D., Ph.D., and Thomas H. Lee, M.D.
Functional Reconciliation - Background

Anita Bemis-Dougherty, PT, DPT, MAS
What is Functional Reconciliation?

• Formal comparison of a patient’s functional ability prior to hospitalization with their current status at all transitions in level of care within institutions and between institutions and outpatient/community resources.

• This concept is similar to “medication reconciliation,” a well-known element of performance of the Joint Commission standards: “process of comparing a patient's medication orders to all of the medications that the patient has been taking”.


Risk Assessment and Standardized Functional Measures

• Risk assessment is a key element to ensure that patient safety and continuity of care are highlighted during transfers or transitions to different care levels within or between healthcare organizations.

• Limited agreement on the use of standardized functional measures that demonstrate reliability, validity, and utility for clinical use across the entire continuum of care from the ICU to home environment.
Functional Reconciliation Vision

- **Baseline**
- **1/3/16**
- **Acute Day 1**
- **1/4/16**
- **Acute Day 2**
- **1/5/16**
- **Acute Day 3**
- **1/6/16**
- **Acute Day 4**
- **1/7/16**
- **Homecare Day 1**

**Expected**

**Alert:** Patient at risk for poor outcome
The DYS-Functional Assessment Puzzle

- Fall Risk
- AM-PAC
- Tinetti
- 6 Min Walk
- Glasgow
- Level of Assist
- Laps Walked
- Fatigue Scale
- Rankin
- Tinetti
- FIM
- Braden
- Core Measures
- Core Measures
- PROMIS
- CAM-ICU
Johns Hopkins Hospital (JHH) Functional Assessment Strategy – Tool Selection

- Interdisciplinary
- Efficient documentation
  - EMR design
  - Regulatory requirements
- Meaningful across settings and initiatives
- Practical and Feasible
- If possible vetted with other institutions

- Drive Intervention and Clinical Decision (MCID)
- Composite and specific measures
  - Meaningful clinical difference
  - Ceiling and floor
- Standard diagnosis specific measures
Activity Measure for Post Acute Care (AM-PAC)

- 25 years in development
- Validated across all levels of care
- 240 items – 3 domains
- Computer Adapted Test
- Can be shortened, and answered by surrogates
- Short Forms in use at JHM
  - Inpatient
  - Homecare
  - Outpatient – Rehabilitation Clinics
  - Ambulatory Clinics
- Stages and Minimum Clinical Important Difference
• AM-PAC Expected Performance Each Stage
Boston University AM-PAC™
Surgical Short Form (Version A)

Please check the box that reflects your (the patient’s) best answer to each question.

<table>
<thead>
<tr>
<th>How much DIFFICULTY do you currently have? (If you have not done an activity recently, how much difficulty do you think you would have if you tried?)</th>
<th>Unable</th>
<th>A Lot</th>
<th>A Little</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Walking on an uneven surface (e.g., grass, dirt road or sidewalk, brick walkways, sidewalks with curb and driveway cuts)?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. Walking up and down steep unpaved inclines (e.g., steep gravel driveway)?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3. Walking on a slippery surface, outdoors?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4. Using an escalator?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5. Carrying something in both arms while climbing a flight of stairs (e.g., laundry basket)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6. Walking backwards 3 steps?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7. Going up and down three flights of stairs inside, using a handrail?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8. Standing for 20 minutes (e.g., waiting in a line)?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9. Going up and down a flight of stairs outside, without using a handrail?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10. Pulling open a heavy door?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Raw Score:  
Standardized T-Score:
How much difficulty does the patient currently have cleaning up spills on the floor with a mop?

AM-PAC Short Form Manual (v.2), 2007. Trustees of Boston University. Used with permission from Boston University School of Public Health, 715 Albany Street Talbot T5W, Boston, MA 02118.

Mobility Outpatient
Raw Score (calculated) 38

Standarized T-Scale Score 53.65

Mobility Outpatient CMS 0-100% Score (calculated) 53.65

This row calculates the CMS 0-100% Score for Basic Mobility Outpatient. Score Conversion Table: Raw Score - CMS 0-100% Score - CMS G-Code Modifier 18 - 100.00 - "CM" 19 - 94.56 - "CM" 20 - 89.63 - "CM" 21 - 88.74 - "CM" 22 - 33.34 - "CM" 23 - 30.45 - "CM" 24 - 77.89 - "CL" 25 -
Diagnosis Specific

• Move towards standards
  – Intermountain, UPMC, Cleveland Clinic, etc.
  – Interdisciplinary team at JHM
• Measures only work when completed by regularly
  – Feasibility and Workflow
• Law of diminishing returns
  – Minimum Data Set
• What works for our Primary Care team?
Leveraging Systems to Establish Function as a Vital Sign

Kelly N Daley, PT, MBA
Director of Informatics & Analytics
@KdaleyKelly
AM-PAC reconciliation vision

Functional Level (AM-PAC Mobility)

Baseline 1/3/16 1/4/16 1/5/16 1/6/16 1/15/16

Acute Day 1 Acute Day 2 Acute Day 3 Acute Day 4 Ambulatory Primary Care Visit

Expected

ALERT: Patient at risk for poor outcome
Systems informed our key questions about function

**Patient Level (providers)**

“Has function dropped significantly requiring intervention?”

“Has function dropped between transitions?”

“Has the baseline been regained?”

**Aggregated Level (managers/leaders)**

“Is PT seeing the right patients at the right time? OT? Nursing?”

“Is there waste we can reduce?” (ex. unneeded visits)

“Could we deploy our therapy staff for a better impact”

“Can we reduce adverse outcomes of care?”
Teamed for success in function as a vital sign

**Informatics** (Data Entry EMR)

**Analytics** (Data Presentation and Exploration)

**Biostatistics** (Correlate, Validate, Publish)

**Clinical & Operations** (Vision, Goals, Training)

**Technical** (Data Aggregation, hardware)
JHH leveraged the EHR for functional reconciliation

- **Input** of data
- **Movement and aggregation** of data from multiple systems (ETL)
- **Stage** data in preparation for reporting and analysis tools (staging tables)
- **Analyze and deliver** actionable information
Set up systems to
“Get the data”

Our systems were NOT already set up to collect all of the functional data we needed to answer our questions and support the culture of mobility across transitions
JHH data challenge #1: Join utilization (cost) + clinical (quality) data

**Patients and Encounters**
- Admissions, Transfers & Visits
- Surgical Cases & ED Visits
- Demographics
- Scheduling utilization

**Utilization and Finance Data**
- Accounts
- Transactions
- Coverages
- Paid Claims
- Cost per Encounter

**Clinical Data**
- Flowsheets
- Orders
- Clinical Documentation
- Medication
- Procedures
- Outcomes!
JHH data challenge #2: Data integration across continuum

Silos of care and information [redundancy, waste, inefficiency]
## INPUT into EHR: Therapy AM-PAC, Nursing, Physician

**AM-PAC Basic Mobility Inpatient Short Form**

<table>
<thead>
<tr>
<th>Question</th>
<th>Difficulty</th>
<th>Help</th>
</tr>
</thead>
<tbody>
<tr>
<td>How much difficulty does the patient currently have turning over in bed (including adjusting bedclothes, sheets and blankets)?</td>
<td>A Lot</td>
<td>None</td>
</tr>
<tr>
<td>How much difficulty does the patient currently have sitting down on and standing up from a chair with arms (e.g., wheelchair, bedside commode, etc.)?</td>
<td>A Lot</td>
<td>None</td>
</tr>
<tr>
<td>How much difficulty does the patient currently have moving from lying on back to sitting on the side of the bed?</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>How much help from another person does the patient need moving to and from a bed to a chair (including a wheelchair)?</td>
<td>A Little</td>
<td>A Little</td>
</tr>
<tr>
<td>How much help from another person does the patient currently need to walk in hospital room?</td>
<td>A Lot</td>
<td>None</td>
</tr>
<tr>
<td>How much help from another person does the patient currently need climbing 3-5 steps with a railing?</td>
<td>A Little</td>
<td>A Little</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Score Type</th>
<th>Score 12/09/15</th>
<th>Score 02/06/16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobility Inpatient Raw Score (calculated)</td>
<td>16 (calculated)</td>
<td>22 (calculated)</td>
</tr>
<tr>
<td>Standardized T-Scale Score</td>
<td>40.78 (calculated)</td>
<td>53.28 (calculated)</td>
</tr>
<tr>
<td>Mobility Inpatient CMS 0-100% Score (calculated)</td>
<td>54.16 % (calculated)</td>
<td>20.91 % (calculated)</td>
</tr>
<tr>
<td>Mobility Inpatient CMS G-Code Modifier (calculated)</td>
<td>CK (calculated)</td>
<td>CJ (calculated)</td>
</tr>
</tbody>
</table>

*Stilphen, Mary and Passek, Sandi - Originators of “6 Clicks” design in MediLinks for PT*
Data pathway (before)

- MediLinks
- Allscripts Sunrise
- Data Mart

Static Table Reports

Incomplete Reports

Ooops! Poor data quality & EHR integration!

Ooops! No access to this known data!

Ooops! These two data sets aren’t joined!
Desired data pathway (after)

Central Hospital Key
Data: Readmissions; DC Dispo, Attending MD

OT/PT Function
Data

MediLinks

RN/MD Function
Data

Allscripts
Sunrise

Data Mart

Report Application

Reports
Developed analytics: large data tables >> telling a story

<table>
<thead>
<tr>
<th>Last</th>
<th>First</th>
<th>MRN</th>
<th>DOB</th>
<th>Gender</th>
<th>Admit Date</th>
<th>DC Date</th>
<th>Ref Phys</th>
<th>Market Area</th>
<th>PT</th>
<th>Initial Eva Date AM PAC</th>
<th>AM-PAC First Flag</th>
<th>AM-PAC Last Flag DC Rec</th>
<th>ReAdmission</th>
</tr>
</thead>
<tbody>
<tr>
<td>Axel</td>
<td>Robert</td>
<td>4455623</td>
<td>10/2/2001</td>
<td>M</td>
<td>5/2/2015</td>
<td>5/4/2015</td>
<td>Carchi, A</td>
<td>Balt Co</td>
<td>Cook, A</td>
<td>5/2/2015</td>
<td>Y</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Axys</td>
<td>Steven</td>
<td>4561277</td>
<td>2/12/1942</td>
<td>M</td>
<td>4/12/2015</td>
<td>4/14/2015</td>
<td>Paul, R</td>
<td>Arundel Co</td>
<td>Franklin, F</td>
<td>4/12/2015</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>

AM-PAC Acute Care Mobility Score - % Impairment
Our solutions to leverage EMR for functional reconciliation

- Create feasible input of functional measure - by all providers
- Partner with key team members
- Aggregate data for usage
- Report at provider and manager/organizational levels
Functional Reconciliation in the Acute Hospital

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@mkfrdmn
Shown decrease in:

- Medical ICU (MICU) days in patients with benzodiazepine and narcotic use and improved delirium status.
- Average length of stay in the MICU (4.9 vs. 7.0 days) and hospital (14.1 vs. 17.2) compared to the prior year.

Our first of many questions?

If we can mobilize people in the ICU why can’t we throughout the hospital?
Is immobility as important as missed medication?

0 of 37 surgery patient charts demonstrated “consistent” documentation of mobility.

Awareness
Volume or Mindspace
Priority
Accountability and Incentive
Interdisciplinary Functional Assessment Operating Strategy

Engage

Demonstrate Value

Integrate Communication

Workflow

Buy In
Buy In: RN Documentation Burden

- PT/OT G-Codes
- Care Coordination Readmissions
- CMS COP for Discharge
- AM-PAC JH-HLM
- Orders and Protocols
- Meaningful Use
- EMR Transition
Workflow: Across the Hospital

- Documentation tools built in EMR
  - Johns Hopkins – Highest Level of Mobility (JH-HLM)
  - AM-PAC Inpatient Mobility and Activity Scales
- Feasible and Meaningful Documentation Roles and Frequency
  - JH-HLM
    - RN or Tech 2-3x per day
  - AM-PAC
    - Nursing at admission to unit and M, W, F
    - PT and OT at every visit
- Population specific workflows for outliers
  - (OB/GYN, Psychiatry, Inpatient Rehab, Pediatrics)
- Identify patients at mobility risk
- Establish interdisciplinary mobility plan
## Johns Hopkins Highest Level of Mobility (JH-HLM) - Progression

<table>
<thead>
<tr>
<th>Mobility Level</th>
<th>Activity</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walk</td>
<td>250+ feet</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>25+ feet</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>10+ steps</td>
<td>6</td>
</tr>
<tr>
<td>Stand</td>
<td>1 minute</td>
<td>5</td>
</tr>
<tr>
<td>Chair</td>
<td>Transfer</td>
<td>4</td>
</tr>
<tr>
<td>Bed</td>
<td>Sit at edge</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Turn self/Activity</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Lying</td>
<td>1</td>
</tr>
</tbody>
</table>

Contact Johns Hopkins Medicine for permissions and instructions for use.
## Mobility AM-PAC (score 6-24)

<table>
<thead>
<tr>
<th>How much difficulty does the patient currently have...</th>
<th>Unable</th>
<th>A Lot</th>
<th>A Little</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Turning over in bed (including adjusting bedclothes, sheets and blankets)?</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
</tr>
<tr>
<td>2. Sitting down on and standing up from a chair with arms (e.g., wheelchair, bedside commode, etc.)</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
</tr>
<tr>
<td>3. Moving from lying on back to sitting on the side of the bed?</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How much help from another person does the patient currently need...</th>
<th>Total</th>
<th>A Lot</th>
<th>A Little</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Moving to and from a bed to a chair (including a wheelchair)?</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
</tr>
<tr>
<td>5. Need to walk in hospital room?</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
</tr>
<tr>
<td>6. Climbing 3-5 steps with a railing?</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
</tr>
</tbody>
</table>
Integrate Communication

- Interdisciplinary Care Coordination
- Nursing Report
- MD Rounds
- EPIC Implementation
  - JH-HLM for PT and OT
  - JH-HLM goals
  - JH-HLM activity orders and protocols
- AM-PAC discharge Planning
What do I do with this number?

- Consider Rehab referral and/or establish mobility plan
  - 10 point change in AMPAC t-score or stage change
  - 3 day change in JH-HLM
- AM-PAC raw score 22-24 considering canceling PT/OT consults
- AM-PAC raw score less than 17 consider placement
ENGAGEMENT AND ACCOUNTABILITY
Staff Feedback: How are we doing?

Documentation Compliance

Progress of Project
Goal: Documentation 3 x daily

Documentation 2 x daily
Outcomes of 12 month, Early Mobility QI Project

- Daily Ambulation increased from 43% to 70%
- Improved change in Mobility during hospitalization increased from 32% to 45%

Outcomes of 12 month, Early Mobility QI Project - LOS

- LOS was reduced by 0.40 days for all patients
- Patients with Expected LOS >7 days had LOS reduced by 1.11 days.
- Patients with longer ELOS patients had significantly reduced LOS compared to control medicine units (unpublished data).

Injurious **Fall** rate did **not** increase during QI project

**Barrier:** Perception that increasing patient mobility patients will increase the rate of patient falls. Our data suggests this may not be true.
Reducing Therapy Consults for Adult Neurology/Stroke Pts with No Impairments

Number of OT/PT visits per patient stay increased from 3.8 to 4.6 per patient hospitalization.

Percent of Initial OT/PT visits for AMPAC 21-23 reduced from 12.4% to 10.8%
Functional Reconciliation in the Home Care Setting

Suzanne Havrilla, PT, DPT, GCS, COS-C
shavril1@jhmi.edu
• OASIS (Outcomes and Assessment Information Set) is the tool required in home care for all patients with Medicare and Medicaid insurances

• This tool does not “talk” to other functional assessment tools performed in other areas of rehab
Our Goals

• Develop a tool that would provide a validated “snap shot” of function for use across all care settings
• Achieve functional reconciliation across ambulatory settings
• Drive value based care
• Allow for meaningful data collection
Scope

• Develop & test first home care AMPAC tool
  – Physical Therapy
  – Occupational Therapy
  – Speech / Language Pathology
Who, What, When

Who: All patients receiving rehab

What: Home care AM PAC tool

When: First and final therapy visits
Our Steps

1- staff buy in
2- workflow analysis
3- implement
4- review
5- future
Obtaining Buy in
Appealing to the “WIFM”

I just want to see my patients

Already get this info on OASIS

More documentation #%o#%o!
Fostering a Shift in Culture

? demonstrate our value
? best practice
? service to the right patients
? use function as a predictor
? data driven
? professional responsibility
Work flow analysis / PILOT

2014

- March
  Develop tool
- July
  EMR
- August
  Staff intro
- September
  Data collection

2015

- April
  initial analysis
- June
  EMR integration
- September
  Share data with staff
- November
  opportunities across health system

2016

- Ongoing data collection
- Speech results
Implementation

• Staff education on completion of tool (by therapist’s proxy or direct report from patients)
• Tool development in EMR
• Roll-out 9/1/14
Basic Mobility for PT

Boston University AM-PAC TM Home Care Basic Mobility Short Form

Please check the box that reflects your (the patient’s) best answer to each question.

1. Getting up from the floor (e.g., if you fell)?
   - Unable
   - A Lot
   - A Little
   - None

2. Standing up from an armless straight chair (e.g., dining room chair)?
   - Unable
   - A Lot
   - A Little
   - None

3. Moving from lying on your back to sitting on side of the bed?
   - Unable
   - A Lot
   - A Little
   - None

4. Walking around one floor of your home, taking into consideration thresholds, doors, furniture, and a variety of floor coverings?
   - Unable
   - A Lot
   - A Little
   - None

5. Walking on an uneven surface (e.g., grass, dirt road or sidewalk, brick walkways, sidewalks with curb and driveway cuts)?
   - Unable
   - A Lot
   - A Little
   - None

6. Standing for at least one minute?
   - Unable
   - A Lot
   - A Little
   - None

How much HELP from another person do you currently need ... (If you have not done an activity recently, how much help do you think you would need if you tried?)

7. Climbing 1 step with a railing?
   - Unable
   - A Lot
   - A Little
   - None

Raw Score:  

---

*Note: The document contains a table with options for different levels of difficulty and a raw score section at the bottom.*
Daily Activity for OT

JH AM-PAC Home Care Daily Activity Short Form

Boston University AM-PAC TM  Home Care Daily Activity Short Form

Please check the box that reflects your (the patient’s) best answer to each question.

How much difficulty do you currently have ...

1. Using a microwave to heat up foods?
   
<table>
<thead>
<tr>
<th>Unable</th>
<th>A Lot</th>
<th>A Little</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

2. Putting on and taking off a shirt or blouse?
   
<table>
<thead>
<tr>
<th>Unable</th>
<th>A Lot</th>
<th>A Little</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

3. Putting on and taking off socks?
   
<table>
<thead>
<tr>
<th>Unable</th>
<th>A Lot</th>
<th>A Little</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

4. Opening medication or vitamin containers (e.g., childproof containers, small bottles) and managing individual tablets?
   
<table>
<thead>
<tr>
<th>Unable</th>
<th>A Lot</th>
<th>A Little</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

5. Managing toileting aftercare, including cleaning, managing undergarments, and arranging clothes?
   
<table>
<thead>
<tr>
<th>Unable</th>
<th>A Lot</th>
<th>A Little</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

How much HELP from another person do you currently need ... (If you have not done an activity recently, how much help do you think you would need if you tried?)

6. Eating meals?
   
<table>
<thead>
<tr>
<th>Unable</th>
<th>A Lot</th>
<th>A Little</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

7. Taking care of your personal grooming such as brushing teeth, combing hair, etc.?
   
<table>
<thead>
<tr>
<th>Unable</th>
<th>A Lot</th>
<th>A Little</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

8. Bathing yourself (including washing, rinsing, drying the body)?
   
<table>
<thead>
<tr>
<th>Unable</th>
<th>A Lot</th>
<th>A Little</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Raw Score: ________
Applied Cognitive for ST

JH AM-PAC Home Care Applied Cognitive Short Form
Boston University AM-PAC TM  Home Care Applied Cognitive Short Form

Please check the box that reflects your (the patient’s) best answer to each question.

How much difficulty do you currently have ...

1. Asking someone to do something for you (e.g., get you a drink of water)?
   - Unable
   - A Lot
   - A Little
   - None

2. Carrying on a conversation with a small group (e.g., family or a few friends)?
   - Unable
   - A Lot
   - A Little
   - None

3. Dialing familiar numbers such as a family member or doctor (without losing your place or misdialing)?
   - Unable
   - A Lot
   - A Little
   - None

4. Remembering to take medications at the appropriate time?
   - Unable
   - A Lot
   - A Little
   - None

5. Reading the newspaper or magazine?
   - Unable
   - A Lot
   - A Little
   - None

Raw Score: ___
# Physical Therapy Results

*(Paired T-Test and CI)*

<table>
<thead>
<tr>
<th>AM-PAC Score</th>
<th>N</th>
<th>Mean</th>
<th>StDev</th>
<th>SE Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adm PT Score</td>
<td>1555</td>
<td>18.120</td>
<td>4.260</td>
<td>0.108</td>
</tr>
<tr>
<td>Dschg PT Score</td>
<td>1555</td>
<td>22.751</td>
<td>4.519</td>
<td>0.115</td>
</tr>
<tr>
<td>Difference</td>
<td>1555</td>
<td>-4.6315</td>
<td>3.6185</td>
<td>0.0918</td>
</tr>
</tbody>
</table>

95% CI for mean difference: (-4.8115, -4.4515)

T-Test of mean difference = 0 (vs not = 0): T-Value = -50.47, P-Value = 0.000
Occupational Therapy Results (Paired T-Test and CI)

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>StDev</th>
<th>SE Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adm OT Score</td>
<td>393</td>
<td>23.478</td>
<td>5.088</td>
<td>0.257</td>
</tr>
<tr>
<td>Dschg OT Score</td>
<td>393</td>
<td>28.079</td>
<td>4.978</td>
<td>0.251</td>
</tr>
<tr>
<td>Difference</td>
<td>393</td>
<td>-4.601</td>
<td>3.611</td>
<td>0.182</td>
</tr>
</tbody>
</table>

95% CI for mean difference: (-4.959, -4.242)

T-Test of mean difference = 0 (vs not = 0): T-Value = -25.25, P-Value = 0.000
Challenges / Limitations

• Tool development
• Overcoming staff’s documentation burden
• Incorporating into EMR with ability to extract data
• Not a fall risk tool (CMS requirement for home care)
Value Opportunities

- Use AM PAC score to strengthen rehab recommendation post home care

- Educate HCC to use inpatient score to further justify disposition from acute care
Next steps

• Evaluate ST tool effectiveness
• Evaluate effectiveness with specific patient population across continuum
• Study correlation between initial score and number of visits needed by discipline in home care
• Potential cross walk with OASIS
Functional Reconciliation in the Outpatient Environment

Laurie Fitz PT, CLT, STAR/C
lsweet1@jhmi.edu
@lsweet2_sweet
Our Goals:

Implement systematic data collection and utilization of defined outcome measures to:

• Improve awareness of function amongst providers as a key component of “health state”
• Increase awareness of previously unidentified at-risk populations
• Target interventions (right provider right time)
• Reduce inefficient variation in care (QI)
Functional Reconciliation: Medical Event

- ALERT: Patient at risk for poor outcome
Functional Reconciliation: Chronic Disease Gradual Decline

Surveillance of Geriatric and Oncology populations
The DYS-Functional Assessment Puzzle

- Fall Risk
- Tinetti
- 6 Min Walk
- Berg
- Fatigue
- LEFS
- Quality of Scales
- Level of Assist
- Documentation
- Burden
- I’m too Busy!!!!!
- Productivity
- FAQ
- BC
- GROC
- Quick DASH

Oswestry

Quality of Life Scales

Productivity

Documentation Burden

Fatigue

I’m too Busy!!!!!

Productivity
Two Phases:

• **Phase I – Internal to Rehabilitation**
  – AM-PAC across all therapists and PMR
  – Diagnosis specific measures

• **Phase II – External Integration**
  – General Surgery
  – Medical Oncology
Our Approach

1. Staff Buy In/Culture Change
2. Workflow Analysis
3. Implement
4. Review/Audit Process
5. Define Future Goals
Questions to ask yourself

- Do you systematically assess function?
- Do you systematically communicate function across disciplines?
- How do you identify at risk patients?
- Who intervenes?
- When and how do they intervene?
- How do you measure successful interventions?
Achieving Therapist Buy In

Educate and Engage Staff

- *Seek out internal champions*

![Therapist A and Therapist B with Silos of care and information]

![Value-Based Health Care diagram with nodes: Identification of Best Practices, Provider Adoption of Best Practices, Cost-Effectiveness, Measurement of Provider Performance, Policy Development and Implementation]
External Buy In:

What is a successful outcome/medical endpoint?

- Quality of life
- Return to home
- Return to work
- Return to play
- Return to everything
External Buy In:
Impact of Functional Status on 30-day Readmissions

- Patients with functional status impairments have increased odds of readmission.
- *Medicine* (v. neuro/ortho) pt w/ low functional status highest readmission rate of 33%

External Buy In

Post treatment oncology patient concerns:

2300 participants:

- **Energy** - 56% did not receive care
- **Concentration** - 83% did not receive care
- **Sexual function** – 71% did not receive care
- **Neuropathy** - 60% did not receive care
- **Pain** - 37% did not receive care
- **Lymphedema** – 33% did not receive care
- **Incontinence** – 69% did not receive care
- **Lungs** – 47% did not receive care
- **Heart** – 32% did not receive care

Internal Implementation

- **AM-PAC**
- **Cervical**
  - NDI
- **Lumbar**
  - Modified Oswestry
- **Upper Extremities**
  - Quick DASH
- **Hip**
  - LEFS
- **Knee**
  - KOS (ADL/Sports)
- **Foot/Ankle**
  - FAAM (ADL/Sports)
Make Collection Seamless

**RED**= Neck Disability Index (NDI)
**BLUE**= Quick DASH
**BROWN**= Oswestry Disability Index (ODI)
**GREEN**= Lower Extremity Functional Scale (LEFS)
**PURPLE**= Knee Outcome Survey (KOS)
**YELLOW**= Foot and Ankle Ability Measure (FAAM)
Audit Results

Eval KOS Entry Compliance

Month of Observation Date

<table>
<thead>
<tr>
<th>Month</th>
<th>KOS Compliant</th>
<th>KOS Missing</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 2015</td>
<td>51.72%</td>
<td>48.28%</td>
</tr>
<tr>
<td>August 2015</td>
<td>54.17%</td>
<td>45.83%</td>
</tr>
<tr>
<td>September 2015</td>
<td>62.50%</td>
<td>37.50%</td>
</tr>
</tbody>
</table>
New Breast Oncology
Patient calls to schedule

Medical Oncology

Patient arrives and given intake forms

Surgical Oncology

(Rooming)

Patient completes AM-PAC/functional screen with assigned CMA

CMA documents in EPIC
### Boston University AM-PAC™ Surgical Short Form (Version A)

Please check the box that reflects your (the patient’s) best answer to each question.

<table>
<thead>
<tr>
<th>How much DIFFICULTY do you currently have? (If you have not done an activity recently, how much difficulty do you think you would have if you tried?)</th>
<th>Unable</th>
<th>A Lot</th>
<th>A Little</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Walking on an uneven surface (e.g., grass, dirt road or sidewalk, brick walkways, sidewalks with curb and driveway cuts)?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. Walking up and down steep unpaved inclines (e.g., steep gravel driveway)?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3. Walking on a slippery surface, outdoors?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4. Using an escalator?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5. Carrying something in both arms while climbing a flight of stairs (e.g., laundry basket)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6. Walking backwards 3 steps?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7. Going up and down three flights of stairs inside, using a handrail?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8. Standing for 20 minutes (e.g., waiting in a line)?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9. Going up and down a flight of stairs outside, without using a handrail?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10. Pulling open a heavy door?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

**Raw Score:**

**Standardized T-Score:**
Current Status

- MD clinics currently in implementation phase
  - Workflow analysis
  - Meaningful frequency of assessment
  - Provider education
  - EMR build

- Reality
  - EMR transition July 1
  - Changing personnel
Lessons Learned

- Persistence
- You will need to make adjustments
- Define mode of data entry
- Feedback is key
  - Staff have great ideas!!
IMPLEMENTATION TO SCALE
Ability to Implement at Scale

Translating Research into Practice (TRIP)

1. Summarise the evidence
   - Identify interventions associated with improved outcomes
   - Select interventions with the largest benefit and lowest barriers to use
   - Convert interventions to behaviours

2. Identify local barriers to implementation
   - Observe staff performing the interventions
   - “Walk the process” to identify defects in each step of implementation
   - Enlist all stakeholders to share concerns and identify potential gains and losses associated with implementation

3. Measure performance
   - Select measures (process or outcome)
   - Develop and pilot test measures
   - Measure baseline performance

4. Ensure all patients receive the intervention
   - Implement the “tools” targeting key stakeholders
   - Front line staff to execute

   - Evaluate
     - Regularly assess for performance measures and unintended consequences

   - Engage
     - Explain why the interventions are important

   - Educate
     - Share the evidence supporting the interventions

   - Execute
     - Design an intervention “toolkit” targeted at barriers, standardisation, independent checks, reminders, and leaning from mistakes

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The Tipping Point
When Small Actions Have a Big Impact

Impact

Big I

Action

Little A
Contact and Resources

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- Alan Jette
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- Visit Us at Booth #145
- Save the date: November 3\(^{rd}\)-5\(^{th}\)
  - A Quality Improvement Approach to Interdisciplinary Activity and Mobility Promotion
  - Fifth Annual Critical Care Conference

- AM-PAC
  - PAC-Metrix@Mediware.com