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Reducing Falls: Merging Research and Community Resources

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Reducing Falls: Merging Research and Community Resources

Community Project

Family Medicine Rotation 5

November, 2016

UVM Medical Student: Alison Mercier

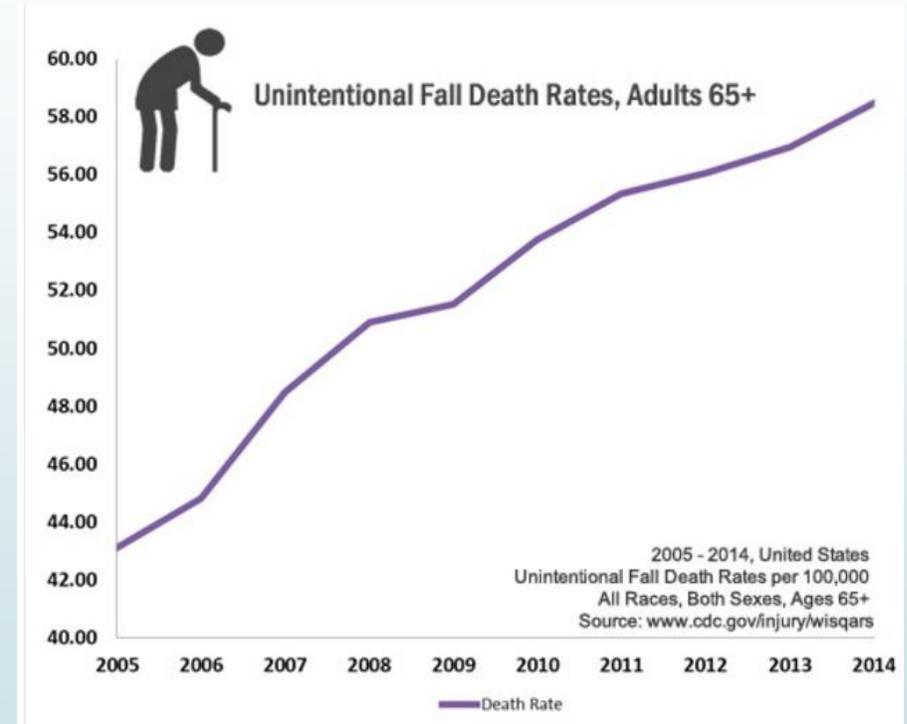
Mentor: Dr. Stephen Genereaux

Problem Identification: Fall Risk Evaluation and Connection to Resources

- ▶ Older adults are at an increased risk of falling and suffering severe consequences:
 - ▶ 1/3 of adults over the age of 65 fall each year¹
 - ▶ 1 in 10 falls results in a serious injury¹
 - ▶ Risk quadruples the first two weeks post hospital discharge
 - ▶ Serious injuries have deathly consequences: 25% of those who sustain hip fractures die within 6 months²
- ▶ Assessing fall risk can be a multifactorial and lengthy assessment – can we target proven interventions?
- ▶ Lack of coordination and knowledge regarding affordable resources that can help improve someone's fall risk
- ▶ 66.4% of Vermont's older adults live in a rural community (50% more than the national average)³ where resources are limited

Public Health Cost

- ▶ Fall injuries are one of the 20 most expensive treatments in hospital^{4,5}
- ▶ Hospital visit averages around \$30,000 per fall^{4,5}
- ▶ Hospital stays are about twice as long in elderly patients who have fallen^{4,5}
- ▶ The direct cost to Medicare in 2015 was reportedly over **\$31 billion**^{4,5}



Community Health Perspective

- ▶ Community Physical Therapist
 - ▶ Sees many older adults as a result of falls and assists in their recovery
 - ▶ Acknowledges the need for in-home PT for those who are homebound
- ▶ Community Leader, Senior Services
 - ▶ Falls are huge among the elderly and lead to severe loss of independence and sense of self
 - ▶ Many seniors have trouble with initiating home exercise or engaging in PT
 - ▶ Adult Day Program services can serve to help with social isolation, doing exercise with others, and offer PT and OT as well
- ▶ Community PCP
 - ▶ We screen with the “Get up and Go” test and don’t always know where to refer them to
 - ▶ Knowledge of resources would increase referrals to meet needs of these older adults

Intervention Methodology

- Research literature for evidenced based interventions to reduce fall risk
- Conduct community outreach to identify local resources that could deliver evidenced based recommendations (i.e. home safety assessment, home-based physical therapy, etc.)
- Create standardized assessment of fall risk based on high yield evidenced based recommendations
- Provide In-service session to Little Rivers Health Care staff regarding findings of literature search, community outreach and proposal of fall risk assessment and intervention resources

Results

- Identified evidenced based interventions for reducing fall risk including
 - Reducing risky medications, especially psychotropic medications reduces falls by 39%⁶
 - In-home safety assessment (rails, throw rugs, etc) for those who have previously fallen reduces falls by 20%⁶
 - 800 IU of Vitamin D Supplementation: NNT to prevent one fall = 14⁷
 - Professional services to strengthen muscles to improve balance and gait⁷
- Identified community resources that would meet patient needs for evidence based fall reduction
- 15 minute in-service presentation and training for Little Rivers Health Care staff including LNA's, NP's and MD's
 - Reviewed proposed assessment tool and targeted population
 - Reviewed identified local services including:
 - Upper Valley Services, Inc. (Home Safety Assessments)
 - Todd Holdt, PT
 - VNA – In-home PT services
 - Oxbow Senior Independent Program – Adult Day Center
- Reviewed approach to “Get up and Go” test
- The Care Coordinator at Little Rivers Health Care was given list of resources and payment methods

Results: Assessment Tool

Orthostatic Vitals

| | | |
|------------|---|---------------|
| Lying Down |  | BP: ___ / ___ |
| | | HR: _____ |
| Standing |  | BP: ___ / ___ |
| | | HR: _____ |

___ At Risk Medications

___ Safety Assess. Needed (previous fall)

___ Get Up and Go

___ Vit. D Supplementation

Medication List

Anti-histamines: Benadryl (diphenhydramine), Chlorphenamine, Cyproheptadine, Atterax (hydroxyzine), Phenergan (promethazine)

Orthostatic HoTN SE: dipyridamole, Cardura (doxazosin), Minipress (prazosin), Hytrin (terazosin)

Anti-Chol Inhibitors: Aricept, Razadyne, Namenda

Anti-HTN: Catapres (clonidine), guanfacine, methyldopa, reserpine-0.1mg

Anti-Cholinergic: Disopyramide, amitriptyline, clomipramine, imipramine,

Anti-Psychotics: Haldol, Seroquel, Risperdal, Clozapine, Olanzapine, Latuda, Geodon

Benzodiazepines: Xanax, Valium, Ativan

Hypnotics: Lunesta, Ambien, Sonata

Muscle relaxants: Flexeril (cyclobenzaprine), Robaxin (methocarbamol)

Front and Back views of laminated assessment tool cards



Falling Star Indication for Patient Door

Guidelines for Use:

1. LNA's room patient and use assessment card to guide initial visit if patient was recently discharged from hospital
2. LNA marks which (if any) fall risk is identified
3. Falling star is then placed outside patient's room indicating patient at Fall Risk
4. This indication triggers provider to address risks that were checked on card

Evaluation of Effectiveness & Limitations

- ▶ Anecdotally:
 - ▶ Staff seemed to have new appreciation for importance of fall risk assessment and prevention
 - ▶ Increased awareness of evidenced based recommendations and local resources
 - ▶ The proposed assessment tool was well received based on its simplicity and user-friendliness – but will it work in practice?
- ▶ Proposed Evaluation:
 - ▶ Primary evaluation: whether or not tool is implemented in practice
 - ▶ Secondary evaluation: do the targeted interventions with community resources reduce the number of falls? (This needs to be developed – see future directions)
- ▶ Limitations include the following:
 - ▶ No direct referral to identified community services within EMR (unlike service such as podiatry or orthopedics)
 - ▶ Numerous other problems to focus on within 15-30 minute appointment
 - ▶ Limited number of affordable community resources available that offer intervention (home based safety assessment or PT)
 - ▶ Capability of EMR to abstract data on those at risk of falling, intervention given and outcome

Future Directions

- ▶ Develop flowsheet in EMR that tracks falls, fall risk assessment results and referrals to facilitate measurement of effectiveness of tool in clinic practice
- ▶ Implement proposed tool and evaluate:
 - ▶ Increase in number of fall risk assessments
 - ▶ Increase in number of interventions (medication change, referral to PT)
 - ▶ Reduction in number of falls per patient identified to be at risk for falls
- ▶ Assess capability of identified community resources to meet fall risk needs
- ▶ Have a Physical Therapist on site at Little Rivers Health Care once a week
- ▶ Broaden fall risk assessment to all older adults > 65 (initial eval. Is directed towards those who have recently been hospitalized)

Resources

1. Tinetti ME, Speechley M, Ginter SF. Risk Factors for falls among elderly persons living in the community. *N Engl J Med* 1988; 319: 1701-7.
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5. Stevens JA, Corso PS, Finkelstein EA, Miller TR. The costs of fatal and non-fatal falls among older adults. *Inj Prev* 2006 Oct; 12(5):290-5
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7. Kalyani RR, Stein B, Valiyil R, Manno R, Maynard JW, Crews DC. Vitamin D treatment for prevention of falls in older adults: systemic review and meta-analysis. *J Am Geriatr Soc* 2010; 58(7): 1299-310.