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Jinxed Jags and Lengthy Lags

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We've entered a new era of mortality volatility

In April, the UK's life insurers announced the windfall release of £2bn of longevity reserves (for their pre solvency II un-reinsured longevity), following the heavy winter deaths of 2016/17 and 2017/18.

MARKETS | HEARD ON THE STREET

THE WALL STREET JOURNAL.

Life Was Short for Longevity Gains

Life expectancy at 65 is falling and that means cash windfalls for insurers

A few weeks later, the UK's funeral providers reported profit warnings from the much lighter winter deaths of 2018/19.

The Guardian

Julia Kollewe

Mon 13 May 2019 03:59 EDT

Funeral provider Dignity warns fall in deaths will hit profits

Dignity, the UK's only funeral services company that is listed on the stock market, said the number of deaths in the 13 weeks to 29 March had fallen by 12% to 159,000. This led to a 15% drop in revenues to £81.1m and dragged underlying operating profit down by 42% to £21.7m.



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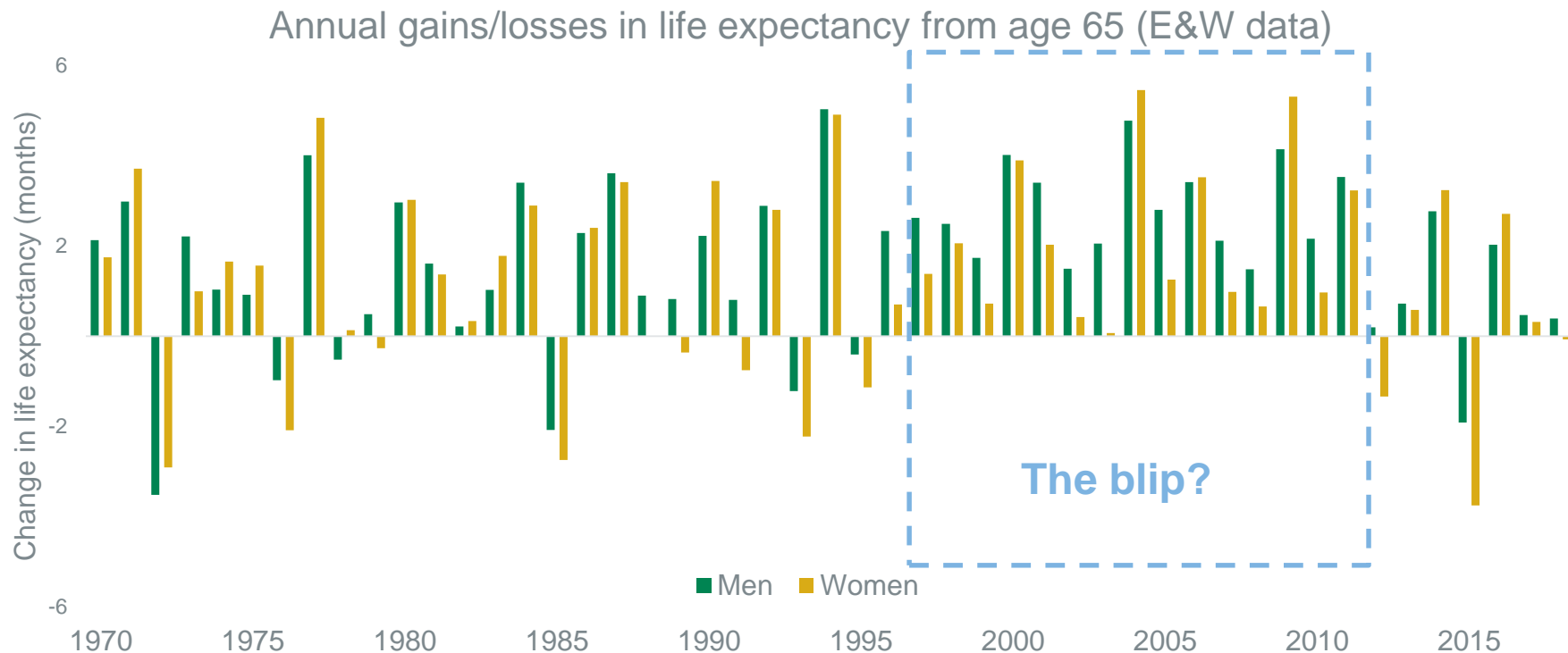


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Volatile times

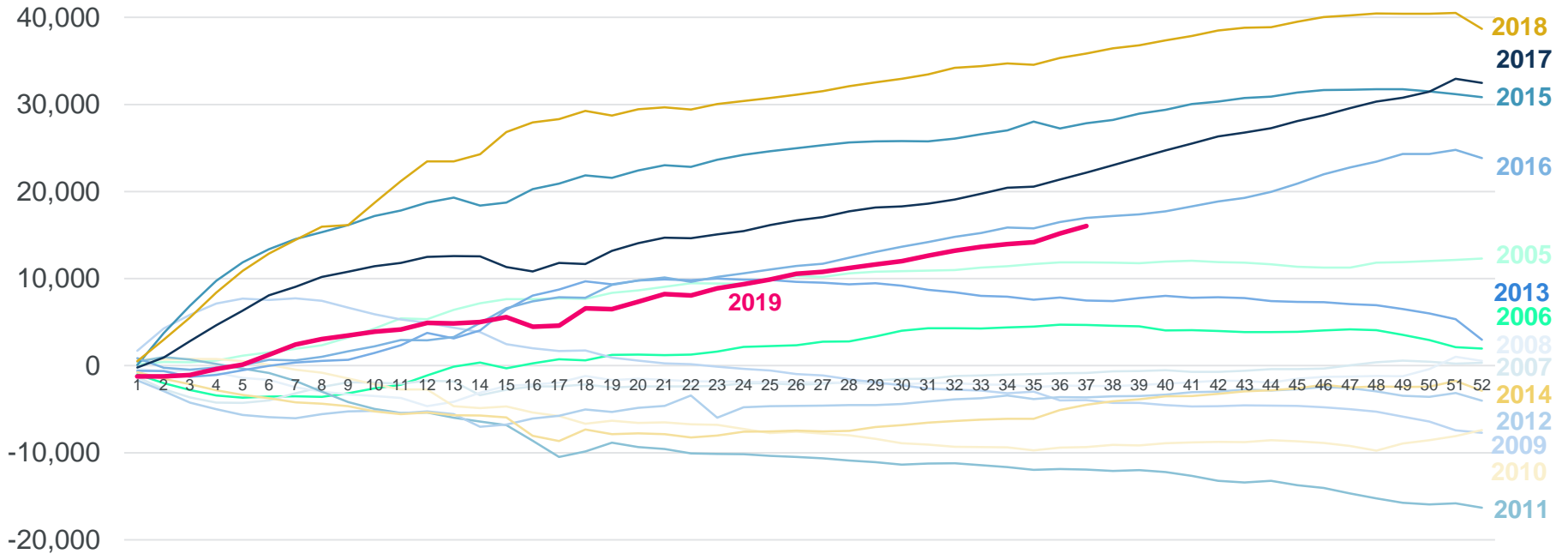


A return to volatility



2019 deaths

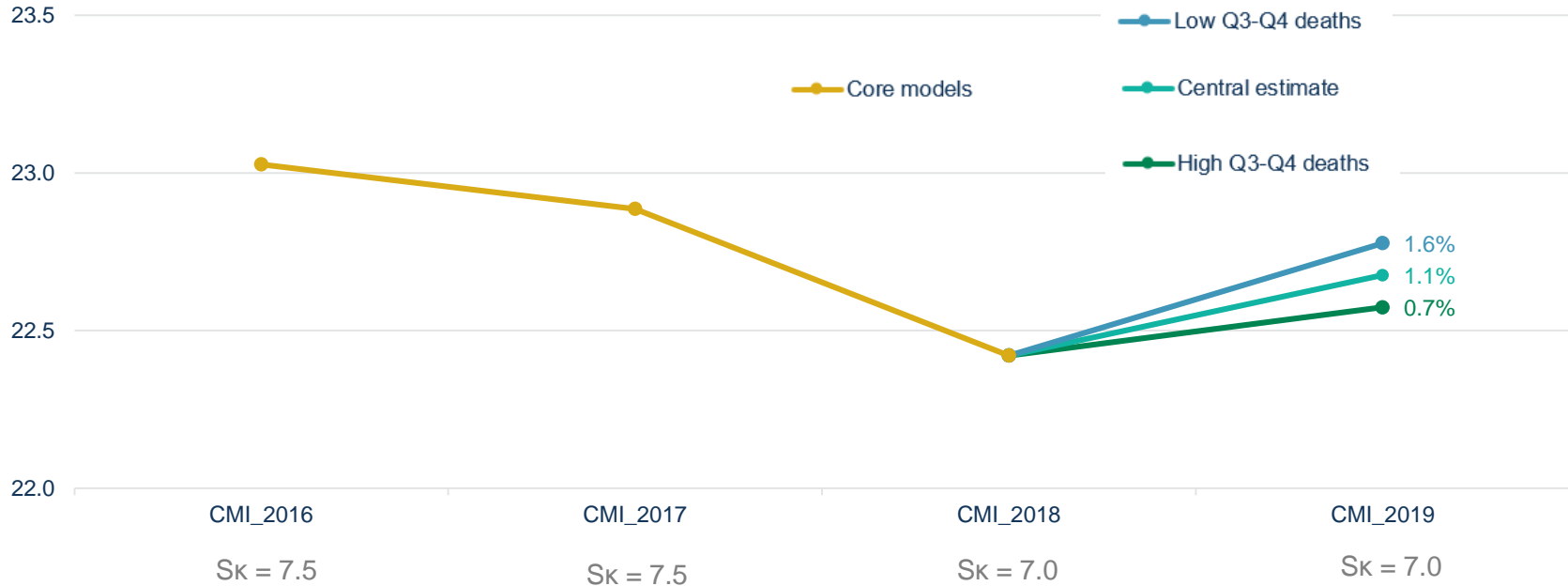
England & Wales Cumulative Weekly Deaths Compared to Average Over 2005-2010



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So, what might CMI_2019 look like?

Annuity present value, 65 yr old male, $S_k = \text{core}$, LTR = 1.5%



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What about the rest of 2019?





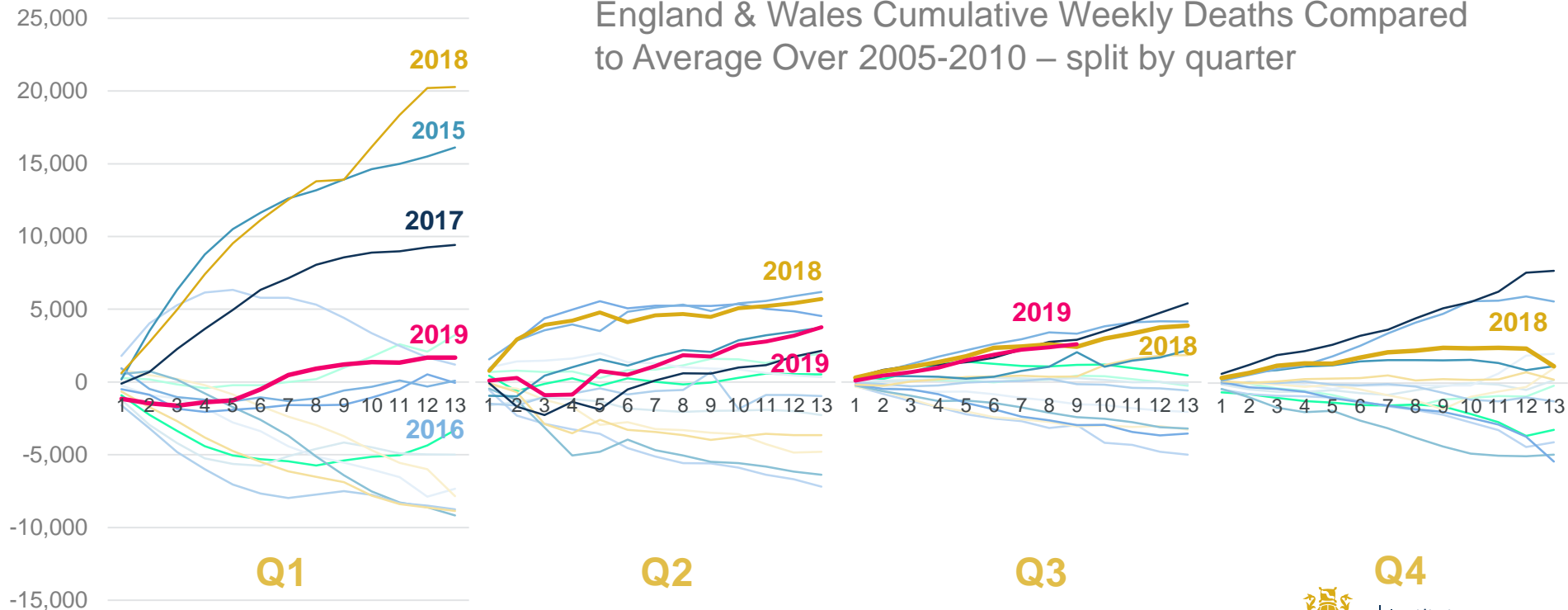
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Excess winter mortality



Recent deaths in England and Wales by quarter

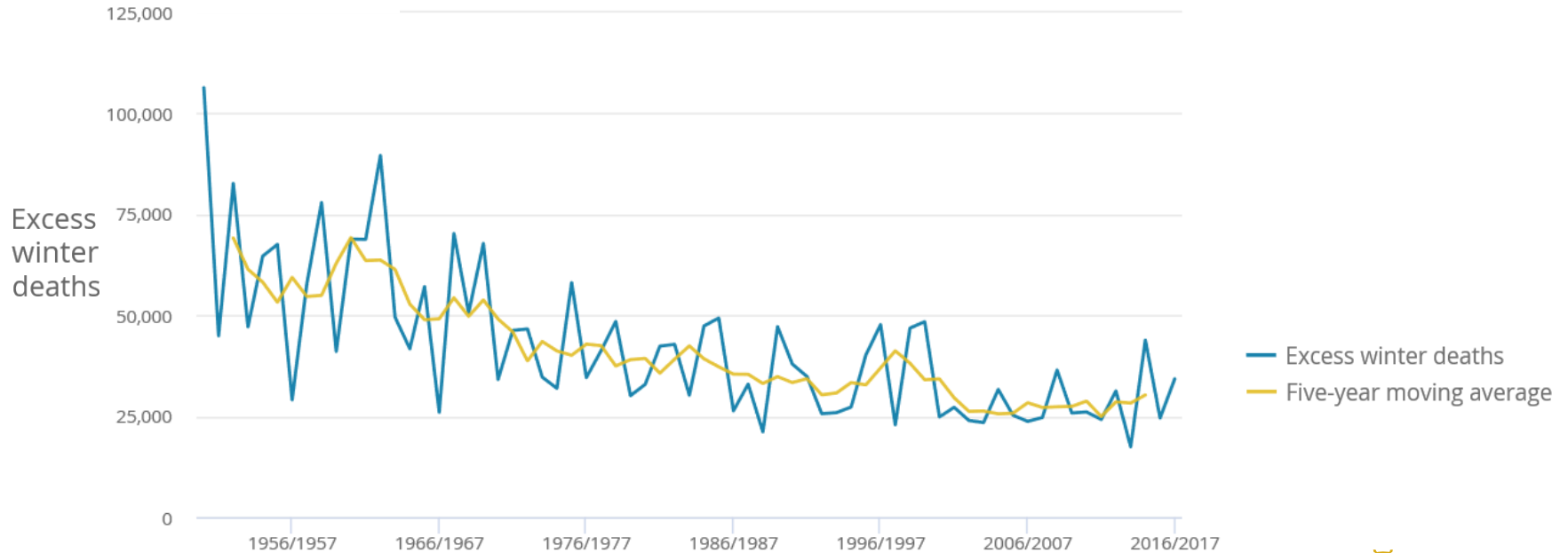
England & Wales Cumulative Weekly Deaths Compared to Average Over 2005-2010 – split by quarter



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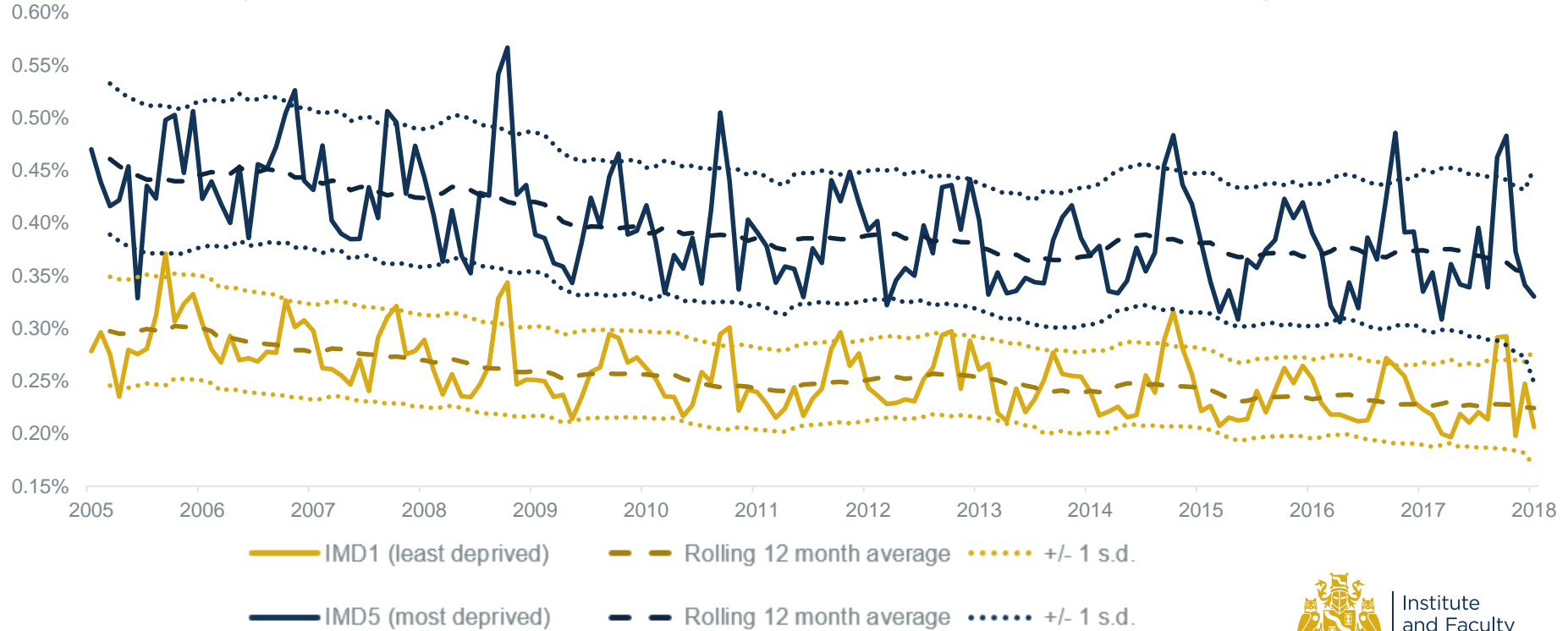
Historic excess winter mortality

Excess winter deaths and five-year central moving average for England and Wales



What variation do we see in pension scheme data?

Age standardised male crude monthly mortality rates in VitaBank - by IMD group





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Jinxed jags



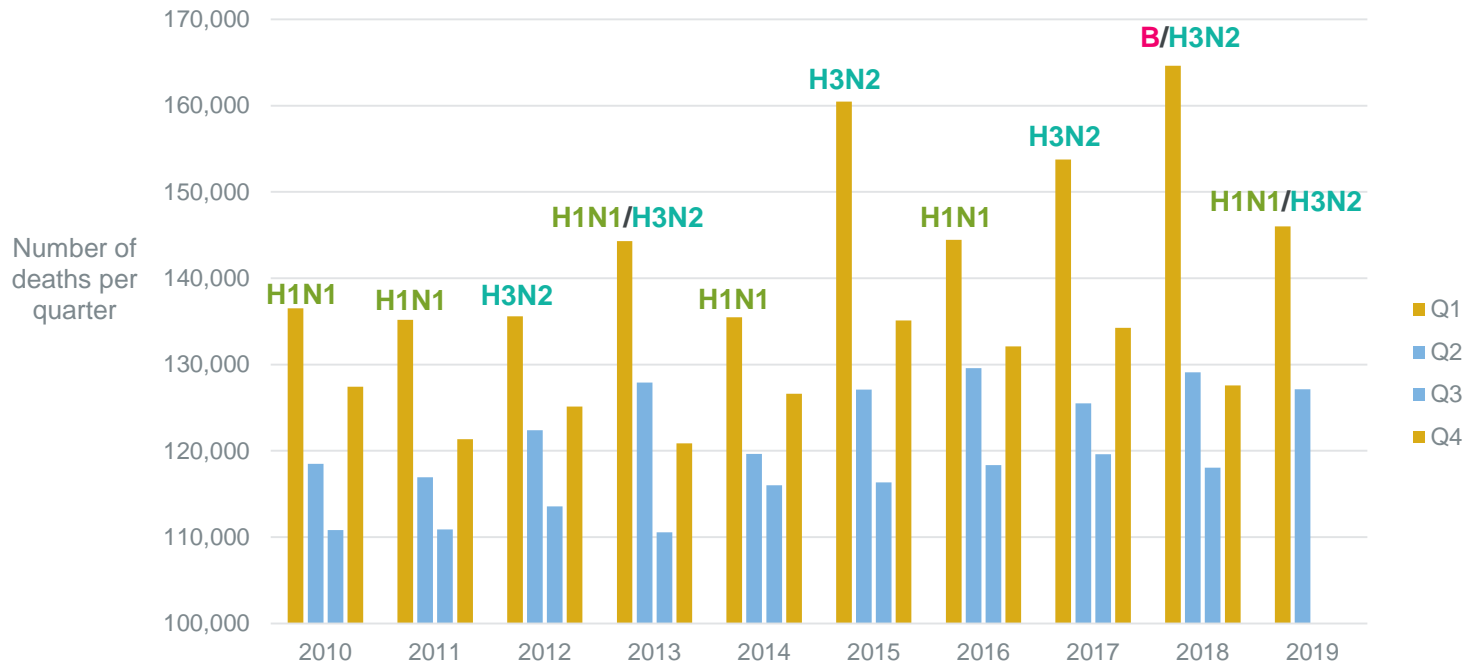
Getting clued up on the flu

- Virus impacting the respiratory system
- Two main types:
 - Type A – typically impacts older populations – common recent strains H3N2 / H3N1
 - Type B – impacts younger lives
- Continually mutating – 4 to 5 year cycle
- Most influenza infections occur during the winter, potentially due to:
 - A decline in ultraviolet (UV)
 - Lower production of Vitamin D
 - People are staying indoors more



Recent strains

Quarterly deaths in England & Wales between 2010 and 2019 (all causes)

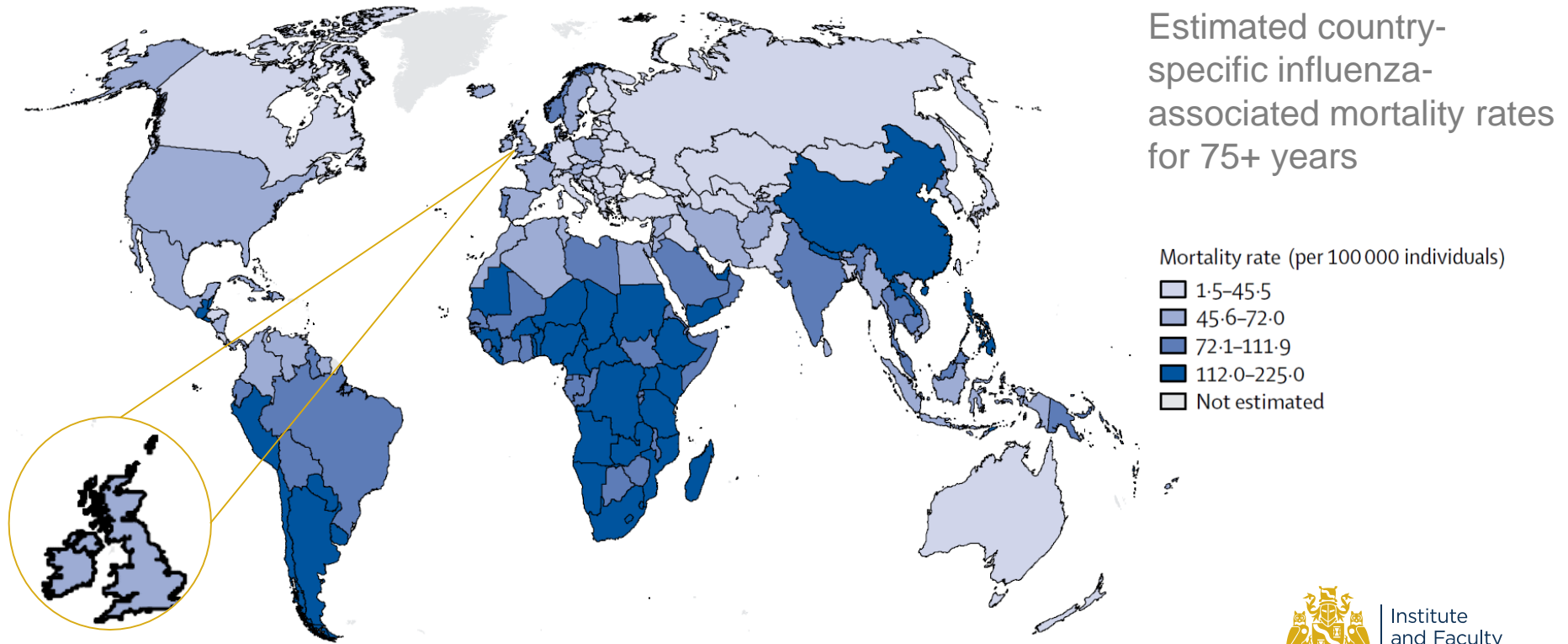


Prevalent influenza strain each winter: **H1N1** **H3N2** **B**



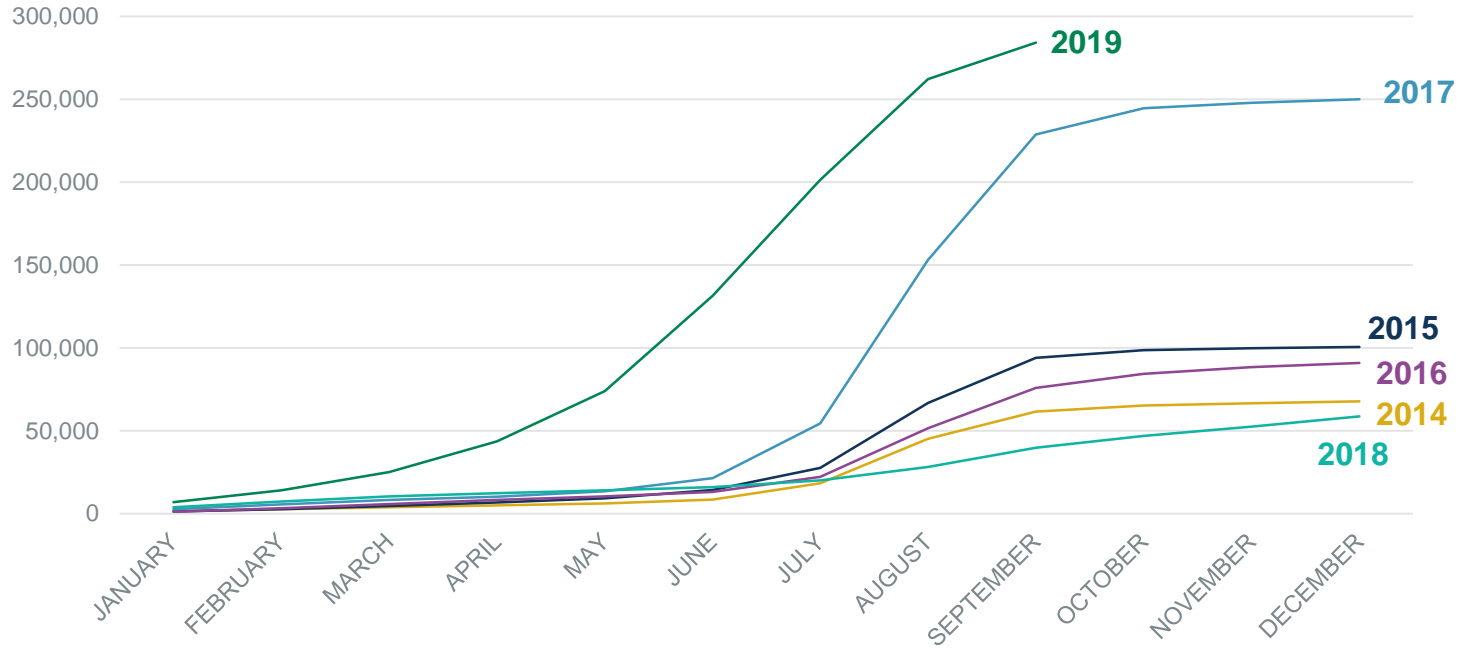
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What mortality can be attributed to Influenza?

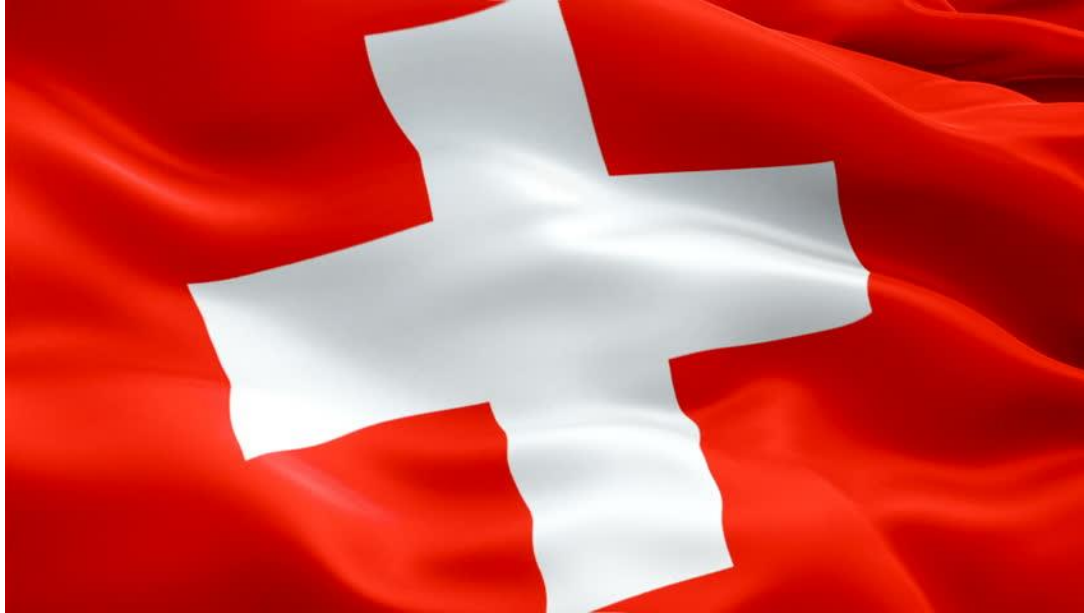


What's happening down under?

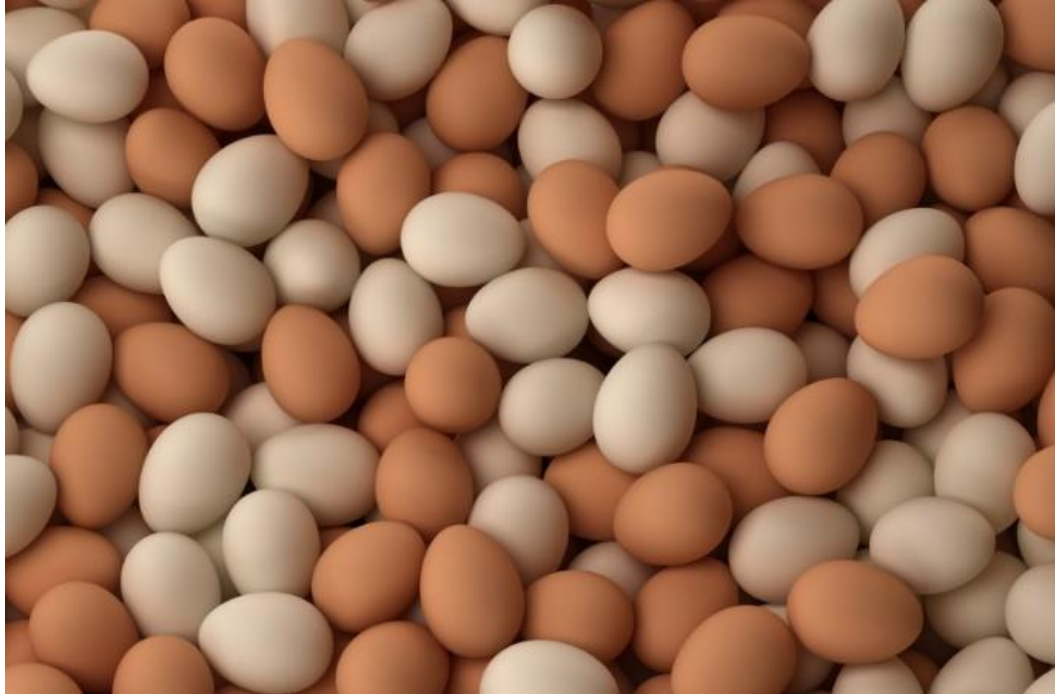
Cumulative influenza notifications in Australia for 2014-2019



Have I got flu for you



Have I got flu for you



Have I got flu for you





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Lengthy lags



Reserved reserves

Release of reserves from longevity assumption changes

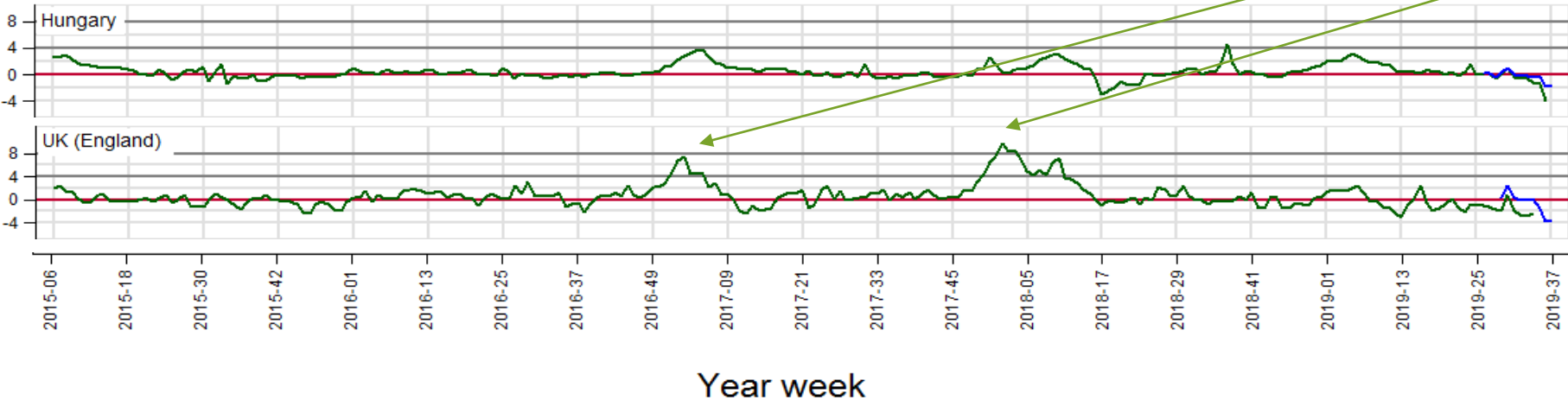
Insurer	31-Dec-2018 year end	31-Dec-2017 year end	Longevity trend model used
Legal & General	£433m	£332m	2018: CMI 2016 2017: CMI 2015
Aviva (prelim)	£780m	£779m	2018: CMI 2017 2017: CMI 2016
Phoenix	£168m	£148m	2018: CMI 2017 2017: CMI 2016
PIC	£144m	£113m	2018: CMI 2016 (updated rollforward) 2017: CMI 2016
Prudential (Including Europe)	£441m	£204m	2018: CMI 2016 2017: CMI 2015
Just Group	Broadly neutral	(reviewing assumptions post merger)	2018: Modified CMI 2017 2017: Modified CMI 2014/15/16 depending on product on source (CMI_2009 used for specific product)
Rothsay Life	£133m	£77m	2018: CMI 2017 advanced calibration 2017: CMI 2016 advanced calibration (Other model for insurance originated)



We want to report frequently as well as granularly...

Weekly mortality by country, as deviations from the baseline (z-score)

Winter flu epidemics in 2016/17 and 2017/18



Z-scores below -4 has been cut off

— Standardised variation around the baseline (z-score) — Delay-adjusted z-score



The devil's in the data

- Lengthy lags in reporting
- Dodgy denominators
- Sourcing relevant data e.g. by socio-economic group
- Sourcing accurate data e.g. what's the impact of influenza on mortality...?



Questions

Comments

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