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Policy Brief

Identifying Interventions to Address Triggers of Decline in Vulnerable Older Adults

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March 10, 2016

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The Health Foundation of Western and Central New York is dedicated to improving health and health care of the people and communities of western and central New York with a special focus on young children impacted by poverty, vulnerable older adults, and the systems serving them. They work closely with community partners in 16 counties to strengthen the health care system, promote education and advocacy and encourage positive individual behavior changes. For more information vist HFWCNY's website: http://www.hfwcny.org/

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INTRODUCTION

The changing landscape of health and healthcare in the United States continues to highlight certain limitations in the ability to understand the needs of vulnerable populations and provide adequate services. One of the challenges faced by researchers and service providers interested in the health and well-being of older adults is the absence of universal definitions of “vulnerability” or “frailty.”

As a funder in the aging sector, in 2014 the Health Foundation for Western and Central New York (the Foundation) set out to identify working definitions to guide their work and to develop a conceptual model identifying factors with the potential to trigger frailty or functional decline in vulnerable community-dwelling older adults. The Foundation defines “frailty” as functional decline due to changes in physical, cognitive and/or mental health, and “vulnerable older adults” as people aged 60 or older that meet one or more of the following criteria: are at greater risk of decline, are in poverty, or are dually eligible for Medicare and Medicaid.

In order to understand the specific triggers of decline, the Foundation partnered with Syracuse University Aging Studies Institute (ASI) and developed a new conceptual model called “Triggers of Decline.” This model identifies potential events or changes that can trigger a decline into frailty in vulnerable community-dwelling older adults.

Community-dwelling older adults face the risk of singular or multiple events or changes in circumstance that can trigger a decline into frailty. Individual-level triggers are shaped by triggers found in the family and community contexts, such as insufficient social networks, and by system and society level triggers such as transportation challenges. Each trigger in the model represents a potential intervention point that can be used to identify at-risk populations of older adults and to develop evidence-based practices to address that risk and prevent the onset of frailty.

This brief introduces the Triggers of Decline conceptual model, discusses a few interventions with the potential to address multiple triggers, and recommends that policy-makers and practitioners utilize the model to advocate for better data collection about at-risk populations, as well as to guide development and measurement of strategies to address risk and onset of frailty.

Triggers of Decline

In order to clearly define vulnerable older adults, the Foundation first had to develop a working definition of triggers of decline. Triggers included in the model were identified through several phases of research. Foundation staff began developing the model by interviewing experts and practitioners in the field of aging. The Foundation subsequently partnered with ASI to review evidence-based practices for addressing triggers, and to identify relevant measures of triggers in Western and Central New York. ASI conducted a meta-analysis of the extant literature on causes of frailty among community-dwelling older adults and on interventions preventing or delaying frailty and slowing declines in function caused by frailty, and compiled data identifying at-risk populations of older adults.

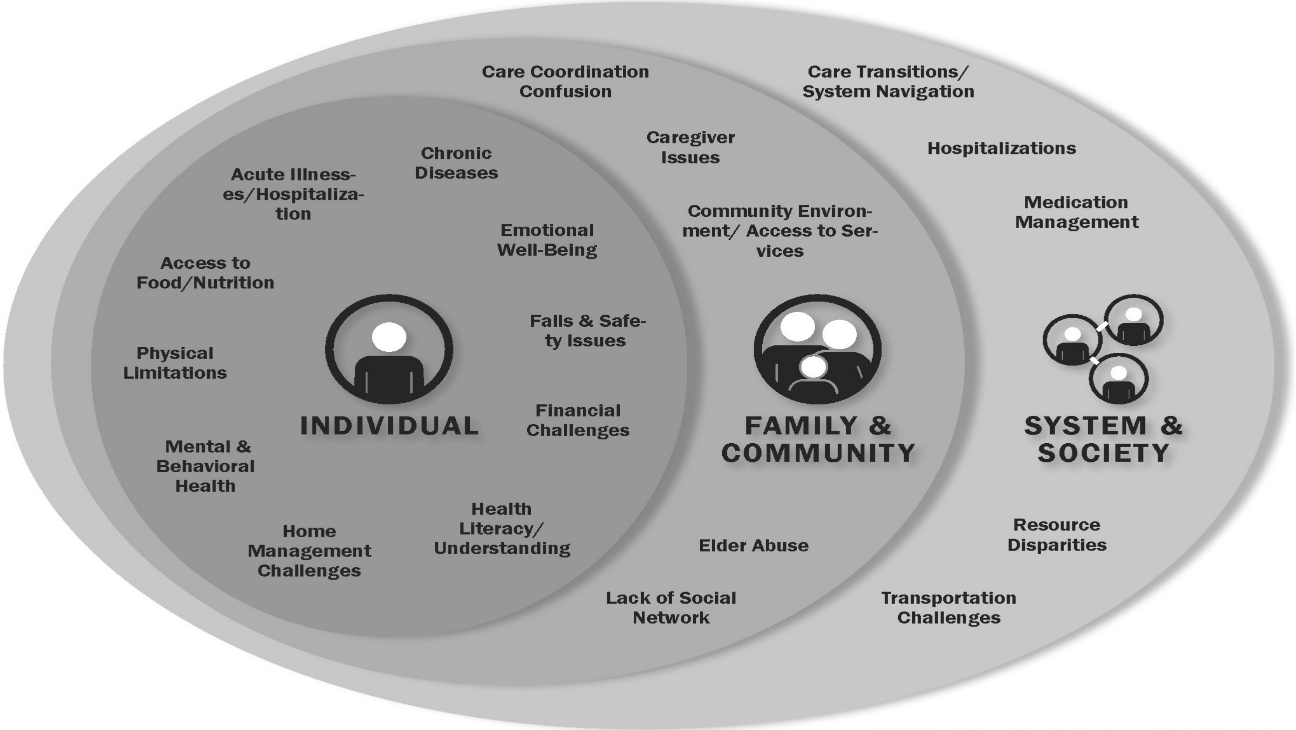
In general, triggers are events or later-life changes in the physical, cognitive, or mental health of otherwise healthy older adults living in the community that can lead to frailty, limit older adults' daily activities, and ultimately, result in the loss of independence. These triggers, that can occur suddenly or build over time, are best understood using an ecological perspective that places individuals within family, community, and societal contexts (Bronfenbrenner, 1979).

Older adults face the risk of singular or multiple individual-level triggers, including home management challenges, financial challenges, or physical limitations (Figure 1). The individual-level triggers are shaped by

Figure 1

TRIGGERS OF DECLINE

Triggers of Decline result from risks and challenges older adults face not only individually, but in the context of their families and communities, within the health care system, and in society overall.



triggers found in the family and community contexts in which the individual older adult lives, such as the community environment and access to services or the lack of a social network. Consequently, these triggers are also shaped by system and society level factors, like resource disparities and transportation challenges.

As shown in Figure 2, each ecological model classification contains examples of specific triggers. While these triggers were placed in particular categories, as judged appropriate by the designers of the model, they could also be appropriate for inclusion in other trigger categories. Several of these specific triggers could potentially impact older adults on more than one level. Each trigger in the model represents a potential intervention point that can be utilized by policy-makers and practitioners to identify at-risk populations of older adults and identify potentially useful evidence-based practices to address that risk and prevent the onset of frailty.

Challenges in Addressing Triggers of Decline

During the development of the Triggers of Decline model, ASI and the Foundation encountered some key challenges that limit the capacity of practitioners and policy makers to effectively identify at-risk populations and address triggers of decline in older adults. One of the primary limiting factors is a lack of data on local populations at risk of specific triggers and a lack

FIGURE 2 - TRIGGERS OF DECLINE -Triggers of Decline are events that precipitate a decline in physical, cognitive, or mental health for otherwise healthy older adults living in the community. The following examples of triggers, can occur suddenly or build over time, result from risks and challenges older adults face not only individually, but in the context of their families and communities, within the health care system, and in society overall. Triggers can lead to frailty, limit older adults' daily activities, and ultimately, result in loss of independence.

INDIVIDUAL LEVEL

Acute Illness Precipitating Hospitalization	• Ill-defined conditions ** • Lack of care coordination • Circulatory disorders	• Respiratory disorders • Kidney disease • UTI	• Angina and heart failure • Diabetic complications • Cancer
Chronic Disease Management	• Multiple chronic illnesses	POOR MANAGEMENT OF: • Arthritis • Cardiovascular disease • Cancer • Chronic kidney disease • Diabetes	• Heart disease • HIV/AIDS • Hypertension • Lung disease • Stroke • Pain
Emotional Well-Being	• Negative/pessimistic mindset • Fears • Stigma around accepting help/services • End of life care and concerns	• Poor quality of life • Low self-efficacy • Societal stigma associated with aging • Loss of personal resilience	• Loss of spouse/family • Social isolation • Loneliness • Living alone
Falls	• Impaired vision • Impaired hearing	• Poor mobility • Impaired balance • Unsafe home environment	• Physical weakness • Fear of falling
Finances	• Fixed income • Rising costs • Challenges managing finances • Being "house poor" • Trouble with home maintenance	• Food access/nutrition challenges • Stigma accepting assistance • Financial elder abuse • Target for fraud	• Out of pocket medical expenses • Lack of long term care insurance • Inability to pay for in-home services

FIGURE 2 continued - INDIVIDUAL LEVEL

Food Access/ Nutrition Challenges	• Difficulty with grocery shopping • Difficulty with meal preparation	• Food deserts • Poor diet/malnourishment • Weight loss due to poor nutrition	• Obesity • Dehydration • Lack of financial resources to purchase food
Home Management Challenges	• Code violations • Unsafe home environment • Trouble with housekeeping • Hoarding	• Difficulty coping with weather (snow, ice, etc.) • Difficulty keeping up with yard and property maintenance	• Paying for utilities • Paying for home modifications
Mental Health/ Behavioral Health	• Depression • Isolation • History of PTSD • History of psychiatric problems	• Substance use/abuse • Dementia • Cognitive impairment or cognitive decline	• Few mental health services delivered in home setting • Stigma accepting services • Need a diagnosis to access menta health services
Physical Issues	• Impaired vision • Impaired hearing • Physical Limitations • Limitations in Activities of Daily Living* • Injuries	• Decreased mobility • Decreased physical activity • Skin issues • Poor self-perceived health • Poor oral health	• Effects of food insecurity and poor nutrition • Osteoporosis • Insomnia • Incontinence
Poor Health Literacy	• Unable to understand medical condition, medications • Unsure or unaware about care needs	• Unable to understand services available • Impaired self-management abilities	• Caregivers may also have poor health literacy

*Activities of Daily Living: eating and drinking, dressing and bathing, toileting and continence, walking and transferring, hygiene and grooming.

**Ill-defined conditions: respiratory symptoms, collapse, senility, digestive symptoms, cognitive and behavioral symptoms.

FIGURE 2 continued - FAMILY/COMMUNITY LEVEL

Care Coordination	• Poor communication between medical providers & caregivers • Poor communication between medical providers & social service providers	• Lack of coordination & potential duplication of services • Difficulty navigating services • Insufficient advance directives or advance care planning	• End of life care and concerns • Insufficient elder-competent workforce • Poor care transitions after hospital & long term care stays
Caregivers	• Caregiver burnout • Financial/career stress on family caregivers	• Care coordination problems • Unable to afford paid caregivers	• Inadequate caregiver support • Family conflict
Community Resources	FOOD ACCESS/NUTRITION • No access to Meals on Wheels program or congregate dining sites • Lack of awareness of available food options • Food programs not meeting cultural needs and preferences • Food deserts	SAFETY • Lack of home safety/security • Unsafe or poor neighborhood conditions • Poor walkability ACCESS TO SERVICES • Limited or no access to senior centers, adult day care centers and other support services	• Lack of transportation • Insufficient funding for services • Limited ability to meet needs of non-English speakers and the hearing impaired • Insufficient workforce to deliver in-home services • Over-reliance on volunteers • Lack of funding for housing assistance
Elder Abuse	• Abuse by family, friends, paid caregivers and/or strangers	• Financial abuse/theft/extortion • Physical abuse	• Emotional abuse • Scams/fraud
Social Network	• Little or no local family • Family issues/poor relationships • No pets	• Loss of spouse, peers and/or family • Living alone	• Social Isolation or disengagement from neighbors/community

FIGURE 2 continued - SYSTEM/SOCIETY LEVEL

Care Transitions	• Difficulty navigating services • Poor communication among service and medical providers	• Lack of appropriate community based follow-up care • Training and support for family caregivers prior to discharge	• Inability to access services and needed supplies (i.e. wheelchairs, prescriptions, etc) in timely manner
Disparities in Access to Resources	• Race, ethnicity, gender, geography, language • Lack of community engagement	• Sexual orientation and gender identity • Financial limitations • Mobility limitations	• Culturally inappropriate service delivery
Impact of Hospitalizations	• Hospital acquired infections • Muscle atrophy • Delirium	• Hospitalization-associated disability • Stress, anxiety, depression	• Poor care transitions between and after long term care and hospital stays
Medication Management	• Polypharmacy • Poor communication between pharmacists, primary care and other providers	• Regulations challenges re: help with medications in the home • No access to qualified person to fill pill boxes • Accidental medication abuse	• Self-management problems • Poor or limited Medications Therapy Management (MTM) • Limited access to patient-centered medication instructions
Transportation Needs	• Unsafe driving or loss of ability to drive	• Lack of access to transpor-tation to doctors, grocery, errands, etc • Lack of transportation for home health aides	• Rural, urban and suburban challenges re: transportation (i.e. lack of public transportation, complexity, etc)

of evidence on effective interventions. Many data sources only provided information on the state or national levels, which can make it difficult to identify local at-risk populations of older adults. Additionally, data that was available for different triggers often covered inconsistent periods of time and sources, making it challenging to accurately describe the risks currently faced by local older adults. For example, data for some triggers may be available from the 2010 Census or as three- or five-year estimates from the American Community Survey, while for others data may be available from the Centers for Disease Control or the Behavioral Risk Factors Surveillance Survey for 2009 or 2012. These varying data sources often define "older adults" differently (e.g., 50 and older versus 65 and older) as well.

Another important issue is the scarcity of scientific evidence on interventions addressing triggers identified in this model. Often, the literature found on specific triggers focused more on proving the prevalence of a trigger, rather than addressing that trigger or reducing its risk. In other cases, we were unable to identify any interventions in the literature for specific triggers in the model. This lack of evidence may be due to a decrease in the rate of testing new ideas, a shortage of investment in program evaluation, or merely that results are not published in peer reviewed publications. Whatever the sources of this challenge may be, there is a need for more standardized interventions, improved measurement, and replication of interventions that are proving to have a strong potential for impact. Overcoming this problem would enable practitioners to better evaluate the effectiveness and appropriateness of well-known interventions with different sub-populations of vulnerable older adults.

The availability of data enabling practitioners to assess the level of risk in their local area varies by trigger, as does the body of evidence supporting interventions to reduce risk. For a more detailed discussion of these data challenges, look online at: *http://asi.syr.edu/wp-content/uploads/2016/03/Policy-Brief-WHITE-PAPER-1.pdf.* Despite these data limitations, there are some practice areas that offer a sufficient evidence base to inform the field. Below are promising examples of how interventions can be rigorously evaluated and disseminated, These examples demonstrate the usefulness of intervention models that simultaneously address multiple triggers of decline in preventing or delaying the onset of frailty.

Interventions Addressing Multiple Triggers of Decline

Coordinated and Integrated Care

Multi-dimensional patient-centered care programs have shown promising results in terms of slowing or reversing frailty (Bibas, Levi, Bendayan, Mullie, Forman, Afilalo, 2014). Some multi-professional group interventions, like the Elderly Persons in the Risk Zone study, have been shown to be effective in delaying deteriorations in self-rated health and postponing activities of daily living (ADL) dependence in older adults at risk of frailty (Gustafsson and Dahlin-Ivanoff, 2012). Multi-component nurse-led health promotion and disease prevention (HPHD) programs also have been shown to improve health-related quality of life in community-dwelling frail older adults (Markle-Reig, Browne, & Gafni, 2013). It is clear these interventions need to be multifaceted because nursing visits alone do not appear to be successful at preventing the advancement of frailty (Kono, et al, 2012; van Hout and Nijpels, 2010). In this vein, Tikkanen and colleagues (2015) developed a multifaceted, individually targeted intervention – the Geriatric Multidisciplinary Strategy for the Good Care of the Elderly Study (GeMS) – which involved the assessment of medications, addressing health care and nutritional needs, providing oral health maintenance and physical activity counseling to address upper- and lower-body strength – that successfully prevented mobility limitations in frail and pre-frail older adults. Specifically, coordinated care programs or integrated care delivery systems may be more effective in slowing the progression of frailty in older adults than traditional models of primary care (Beland & Hollander, 2011).

One such coordinated care program, the Program for All-Inclusive Care of the Elderly (PACE), was designed to provide integrated care to frail older adults or disabled individuals who might otherwise require nursing home care. In addition to allowing frail elders to continue living in the community, PACE has been shown to reduce hospital admissions, number of hospital days length of stay, and emergency room visits (Kane, et al, 2006) and is associated with improvements in functional status and self-assessed health (Mukamel et al. 2007). Evaluations of PACE programs indicate that clients become increasingly frail over time, which may be evidence that the programs are succeeding in enabling frail older adults to age at home and avoid or delay institutionalization in skilled nursing facilities (Pande, et al, 2007).

Not all older adults who are frail or are at risk of frailty meet the care needs requirements to enroll in programs like PACE (Pande, et al, 2007). Outside of integrated care systems like PACE, demonstrations of comprehensive care models have been evaluated for their potential to prevent disability or slow the advancement of frailty in community-dwelling older adults. An example of this is Prevention of Care (POC), a nurse-led interdisciplinary program providing individualized assessments, interventions, case management, and follow-up through primary care settings (Metzelthin, et al, 2013). Other integrated care models have shown limited short-term effects on some aspects of quality of life in frail older adults, but more research is needed (Looman, Fabbricotti, & Huijsman, 2014).

Chronic Disease Management

Americans with chronic health conditions are living longer, which means that in addition to being at higher risk of frailty, they also spend more time interacting with the health care system. The Stanford University Chronic Disease Self-Management Program (CDSMP) has been proven to improve symptoms, participants' ability to engage in everyday activities and communication with health care providers, and to reduce depression and decrease emergency department visits (Ory, et al, 2013). CDSMP has been widely disseminated through Area Agencies on Aging (AAA), but it is not the only model of chronic disease self-management that may be beneficial to older adults, particularly in rural or underserved populations (Ory, et al, 2013).

The CDSMP has been modified for delivery to African American older adults with some success, including small increases in time spent in physical activities, improvements in cognitive symptom management, increases in self-efficacy, and decreases in health distress (Gitlin, et al, 2008). Disease self-management programs have also been successful among older women with heart disease, resulting in fewer inpatient days and lower inpatient costs (Wheeler, 2003). Additionally, telehealth interventions engaging homebound older adults with heart and chronic respiratory failure in self-care disease management have shown improvements in general health, social functioning, and depressive symptoms (Gellis & Thomas, 2012). Volunteer-run community-based interventions have also had some success in helping older adults manage their blood pressure (Truncali, Dumanovsky, Stollman, & Angell, 2010). Older adults with HIV/AIDS would similarly benefit from chronic disease management programs, and may also benefit from rehabilitation programs designed specifically to assist them with physical, mental and social health challenges resulting from complex comorbidities arising from long-term use of antiretroviral therapies (O'Brien, et al, 2014).

Barriers still exist for older Americans who need access to self-management programs, but as primary care medicine becomes more focused on the medical home model, self-management programs will become even more critical for patients with chronic health conditions (Ory, et al, 2013). Health literacy can be an obstacle to effective chronic disease management in older adults, but the lack of published studies of general health literacy interventions, or as they related to chronic disease management, further highlights the challenges associated with a poor knowledge base of data related to older adults. Despite this, some researchers provide evidence that transformative learning principles targeting specific conditions may improve health literacy in African American older adults with chronic illness, encourage them to seek knowledge about their condition, and improve chronic disease self-management (Ntiri and Stewart 2009).

Additionally, older Mexican Americans provided with a self-help educational brochure, or a combination of the brochure and a visit with a community health advocate, were more likely to report asking their doctor about colorectal screening (Castaneda, et al, 2012). Health literacy interventions would also benefit older African American adults living with HIV, particularly if they address the culturally specific needs of the targeted population (Gukamo, Enah, Vance, Sahinoglu, & Raper, 2015).

Recommendations

The availability of data enabling practitioners to assess the level of risk in their local area varies by trigger, as does the scientific evidence supporting interventions to reduce risk. Existing data indicate that the triggers discussed in this brief impact older adults across the United States. There is evidence of instruments proven to be useful in identifying older adults at risk of frailty, and of interventions that address malnutrition, geriatric mental health, and chronic disease management. Some of the identified interventions, such as screening general populations of older adults for risk of frailty, and multi-dimensional patient-centered care and chronic disease management, have the potential to address multiple triggers.

Policy Recommendations

The Triggers of Decline model has the potential to influence policies across a number of different sectors related to vulnerable older adults. Recommendations for policy-makers include using the model to advocate for better data collection regarding risk among older adults, particularly on the local and regional levels. Furthermore, this model can be used to enhance practitioners' ability to assess the level of risk among community-dwelling older adults for the triggers identified. It is also recommended that more resources be invested in building the evidence base for interventions that address these triggers. Practitioners need to continue to test new ideas, conduct more rigorous program evaluation, support the replication and expansion of promising pilot programs, and commit to broad dissemination/publication of interventions that effectively address frailty and the many potential triggers of decline.

Practice Recommendations

Geriatricians and other practitioners working with community-dwelling older adults should implement screening procedures to identify those older adults at risk of frailty, like the Program of Research to Integrate Services for the Maintenance of Autonomy (PRISMA-7; Clegg, Rogers, & Young, 2015; Hoogendijk & Van Hout, 2013), and should follow up these initial screenings with the Comprehensive Frailty Assessment Index (De

Witte & Verte, 2013)[1]. Older adults who are identified as being at risk of frailty should be enrolled in multi-dimensional patient-centered care programs and chronic disease management programs, according to their individual needs. Practitioners who are already successfully preventing or slowing the onset of frailty should conduct formal evaluations of their services and contribute the results of these evaluations to the knowledge base about at-risk populations and interventions that successfully address triggers of decline in this population.

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[1] Additional information on screening older adults for risk of frailty can be found inthe companion white paper at: *http://asi.syr.edu/wp-content/uploads/2016/03/Policy-Brief-WHITE-PAPER-1.pdf*

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