Session 74 PD, Mortality – What do Non-actuaries Focus on and Why Should Actuaries Care?

Moderator:
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Session 74: Mortality – What do non-actuaries focus on and why should actuaries care?

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1. Please introduce yourself and tell the audience about your work responsibilities, particularly as it relates to mortality.

(All)

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2. There is a lot more that goes into underwriting an applicant than actuaries realize. Please explain the major considerations in doing this.

(Kim, Mark)

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3. One of the ways the medical profession studies mortality is through clinical studies. Please explain some of the nuances associated with clinical studies vs. the life insurance mortality tables most actuaries are accustomed to.

(Laura)

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4. I understand that sometimes there are two people with the same impairment, yet you rate the cases differently. Let's use Stage 1 breast cancer as an example. Please provide some reasons why this may happen.

(Laura)

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4. Case Study #1 – Breast cancer (Laura)

- 55 year old woman
- Abnormality on routine mammogram
- Biopsy of abnormality → invasive carcinoma
- Surgical pathology, Stage I
- Treatment completed January 2016
- Issue standard, rate, decline, postpone?

AJCC Breast Cancer Stages

Stage 0	TisN0M0
Stage IA	*T1N0M0
Stage IB	T0-1N1miM0
Stage IIA	T0-T1N1M0, T2N0M0
Stage IIB	T2N1M0, T3N0M0
Stage IIIA	T0-3N1-2M0
Stage IIIB	T4N0-2M0
Stage IIIC	T(any)N3M0
Stage IV	T(any)N(any)M1

**T1 can be divided for prognostic purposes into Tmi, Ta,Tb,Tc*

4. Case Study #1 – Breast cancer (cont'd)

- Complications of treatment
- Probability of recurrence/death
  - Size of the tumor
  - Appearance of cells/tissue (grade)
  - Lymph node assessment (sentinel vs. traditional)
  - Hormonal receptors
  - Metastatic disease
  - Age
  - Method of detection
  - Genomic analysis ?
- Timing of recurrences/death
- Postpone period

5. Actuaries are often concerned when underwriters make exceptions to the preferred criteria or underwriting guidelines. Should they be?

(Kim)

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5. Case Study #2 – Avocations (Kim)

- 44 year old machinist for the railroad
- 5’11” 274 lbs.
- Drag Racing, hp 500, 160 mph maximum
- Power Boat racing, E.T. Bracket, races 3-6 months of the year, anticipates 11 to 25 races next 12 months
- MVR
  - 07/21/15 speeding, 70 mph in a 55 mph zone
  - 03/03/14 speeding 51 mph in a 35 mph zone
  - 11/11/13 accident
- How do you think the case should be assessed: standard, rated or declined?

5. Case Study #2 – Avocations (cont'd)

- What concerns should we have with this case?
- What else do we need to know?
- Any are there any concerns with his MVR?
- What else would we look for in order to assess the risk?
- Now, how do you think the case should be assessed: standard, rated or declined?
- And how many of you changed your initial assessment?

6. We have heard about this before, but why is important for actuaries to work closely with their underwriters and medical directors? What new can you tell us?

(Mark)

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6. Case Study #3 – Prostate cancer (Mark)

- 72 year old male diagnosed with Gleason 3+3 adenocarcinoma of the prostate
- T1aN0M0
- The cancer was an incidental finding during work-up for prostatic hypertrophy
- Single focus
- Also BPH & treated hypertension, otherwise healthy

If you were going to bet your next paycheck on what this individual would die from what would it be?

A bit of cancer background, incidence versus death rate

Cancer Type	Estimated New Cases	Estimated Deaths
Bladder	76,960	16,390
Breast (Female – Male)	246,660 – 2,600	40,450 – 440
Colon and Rectal (Combined)	134,490	49,190
Endometrial	60,050	10,470
Kidney (Renal Cell and Renal Pelvis) Cancer	62,700	14,240
Leukemia (All Types)	60,140	24,400
Lung (Including Bronchus)	224,390	158,080
Melanoma	76,380	10,130
Non-Hodgkin Lymphoma	72,580	20,150
Pancreatic	53,070	41,780
Prostate	180,890	26,120
Thyroid	64,300	1,980

Source: Health United States, 2015 Table 19 (Data are for 2014)

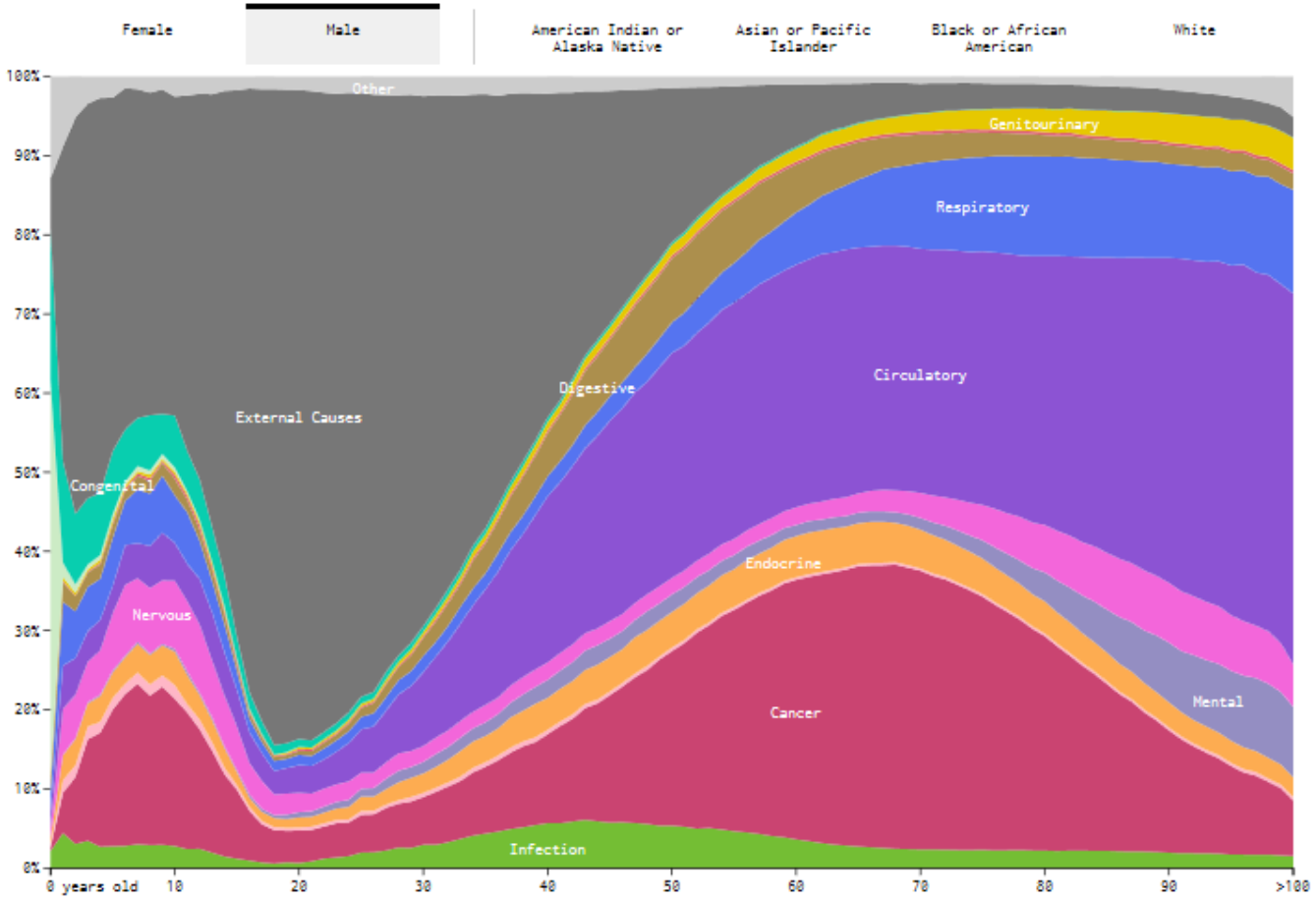
6. Case Study #3 – Prostate cancer (cont'd)

Causes of death	Estimated Deaths
Heart disease	614,348
Cancer	591,699
Chronic lower respiratory diseases	147,101
Accidents (unintentional injuries)	136,053
Stroke (cerebrovascular diseases)	133,103
Alzheimer's disease	93,541
Diabetes	76,488
Influenza and pneumonia	55,227
Nephritis, nephrotic syndrome, and nephrosis	48,146
Intentional self-harm (suicide)	42,773

Source: Health United States, 2015 Table 19 (Data are for 2014)

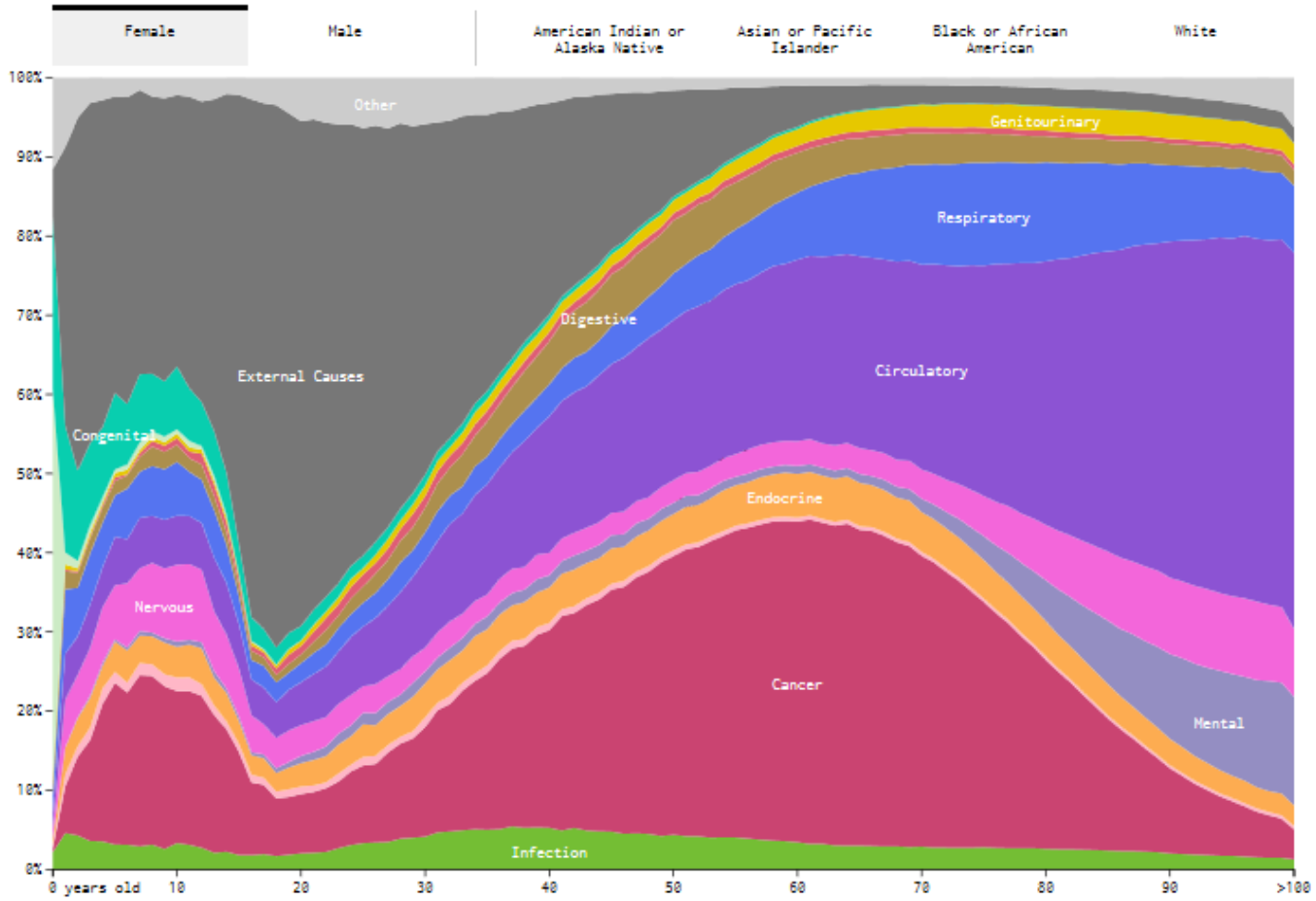
Causes of Death - Male

Nathan Yu, based on The CDC's Underlying Cause of Death database
http://flowingdata.com/2016/01/05/causes-of-death/



Causes of Death - Female

Nathan Yu, based on The CDC's Underlying Cause of Death database
http://flowingdata.com/2016/01/05/causes-of-death/



7. This is a two part question. What do you wish you knew better about mortality? And what else would you like actuaries to better understand about your issues when dealing with mortality?

(All)

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8. Please tell us what to expect in the future with respect to our products, underwriting, technology, medical advances and mortality.

(All)

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8. What questions do you have? (Audience)