DHMC Falls Risk Screening in the Emergency Department: Update

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The Team

Falls Task Force
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- Debra Samaha, IPC at Dartmouth
- Christine McDonough, Researcher
- Ellen Flaherty, DCHA
- Tami Musty, Lifeline
- Cathy Cullen, VNH
- Robin Walkup, Pharmacy
- Cheryl Abbott, Inpatient Task Force

Emergency Department Project
- Nicole McWhorter, RN Supervisor
- Jane Patch
- Michael Mehegan
- Tepin Delaney, Care Management
- Hillary Hawkins, Trauma
- Anika Alam, Pharmacy
Disclosures

• I participated in the development of the Late-Life Function & Disability Instrument, computer-adaptive version.
• I have no financial interest in the instrument
Emergency Department (ED) Visits: Age 65+

- 3,746 visits in 2015
  - Fall Risk: 21.7% - 47.8%/month

- 1,008-1,440 ED fall visits/year (2009-2014)

- 25% to 30% recidivism rate for ED falls (2008-2012)
ED Falls Visits and Screening

Nurse screening and referral initiative

2011→
~8% - 38% screened

3 falls questions from D-H ACO metric

2013→
AGS questions imbedded
(+) result →
Falls Clinic alert for referral

Alert/Referral

Large numbers triggered

Falls Questions Embedded in Electronic Record

Fall Risk - Fall Risk Assessment

Time taken: 1739  1/25/2016

Values By

FALLS: In the PAST 12 MONTHS, have you

- Fallen more than one time? [Yes, No, Declines to answer, Does not know]
- Injured yourself as result of a fall? [Yes, No, Declines to answer, Does not know]
- Experienced difficulty with balance or walking? [Yes, No, Declines to answer, Does not know]
Emergency Department Screening and + for Risk

MHMH ED  Department Monthly

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</thead>
<tbody>
<tr>
<td>% Risk for Falls</td>
<td>47.8%</td>
<td>22.7%</td>
<td>36.4%</td>
<td>47.8%</td>
<td>33.3%</td>
<td>33.3%</td>
<td>33.3%</td>
<td>33.3%</td>
<td>38.5%</td>
<td>21.7%</td>
<td>25.0%</td>
<td>35.1%</td>
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<tr>
<td>% Screened</td>
<td>7.7%</td>
<td>9.7%</td>
<td>11.1%</td>
<td>8.8%</td>
<td>6.5%</td>
<td>7.8%</td>
<td>31.3%</td>
<td>20.5%</td>
<td>31.5%</td>
<td>27.7%</td>
<td>25.2%</td>
<td>28.5%</td>
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Concurrent Initiatives

• 2015: DCHA Administration for Community Living (ACL) Grant for sustainable reduction in fall-related morbidity and mortality in NH

• ↑ capacity and participants in Evidence Based programs
  • Tai Ji Quan: Moving for Better Balance®
  • Matter of Balance

• Implement a model of sustainable falls risk screening and program referral in the D-H Accountable Care Organization
  • Embed into 20 primary care practices and Parkinson’s Disease Center

• Improve ED falls screening adherence by 50%.
ED-Specific Goals & Challenges

Goals
• Improve falls screening adherence by 50%.
• Refer/triage to appropriate service:
  • primary care
  • falls clinic
  • physical therapist
  • evidence-based exercise/fall prevention programs

Challenges:
• Number of people that screen positive for increased risk
• How to triage
  • Ideally before seen in person
Potential Solutions

Stratify patients based on existing data known to be related to fall risk:

- Use key variables supported by evidence:
  - Age
  - Number of medications (6+)
  - Number of falls (2+)

What additional information would be useful?

Self-report information on mobility level

• What tool?
Late-Life Function & Disability Instrument (LLFDI)

- Developed to measure outcomes for community dwelling older adults[1]
- Has 2 main scales:
  - Function
  - Disability
- Some evidence showing Function scale distinguishes fall status (fallers v. non-fallers)

LLFDI-CAT

• New version leveraging current measurement theory and methods: Item Response Theory
• Provides large number of items (item bank)
  • comprehensive coverage across mobility levels
  • Items arranged according to difficulty
  • Scores are estimated based on response to each item

Multiple Versions with Same Underlying Metric

• The calibrated item bank allows calculating score based on any subset of items
• Developing multiple versions of the same instrument for different fall prevention environments
  • ED
  • GIM
  • home care
  • community-based programs
Building the LLFDI Mobility short form for ED

Two approaches: expert opinion and item response analysis
1. DP and CM chose top 6 items we thought were most relevant
2. Used data from calibration field study (n=600)

Made assumptions about mobility level of target pop in ED:
   • 1 SD below the mean or lower

Analyzed item information and test information to identify the 6 items with the most information for subsample with scores \(\geq 1\) SD below mean

3. Compared the items from each approach; combined to 8 total items.
<table>
<thead>
<tr>
<th>Items Based on Content</th>
<th>Rank Based on Information Value</th>
<th>Rank Based on Content</th>
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</thead>
<tbody>
<tr>
<td>getting into and out of a car/taxi (sedan)?</td>
<td>1</td>
<td>5</td>
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<tr>
<td>walking around one floor of your home, taking into consideration doors, furniture, and a variety of floor coverings.</td>
<td>2</td>
<td>1</td>
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<tr>
<td>stepping up and down from a curb?</td>
<td>3</td>
<td></td>
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<tr>
<td>standing up from an armless straight chair (for example, a dining room chair)?</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>bending over from a standing position to pick up a piece of clothing from the floor?</td>
<td>5</td>
<td>6 (tie)</td>
</tr>
<tr>
<td>going up and down a flight of stairs inside, using a handrail?</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>walking on an uneven surface (for example, grass, dirt road or sidewalk)?</td>
<td>--</td>
<td>4</td>
</tr>
<tr>
<td>walking one block (about 100 yards or the length of one football field)?</td>
<td></td>
<td>6 (tie)</td>
</tr>
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Plan

- Contact patients who screened + through ED questions.
- Check fall risk status
- Provide information about services available; encourage follow-up
- Administer the 8-item LLFDI mobility short form.
- Ask additional questions about recent falls
- Analyze the score distribution and relationship to falls as a first step toward assessing usefulness for fall risk management and triage.
Current Status

• Protocol has been submitted to Internal Review Board.
Future Work

• Consider testing a higher level short form for use in community.
Questions
Thank you!