

Actuaries Institute finds mortality from flu and other respiratory diseases falls during COVID pandemic

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- **Death from respiratory disease was down almost 20% in July.**
- **In the year to July, data shows an 11% fall for respiratory deaths.**
- **But overall, mortality rates were close-to-expected, as death from other causes rose.**

Australia continued to see significantly lower deaths from flu and other respiratory illnesses in the month of July 2021 and the year to July, a trend first set when Australians began to lockdown at the beginning of the COVID-19 pandemic.

Actuaries Institute analysis of the latest ABS data, for the month of July 2021, shows a fall of 19% in the number of deaths from all respiratory diseases and a fall of 11% for the year.

There were 1300 actual deaths from respiratory disease in July, compared with a predicted 1600 deaths for the same period, if COVID had not occurred.

The Actuaries Institute modelling is based on monthly ABS data for doctor-certified deaths, and excludes about 10% of deaths, which are certified by the coroner.

The model measures actual deaths against predicted deaths, adjusted as the population ages and grows, and allowing for trends in mortality improvement. These adjustments are important because a simple comparison with historical averages can be misleading.

"One welcome by-product of the public health measures introduced to stop the spread of COVID-19 is a fall in the number of deaths due to respiratory diseases," said Jennifer Lang, Convenor of the Actuaries Institute's Working Group on COVID-19.

"It is pleasing to see that cancer deaths continue to be close to predicted by our model," Ms Lang said. "There is evidence that diagnostic testing was down in 2020, which raised concerns that we could see a spike in cancer deaths in 2021 and beyond. While it is still early days, we have not yet seen any evidence that this has eventuated," said Ms Lang.

Cancer deaths were 2% higher than predicted for the month of July and were 1% lower than predicted for the year to July.

The modelling also shows that in June and July 2021, respiratory deaths were not as low as for the same period in 2020.

Actuaries Institute Chief Executive Elayne Grace said the value of the actuaries' adjusted data and complex modelling is that a truer picture of the impact of COVID-19 can be seen, which is especially important as families and communities resume normal life and businesses reopen.

"It also allows policymakers to think about what we have learnt about public health through the pandemic," Ms Grace said.

"We have seen a fall in mortality rates from respiratory infections since the start of the COVID-19 pandemic," Ms Grace said. "What can we learn from that?"

"Perhaps we should continue to wear masks in certain areas of public hospitals or aged care facilities and encourage those who are ill with respiratory disease to stay home, if this curbs the spread of respiratory diseases among vulnerable cohorts," Ms Grace said.



Cause of Death	Latest Month - July 2021				2021 Year to Date (29 weeks)			
	Actual	Predicted	Diff.	% Diff	Actual	Predicted	Diff.	% Diff
COVID-19	10	-	10		16	-	16	
All Respiratory Disease	1,300	1,600	(300)	-19%	7,300	8,200	(900)	-11%
Cancer	4,380	4,290	90	2%	27,600	27,900	(300)	-1%
Heart disease	1,320	1,230	90	7%	7,760	7,440	320	4%
Cerebrovascular disease	900	820	90	10%	5,080	4,950	140	3%
Diabetes	470	450	20	4%	2,730	2,590	130	5%
Dementia	1,520	1,550	(30)	-2%	8,680	8,740	(60)	-1%
Other unspecified diseases	4,090	3,870	220	6%	23,300	22,200	1,100	5%
All Other Disease	12,700	12,200	500	4%	75,100	73,800	1,300	2%
Total	14,000	13,800	200	1%	82,500	82,000	500	1%

The Actuaries' analysis shows around 1,300 deaths in July from all respiratory disease, 19% (300) lower than the expected number of 1,600.

There were two influenza deaths in July, the first deaths from this cause in almost 12 months. There have been 7,300 respiratory deaths year to date, 11% lower than the 8,200 predicted deaths from all respiratory disease.

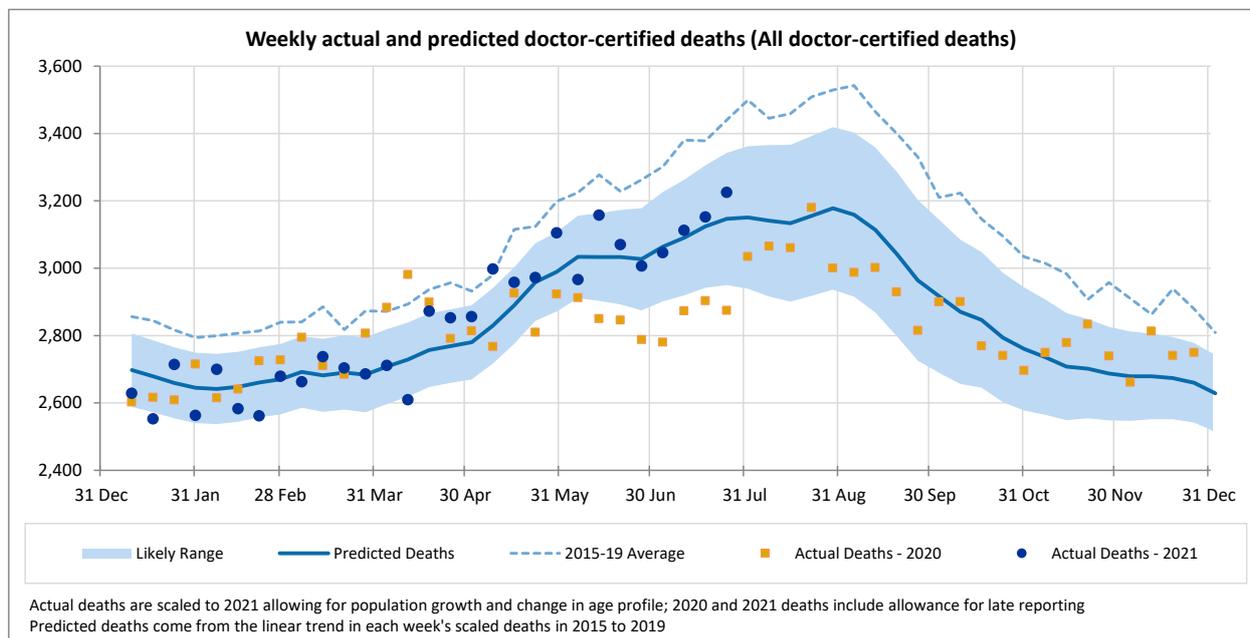
There were higher-than-expected deaths from both heart disease (up 4%) and cerebrovascular disease (up 3%), noting that the predicted values allow for continued strong mortality improvement in these causes. For both causes, deaths in 2021 are close to 2020 mortality rates.

Deaths from diabetes are higher than expected (up 5%), however deaths from this cause make up only a small proportion of all deaths and can be volatile. Deaths from dementia are close to expected.

Deaths from other causes, i.e. those not explicitly reported on by the ABS, are substantially higher than expected (up 5%, or 1,100 more deaths than predicted). The ABS has a program of work underway to investigate the reasons for this increase, Ms Lang said.

There were 10 doctor-certified deaths in July from COVID-19, at the start of the Delta wave. When compared with the 14 officially recorded COVID-19 deaths in the month, this suggests that four deaths have been referred to the coroner.

In the year to date, deaths from all causes were close to predicted (1% higher).



Ms Lang said the Actuaries Institute model calculates a predicted baseline number of deaths for the main causes of doctor-certified deaths, by allowing for the 2021 population and age structure plus a continuation of the 2015-19 trend of mortality improvements.

“To understand what's happening in the community with mortality rates, it's necessary to adjust the baseline to produce an ‘expected’ count of deaths,” she said. The tables show that after adjusting for late reporting, actual deaths can be compared with the predicted baseline.

Jennifer Lang is available for interview.

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