

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

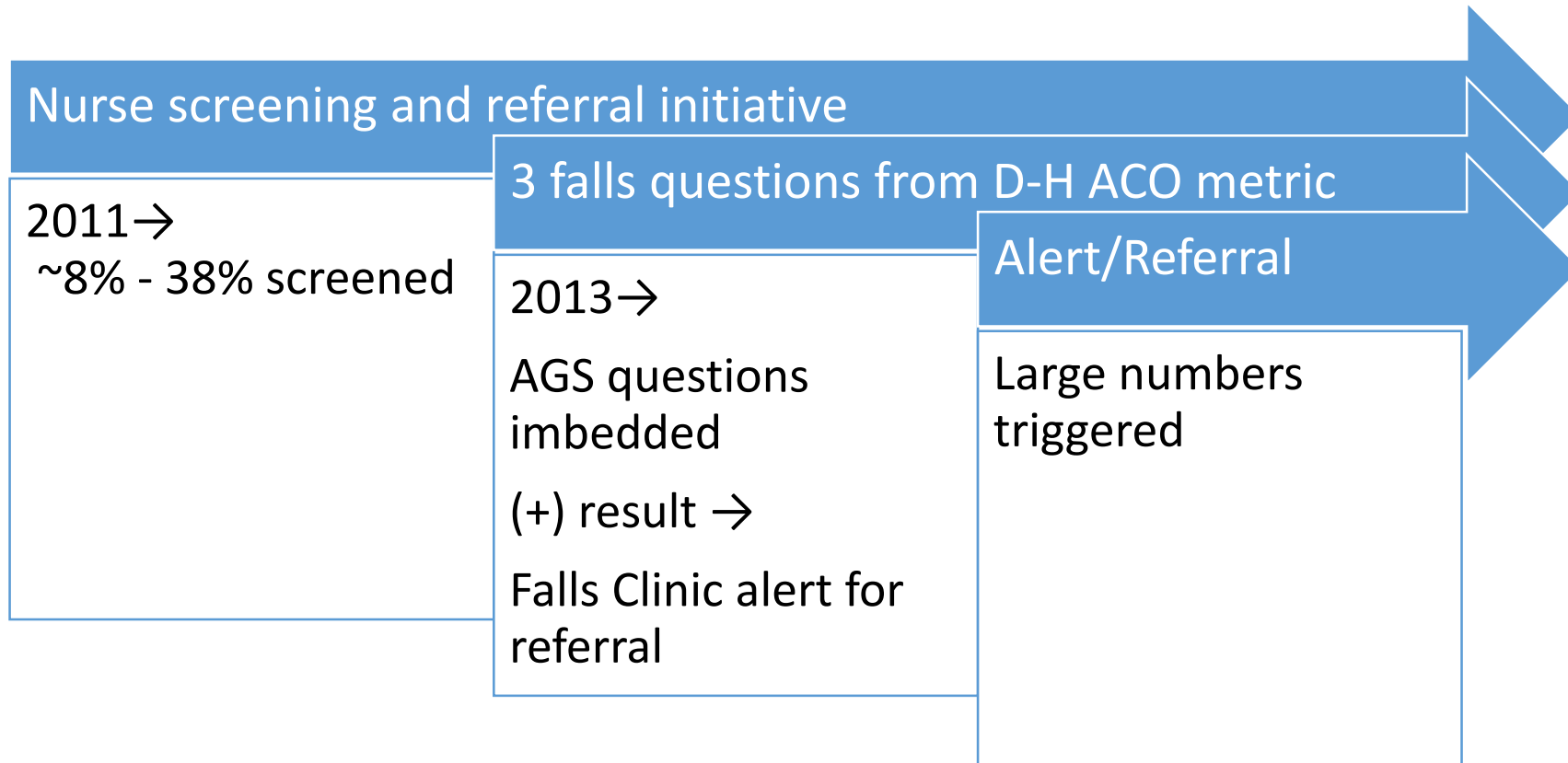
Disclosures

- 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



American Geriatrics Society (AGS) and British Geriatrics Society (BGS) Panel on the Clinical Practice Guideline for the Prevention of Falls in Older Persons. Prevention of Falls in Older Persons: AGS/BGS Clinical Practice Guideline. 2010.

Falls Questions Embedded in Electronic Record

Fall Risk - Fall Risk Assessment

Time taken:  

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

 Restore



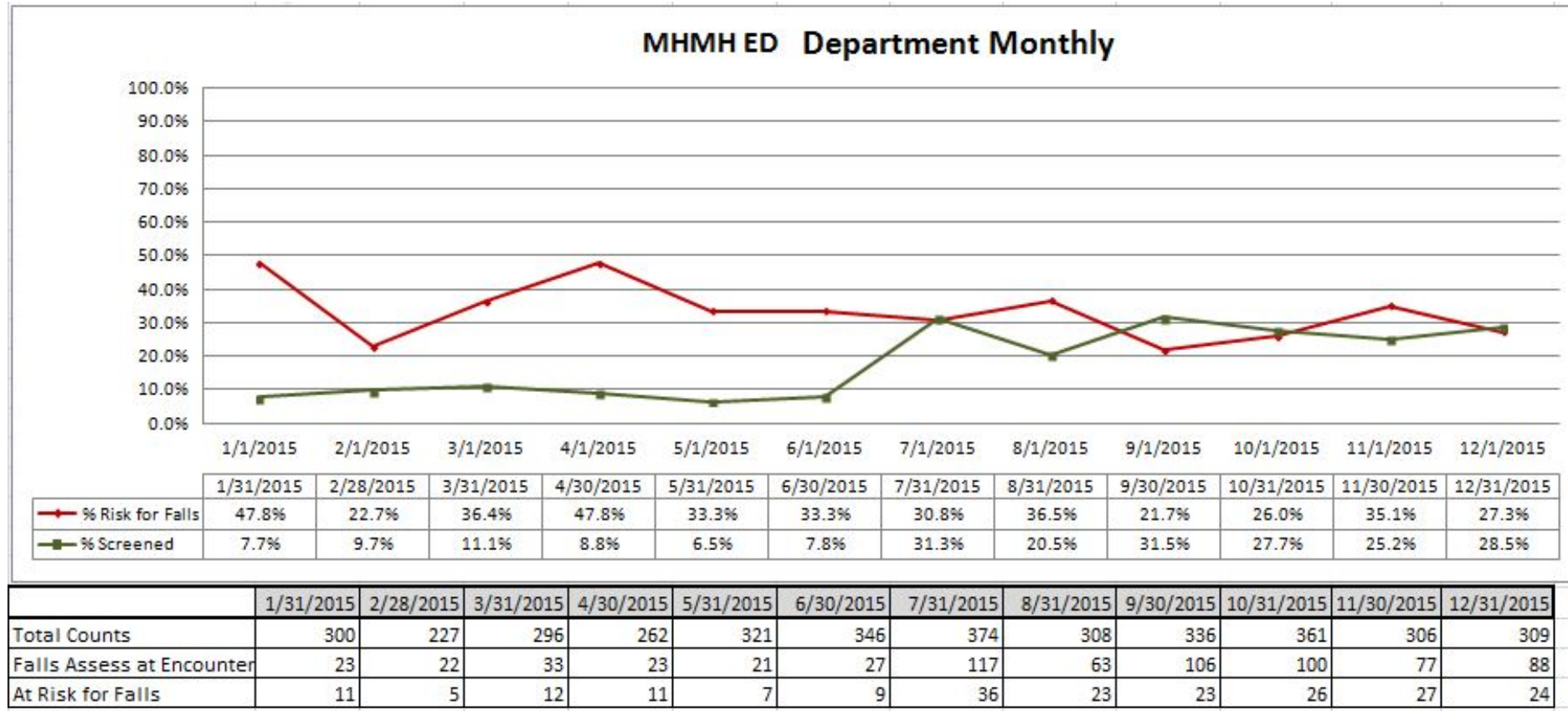
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Cancel

Emergency Department Screening and + for Risk



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)

Haley SM, Jette AM, Coster WJ, et al. Late Life Function and Disability Instrument: II. Development and evaluation of the function component. *Journals of Gerontology Series A-Biological Sciences & Medical Sciences*. 2002;57(4):M217-222.

Beauchamp MK, Schmidt CT, Pedersen MM, Bean JF, Jette AM. Psychometric properties of the Late-Life Function and Disability Instrument: a systematic review. *BMC Geriatrics* 2014, 14(12): 1-12.

Melzer I, Kurz I: Self reported function and disability in late life: a comparison between recurrent fallers and non-fallers. *Disabil Rehabil* 2009, 31:791–798.

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 ≥ 1 SD below mean

3. Compared the items from each approach; combined to 8 total items.

Drumroll please

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

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!

