

RE THINK REINSURANCE



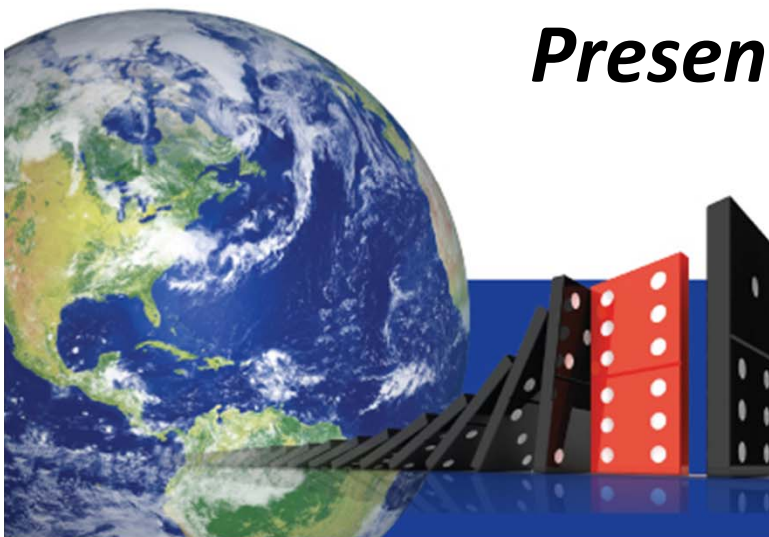
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REINSURANCE CONFERENCE



CANADIAN REINSURANCE / CONGRÈS CANADIEN DE
CONFERENCE / RÉASSURANCE

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Agenda

- Market and demography
- Factors affecting mortality
- Non Traditional Underwriting



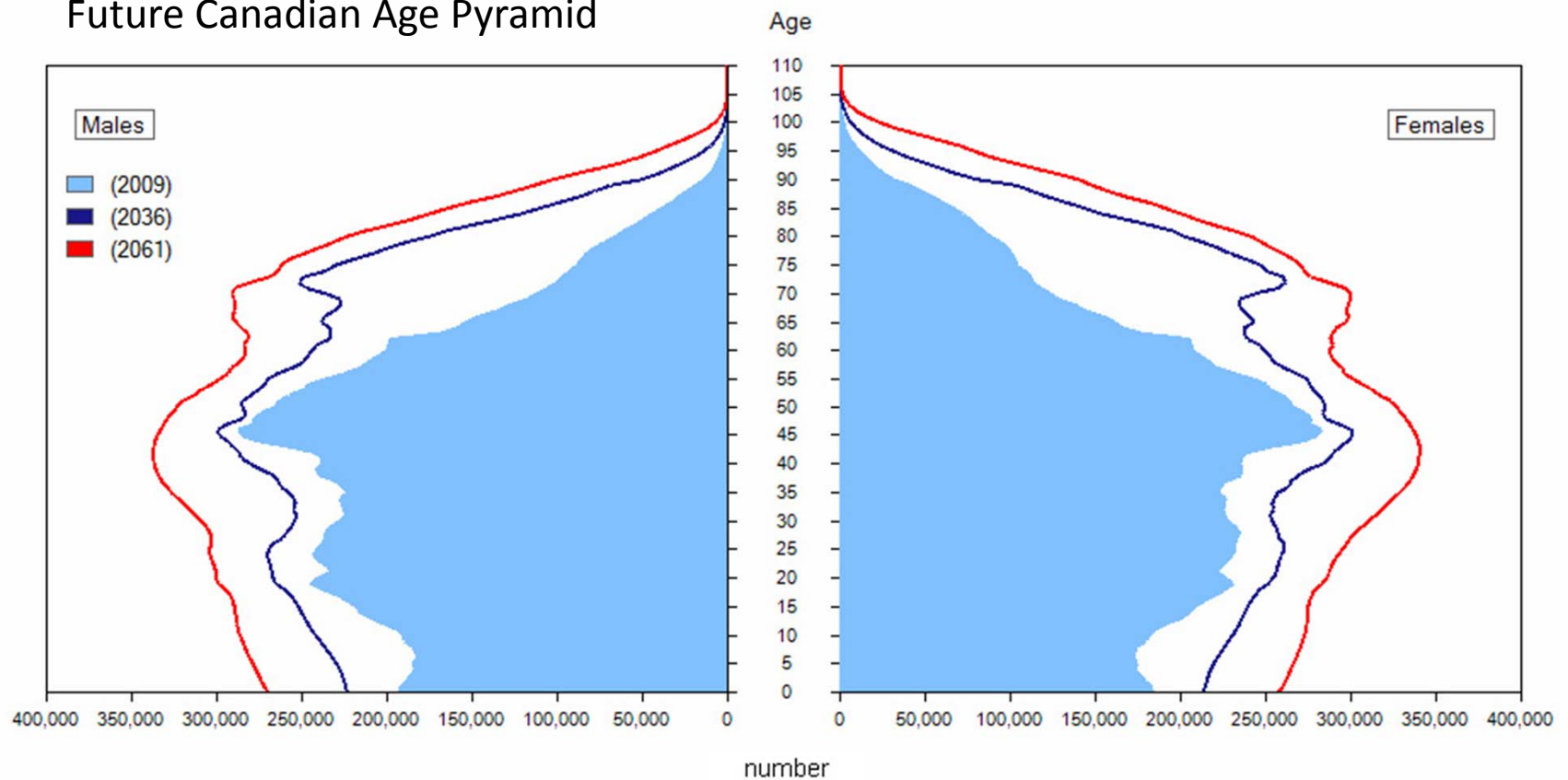
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Market and Demography

Future Canadian Age Pyramid



Source: Stat Can 2010: Population projections for Canada, Provinces and Territories



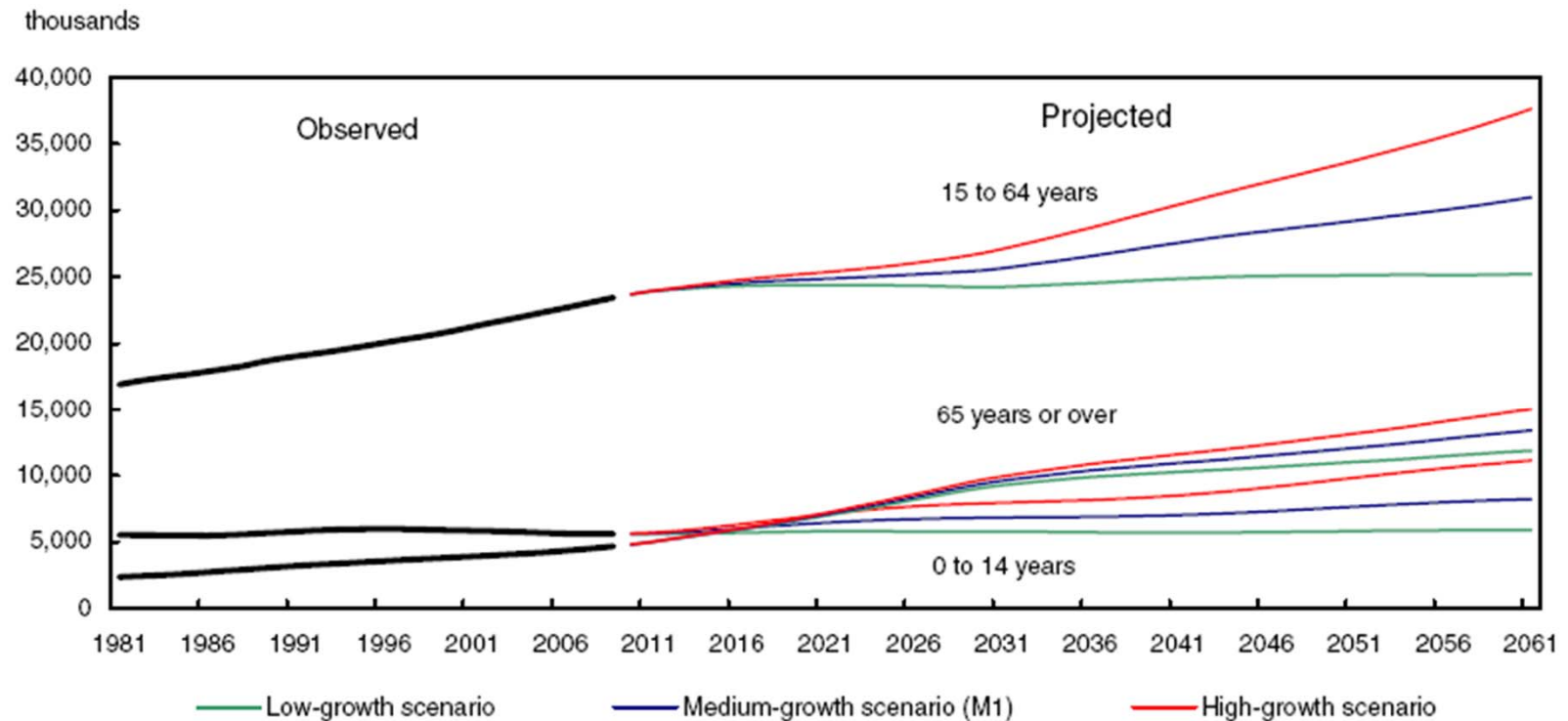
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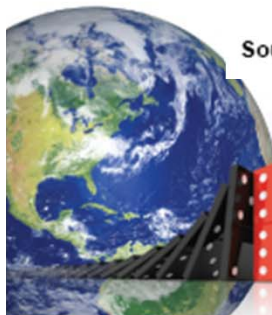


Market and Demography

Canadian population by age group according to three scenarios



Source(s): Statistics Canada, Demography division.



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Market and Demography

- Lack of underwriting expertise for older age applicants
- Most companies need to adjust their A&A requirements
- The trend is to offer higher amounts at higher ages
- Treaties: autobind used to be up to age 70, today client companies are looking for autobind up to age 85



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The Insurance Market

- Elderly (70+)
 - 1,308 cases received in 2008 which represents 4% of our FAC business
 - On 7% of cases, a +50 offer was made
 - Standard offers on 29% of cases in 2008
 - Sampling done on 480 cases
 - 60 cases were accepted +50
 - 31 cases could have been accepted +25 (9 of them had been closed)



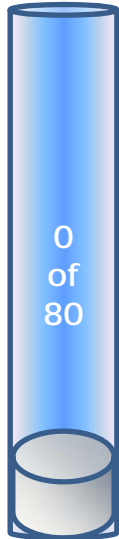
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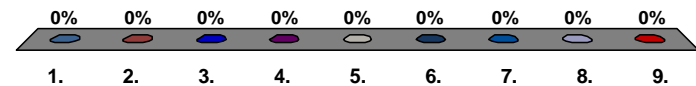


Question 1 – We need your 3 votes!

What are the top 3 most important factors affecting mortality at older age?



1. Current mental health
2. Current health condition
3. Frailty
4. Active lifestyle
5. Cognitive function
6. History heart disease
7. Financial condition
8. ADLs
9. Social Condition



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Factors affecting mortality

Table 16.1: Factors that Affect Mortality – Ranked by Number of Respondents

| Risk Factor | Rank * | | | | | Total |
|---|--------|---|---|---|---|-------|
| | 1 | 2 | 3 | 4 | 5 | |
| Current health condition | 13 | 3 | 4 | 0 | 2 | 22 |
| Cognitive function | 2 | 9 | 3 | 5 | 1 | 20 |
| Frailty | 8 | 2 | 4 | 2 | 2 | 18 |
| ADLs | 2 | 4 | 2 | 4 | 2 | 14 |
| Current mental health | 0 | 4 | 3 | 2 | 1 | 10 |
| Instrumental Activities of Daily Living (IADLs) | 1 | 1 | 2 | 4 | 0 | 8 |
| Active lifestyle | 0 | 2 | 0 | 0 | 6 | 8 |
| History of heart disease | 1 | 3 | 2 | 0 | 1 | 7 |
| Social condition | 0 | 0 | 1 | 1 | 5 | 7 |
| Mobility | 1 | 0 | 1 | 4 | 0 | 6 |
| Financial condition | 0 | 1 | 1 | 2 | 2 | 6 |
| Living arrangements | 0 | 0 | 1 | 1 | 4 | 6 |
| History of cancer | 1 | 0 | 1 | 1 | 2 | 5 |
| Self-perceived health | 0 | 1 | 1 | 0 | 2 | 4 |
| Support structure | 0 | 0 | 2 | 1 | 1 | 4 |
| Longevity of parents | 0 | 0 | 2 | 0 | 0 | 2 |
| Family history | 0 | 0 | 1 | 0 | 1 | 2 |
| Rural/city living | 0 | 0 | 0 | 1 | 1 | 2 |
| Other – Diabetes | 1 | 0 | 0 | 0 | 0 | 1 |
| Other – Alcohol/drug abuse history | 0 | 0 | 1 | 0 | 0 | 1 |
| Other – Smoking | 0 | 0 | 0 | 0 | 1 | 1 |

* Note the columns add up to more than 26, the number of companies responding to this question, because two companies ranked every risk factor.

Source: Report of the Society of Actuaries Older Age Underwriting Practices Survey Subcommittee, July 2007. Society of Actuaries. Available at www.soa.org



Factors affecting mortality

Male

| | 65-74 | 75-89 | ALL |
|------------------------------------|-------|-------|-------|
| Malignant neoplasms | 42.1% | 25.8% | 30.7% |
| Major cardiovascular diseases | 29.1% | 36.0% | 29.9% |
| Chronic lower respiratory diseases | 4.6% | 6.9% | 4.7% |
| Accidents (unintentional injuries) | 2.1% | 2.5% | 5.3% |
| Diabetes mellitus | 3.9% | 3.7% | 3.4% |
| Influenza and pneumonia | 1.3% | 2.9% | 2.1% |
| Alzheimer's disease | 0.7% | 2.6% | 1.4% |
| Intentional self-harm (suicide) | 0.8% | 0.2% | 2.7% |

Female

| | 65-74 | 75-89 | ALL |
|------------------------------------|-------|-------|-------|
| Malignant neoplasms | 45.5% | 21.7% | 28.5% |
| Major cardiovascular diseases | 23.2% | 37.1% | 31.2% |
| Chronic lower respiratory disease | 5.6% | 5.0% | 4.4% |
| Accidents (unintentional injuries) | 1.9% | 2.5% | 3.3% |
| Diabetes mellitus | 3.9% | 3.9% | 3.4% |
| Influenza and pneumonia | 1.4% | 3.2% | 2.8% |
| Alzheimer's disease | 1.1% | 4.7% | 3.5% |
| Intentional self-harm (suicide) | 0.3% | 0.1% | 0.8% |

| |
|-----------------|
| 1st cause death |
| 2nd cause death |
| 3rd cause death |

Source: Statistics Canada



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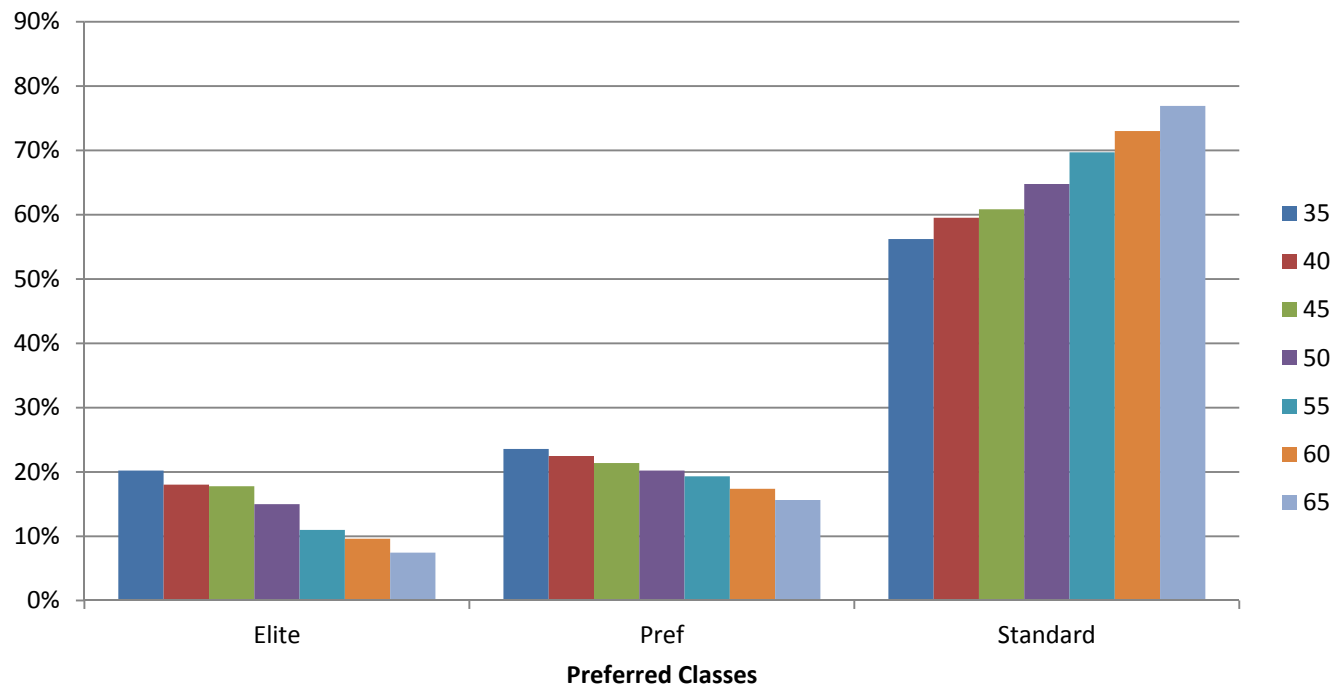
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Non Traditional underwriting

Many preferred criteria are not adapted to older applicants

% Qualifying in Preferred Classes by Age



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Non Traditional underwriting

- Older Age Preferred
 - Many Preferred criteria not adapted.
 - Cholesterol
 - Albumin or Creatinine instead?
 - Lifestyle not adapted (occupation, hazardous sports..)
 - Family history
 - BMI
 - No differences in 15 years excess mortality for MNS 70+ (1)

Source: D K Dey¹, E Rothenberg^{1,2}, V Sundh¹, I Bosaeus² and B Steen¹. Body mass index, weight change and mortality in the elderly. A 15 y longitudinal population study of 70 y olds . Nature, June 2001, Vol 55



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Non Traditional underwriting

- Older Age And Obesity
 - Relative increase in mortality is less in older than young adults.(1)
 - Thresholds are higher than at younger age
 - Obesity was significantly associated with increased mortality only among persons under age 75 years and among never or past smokers (2).
 - More linked to increased morbidity rather than increased mortality.
 - Overall and central adiposity and weight gain during middle age and after age 65 associated with risk of diabetes

(1) Obesity and metabolism 2008, Korbonitz

(2) Am J Epidemiology 2006; 163 (10): 938-49

(3) Jama 2010;303 . Association Between Adiposity in Midlife and Older Age and Risk of Diabetes in Older Adults



Non Traditional underwriting

- Older Age Preferred- Alternatives
 - Cognitive
 - Reading, puzzles, Sudoku...
 - Driving infractions
 - Social
 - Friends, activities, travel, church...
 - Physical
 - Bowling, walking, volunteering, gardening...
 - Watch out for falls



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Non Traditional underwriting

- Introduction of +25 for applicants over age 70
- It may increase the % of placed business as premium would be lower than when applying a +50 rating.
- *Example of a \$100,000 policy issued at age 75:*
 - *MNS : Standard premium is \$3700. A +25 rating instead of +50 means a premium lowered by \$925.*
 - *FNS : Standard premium is \$2980. A +25 rating instead of +50 means a premium lowered by \$745.*

What should be the maximum rating for a case over age 70? What makes sense?



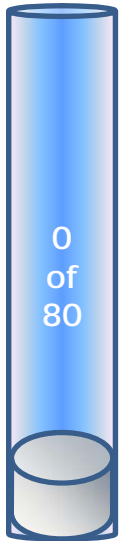
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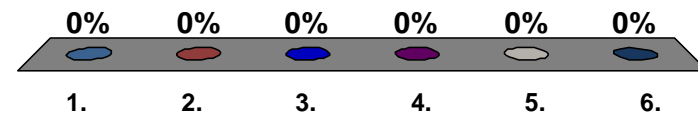


Question 2 – We need your vote!

What should be the maximum rating for a case over age 70?



1. 100% i.e. +0
2. 150% i.e. +50
3. 200% i.e. +100
4. 250% i.e. +150
5. 300% i.e. +200
6. No maximum



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**« It comes a time...
when statistics are meaningless!! »**



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