



# Managing Cost Through Functional Wellness for Older Adults in Senior Living

Presented by:

**Travis King, PT, DPT, GCS**

Chief Quality Officer, FOX Rehabilitation

**Alison Cohen, PT, DPT**

Director of FOX Optimal Living



## About Us

### Travis King, PT, DPT, GCS

- Graduated from The Richard Stockton College of NJ in 2008 with a DPT
- First graduate of the FOX Rehabilitation Geriatric Residency Program
- Became a Geriatric Certified Specialist (GCS) in 2011
- Previously held roles of Regional Director of Operations and Vice President of Quality Assurance and Professional Development at FOX
- Currently serves as Chief Quality Officer at FOX

### Allison Cohen, PT, DPT

- Graduated from New York University in 2011 with a DPT
- Joined FOX in 2011 as an Emerging Professional
- Previously held roles of Mentor and Rehab Director at FOX
- Currently serves two positions: Senior Director of Quality Assurance and Professional Development; Director of Fox Optimal Living at FOX

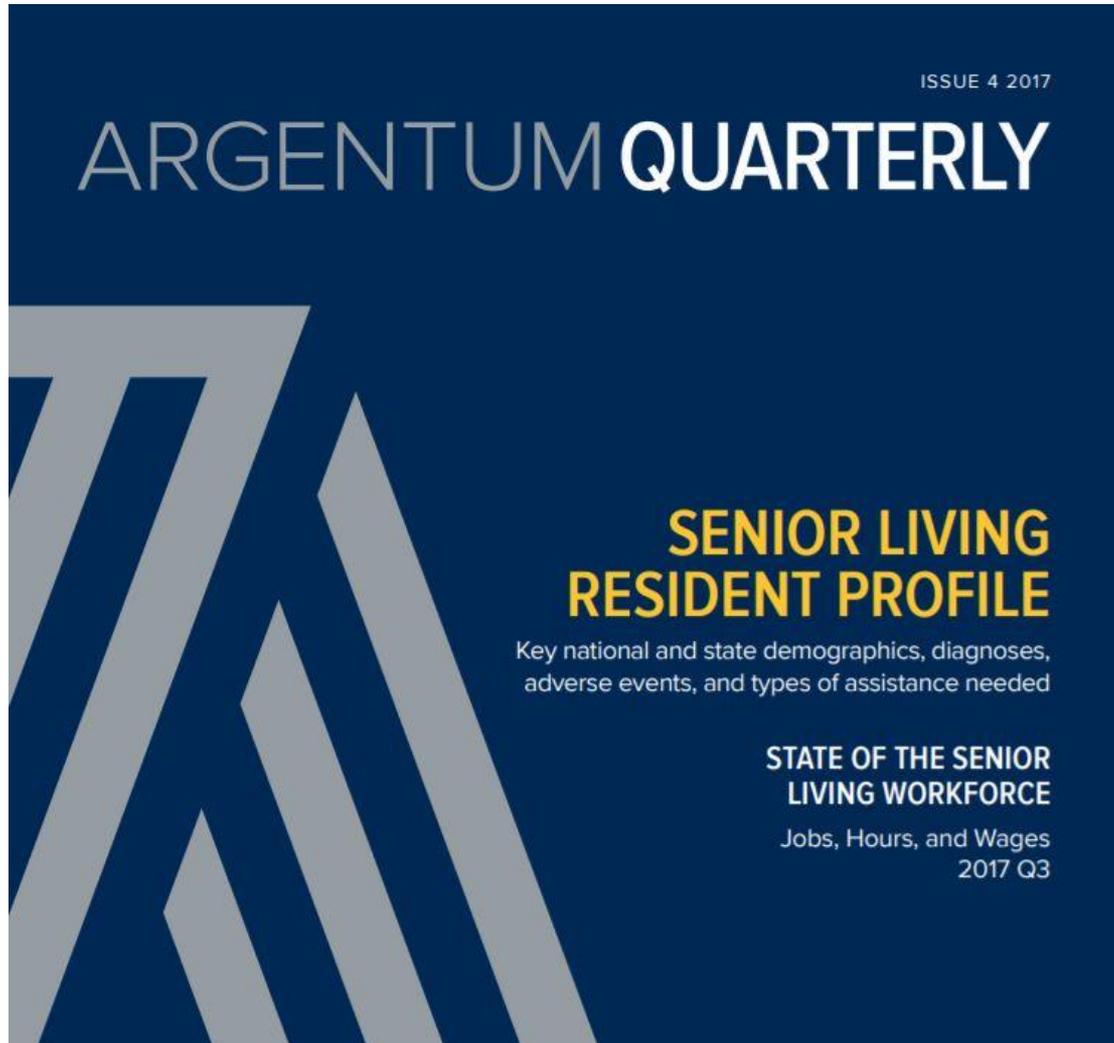


# Agenda

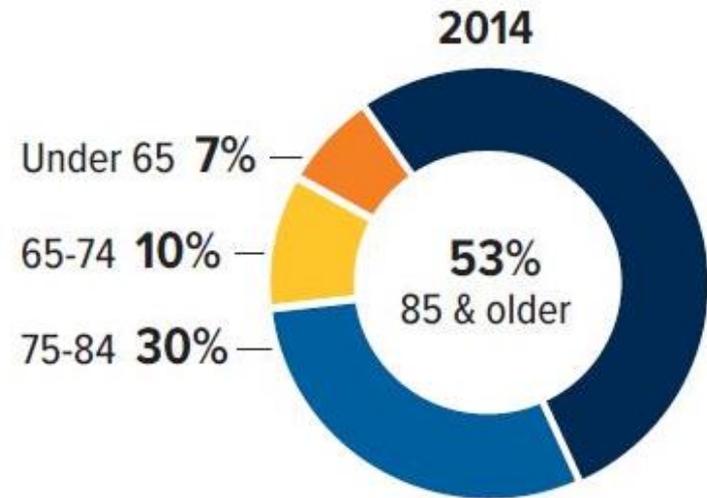
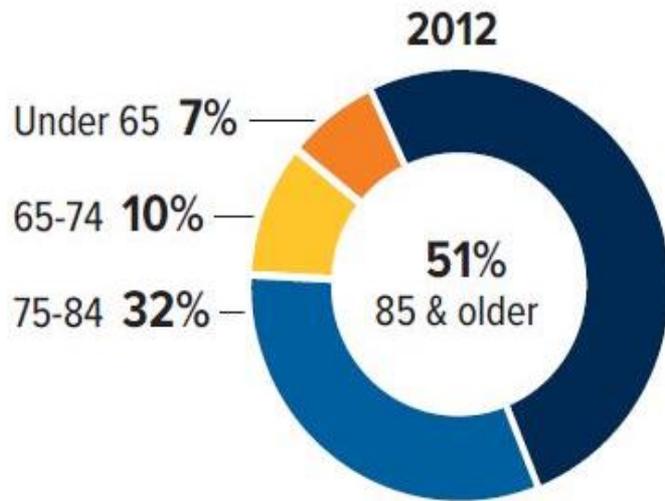
- Senior Living Resident Profile
- Cost of Acute Care for Older Adults
- Aging Trajectories
- Senior Living Models of Rehabilitation
- Outcomes and Cost Savings
- Executive Summary



# Senior Living Resident Profile



# Senior Living Resident Profile



# Senior Living Resident Profile

## TYPE OF ASSISTANCE NEEDED

2012



**61%**

Bathing



**45%**

Dressing



**37%**

Toileting



**18%**

Eating

2014



**62%**

Bathing



**47%**

Dressing



**39%**

Toileting



**20%**

Eating



# Senior Living Resident Profile

## TYPE OF ASSISTANCE NEEDED



**62%**

Bathing



**29%**

Walking



**47%**

Dressing



**39%**

Toileting



**30%**

Transferring to,  
from a bed



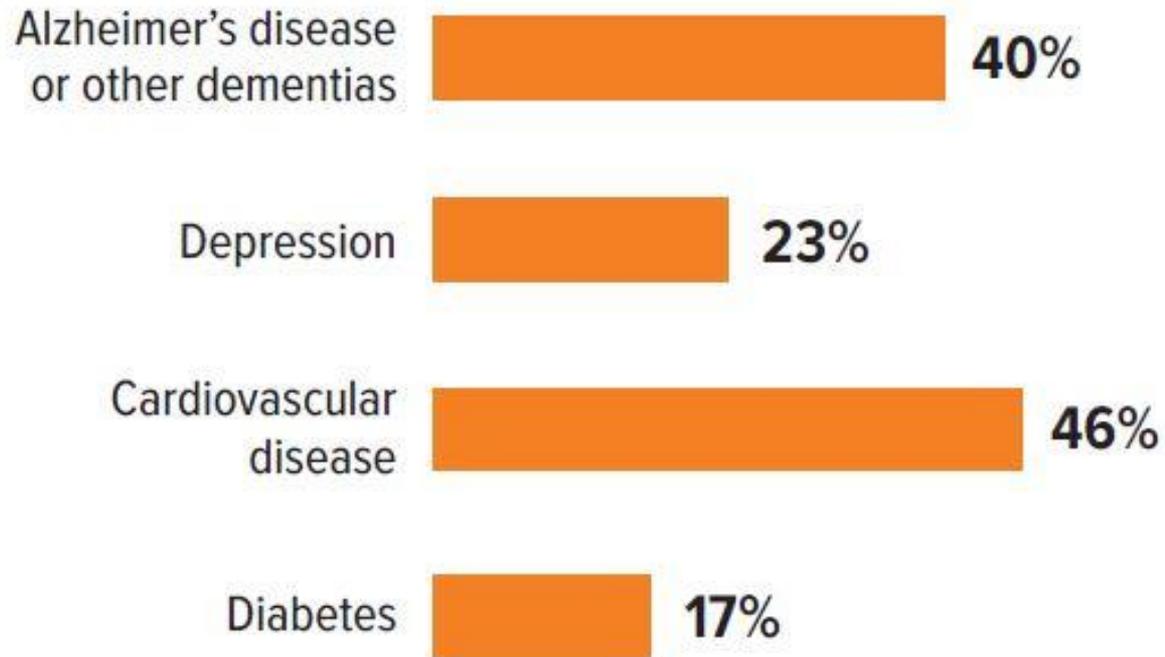
**20%**

Eating



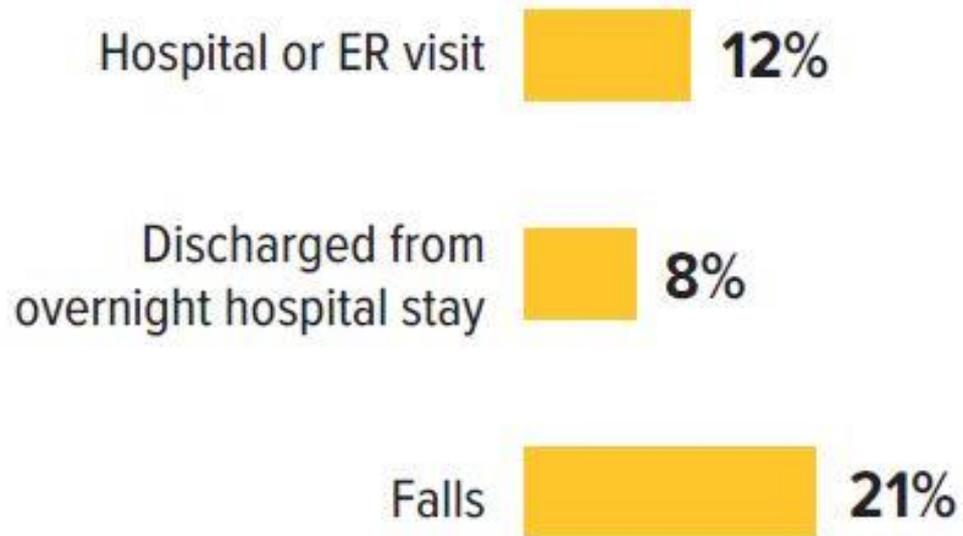
# Senior Living Resident Profile

## CHRONIC CONDITION DIAGNOSES



# Senior Living Resident Profile

## ADVERSE EVENTS IN THE PAST 90 DAYS



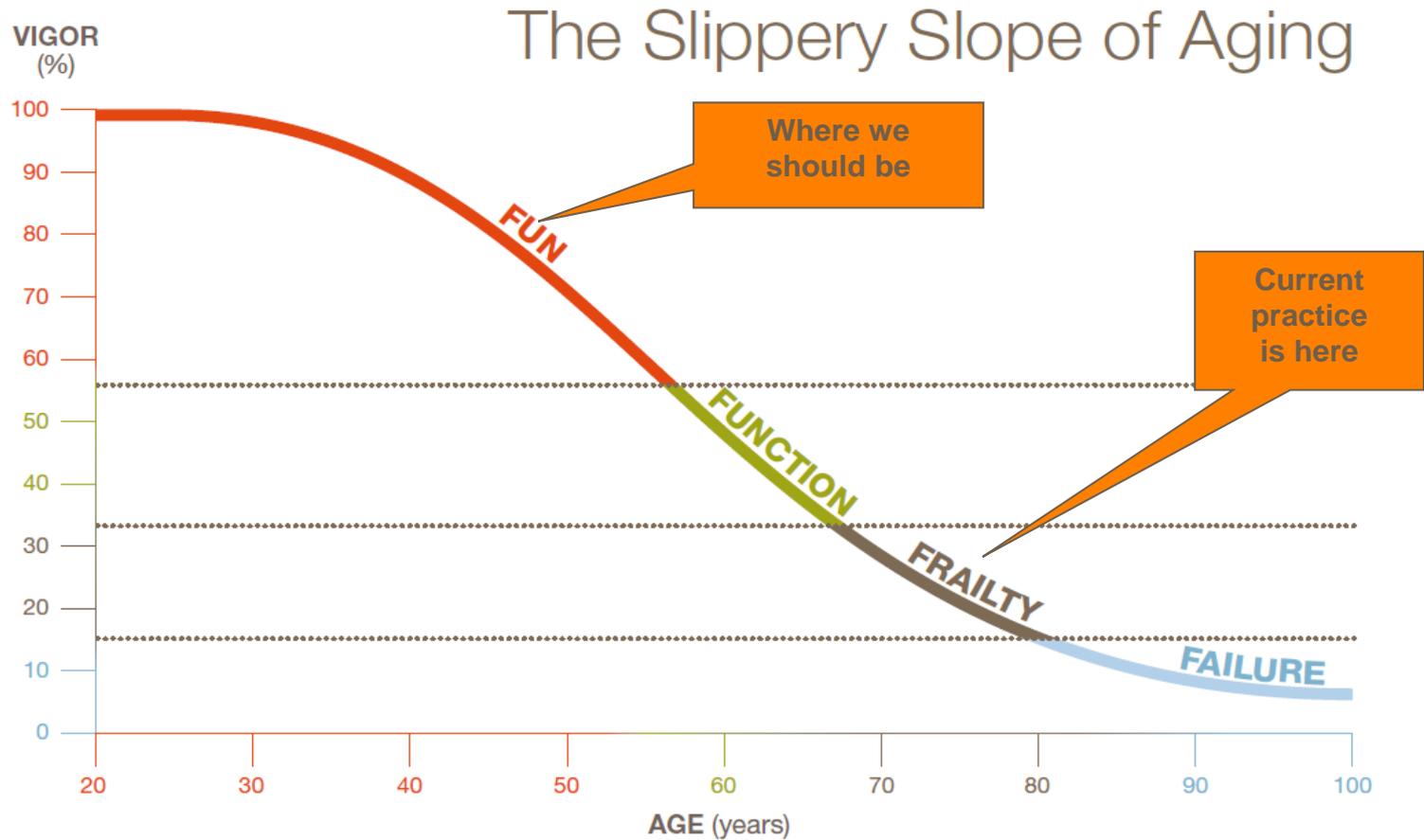


## Cost of Acute Care for Older Adults

- Nearly 1 in 5 Medicare beneficiaries are readmitted to the hospital within 30 days after an acute hospitalization.
- Unplanned hospital readmission costs exceed \$17 billion annually
- Adults with Medicare target conditions who receive physical therapy services during the period between hospital admission and 30 days post discharge have fewer hospital readmissions and greater improvements in physical function
- **Readmission risk is correlated to severity of functional impairment**
- The most functionally impaired older adults were 42% more likely to be readmitted compared to those with no impairments



# Aging Trajectories

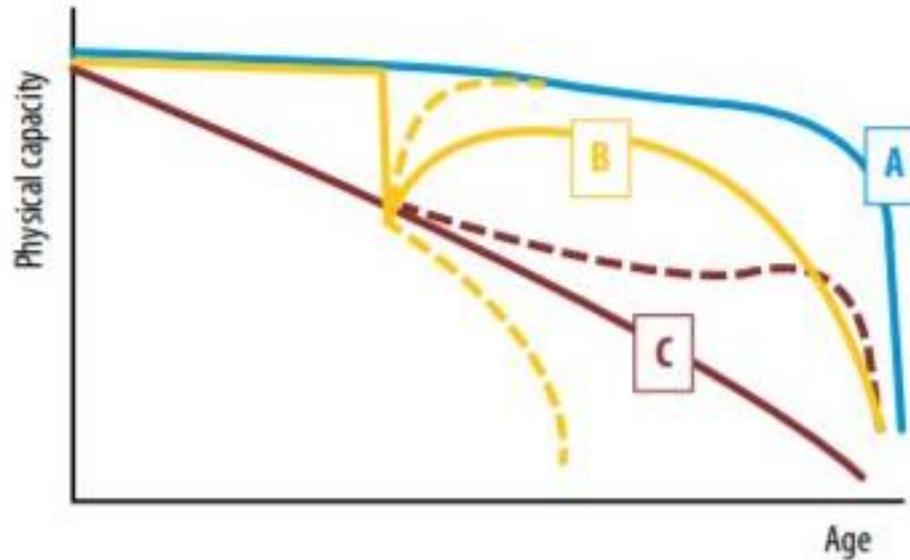


"Community Based Exercise Programs for Older Adults" are Bortz et al 2002 and Schwartz et al 1997



# Aging Trajectories

**Fig. 2.2. Three hypothetical trajectories of physical capacity**



- A. Optimal trajectory, intrinsic capacity remains high until the end of life.
  - B. Interrupted trajectory, an event causes a decrease in capacity with some recovery.
  - C. Declining trajectory, capacity declines steadily until death.
- The dashed lines represent alternative trajectories.

*World Report on Ageing and Health, 2015*



## Senior Living Models of Care

- Proactive Rehabilitation
- Proactive Rehabilitation & Wellness



# Senior Living Models of Care

## Proactive Rehabilitation

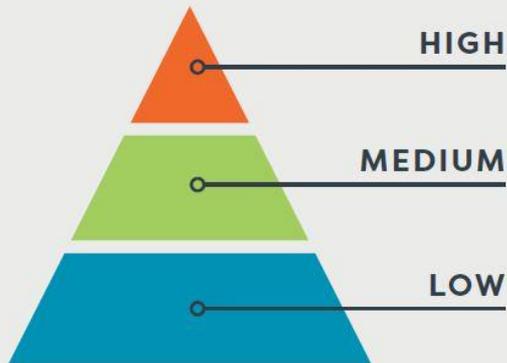
- PT/OT/ST Services
- Interdisciplinary Communication
- Daily Meeting with SLC Nurse



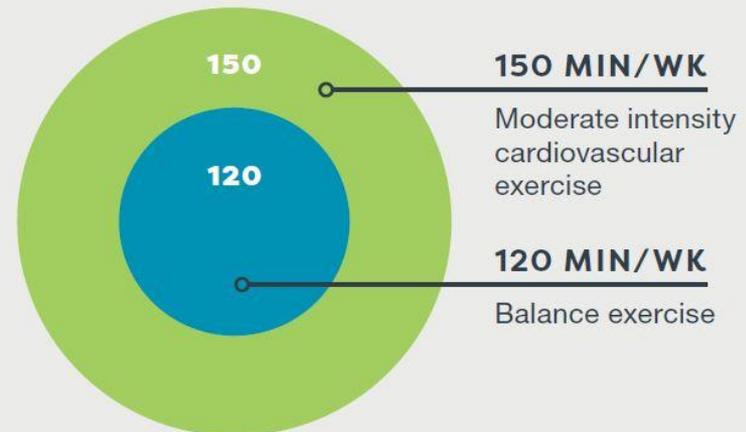
# Senior Living Models of Care

- Proactive Rehabilitation & Wellness
  - PT/OT/ST Services
  - Interdisciplinary Communication
  - Daily Meeting with SLC Nurse

## THREE-TIER MODEL



## EVIDENCE-BASED EXERCISE PRESCRIPTION



# Senior Living Models of Care

	Intensity	Volume	Frequency
Strength	Low: 40% of 1 rep maximum Mod: 40-60% of 1 rep maximum High: >60% of 1 rep maximum	8-12 reps to improve strength/power; 10-15 reps to improve strength; 15-20 reps to improve muscular endurance	2-3x/week, all major muscle groups. Older adults should wait 48 hours between sessions
Endurance	Moderate intensity (30-60 minutes) or vigorous intensity (20-60 minutes)	150 total minutes of moderate intensity/week or 75 total minutes of vigorous intensity/week	3-5x/week
Flexibility	10-30 second holds to the point of tightness or slight discomfort	2-4 sets of each stretch, accumulating 60 seconds per stretch	2-3x/week
Balance	Progressive challenge of balance, proprioception agility, and coordination	20-30 minutes of neuromotor exercise/day. Other evidence supports 2 hours/week ongoing for maintenance	2-3x/week



# Senior Living Models of Care

FOM	SCORE	EVIDENCE-BASED STANDARD	COMMENTS																																		
CHAIR RISE TEST		A score >15 seconds suggests increased risk of falls.																																			
TIMED UP-AND-GO		A score >15 seconds suggests increased risk of falls. A score > 30 seconds suggests increased risk of dependence and frailty.																																			
TUG COG		> 5-6 second difference with the addition of a cognitive task suggests greater risk for falls.																																			
GAIT SPEED		A speed <.4m/s correlates with household ambulation. A speed < .6m/s suggests increased risk of hospitalization and dependence with ADLs/IADLs. A speed >.8m/s correlates with community ambulation.																																			
4 STAGE BALANCE TEST		An older adult who cannot hold tandem stance for 10 seconds is at an increased risk for falls.																																			
GRIP STRENGTH	L   R	<table border="1"> <thead> <tr> <th rowspan="2">AGE</th> <th colspan="2">MEN (kg)</th> <th colspan="2">WOMEN (kg)</th> </tr> <tr> <th>L</th> <th>R</th> <th>L</th> <th>R</th> </tr> </thead> <tbody> <tr> <td>55-59</td> <td>37.7</td> <td>45.9</td> <td>21.5</td> <td>26</td> </tr> <tr> <td>60-64</td> <td>34.8</td> <td>40.7</td> <td>20.7</td> <td>25</td> </tr> <tr> <td>65-69</td> <td>34.8</td> <td>41.3</td> <td>18.6</td> <td>22.5</td> </tr> <tr> <td>70-74</td> <td>29.3</td> <td>34.2</td> <td>18.8</td> <td>22.5</td> </tr> <tr> <td>75+</td> <td>24.9</td> <td>29.8</td> <td>17.1</td> <td>19.3</td> </tr> </tbody> </table>	AGE	MEN (kg)		WOMEN (kg)		L	R	L	R	55-59	37.7	45.9	21.5	26	60-64	34.8	40.7	20.7	25	65-69	34.8	41.3	18.6	22.5	70-74	29.3	34.2	18.8	22.5	75+	24.9	29.8	17.1	19.3	
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MINI COG		A score of 0-2 indicates positive screen for dementia. A score of 3-5 indicates negative screen for dementia.																																			
MILNER'S VERBAL FLUENCY		A score of 15 or less suggests cognitive deficit.																																			
6-MINUTE WALK TEST (OPTIONAL)		<table border="1"> <thead> <tr> <th>AGE</th> <th>MEN</th> <th>WOMEN</th> </tr> </thead> <tbody> <tr> <td>70-74</td> <td>201-785 (493) m</td> <td>249-677 (463) m</td> </tr> <tr> <td>75-79</td> <td>334-774 (554) m</td> <td>194-642 (418) m</td> </tr> <tr> <td>80-84</td> <td>141-553 (347) m</td> <td>153-605 (379) m</td> </tr> <tr> <td>85-89</td> <td>141-553 (347) m</td> <td>53-581 (317) m</td> </tr> <tr> <td>90+</td> <td>0-651 (323) m</td> <td>119-523 (321) m</td> </tr> </tbody> </table>	AGE	MEN	WOMEN	70-74	201-785 (493) m	249-677 (463) m	75-79	334-774 (554) m	194-642 (418) m	80-84	141-553 (347) m	153-605 (379) m	85-89	141-553 (347) m	53-581 (317) m	90+	0-651 (323) m	119-523 (321) m																	
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## Senior Living Models of Care

- **Measure:** The Chair Rise Test
- **Purpose:** To measure lower extremity functional strength and balance
- **Administration:** Ask the patient sit with his/her back against the back of a chair, and stand up five times as quickly as possible. Count each stand aloud so that the patient remains oriented. Stop the test when the patient achieves the standing position on the 5th repetition.
- **Interpretation:** A score greater than 15 seconds suggests an increased risk of falling



## Senior Living Models of Care

- **Measure:** The 4 Stage Balance Test
- **Purpose:** To measure static balance
- **Administration:** There are four progressively more challenging positions. Describe and demonstrate each position. Stand next to the patient, hold his/her arm and help him/her assume the correct foot position. When the patient is steady, let go, but remain ready to catch the patient if he/she should lose balance. If the patient can hold a position for 10 seconds without moving his/her feet or needing support, go on to the next position. If not, stop the test.
- **Interpretation:** An older adult who cannot hold tandem for 10 seconds is at an increased risk of falling



# Senior Living Models of Care

- **Measure:** Verbal Fluency Test
- **Purpose:** To screen for cognitive-linguistic function
- **Administration:** Ask the patient to verbally list as many things in a given category as possible in 60 seconds (i.e. animals, fruits, vegetables, occupations).
- **Interpretation:** A score less than 17 is a positive screen for communication deficits



# Outcomes and Cost Savings

<b>SLC Model of Care</b>	<b>Quarterly Hospital Admission Rate</b>
<b>Traditional</b>	<b>23.5%</b>
<b>Proactive Rehabilitation</b>	<b>20.35%</b>
<b>Proactive Rehabilitation &amp; Wellness</b>	<b>13%</b>



# Outcomes and Cost Savings

SLC Model of Care	Difference in quarterly admission rate	Preventable admissions (extrapolated)	Cost savings (extrapolated)
Proactive Rehabilitation	3.15	47,250	\$387,450,000
Proactive Rehabilitation & Wellness	10.5	157,500	\$1,291,000,000



## Executive Summary

- 1.5 million older adults reside in Senior Living
  - This number is expected to double by 2030
- Senior Living residents are medically complex and expensive to manage
  - 23.5% are admitted to the hospital every quarter
- Proactive Rehabilitation and wellness programs in Senior Living can play a substantial role in managing functional ability, quality of life and associated cost



The image features a solid orange background with two stylized fox silhouettes. One silhouette is white and positioned on the left side, facing right. The other silhouette is a lighter shade of orange and is positioned on the right side, also facing right. The foxes are depicted in a simple, graphic style with pointed ears and bushy tails. The text "Thank You!" is centered on the white fox silhouette.

**Thank You!**