

# Supplemental Health, DI & LTC Conference

**Longevity Risks:  
Trouble and  
Opportunity**



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2023

**Chris Bartley, FSA, MAAA**

*Senior Actuary*

CNO Financial



**Will Ketterer**

Obra Capital



**Dennis Lu, FSA, FCIA, CERA**

*Senior Manager*

Oliver Wyman Inc.

# LTC Longevity Risk Components



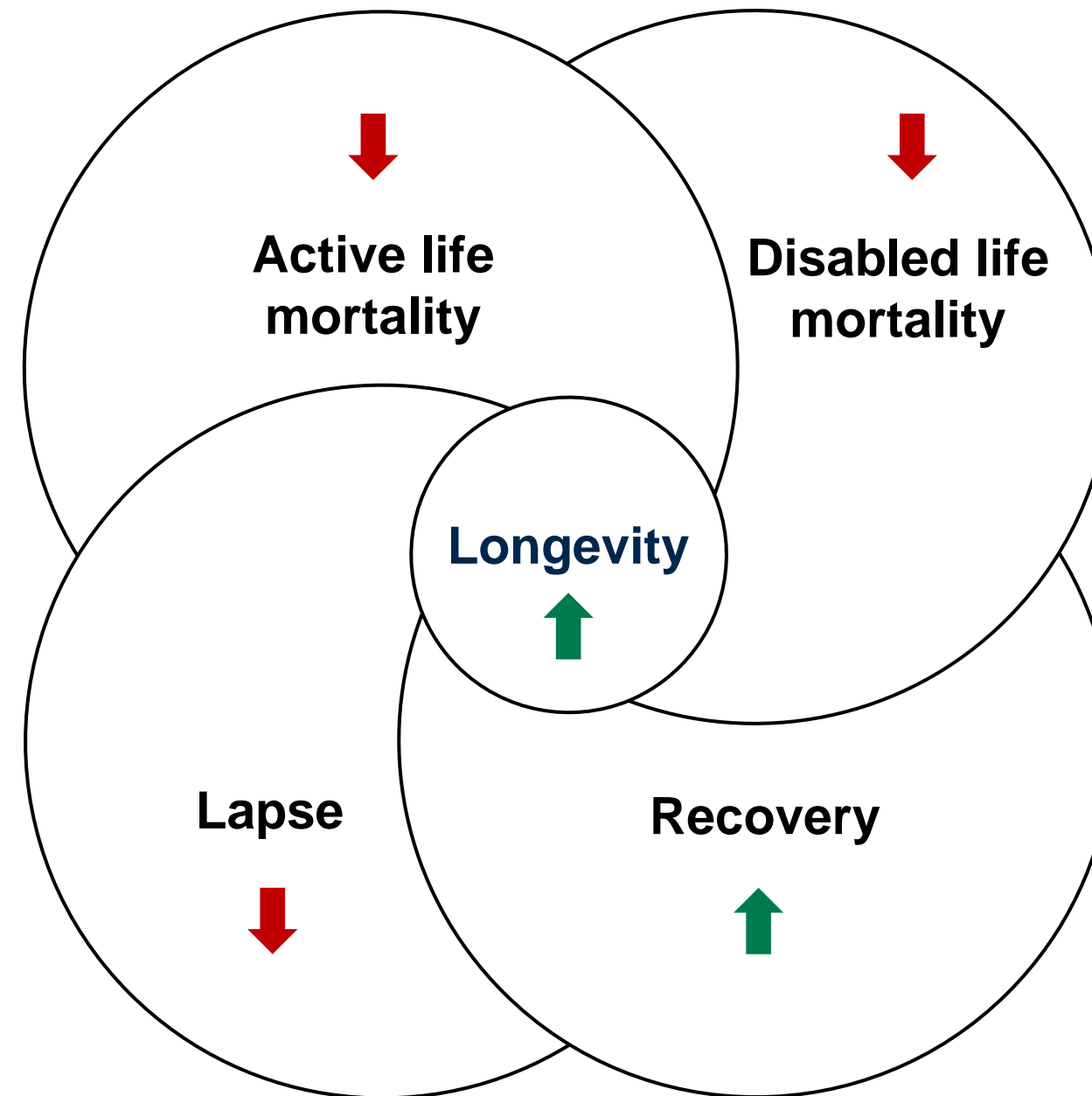
## Illustration of how risk components affect longevity

### Active life mortality

- Generally a percentage of an industry total life mortality table, wearing off by ultimate ages
- Common to assume mortality improvement (e.g., Projection Scale G2)

### Lapse

- Low ultimate rates (typically less than 1.00%)
- Shock lapse sometimes assumed in conjunction with rate increases



### Disabled life mortality

- High in early claim durations (e.g., 5% to 7% per month)
- Decreases rapidly within six months of claim incurral and then increasing with age

### Recovery

- High in early claim durations (e.g., 5% to 15% per month)
- Decreases rapidly within 12 months of claim incurral, reaching near 0% levels after 3-4 years on claim

**Example drivers of longevity:** gender, attained age, elimination period, benefit period, care setting, months since incurral, age at incurral

# LTC Longevity Risk Trends: Active Life Mortality



## 1

### Long-term effects of COVID-19

- Too soon to assess the long-term effects of COVID-19 on active life mortality
- Insurers may consider alternative scenarios with near-zero mortality improvement
- Deaths for the U.S. population that is older than 65 have been 6% higher than expected in Q1 2023, partially due to COVID-19

Source: Life and Annuity Forecast & Analysis, Mid year 2023, Conning

## 2

### Climate and societal changes

- Climate change is expected to cause 250K additional deaths annually from 2030-2050 (WHO)
- Blue Zone experiment promoted healthier lifestyles, resulting in:
  - Estimated 2.9 years of additional life expectancy in participants
  - \$8.6 million in annual healthcare cost savings
- Impact to LTC longevity remains difficult to assess due to offsetting impacts on different geographical and demographical groups

Source: WHO, Blue Zone project

## 3

### Mortality improvement trends

In a 2022 SOA survey, various experts and actuaries were surveyed on mortality improvement expected in 2023, 2025 and 2030, with the following results (total lives basis):

Average excess mortality by population and age (incl. COVID-19)

U.S. Population (No. of Responses)	Current Age	2022 (%)	2023 (%)	2025 (%)	2030 (%)
<b>Total Respondents</b>					
General (N = 56)	25	14	9	6	2
	45	13	9	5	2
	65	10	7	5	2
	85	9	6	3	1
Life Insurance Industry Insured (N = 29)	25	10	5	2	-1
	45	10	5	2	-1
	65	9	5	1	-1
	85	7	3	1	-1
Annuity Industry Annuitant (N = 6)	25	5	3	0	-1
	45	5	2	0	-2
	65	5	1	-1	-3
	85	6	1	-1	-3
Private and Public Pension Plan (N = 15)	25	8	5	2	-1
	45	7	5	2	-1
	65	6	4	1	-3
	85	6	4	0	-3

Source: <https://www.soa.org/4a28d8/globalassets/assets/files/resources/research-report/2022/covid-19-short-term-impact-us-mort-report.pdf>





## 1

### Estimating impact of rate increases

- Anti-selection: Risk of anti-selection is generally associated with rate increases
- Unintended lapsing: Cognitively impaired policyholders are significantly more likely to lapse
- Declining wealth: Lapses may occur due to planned drawdowns to satisfy Medicaid eligibility

## 2

### “Lapse smile”

- A “lapse smile” is a phenomenon where lapses increase for high attained ages, when LTC insurance should intuitively experience near-zero lapse levels
- Unforeseen financial strain and reduced expectation of care needs can cause lapses
- Wellness programs aim to engage policyholders and provide value to them, which may reduce lapse smile

## 3

### Active mortality and lapse misreporting

- Active mortality is often underreported at ultimate ages due to lack of incentive for family members to report a policyholder’s death
- Why does reallocation to the most appropriate policy termination cause matter?
- There are various industry approaches to remediating misreporting



## 1

### Recovery propensity and recertification

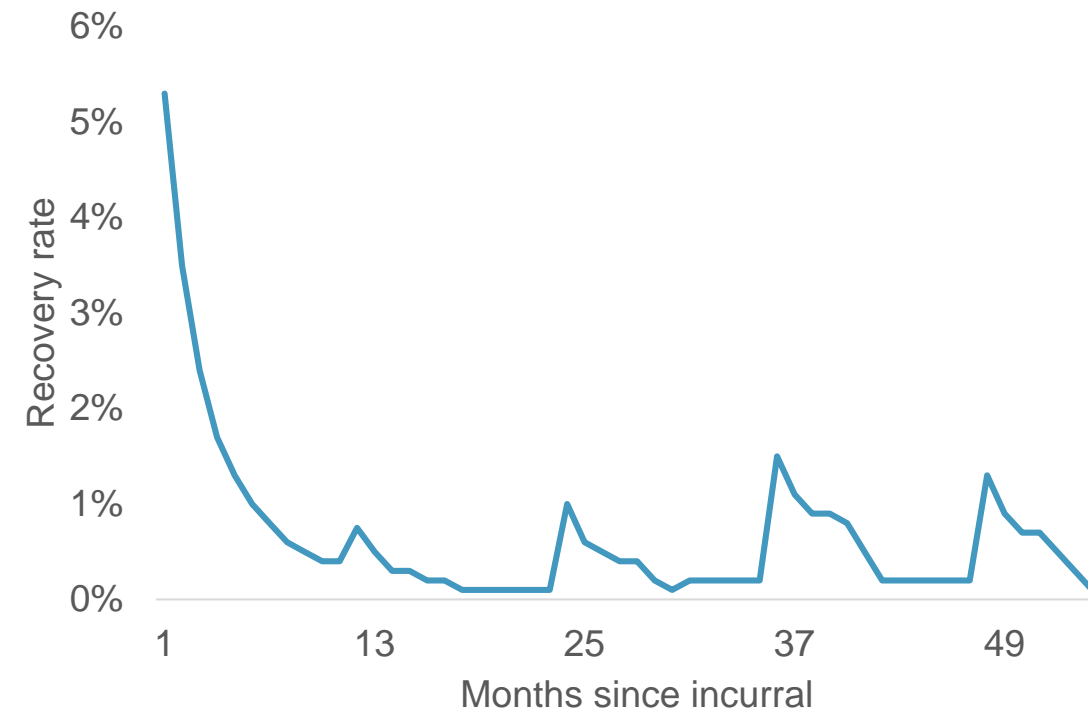
- Carriers are interested in optimizing their claim recertification functions
- Adjust recertification efforts depending on recover propensity of claim type
- Oliver Wyman's 2023 LTC predictive analytics survey found 25% of respondents were either considering or actively using predictive analytics for recovery propensity modeling

## 2

### Recovery following benefit restoration

- Claims administrators and adjudicators should be mindful of this anti-selection
- Dependent on restoration criterion strictness

Illustration of recovery pattern for a block of policies with restoration of benefits at the end of 1- to 4-year benefit period



## 3

### LTC wellness programs

- Insurers have launched pilot programs to assess the impact of LTC wellness programs
  - Increased physical activity may increase recovery in certain types of claims
  - For some conditions with low/no recovery, such as dementia, early intervention can delay onset
- Other longevity considerations:
  - “Anti” anti-selection effect
  - Effectiveness
  - Normalizing existing behavior of engaged individuals

# LTC Longevity Risk Trends: Disabled Mortality



## 1

### “Long COVID”

- Previously hospitalized COVID-19 patients were found to be at higher risk for new diagnosis of a respiratory disease, diabetes, or heart disease, compared to individuals that had not had COVID-19
- Long COVID could potentially increase overall disabled mortality for future generations of claimants

Source: [https://www.thelancet.com/journals/lanhl/article/PIIS2666-7568\(22\)00245-8/fulltext](https://www.thelancet.com/journals/lanhl/article/PIIS2666-7568(22)00245-8/fulltext)

## 2

### Cognitive claims

- The risk of Alzheimer’s nearly doubles for older adults following a bout with COVID-19, with older women being the most at risk
- Neurocognitive symptoms have been reported to persist for up to one year after acute infection and may persist longer
- Delirium is a symptom of COVID-19 among people with dementia and can lead to worse symptoms such as confusion or loss of ADLs

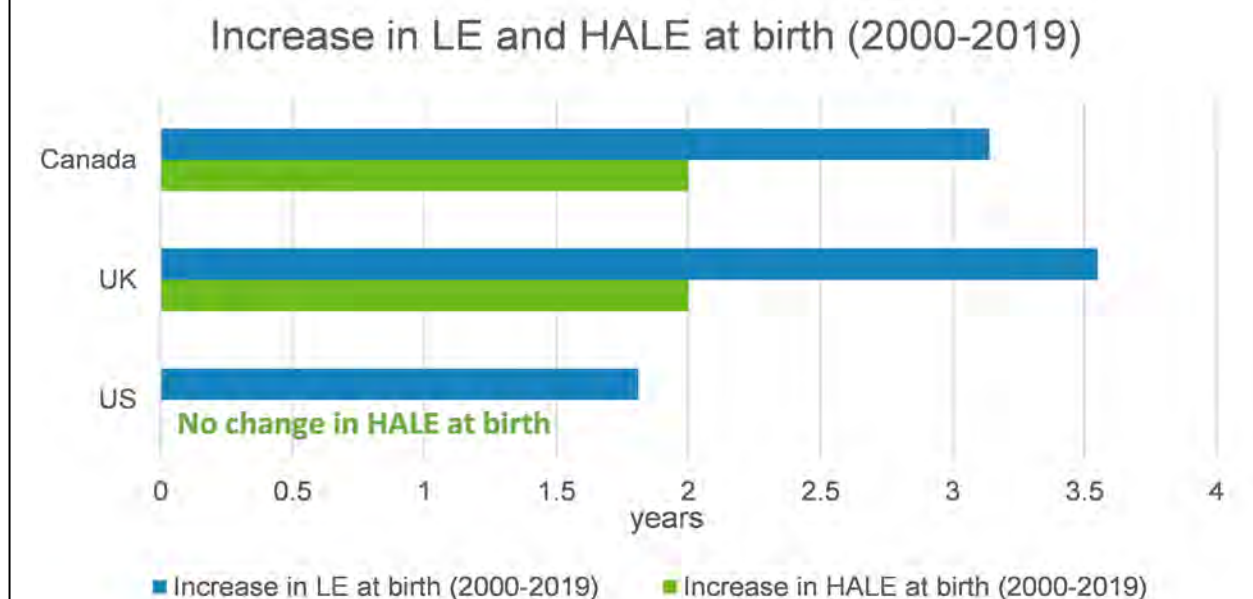
Source: <https://content.iospress.com/articles/journal-of-alzheimers-disease/jad220717>  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9148631/>

## 3

### Defining active and disabled deaths

- Capturing the split of active and disabled deaths is important for projecting longevity
- Health-adjusted life expectancy (HALE) can be a metric to benchmark active and disabled death split

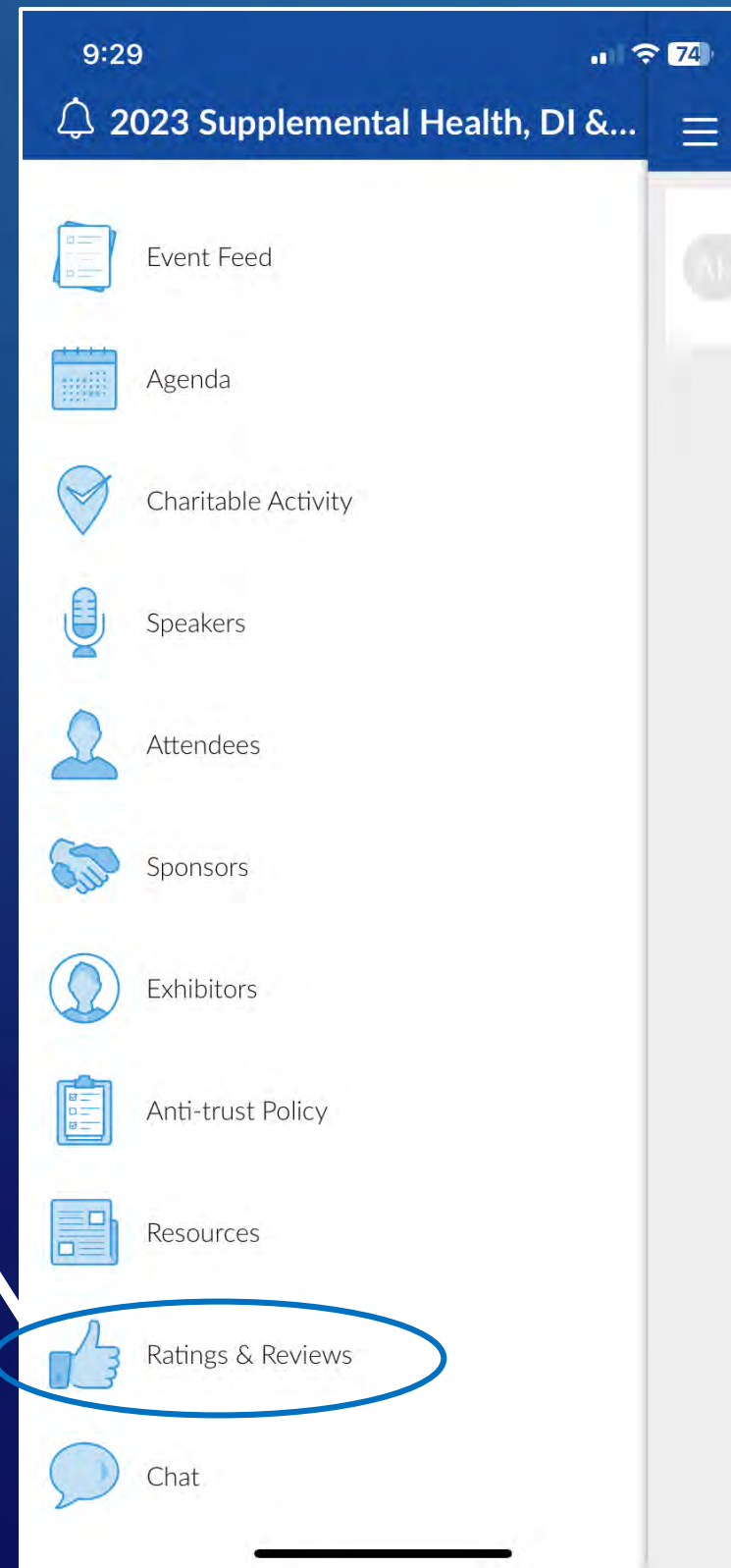
#### Health-adjusted life expectancy for Canada, UK and US



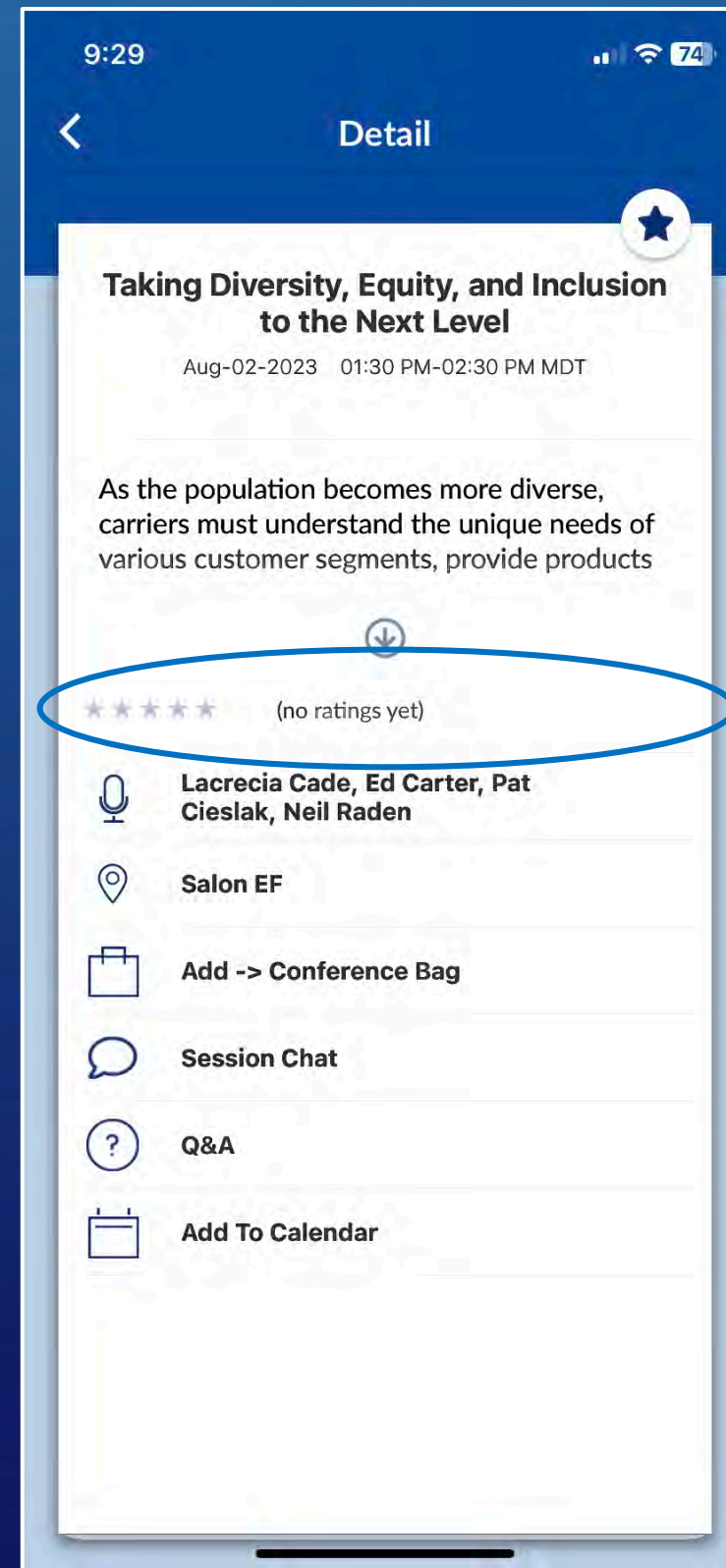
Source: <https://www.acpm.com/observer/long-covid-%E2%80%93-in-it-for-the-long-haul>

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