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April 12, 2018  
12 - 1 pm



### Promoting Physical Activity: Guidance from the Wellness Motivation Theory

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# Promoting Physical Activity in Older Adults: Guidance from the Wellness Motivation Theory

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School of Nursing  
University of Minnesota



## Outline

- **Physical activity recommendations for older adults**
  - What are they?
  - Why are they important?
  - How is the uptake?
- **Barriers and facilitators to physical activity in older adults**
  - What are they?
  - How might they be addressed in programs that promote physical activity?
- **Using the Wellness Motivation Theory to explain the problem of low physical activity**
- **How the Wellness Motivation Theory has been used to guide physical activity research: Ready Steady**
  - How findings from this research can help promotion efforts in the future
  - Incidental findings from this research that have implications for developing community resources that support older adults' physical activity

## Physical Activity Recommendations for Older Adults



Why is  
physical  
activity  
important?

### Prevention

- Falls
- Exacerbation of chronic conditions

### Treat/ manage health conditions

- Cardiovascular
- Mental Health
- Cognitive Health

### Quality of Life

**Promoting Physical Activity**  
*Intervention studies conducted over several decades demonstrate positive effects (small to moderate) on older adults' physical activity*

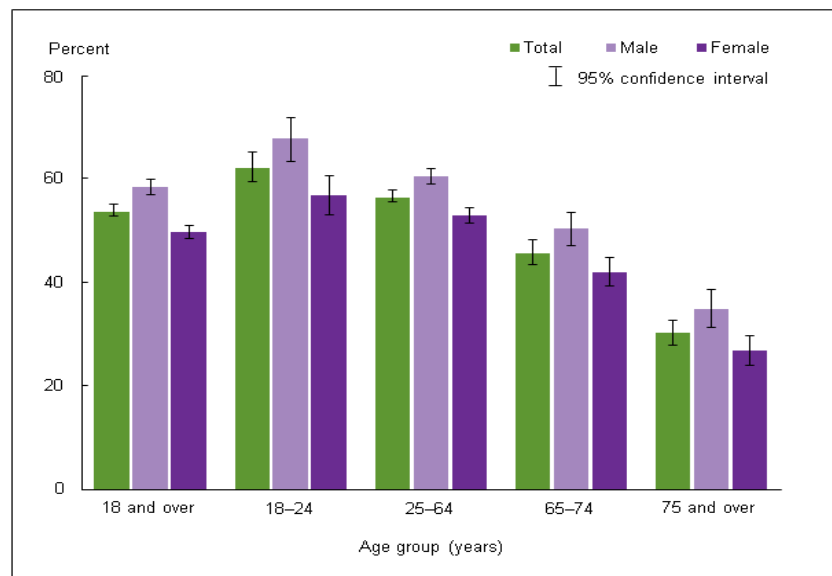
**Greater Effect**

- Theory-based
- Combination of behavioral (self-monitoring) and cognitive (learning) strategies
- Motivational-type (promotes independent physical activity change)

**No Greater Effect**

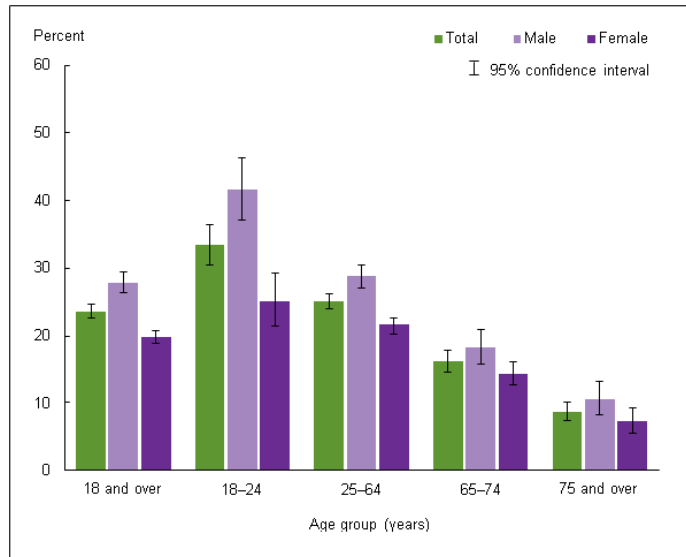
- Exercise specialist
- Group or home
- Referral to community resources

## Impact of intervention research to date



Schiller JS, Clarke TC, Norris T. Early release of selected estimates based on data from the January–September 2017 National Health Interview Survey. National Center for Health Statistics. March 2018. Available from: <https://www.cdc.gov/nchs/nhis.htm>.

## Impact of intervention research to date



Schiller JS, Clarke TC, Norris T. Early release of selected estimates based on data from the January–September 2017 National Health Interview Survey. National Center for Health Statistics. March 2018. Available from: <https://www.cdc.gov/nchs/nhis.htm>.

- **Prior research does delineate**

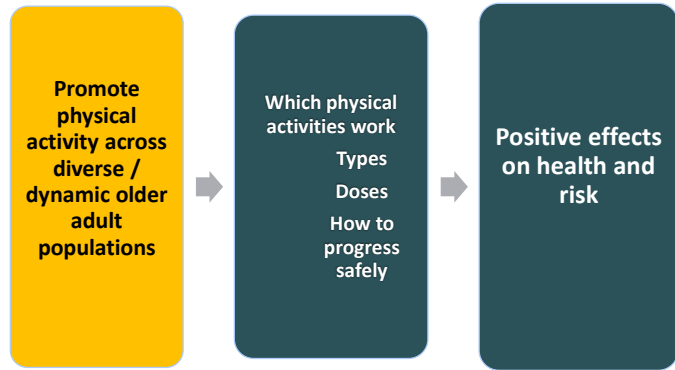
- Which physical activities are beneficial
- Dose of physical activities needed to elicit effects
- How to be active, safely
- Exemplar protocols and programs
  - Otago
  - Tai Chi
  - Silver Sneakers

- **Prior research does not delineate**

- Strategies for promoting increased initiation (e.g., uptake) and maintenance (e.g., adherence) of physical activity

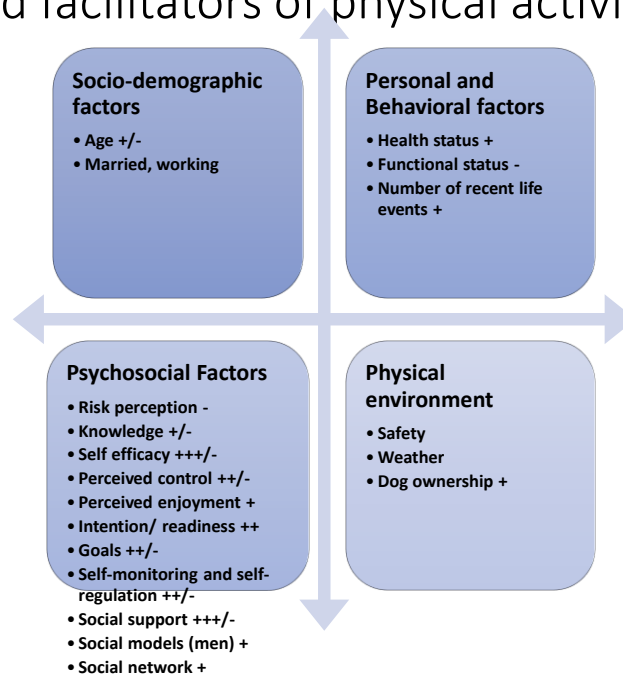
## Intervention Research

Problem  
No evidence-based  
promotion strategies for  
increasing and sustaining  
older adults' physical  
activity



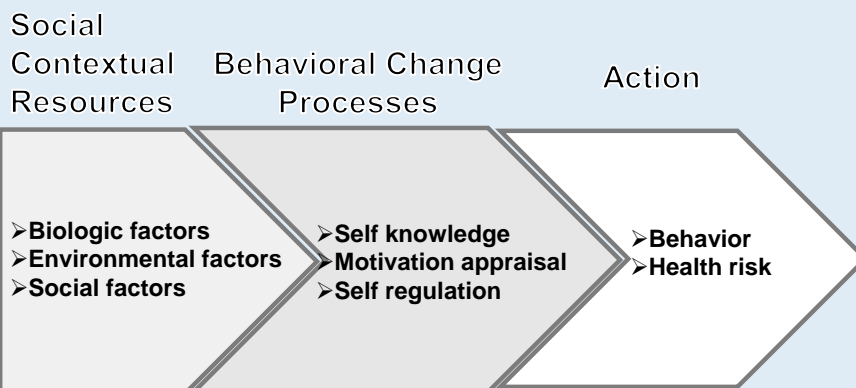
## Barriers and facilitators of physical activity

van Stralen, M. M., De Vries, H.,  
Mudde, A. N., Bolman, C., & Lechner, L.  
(2009). Determinants of initiation and  
maintenance of physical activity among  
older adults: a literature review. *Health  
Psychology Review*, 3(2), 147-207.



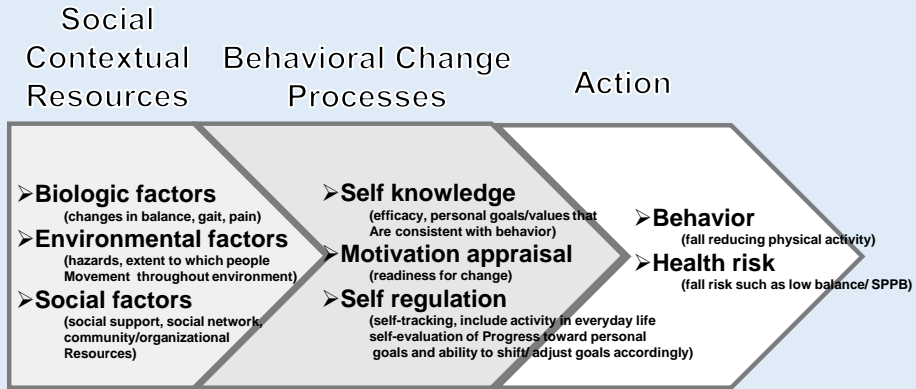
# Behavior Change Theory

## Wellness Motivation Theory



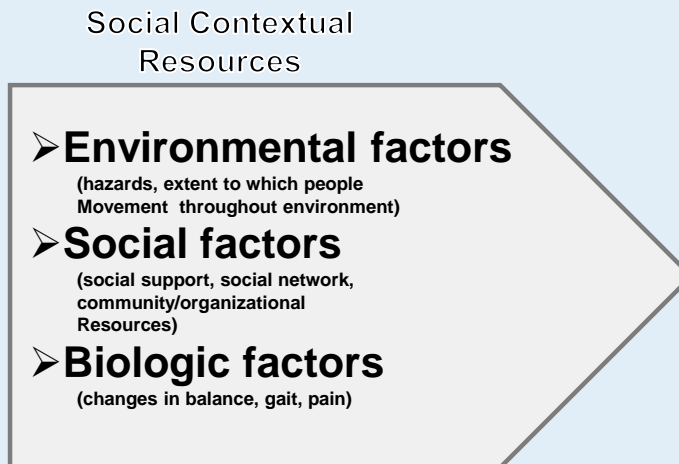
## Wellness Motivation Theory

As a guide to *explain the problem of low physical activity*



## Wellness Motivation Theory

As a guide to *explain the problem of low physical activity*





## Wellness Motivation Theory

As a guide to *explain the problem of low physical activity*

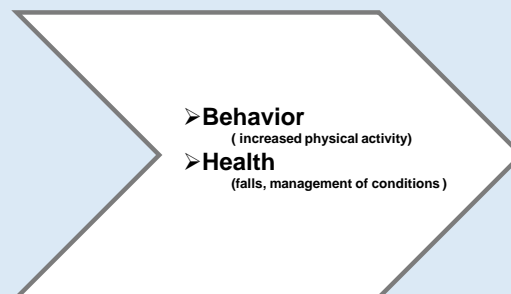
### Behavioral Change Processes



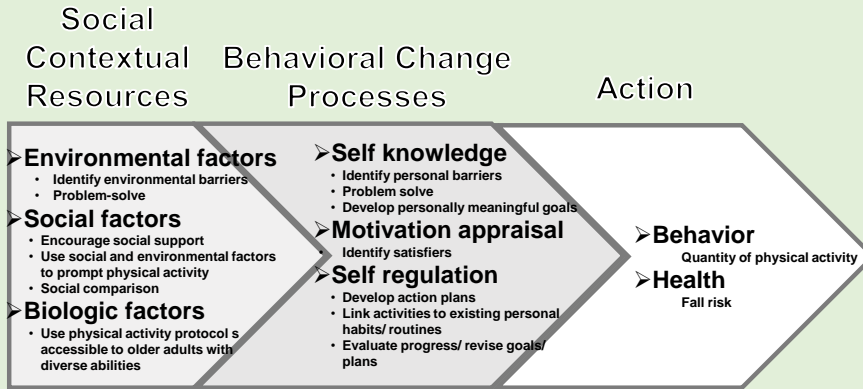
## Wellness Motivation Theory

As a guide to *explain the problem of low physical activity*

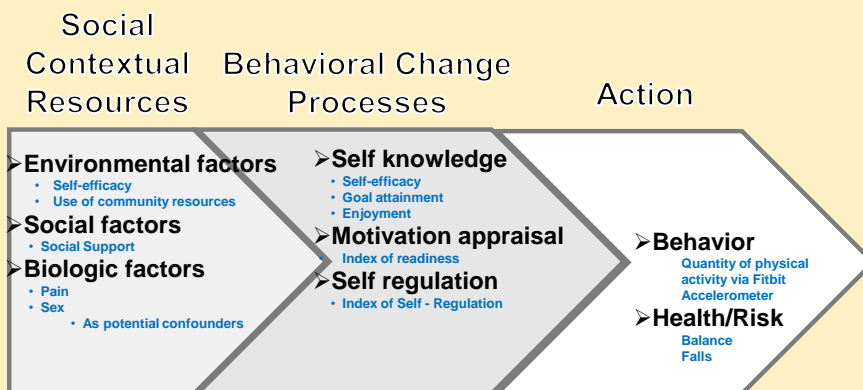
### Action



## Wellness Motivation Theory As a guide to *intervention development*



## Wellness Motivation Theory As a guide to *intervention research*



## Study 1 (N = 30) 2010-2012

*Test the feasibility of intervention content and effect on targeted theoretical constructs and outcomes*

<b>Intervention Content (Behavior change strategies)</b>	<b>Targeted Theoretical Constructs</b>	<b>Primary Outcomes</b>
<ul style="list-style-type: none"> <li>Social support</li> <li>Social Comparison</li> <li>Problem Solve Social/ Env Barriers</li> <li>Problem Solve Personal Barriers</li> <li>Goals</li> <li>Action Plans</li> <li>Evaluate Outcomes</li> </ul>	<ul style="list-style-type: none"> <li>Social Support</li> <li>Use of Resources</li> <li>Self Efficacy</li> <li>Self Regulation</li> <li>Readiness</li> <li>Goal Attainment</li> </ul>	<ul style="list-style-type: none"> <li>Physical Activity</li> <li>Functional Balance</li> </ul>

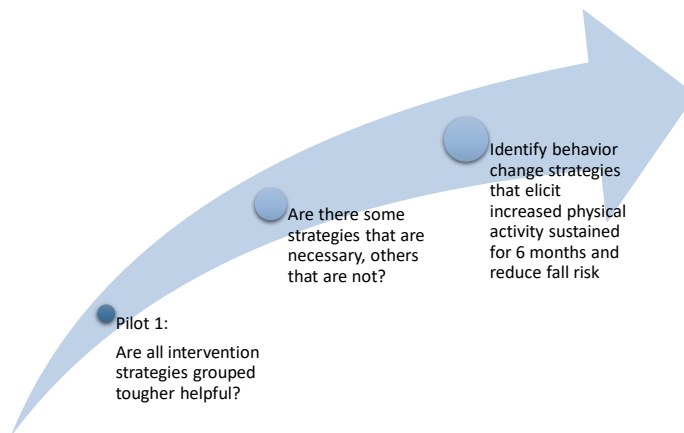
## Study 1 (N = 30)

**Conclusion:** *The Ready~Steady intervention was feasible as evidenced by low attrition and good attendance and implementation, as well as positive effects on targeted outcomes and putative theoretical constructs of social support for exercise from friends, readiness and self-regulation*

<b>Intervention Content (Behavior change strategies)</b>	<b>Targeted Theoretical Constructs</b>	<b>Primary Outcomes</b>
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## Combining Motivational and Physical Intervention Components to Promote Fall-Reducing Physical Activity Among Community-Dwelling Older Adults: A Feasibility Study

- Siobhan McMahon PhD, MPH, GNP-BC
- Julie Fleury, PhD
- Nelma Shearer, PhD
- Eric Hekler, PhD
- Jean Wyman, PhD
- Michael Beylea, PhD



Advancing This program of research

## Study 2 (N = 102):

Assess the unique and combined effects of two sets of behavior change strategies, *interpersonal* and *intrapersonal*

Intervention Content	Targeted Theoretical Constructs	Primary Outcomes Post Intervention 6-Month follow up
<ul style="list-style-type: none"> <li>Social support</li> <li>Social Comparison</li> <li>Problem Solve Social/ Env Barriers</li> <li>Problem Solve Personal Barriers</li> <li>Goals/ Action Plans</li> <li>Evaluate Outcomes</li> </ul>	<ul style="list-style-type: none"> <li>Social Support</li> <li>Use of Resources</li> <li>Self Efficacy</li> <li>Self Regulation</li> <li>Readiness</li> <li>Goal Attainment</li> </ul>	<ul style="list-style-type: none"> <li>Physical Activity</li> <li>Functional Balance</li> </ul>

## READY → STEADY

A Wellness Program



## Study 2 (N = 102) 2014-2016

**Conclusion:** "Findings suggest a set of interpersonally oriented behavior change strategies combined with an evidence-based physical activity protocol can elicit modest, but statistically and clinically significant, increases in older adults' physical activity and functional strength and balance. Future research should replicate these findings and investigate the sustained quantity of physical activity elicited by these strategies and their impact on older adults' quality of life and falls."

Intervention Content	Targeted Theoretical Constructs	Primary Outcomes Post Intervention 6-Month follow up
<p>Social support Social Comparison Problem Solve Social/ Env Barriers Problem Solve Personal Barriers Goals/ Action Plans Evaluate Outcomes</p>	<p>Social Support Use of Resources Self Efficacy Self Regulation Readiness Goal Attainment</p>	<p>Physical Activity Functional Balance</p>

### Assessing the Effects of Interpersonal and Intrapersonal Behavioral Change Strategies on Older Adults' Physical Activity: A Factorial Experiment

- Siobhan McMahon PhD, MPH, GNP-BC
- Michael Oakes, PhD, School of Public Health
- Beth Lewis, PhD, School of Kinesiology
- Jean Wyman, PhD
- Weihua Guan, PhD, School of Public Health
- Alexander Rothman, PhD, Psychology

McMahon, S. K., Lewis, B., Oakes, J. M., Wyman, J. F., Guan, W., & Rothman, A. J. (2017). Assessing the effects of interpersonal and intrapersonal behavior change strategies on physical activity in older adults: a factorial experiment. *Annals of Behavioral Medicine, 51*(3), 376-390.

## Older adults' utilization of community resources

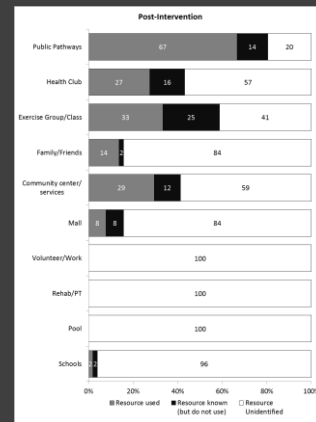
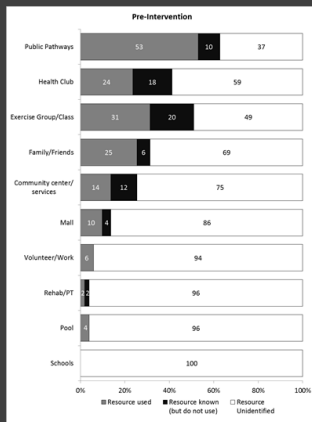
An exploratory, sequential study of older adults' awareness and use of community resources that support physical activity and falls prevention

- Qualitative data from semi-structured interviews
- Quantitative data from intervention study that included encouragement to use community resources to maintain physical activity

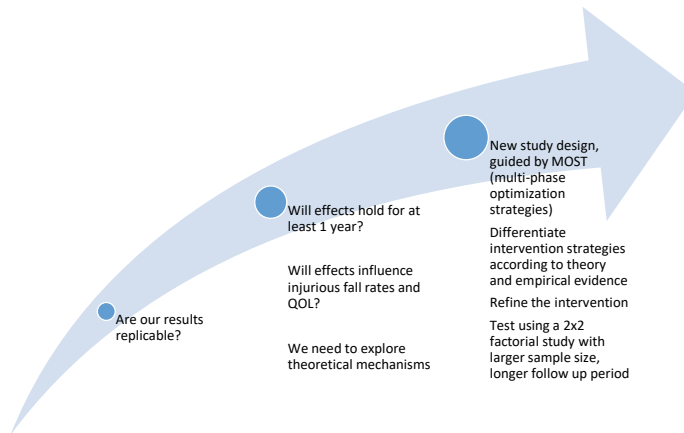
## Secondary Findings

### Secondary Findings

Themes	Subthemes
Identifying a broad range of local community resources	<ul style="list-style-type: none"> <li>• Walking near home               <ul style="list-style-type: none"> <li>○ Outdoor: neighborhood sidewalks and park pathways <sup>a</sup></li> <li>○ Indoor: home, condominium hallways, malls</li> </ul> </li> <li>• Structured physical activity               <ul style="list-style-type: none"> <li>○ Community center exercise classes and programs</li> <li>○ YMCA or other health club classes and programs</li> <li>○ Pools (e.g., water aerobics) <sup>a</sup></li> </ul> </li> <li>• Unstructured physical activity               <ul style="list-style-type: none"> <li>○ Stairs</li> <li>○ Walking to the bus</li> <li>○ Volunteering <sup>a</sup></li> </ul> </li> </ul>
Learning from trusted sources	<ul style="list-style-type: none"> <li>• Learning via observation of role models               <ul style="list-style-type: none"> <li>○ Positive role models</li> <li>○ Negative role models</li> </ul> </li> <li>• Learning via word of mouth</li> <li>• Learning via local newspaper or church bulletin</li> </ul>
The dynamic gap between awareness and use of community resources	<ul style="list-style-type: none"> <li>• Learning increases awareness but does not guarantee use <sup>a</sup></li> <li>• Multilevel factors influence use               <ul style="list-style-type: none"> <li>○ Environmental (weather, proximity)</li> <li>○ Organizational (affordable /accessible to everyone)</li> <li>○ Interpersonal (friendly; opportunities to learn from peers <sup>a</sup>)</li> <li>○ Intrapersonal (integrated with other personally valued activities; improves symptoms of chronic health conditions or pain; personalized)</li> </ul> </li> </ul>



# Secondary Findings



NEXT steps?



## Study 3 (N = 310) (2017-2022)

Intervention Content	Targeted Theoretical Constructs	Primary Outcomes Post Intervention 6-Month follow up 12 month follow up
<p>Social support</p> <p>Social Comparison</p> <p>Problem Solve Social/ Env Barriers</p> <p>Problem Solve Personal Barriers</p> <p>Goals/ Action Plans</p> <p>Evaluate Outcomes</p>	<p>Social Support</p> <p>Use of Resources</p> <p>Self Efficacy</p> <p>Self Regulation</p> <p>Readiness</p> <p>Goal Attainment</p>	<p>Physical Activity</p> <p>Functional Balance</p> <p>Falls</p> <p>Quality of Life</p>

## Study 3 (N = 310)

### • Process Evaluation

- Interview community center/ resource representatives about facilitators and barriers to providing this (or a similar) program in the future.
- Interview topics will be framed using the reach- effectiveness –adoption-implementation-maintenance framework (RE-AIM), a system for evaluating this intervention’s potential for translation.

## Acknowledgements

- Research Team
- Study Participants
- Community Partners
- National Institutes of Health/ National Institute of Nursing Research
- University of Minnesota
  - CTSI KL2 Scholars Program
  - Grant-in-Aid of Research, Artistry & Scholarship Program



Thank you!!

Questions?





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Questions?  
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[info@mngero.org](mailto:info@mngero.org)

**MGS 42<sup>nd</sup> Annual Conference:**

**Wellness Agenda:  
Healthy Communities. Health You.**

**April 27 @ Earle Brown Heritage Center**

**NEXT WEBINAR**

**Comprehensive Report on Elder Abuse Prevention:  
A Follow-up from the Legislative Session**

**Panel, Date and Time: TBD**