Changes to Provisional Mortality Statistics reporting

Summary

This paper proposes changes to the scheduled publication of provisional mortality reporting, which currently includes monthly Provisional Mortality Statistics (PMS), COVID-19 mortality reports, and irregular reports on excess mortality.

Feedback has been sought from key stakeholders including the Australian Health Protection Principal Committee (AHPPC), the federal and NSW Chief Health Officers, senior staff at the Department of Health and Aged Care (the Department) and jurisdictional health agencies. Based on this feedback, the ABS proposes that:

1. Current reporting should continue until July 2023. After the release at the end of July (Jan-April 2023 data), we'll reduce the frequency of PMS reporting to two-monthly (reports about 6-9 weeks apart depending on the time of the year). Upcoming changes to reporting will be flagged in the PMS reports on 28 June and end of July. ABS will brief relevant government agencies. Relevant Ministers will also be briefed.
2. ABS will release a paper on excess mortality by the end of June 2023. This paper will focus on excess mortality 'in the absence of a pandemic'. The methods to be used were agreed at a high-level meeting on 31 March 2023. There will be a peer review process for this paper towards the end of June 2023.
3. Stand-alone COVID-19 mortality reports will be less frequent after the release of the June 2023 report. It is proposed that 3 COVID-19 mortality articles are published each year with the option to increase frequency if new strains or waves emerge. Some COVID-19 mortality reporting will be incorporated into future PMS reports. These reports may also incorporate other diseases of interest, including deaths due to influenza.
4. The ABS will release excess mortality methods more frequently in a financial year. It is proposed that an excess mortality report is released every 6 months –
    a. one report when data is close to complete for the colder months when infectious diseases are more prevalent; and,
    b. one report when data is close to complete at the end of a calendar year.
5. The two-monthly reports will include increased commentary and analysis where appropriate.
6. In months where a full Provisional Mortality Statistics report is not published, additional material will be added to the prior release. This additional material will include a call out box with the total number of registered deaths in the previous month. A simple data table may also be included. This will lift embargo and allow for data to be linked to MADIP and accessed for the AIR-MADIP project.
7. The ABS would be open to further changes in frequency of reporting if needed e.g. if a further COVID-19 wave and/or influenza epidemic leads to significantly higher numbers of deaths during the winter months.

Proposed schedule for mortality releases in the 2023-2024 financial year

Month 2023-2024	**Provisional Mortality Statistics (PMS) release**	**Comments**
July	**Release (data up to end of April 2023)**	Deaths files sent to Data Integration team for linking into MADIP for AIR-MADIP work.
August	**Release (data up to end of May 2023)**	Deaths files sent to Data Integration team for linking into MADIP for AIR-MADIP work. Advertise change to scheduling of Provisional Mortality Statistics publication
September	No PMS release – a callout box with the number of registered deaths and a simple data table will be published to lift embargo Annual datasets released – Causes of Death, Australia Deaths, Australia	Data included in data table to be discussed and agreed upon. Deaths files sent to Data Integration team for linking into MADIP for AIR-MADIP work.
October	**Release (data up to end of July 2023)**	Deaths files sent to Data Integration team for linking into MADIP for AIR-MADIP work.
November	No PMS release - a callout box with the number of registered deaths and a simple data table will be published to lift embargo if an article is not published.	Tentative article release, conversations on methods need to be progressed Deaths files sent to Data Integration team for linking

	Potential article – excess mortality in Australia, covering winter period of 2023	into MADIP for AIR-MADIP work.
December	**Release (data up to end of September 2023)**	Deaths files sent to Data Integration team for linking into MADIP for AIR-MADIP work.
January	No PMS release	
February	**Release (data up to end of November 2023)**	Deaths files sent to Data Integration team for linking into MADIP for AIR-MADIP work.
March	No PMS release - a callout box with the number of registered deaths and a simple data table will be published to lift embargo if an article is not published. Potential article summary of 2023 mortality	Deaths files sent to Data Integration team for linking into MADIP for AIR-MADIP work.
April	**Release (data up to end of January 2024)**	Deaths files sent to Data Integration team for linking into MADIP for AIR-MADIP work.
May	No PMS release - a callout box with the number of registered deaths and a simple data table will be published to lift embargo if an article is not published. Potential article – excess mortality in Australia, covering 2023	Proposed article only, subject to change Deaths files sent to Data Integration team for linking into MADIP for AIR-MADIP work.
June	**Release (data up to end of March 2024)**	Deaths files sent to Data Integration team for linking into MADIP for AIR-MADIP work.

Drivers and risks associated with changes in provisional mortality data reporting

The ABS has released monthly reports on provisional mortality statistics since June 2020, with COVID-19 reports introduced initially in 2021 and systematised alongside PMS reports in 2022. Three reports on excess mortality have also been released with the last of these released in May 2022.

There are several drivers for changing current reporting methods. These are outlined below.

Drivers for change

- In October 2022, the AHPPC discussed mortality data and requested that the ABS take the lead in determining a nationally consistent method for analysing and reporting on excess deaths. Subsequently senior officers from the Department and federal and NSW Chief Health Officers asked that the ABS publish on excess deaths using methods agreed at a meeting on 31 March 2023. ABS will need to direct resources to this.
- The Department currently provide the ABS with S22 per annum for provisional reporting. Monthly data was needed at the peak of the pandemic but is not as important now.
- Reporting monthly on top of the other work of the ABS' Health and Vital Statistics Section creates challenges for staff, with some at a heightened risk of burnout. Reducing frequency will help alleviate this risk.
- COVID-19 mortality reports have been used extensively over the past 18 months during the Delta and Omicron waves of the pandemic. As the number of COVID-19 infections and deaths has decreased, the need for separate reporting has also reduced. Key measures from COVID-19 mortality reports could be incorporated into PMS reports.
- Determining baselines for reporting on mortality over the past three years has proven challenging, with this issue exacerbated in 2023 by non-standard patterns of mortality in 2020 and 2022. A change to an agreed and more advanced method for determining baselines would enhance the value of provisional reporting.

Risks associated with change and ABS views on this risk

- Jurisdictional health agencies provided feedback to the ABS that they use current reporting extensively and their preference is to maintain the current reporting pattern.
    - *ABS view: two-monthly is still very frequent. This feedback was one of the reasons we proposed moving to two-monthly rather than quarterly.*
- The current frequency enables data to be linked to AIR MADIP monthly. Any reduction in frequency of provisional reporting will also reduce the frequency of linkage and slow the pace of associated research.
    - *ABS view: as above.*
- Many stakeholders, including parliamentarians, academics and the public rely on ABS provisional mortality reporting. When this information is not available (e.g. when reporting was reduced in January 2023) there are a lot of queries.
    - *ABS view: This will be mitigated by providing two months' notice of the changes, explaining the rationale for the change, working with the Communications*

team on messaging, and updating the relevant Ministers in advance of the change.

- The Actuaries Institute reports monthly on excess deaths using the ABS provisional data. Reduced frequency of ABS statistics will also limit the timing of reports from the Actuaries. Release of excess mortality reports by the ABS could also create the perception that the ABS is competing with the Institute.
    - *ABS action: ABS will tell the Actuaries Institute about the changes before announcing them and will clearly differentiate the content of ABS reports from those produced by the Institute. The Institute can still provide two-monthly reports.*
- The normal pattern of mortality is for deaths to increase during the colder months. It is likely with the change in seasons that a new wave of COVID-19 will commence (indication are that it already has) and there is an expectation this will again drive increased demand for rapid mortality data.
    - *ABS view: ABS can produce extra reports if needed.*

Conclusions

ABS considered options ranging from no change through to a shift to quarterly reporting (with a monthly limited spreadsheet-based release that includes counts of deaths).

The proposed option retains very frequent information while freeing up some ABS resources to deliver on AHPPC's request for standardised reporting on excess deaths.

In the event of a future public health emergency, we can revisit frequency of reporting if needed.

DOCUMENT 2 - SKYPE CONVERSATION - 03/02/2022

S22 3:30 PM:

Okay great, I can start drafting the final email to S22 then.

If you want to discuss the baseline pro's and cons feel free to call me

S22 3:31 PM:

okay email sounds good, S22 is expecting it

S22 3:32 PM:

Okay, I will give him the yearly movements of MB and SA2 for the analysis, pretty much send what I sent you and S22 the other day

S22 3:32 PM:

yeah would be good to talk about the baseline, we have time, won't publish Jan until April I think,, but would be good to be clear before then

S22 3:32 PM:

yep, that would be really good

S22 3:32 PM:

and if S22 sets up a table for all deaths similar to what she did for causes he would like that

S22 3:32 PM:

ok cool

S22 3:36 PM:

bookedsome time in for tomorrow on baseline

S22 3:39 PM:

cool (y)

S22 9:05 AM:

Hey I'm coming now!

S22 9:05 AM:

(y)

DOCUMENT 3

Subject: FW: baseline analysis - all cause by week [redacted]
Attachments: Picture (Device Independent Bitmap); Picture (Device Independent Bitmap); Picture (Device Independent Bitmap); Picture (Device Independent Bitmap)

Sent: Friday, February 4, 2022 2:52 PM
To: [redacted]@abs.gov.au>
Cc: [redacted]@abs.gov.au>; [redacted]@abs.gov.au>; [redacted]@abs.gov.au>; [redacted]@abs.gov.au>; [redacted]@abs.gov.au>; [redacted]@abs.gov.au>
Subject: Re: baseline analysis - all cause by week [redacted]

Hi [redacted],

Thanks for sending this through. I've been talking to [redacted] about a couple of things on this and I feel we have a lot to discuss in the space.

A few things that are important to note:

Purpose to date of this graph:

* to present a pattern of mortality that should represent what we see from year to year. The range reflects the variation.

Assumptions to take into account:

* The rate of mortality decreases over time. The number of deaths increases over time (this is due to population increases and Australia having an ageing population).
* Forecasting should be most accurate in proximal years (e.g. we would expect in a normal year for 2022 to look most like 2021)

Considerations:

* If we continue with our current model, we need to consider that we don't adjust for population in what we present. Numerator in 2015 and 2016 are very far from current (considering our assumptions). This is obvious in the first two graphs where 2021 seems to be not represented by the time series.
* With lower numbers of deaths in 2020, does this change the expected pattern of mortality
* Does the lack of flu in 2021 cancel out the flu season in 2017.
* Presenting data going outside the upper bounds is implying excess mortality when really we are presenting raw data we have not adjusted or considered our assumptions.
* Where do rates fit into this.
*

Keep adding please, but these are the sorts of things we need to discuss. Just starting I think!

Cheers,
[redacted]
*
[redacted]
Director A/g
Mortality Data Centre | Health and Vital Statistics Section | Australian Bureau of Statistics

(P) [redacted]
(E) [redacted]@abs.gov.au <mailto:[redacted]@abs.gov.au> (W) www.abs.gov.au <http://www.abs.gov.au>
The Australian Bureau of Statistics acknowledges the traditional custodians of country throughout Australia and recognises their continuing connection to land, waters and community. We pay our respects to them, their cultures, and elders, both past and present.

From: [redacted]/Staff/ABS
To: [redacted]/Staff/ABS@ABS
Cc: [redacted]/Staff/ABS@ABS, [redacted]@abs.gov.au <mailto:[redacted]@abs.gov.au> , [redacted]/Staff/ABS@ABS, [redacted]/Staff/ABS@ABS
Date: 03/02/2022 01:03 PM
Subject: Re: baseline analysis - all cause by week [SEC=OFFICIAL]

Thanks for sending this through [redacted]. Really interesting. Looking at an expanded version of the average graph you can clearly see how including 2020 brings the baseline down through those winter months, so that's quite strong evidence that excluding 2020 could be more appropriate. Completeness of 2021 data also seems quite good at >98%, obviously excluding those last couple of months.

Cheers

[redacted]

[redacted]
Director
Health and Vital Statistics Section | Australian Bureau of Statistics
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[redacted]@abs.gov.au <mailto:[redacted]@abs.gov.au> , [redacted]
[redacted]/Staff/ABS@ABS,
[redacted]/Staff/ABS@ABS
Date: 03/02/2022 11:59 AM
Subject: baseline analysis - all cause by week [SEC=OFFICIAL]

Q1: how complete is 2021 data likely to be by our March publication in 2022?
A1: pretty decent if the previous year is any guide. I would not go with data as at Feb publication for the
full year, but I think we could just about get away with data as at March publication. Note that our Feb
pub included data registered by 31 Dec while our Mar pub included data registered by 28 Feb (so we
must have done an extra month's files that month). If we don't do the extra month this March I suspect
November and December would be a bit weak to use (the completion rate would likely be between the
two lines).

Q2. What effect does the different baseline choices have on the average stats (probably the one people
pay attention to more than the min and max elements of the baseline)?
A2: I was surprised by how small the differences were. I'm presenting all graphs (ave, min, max) on the
same scale as each other.

Q3. How about the min and max effects?
Also not a large impact.

SAS and spreadsheet are in S:\COD\2021\2021 publications\Monthly COVID Publication\11 Data to Nov
for Feb

[redacted]
Health and Vitals Unit | Australian Bureau of Statistics
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<http://www.abs.gov.au>

S2P2D2

S2P2D2

S2P2D2

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Senate Economics Legislation Committee

ANSWERS TO QUESTIONS ON NOTICE

Treasury Portfolio

Additional Estimates 2023 - 2024

Agency: Australian Bureau of Statistics
Question No:
Topic: Model for measuring excess deaths
Reference: Written (26 February 2024)
Senator: Ralph Babet

Question:

Background:
These questions extend question SQ23-000704 SBE003 in the previous round of Senate Estimates.

Throughout this question the model used by the ABS in its December 18th release 'Measuring Australia's Excess Mortality During the COVID-19 pandemic until August 2023' is called the 'new model'.

During the pandemic years 2020 and 2021 the Provisional Mortality Statistics (PMS) releases were the only published measure of excess mortality, and we were told by the ABS that they were "an indicator of excess mortality". Now we are being told in the ABS's answers to SBE003 that the new model (which has been produced after the fact – the first release of the new model was in July 2023) is the "official estimate" of excess mortality and that we should disregard estimates from the PMS.

However, the outputs of the two models tell very different stories. The cumulative figure for excess deaths from 2020 to the end of 2022 using the PMS model is 38,178 (figures taken from data available for download in the December 20th PMS release). Using the new model, the corresponding figure is 17,446 – less than half the number of excess deaths. It is clearly convenient to the government to have significantly fewer excess deaths. The Australian people need to be confident that the new model is trustworthy and the best available and thus the ABS needs to be transparent about the new model.

1. The ABS says in its answer to question SBE003 that it "reviewed a range of methods for producing official excess mortality estimates and selected a harmonic model with trend, specifically a variation of the Serfling model which uses sine and cosine to account for seasonality". The ABS is requested to list the methods it considered, giving the cumulative excess deaths each method produced to the end of 2022, and list its reasons for selecting the particular method currently being used in the new model.

2. The use of "sine and cosine to account for seasonality" in the new model has the effect of making expected deaths higher in Autumn and Spring and lower in Winter. The ABS is asked to explain how the artificial construct of a sine and cosine curve can possibly provide superior modelling of seasonality than that provided simply by modelling seasonality based on the actual seasonality experienced during their model's reference period, as was the method used for seasonality in the Provisional Mortality Statistics?

3. The ABS is asked to confirm the age-bands used in their modelling for the new model for each state and territory, and also whether their Australia new model was produced by summing the results of the new models for each state and territory or whether it is a separate

model?

4. The ABS, in its answer 'b' to Senator Babet's question on notice in the previous round of Senate Estimates (SBE003) states: "Additional data for deaths, including weekly age-specific rates, may be available via the ABS consultancy service. Some of the weekly data is subject to confidentiality requirements and this would need to be considered before release." The data spoken of here is data about the Australian people and was used to create the new model we are now being told is our official measure of excess mortality over the pandemic, a model which shows 20,732 fewer excess deaths up to the end of 2022 than reported in the PMS.

Please provide this data used in this model by releasing the following: weekly deaths in each age band and weekly age-specific death rates per age band by State and Territory from Week 1, 2013 to date, reported at the same granularity (identical age bands) as used in the development of the new model.

Answer:

1. The ABS conducted a sensitivity analysis reviewing models (e.g. linear regression models) and considered model-fit, baseline periods (number of years in the baseline used to estimate expected mortality), data inputs (counts of deaths compared to mortality rates) and the time unit (weekly versus monthly). The ABS did not produce cumulative excess deaths for every method, rather it tested various aspects such as different reference periods for the baseline. The final decision was based on both robustness of methodology and appropriateness of the model in the Australian setting. The Serfling model is a widely used method for calculating excess mortality. It has a proven utility in the Australian setting, having long been used to calculate excess mortality during influenza seasons.

The 'methodology' section of the ABS' official excess mortality report provides the background to the Serfling model and describes the benefits of using age-specific rates to forecast deaths, as well as the reasons behind the choice of the baseline reference period. The methodology section explains that age-specific rates take account of the age composition of a population and growth rates in a population over time. You can find the methodology at: abs.gov.au/articles/measuring-australias-excess-mortality-during-covid-19-pandemic-until-august-2023#methodology.

2. Harmonic regressions are widely used in research to study seasonality in disease and mortality patterns. At the 'all-cause' level, mortality shows a stable seasonal pattern over the year. The sine and cosine functions are symmetric and are suitable for examining seasonality at the all-cause level. While the choice of measure to examine seasonal patterns can produce some minor differences by week and month, over the course of the year there are negligible differences in the total number of expected number of deaths, especially when age structure and population changes are accounted for.

Commented [BG1]: Presumably the implication here is that the choice of seasonality makes no difference to the estimate of excess deaths over the course of a year. If so, should we include a clear / plain statement on this.

3. The ABS publication 'Measuring Australia's Excess Mortality During the COVID-19 pandemic until August 2023' includes a section on excess mortality by age at the national level. (You can find this at: abs.gov.au/articles/measuring-australias-excess-mortality-during-covid-19-pandemic-until-august-2023#excess-mortality-by-age-australia.) The same age groups were used for modelling for the three most populous states. All other jurisdictions included broader age groups because they have small numbers of deaths in a week. Australian excess mortality estimates and jurisdictional excess mortality estimates are modelled separately.

4. As previously outlined, additional data for deaths, including weekly age-specific rates, may be available via the ABS' consultancy service. The Parliamentary Library may be able to assist. Some of the weekly data is subject to confidentiality requirements and this would need to be considered before the ABS could release data. The weekly number of deaths by selected age groups at the national level and number of total deaths by jurisdictional level back to 2015 are included in the Provisional Mortality Statistical release. You can find this information at: abs.gov.au/statistics/health/causes-death/provisional-mortality-statistics/latest-release#data-downloads.

Senate Economics Legislation Committee

ANSWERS TO QUESTIONS ON NOTICE

Treasury Portfolio

Supplementary Budget Estimates 2023 - 2024

Agency: Australian Bureau of Statistics
Question No:
Topic: New 2023 model for measuring excess deaths
Reference: Written (07 November 2023)
Senator: Ralph Babet

Question:

3. Questions for the Australian Bureau of Statistics re the new (2023) model for measuring excess deaths:

   On 17th July 2023 the ABS released a new model for excess deaths in Australia. (https://www.abs.gov.au/articles/measuring-australias-excess-mortality-during-covid-19-pandemic-until-first-quarter-2023). Of note, this model has been produced retrospectively, with knowledge of the consistent pattern of excess deaths data reported in the Provisional Mortality Statistics during 2022 and 2023 and thus may be at risk of bias. In view of this, it is important that the ABS should be transparent about this model. Notably this model uses a rigid seasonality pattern employing sine and cosine terms. Seasonality could have been modelled simply using the seasonality inherent in the weekly data of the 2013-2019 baseline used.

   From the limited information published about the model in the methodology sections of the publication https://www.abs.gov.au/articles/measuring-australias-excess-mortality-during-covid-19-pandemic-until-first-quarter-2023#methodology it appears that weekly age-specific death rates have been modelled separately for the states and territories, and that the results have them been aggregated and multiplied by population estimates to give total Australian weekly deaths.

   3.1 What justification does the ABS have for modelling the data with sine and cosine curves, particularly considering that this appears to have had the effect of removing the excess deaths in spring and autumn 2021 that were clearly seen in the Provisional Mortality Statistics? This is important because the finding of excess deaths in 2021, when there was minimal mortality from COVID-19, is supportive of the hypothesis that the covid vaccines may have played a role in the excess deaths.

   3.2 To ensure transparency, will the ABS make publicly available the coefficients of all the individual models used for each age band by state/territory; provide the weekly historical data used to create the models by age-band for each state and territory; provide the weekly forecasts produced by the models by age-band for each state and territory; and the population forecasts by age-band for each state and territory that were presumably used to convert age-specific death rate forecasts into forecasts of number of expected deaths in each geographical region?

   3.3 Has the ABS used the data that they have at this level of detail to examine questions such as: Did lockdowns in particular states and territories at particular times affect the death rate in the locked down populations?; and Did vaccine rollouts in particular age groups in particular states and territories at particular times affect the death rate in the vaccinated age bands?

Answer:

Question 3.1

The ABS states in the Provisional Mortality Statistics report that the numbers of deaths presented against the baseline average should not be used as official excess mortality estimates. The baseline average is not adjusted for population increases, age structure, or mortality trends and so underestimates the expected number of deaths and overcounts excess mortality.

The ABS reviewed a range of methods for producing official excess mortality estimates and selected a harmonic model with trend, specifically a variation of the Serfling model which uses sine and cosine to account for seasonality. As part of this method, the ABS also modelled age-specific death rates, meaning that age structure, population changes and mortality trends were accounted for when producing excess mortality estimates.

Question 3.2

The ABS uses a projection based on the latest estimated resident population (ERP) for the denominator in the calculation of age-specific death rates. ERP is released quarterly in the ABS' National, state and territory population publication and is available from the ABS website www.abs.gov.au.

Additional data for deaths, including weekly age-specific rates, may be available via the ABS consultancy service. Some of the weekly data is subject to confidentiality requirements and this would need to be considered before release.

Question 3.3

The ABS has not analysed the data by vaccination status of the deceased or analysed impacts of any public health measures, including stay-at-home measures.

Senator Ralph Babet

Department of Health and Aged Care – Excess Deaths

1. Monitoring excess deaths reported in the Provisional Mortality Statistics in 2021

On 24th June 2020 the Australian Bureau of Statistics published its first release of the Provisional Mortality Statistics series, which included comparison of actual deaths data with expected deaths data. Until the release on 19th July 2023 of the now 'official' method of measuring excess deaths, the provisional mortality statistics provided the main publicly available measure of excess deaths. As Australia went through 2021, with minimal COVID-19 deaths for most of that year, the Provisional Mortality Statistics showed a consistent pattern of excess deaths at a level higher than the range of the five years before the pandemic (2015-2019). This occurred for many consecutive weeks during the Spring and the Autumn of 2021.

1.1. What, if any, monitoring system had the Department of Health put in place prior to or during 2021 to trigger some form of action, in the event that the ABS statistics were showing such levels of excess deaths for a number of consecutive weeks and when was this put in place?

1.2. What actions were planned in the event of excess deaths occurring over a number of consecutive weeks?

1.3. During 2021, did the Department of Health at any time consider the possibility that deaths from the new vaccines made by Pfizer, Moderna, and Astra Zeneca might be a contributor to excess mortality, noting that some of these vaccines employed an approach to vaccination never used in Australia before, that enlists the body's own cells to manufacture the spike protein of the virus in unknown amounts.

2. Monitoring excess deaths in reported in the Provisional Mortality Statistics in 2022 and 2023

On 30th March 2022 the Australian Bureau of Statistics amended its 'baseline' for expected deaths used in its Provisional Mortality Statistics in a manner which would tend to reduce levels of excess deaths. Despite this, actual deaths were almost constantly in excess (and above the baseline range) throughout 2022 and to date have consistently exceeded this range in 2023.

2.1. What, if any, monitoring system had the Department of Health put in place at any point (during the years 2022 to date) to trigger some form of action, in the event that the ABS

Provisional Mortality Statistics were consistently showing such levels of excess deaths for a number of weeks?

2.2. What action was planned in the event that excess deaths were above the previous range for more than a number of weeks?

2.3. Was there any level of excess deaths reported in this publication that, ahead of the event, had been designated as being sufficient to trigger either a) a media release explicitly informing the public of the excess; or b) an internal investigation into the causes of the excess deaths or c) an external, independent investigation into the causes of the excess deaths?

3. Questions for the Australian Bureau of Statistics re the new (2023) model for measuring excess deaths:

On 17th July 2023 the ABS released a new model for excess deaths in Australia. (https://www.abs.gov.au/articles/measuring-australias-excess-mortality-during-covid-19-pandemic-until-first-quarter-2023). Of note, this model has been produced retrospectively, with knowledge of the consistent pattern of excess deaths data reported in the Provisional Mortality Statistics during 2022 and 2023 and thus may be at risk of bias. In view of this, it is important that the ABS should be transparent about this model. Notably this model uses a rigid seasonality pattern employing sine and cosine terms. Seasonality could have been modelled simply using the seasonality inherent in the weekly data of the 2013-2019 baseline used.

From the limited information published about the model in the methodology sections of the publication https://www.abs.gov.au/articles/measuring-australias-excess-mortality-during-covid-19-pandemic-until-first-quarter-2023#methodology it appears that weekly age-specific death rates have been modelled separately for the states and territories, and that the results have them been aggregated and multiplied by population estimates to give total Australian weekly deaths.

3.1. What justification does the ABS have for modelling the data with sine and cosine curves, particularly considering that this appears to have had the effect of removing the excess deaths in spring and autumn 2021 that were clearly seen in the Provisional Mortality Statistics? This is important because the finding of excess deaths in 2021, when there was minimal mortality from COVID-19, is supportive of the hypothesis that the covid vaccines may have played a role in the excess deaths.

3.2. To ensure transparency, will the abs ABS to make publicly available the coefficients of all the individual models used for each age band by state/territory; provide the weekly historical data used to create the models by age-band for each state and territory; provide the weekly forecasts produced by the models by age-band for each state and territory; and the population forecasts by age-band for each state and territory that were presumably used to convert age-specific death rate forecasts into forecasts of number of expected deaths in each geographical region?

3.3. Has the ABS used the data that they have at this level of detail to examine questions such as: Did lockdowns in particular states and territories at particular times affect the death rate in the locked down populations?; and Did vaccine rollouts in particular age groups in particular states and territories at particular times affect the death rate in the vaccinated age bands?

4. Questions for the Department of Health and Aged Care about use and monitoring of data provided by the new 'official' measure of excess deaths released in July 2023

On 17th July 2023 the ABS released a new model for excess deaths in Australia (https://www.abs.gov.au/articles/measuring-australias-excess-mortality-during-covid-19-pandemic-until-first-quarter-2023). This model includes 95% confidence intervals which provide an upper threshold. In the release, the ABS says: "Prolonged periods (2 or more weeks) where counts exceed thresholds suggest more strongly that the numbers of deaths are above or below normal." The release on 17th July clearly showed that for most of 2022 and 2023 deaths had been above this threshold.

4.1. What actions has the Department of Health taken to a) inform the public that this has occurred; b) investigate internally the reasons for these excess deaths; c) allow for independent external investigation of the reasons for the excess deaths?

4.2. The latest Provisional Mortality Statistics (27th October 2023) show deaths to 30th September 2023 at a level of 12.1% above baseline. Given that the new official excess mortality statistics do not appear to be being published on a regularly monthly or bimonthly schedule, how does the Department of Health propose to use the new official excess death measure as a safe and rapid way to monitor and act on excess deaths data in Australia?

4.3. Has the Department of Health and Aged Care used the detailed data by age band and state/territory that the ABS used to produce this new model (and its forecasts) to examine

questions such as: Did lockdowns in particular states and territories at particular times affect the death rate in the locked down populations?; and Did vaccine rollouts in particular age groups in particular states and territories at particular times affect the death rate in the vaccinated age bands?

5. Questions for the Department about deaths from COVID-19 in 2022

In 2022, the ABS reports that there were 9,859 deaths for which COVID-19 (covid) was the underlying cause. (https://www.abs.gov.au/statistics/health/causes-death/causes-death-australia/2022)

The Australian public was promised that the genetic covid vaccines would protect them from severe disease and death.

There was also a concern in all three original Public Assessment Reports published by the Therapeutic Goods Administration (TGA) that there was an "important potential risk" that the vaccines might cause Vaccine-Associated Enhanced Disease (VAED) and Vaccine-Associated Enhanced Respiratory Disease - in other words that they might make people get covid worse.

Without knowing the covid vaccine history of the 9,859 people who died from the disease in 2022 there is no proof that the vaccination strategy did protect Australians from death or that the vaccines are not making people more susceptible to death from covid

5.1. What steps were taken by the Department of Health to record and provide this vital information (including requiring states and territories to provide it) as we went through the vaccine rollout?

5.2. When will this information be made publicly available?

Community Affairs

ANSWERS TO QUESTIONS ON NOTICE

Australian Bureau of Statistics

Division: Australian Bureau of Statistics
Question No:
Topic: Expected and Annual death comparisons
Reference: Hansard, Page 6
Senator: Malcolm Roberts

Question:

Could I turn to this graph? I can't remember which number it is, but I can table it if you'd like me to. It's in your submission.
CHAIR: Are you able to refer everyone to the page number in the submission?
Senator ROBERTS: I can't remember the page number in the submission, but it's graph 1 of your submission. Do you have it?
Ms Moran: Yes.
Senator ROBERTS: It uses a different way of showing the comparison between expected and actual deaths. In particular, you've changed the baseline and removed the range of deaths, replacing that with a simple 95 per cent confidence interval, which is the blue area in the graph. In effect, this graph is saying that excess deaths minus COVID deaths are almost entirely within the 95 per cent confidence interval. So there's nothing to see here; move on. The validity of your analysis, though, comes down to one thing: the validity of the baseline calculation. Have you brought along a clear and transparent explanation of that calculation for the committee, please, in writing? I'd like to see it stepped through. If you don't have that here, can we get it on notice?
Ms Moran: We can take that on notice.
Senator ROBERTS: Thank you for that, Ms Moran. Could you provide a detailed, step-by-step explanation of the change of baseline and the calculation, along with reasons and justification, please?
Ms Moran: Yes, we can do that.

Answer:

In July 2023, the ABS extended the number of years in the baseline used to forecast the expected number of deaths. The baseline now covers 2013 to 2019 (previously it was 2015 to 2019). We did this so the mortality trend would be more stable. This is particularly important for smaller jurisdictions with low numbers of weekly deaths.

The ABS considered three key attributes when selecting the baseline range for excess deaths:

i. there needed to be enough input available to predict the number of deaths
ii. a stable and clear mortality trend needed to be identified
iii. the baseline period needed to be applied consistently across jurisdictions.

Additionally, the ABS intentionally excluded pandemic years from the baseline. That’s because, to date, the question the ABS has been answering in producing excess deaths

estimates is: '*How does the number of deaths which has occurred during the COVID-19 pandemic (2020-2023) compare to the number of deaths expected had the pandemic not occurred?'.*

To decide on the baseline range, the ABS conducted a sensitivity analysis. This analysis tested three reference periods: 2010-2019, 2013-2019 and 2015-2019. The ABS chose 2013-2019 as the predictor reference period because:

- There was a large decline in mortality between 2017 and 2018. This is likely due to the severe influenza season in 2017 causing some mortality displacement in 2018. (Mortality displacement is an epidemiological concept which describes the phenomenon of a period of very high mortality being followed by a period of low mortality.) Even controlling for 2017, when 2015-2019 was tested, the model was overcompensating for the rate of decline during 2015-19, resulting in a very low number of expected deaths in 2022 and 2023.
- Not all jurisdictions experienced a severe influenza season in 2017. Western Australia (WA), for example, had higher mortality rates in 2015 and 2016. Variability across jurisdictions meant that 2015-2019 had different outcomes across jurisdictions.
- WA had steeper declines in mortality rates between 2015-2016 and 2017 compared to other jurisdictions. Starting the baseline at the highest mortality points was overstating the rate of decline in WA and resulting in a very low number of expected deaths in 2022 and 2023.
- For smaller jurisdictions with low numbers of weekly deaths, adding additional years onto the baseline provided a more stable trend.
- There was some excess mortality in 2014, 2015 and 2017. The ABS made adjustments to outliers to control for this. 2013 was a year of stable mortality where no adjustments had to be made across any jurisdictions.
- Using 2010-2019 and 2013-2019 produced similar results. However, there is less population change to account for from 2013. This was especially important for smaller jurisdictions where age adjustment was not as precise due to small numbers.
- This model will also be used for analysis of diseases. There were coding changes in 2013. Starting the reference period at 2013 ensures continuity of time series for this analysis.

More information is available from the Methodology section of the excess deaths reports (see: www.abs.gov.au/articles/measuring-australias-excess-mortality-during-covid-19-pandemic-until-first-quarter-2023#methodology).

Steps to Calculating the estimated expected number of deaths

1. Decide on age-groups. For Australia, modelled age groups were 0-34, 35-54, 55-64, 65-74, 75-84, 85-89.], 90-94 and 95+.
2. Calculate age-specific rates for each group by week between 2013-2019. The denominator used is quarterly ERP published by the ABS – update the population denominator for every 3-month block.
3. Import the data into a statistical software system and apply a regression, forecasting expected deaths for the years 2020-2023.
4. Calculate 95% confidence intervals for each age-specific death rate.
5. Export the forecast age-specific death rates by age group. Check coefficients and that are assumptions are met (these are explained above in the sensitivity analysis).
6. If assumptions are not met, identify points in the baseline where weekly data may be affecting the projected counts. Adjust for any extreme outliers – identified outliers in the data were during 2017 where very high mortality was recorded in some weeks due to a severe influenza outbreak. If deaths are very high, then the projected count of expected deaths may be too high, and inadvertently understate excess deaths.
7. Re-import adjusted statistical data into a statistical software system and re-run the regression.
8. Convert the age-specific rates and confidence intervals into raw counts of deaths.
9. Add up deaths across all age groups to obtain an expected number of deaths.
10. Subtract actual deaths from expected deaths to gain a count of excess deaths.

Questions related to the baseline in the Provisional Mortality Statistics publication

Why did you exclude 2020 from the baseline?

We excluded years that were atypical from the baseline, since the purpose of a baseline is to provide a typical year, or combination of years, to compare to the current year. Deaths in 2020 were atypically low and deaths in 2022 were atypically high, so it doesn't make sense to include them in the baseline.

Questions related to the excess deaths methodology and frequency

Why did you exclude some years from the baseline for your excess deaths?

The ABS used data from 2013 to 2019 in its baseline for excess deaths because we intentionally excluded pandemic years from the baseline. That's because, to date, the question we've been answering in producing excess deaths estimates is: '*How does the number of deaths which has occurred during the COVID-19 pandemic (2020-2023) compare to the number of deaths expected had the pandemic not occurred?'*. For example, the low mortality rate recorded in 2020 is likely an indirect effect of the pandemic (given the health measures that were in place) and using this year would mean that the estimated excess deaths would not represent 'mortality expected in the absence of a pandemic'.

Why do you only produce the excess deaths numbers six-monthly, rather than monthly?

We publish twice a year so we can release one set of estimates that looks at the winter period and one set that includes data for the entire calendar year. The report that covers the winter period measures the effect of the flu and other respiratory diseases.

The Director-General of the World Health Organization called an end to the emergency phase of the pandemic in May 2023. This factored into decisions about frequency of reporting.

Questions related to the COVID-19 vaccine

Why don't you publish information on vaccination status in your deaths reports?

Our publications on deaths are based on death registrations reported to the ABS by the state and territory registries of births, deaths and marriages. Vaccination status is not reported on a death registration and the ABS does not produce statistics on deaths by vaccination status.

Vaccination status is available on the Australian Immunisation Register (AIR). The ABS administers the linkage of the AIR with other ABS and non-ABS datasets, which includes death registrations, in the Person Level Integrated Data Asset (PLIDA). Access is provided to the PLIDA for approved researchers for projects that are assessed as being in the public interest.

Table 1: Timeline of key events for death reporting (including changes) during the pandemic

Event	Release date
1st provisional mortality publication (data for Jan-Mar 2020) - Doctor certified deaths only - Compared to 2015-2019 average (proxy for expected number of deaths to provide an indication of excess mortality).	24 June 2020
1st excess mortality article (data for Jan – Aug 2020) - Doctor certified deaths only - Serfling model (adapted)	25 November 2020
1st published age-standardised death rates (SDRs) in provisional publication (Jan – Aug 2020 data) - Explained that to date, provisional reports focused on comparisons with the baseline. They provide a rapid snapshot of mortality but don't measure the statistical significance of changes over time which may relate to natural weekly variation, changes in population size or structure, or cause-specific trends in death rates. - Explained SDRs account for changes in the size and age structure of the population, so enable comparisons over time and between different population groups.	25 November 2020
Published excess mortality article for Victoria (Jan – Nov 2020 data)	24 February 2021
Introduced the International Organization for Standardisation (ISO) week system (Jan 2020 – Jan 2021 data). - All weeks start on a Monday. Week 1 of any year will always contain the 4th of January.	6 May 2021
2nd national official set of excess mortality estimates (same methodology as previous set, doctor-certified deaths only)	30 March 2022
Added coroner-referred deaths for 'all-cause' mortality for the Provisional Mortality publication + changed the baseline (included data up to Jan 2022) - Data for cause-specific deaths still only covers doctor certified because of the time needed for coronial investigations. - Baseline for comparison of deaths that occurred in 2022 includes deaths from 2017-2019 and 2021. We exclude 2020 because 2020 had prolonged periods where deaths were significantly lower than expected. Deaths that occurred in 2021 still compared to original baseline (2015-2019). - Noted that this publication does not provide official estimates of excess mortality.	28 April 2022

Table 1: Timeline of key events for death reporting (including changes) during the pandemic

Event	Release date
3rd set of excess mortality estimates (short article, same methodology, doctor-certified deaths only)	25 May 2022
Included Aboriginal and Torres Strait Islander status for deaths in the COVID-19 deaths article for the first time - After engaging with the National Aboriginal and Torres Strait Islander Community Controlled Health Organisation (NACCHO)	27 October 2022
Published article on COVID mortality by wave	16 November 2022
Added age specific rates for other cardiac conditions to the provisional publication (included data up to January 2023) - Baseline the same as for 2022. Explained that the number of deaths occurring in 2022 was significantly higher than usual (not typical) and have therefore excluded it from the baseline average.	28 April 2023
3rd national official set of excess mortality estimates (improved methodology, included coroner-referred deaths for first time), covering excess mortality to March 2023 - Baseline for excess mortality = 2013-19 (longer, more stable, period than previously). Excess mortality baseline has always excluded the pandemic years as we're looking at how deaths in the pandemic compare with the no. expected in absence of pandemic - With the addition of coroner-referred data (in the context that these tend to be deaths of younger people), began explicitly accounting for an ageing population by using age-specific rates.	19 July 2023
4th national official set of excess mortality estimates released (same methodology as the previous set)	18 December 2023
Removed baseline average from Provisional Mortality (data available up to January 2024) - We foreshadowed this change from December 2023 and explained why we were making the change. - Deaths for 2024 will have two comparison points: they'll be compared against 2023 and 2022.	30 April 2024

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The decision is to use the ISO-week standard going forward.

The week 53 in the baseline won't be included (Baseline will be week 1-52). The next time we will need to consider a comparative week 53 will be 2023. In the past ONS found a compositionally similar week and provided that as the baseline comparison, but this is really a consideration for the future.

Deaths

- Nationally deaths compositions are lower than usual for deaths occurring in the current month and have been since December. (NSW, VIC, QLD likely biggest contributors to national movement)

S22

MonMon sheet

- Add cumulative total for each month (can discuss format on Wednesday)
- Any other additions or feedback while the sheet is being updated?
-
-

re: cumulative total for each month, this was what I looked at (reg state x proc year x proc month x week):

S2P2D2

I could easily see which weeks are still being added to by each reg in the latest files.

In hindsight I'd take out the All rows (last time I ran this there was only 2020 process year to worry about, so the single All row was fine).

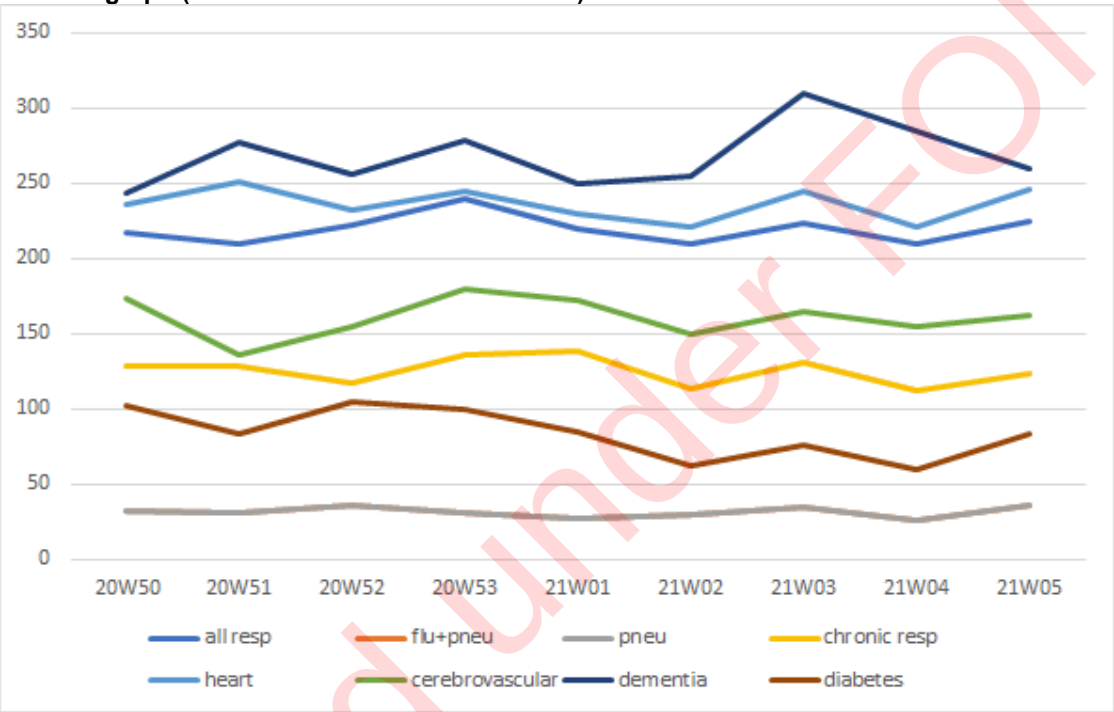
Super rudimentary, but it was enough for me to form the opinion that we should be fine to publish to Dec, although the last week we're going to publish in NSW looks particularly low, which is pretty much the situation most publications.

April publication
--> Includes data for January occurred deaths
--> Including any record received up till March files
--> Also looking into COD for week 3 and week 5 spikes

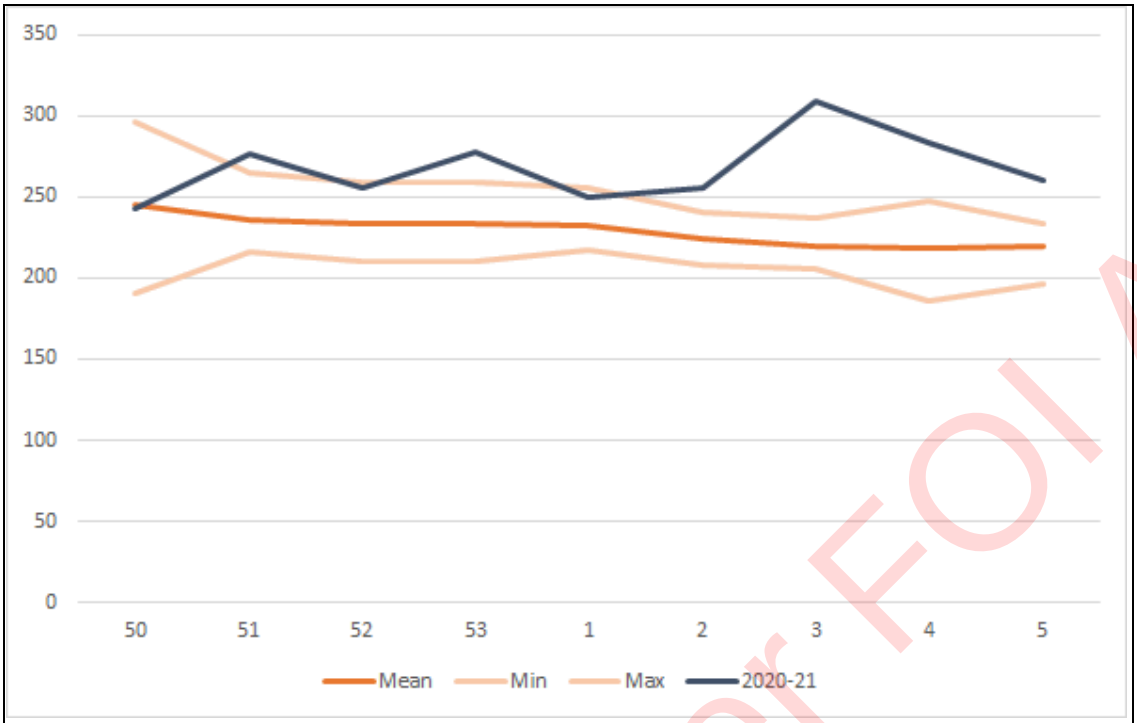
May publication
--> Data not complete
--> Will wait for April files in May to decide
--> Likely will add April files for May pub

Cause breakdown in weeks 3 and 5. See National, QLD and NSW breakdowns below:

National graph (week 50 of 2020 - week 5 of 2021):

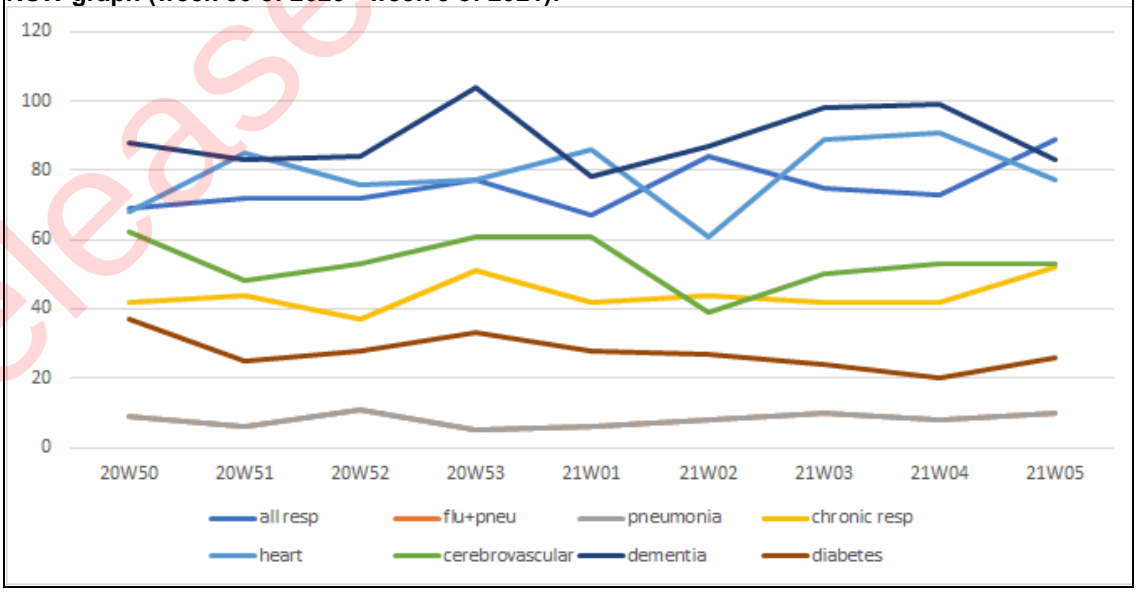


The dementia numbers stood out to me a bit so I compared to the 2015-19 baseline (mean, min and max):

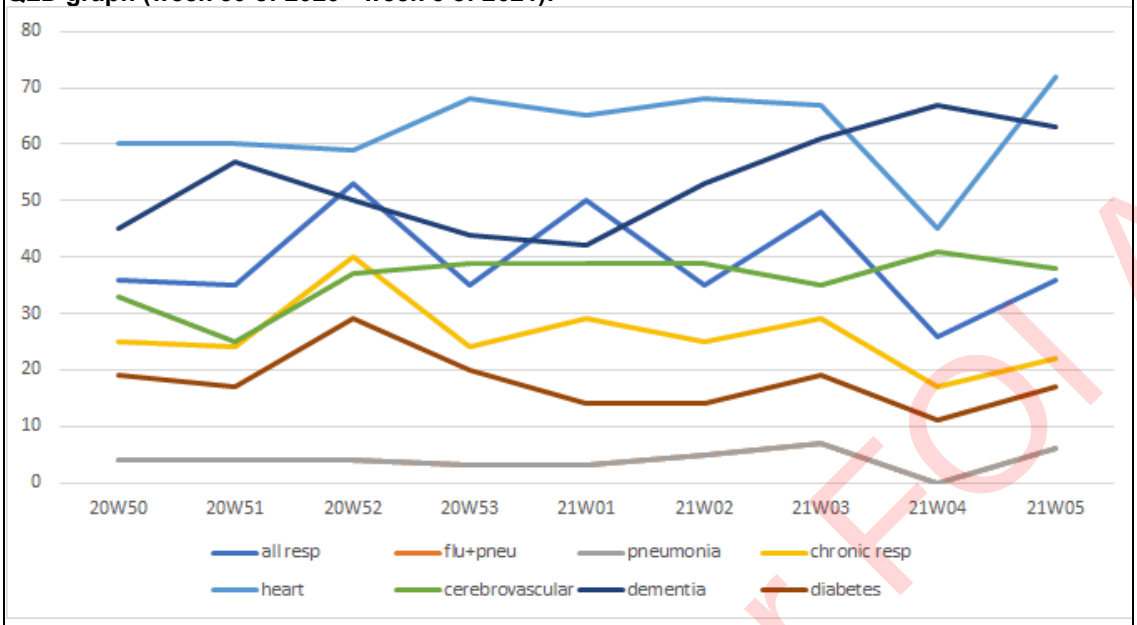


	2015-19 Mean	2015-19 Min	2015-19 Max	2020-21
2020 w50	245	190	296	243
2020 w51	236	216	265	277
2020 w52	234	210	259	256
2020 w53	234	210	259	278
2021 w1	232	217	256	250
2021 w2	224	208	240	255
2021 w3	220	206	237	309
2021 w4	218	186	247	284
2021 w5	220	196	234	260

NSW graph (week 50 of 2020 - week 5 of 2021):



QLD graph (week 50 of 2020 - week 5 of 2021):



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DEATHS

- Nothing too concerning - a number of states had a decline in the number of registrations received in January, in line with the normal trend at this time of year
- Approximately 50 additional registrations that occured 3 or more months before the process month (relatively distributed across 2021). Hypothesis is that registry have potentially done a clean up of records, potentially look at these additional records by UCOD (may be concentrated to a particular area) and/or check with registry that is what has happened.

- Victoria coroner occurrences looking a little better this month

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DOCUMENT 15

baseline update plan [SEC=OFFICIAL] (Response to: October publication - header [SEC=OFFICIAL])
Health and Vitals WDB s22 10/10/2022 11:17 AM

OFFICIAL

Basics

Protective Mark	OFFICIAL		
Information management markers	☐ Personal privacy ☐ Legal privilege ☐ Legislative secrecy	Caveat	☐ NATIC

Priority 1:
Deaths by month/week of occurrence cubes
Deaths by month/week of occurrence cubes

Table 1:
All deaths by age and sex by year: update

Table 2:
All deaths by state by year: update

Table 3:
Doctor certified deaths by cause by year: update

Table 4:
Persons Males Females SDRs by year DO NOT UPDATE

Table 5:
Dr certified SDRs by cause by year: DO NOT UPDATE

Priority 2 (both of these):
Monthly and weekly dashboards
Monthly and weekly dashboards

Table 1:
Total deaths baseline average, minimum maximum: update
Age and sex baseline averages: update
State of registration baseline averages: update

Table 2:

Doctor certified deaths baseline average, minimum, maximum: update
Causes baseline averages: update

Table 3:
Standardised death rates total, male, female: DO NOT UPDATE

Table 4:
Standardised death rates doctors, causes: DO NOT UPDATE

Publication:
Publication:

Graph 1:
Average, min, max for all deaths 2015-19 update
Average min, max for all deaths 2017-19 and 2021 update

Graph 2:
no baseline data

Table 1:
Baseline average current month and year to date by cause update

Table 2:
Timeliness and completeness DO NOT UPDATE

Graph 3:
All deaths average, min, max for all deaths 2015-19 update
All deaths average min, max for all deaths 2017-19 and 2021 update

Graph 4:
dr cert average, min, max for all deaths 2015-19 update
dr cert average min, max for all deaths 2017-19 and 2021 update

DOCUMENT 16

From: [redacted]
Sent: Wednesday, 1 May 2024 6:15 PM
To: Linda Fardell
Cc: [redacted]
Subject: responses for Brenton
Attachments: actual vs baseline vs predicted.xlsx

Hi Linda,

Brenton asked for a chart of our two different "methods". [redacted] has put a graph (excel file attached) and table (below) together so Brenton can look at this.

	2022
actual deaths	190,936
predicted deaths (excess mortality)	170,911
baseline average deaths	164,818
	2023 to Aug 2023
actual deaths	120,229
predicted deaths (excess mortality)	112,714
baseline average deaths	107,661

A few things to go along with the graph and table:

- We don't consider the "baseline average" to be an official estimate of expected mortality. Rather it provided a comparator to current mortality.
- Although the baseline average and predicted deaths series appear reasonably close in the graphs, over the course of a year the differences add up. In 2022 the baseline average deaths totalled 164,818, while the predicted deaths from the excess mortality modelling were 170,911. Both were well below the actual death of 190,936.
- You can see the baseline average provides a much lower number of deaths to compare against than our expected deaths derived using a regression. This is because there are no assumptions built into a baseline average. Firstly, an average has no mortality trend, so the trend of increasing deaths is not accounted for. Secondly, the baseline average is derived from raw counts so doesn't allow for population change (increases in Australia). Lastly, the baseline average does not account for age structure – as we have an ageing population we expect a higher number of deaths annually as mortality is more likely to occur in older age groups.

Relating to COVID-19 in disadvantaged populations: This is all very interesting. For people in disadvantaged areas, do we know if this is because they are more likely to contract the virus, or more likely to die if they contract it? Similar question for Aboriginal and Torres Strait Islander people - here, phrasing suggested we were making a slightly different point (i.e., die if contract).
This is a really good question and one we wish we could measure. The answer is really complex – it is partly related to people from disadvantaged areas dying at higher rates from all causes. Additionally, people who die who are from a more disadvantaged background or of Aboriginal and/or Torres Strait

Islander origin also tend to have higher rates of pre-existing chronic diseases, making them more susceptible to the virus. However, to **accurately measure** if people from more disadvantaged backgrounds are more likely to die if they contract the virus we would need to calculate a case fatality rate where the denominator is the number of infections rather than the number in the total population (which is our current denominator). With the changes to the testing of COVID-19 we're no longer able to do this as there is no accurate number of current infections.

S22
Director
Mortality Data Centre | Health and Vital Statistics Section | **Australian Bureau of Statistics**

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(E) S22 **@abs.gov.au** **(W)** **www.abs.gov.au**
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DOCUMENT 17

From: s22
Sent: Thursday, 17 March 2022 2:41 PM
To: s22
Subject: YTD SDRs [SEC=OFFICIAL]

Causes where SDRs for 2021 are in between 2020 SDR (lower than 2021) and 2015-19 SDR (higher):
M/F/P, Jchap, Chronresp

Causes where SDR for 2021 is lower than 2020 SDR (as well as baseline average):
Flu/pneu, pneu,
cancer, IHD, cerebrovascular, diabetes.

Cause where 2021 SDR is higher than both 2020 and baseline: Dementia

s22
Health and Vitals Unit | Australian Bureau of Statistics
(P) s22 (E) s22@abs.gov.au (W) www.abs.gov.au

From: s22
Sent: Wednesday, 16 February 2022 6:25 PM
To: s47F
Cc: s47F ; s22 ; s47F ; s22
Subject: RE: Provisional Mortality statistics baseline [SEC=OFFICIAL]

Hi s47F and s47F ,

Hope you are both going well!

We're quite close now to making decisions on our baseline and it would be good to talk through. Would
you be available next week - maybe Thursday? - to meet and talk through. We can chat through our plans
for excess mortality then also.

Cheers,
s22

s22
Director A/g
Mortality Data Centre | Health and Vital Statistics Section | Australian Bureau of Statistics

(P) s22
(E) s22 @abs.gov.au (W) www.abs.gov.au
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From: s47F @TREASURY.GOV.AU>
To: s22 @abs.gov.au>, s47F s47F @TREASURY.GOV.AU>
Cc: s22 @abs.gov.au>, "s47F , s47F s47F @TREASURY.GOV.AU>, s47F @TREASURY.GOV.AU>
Date: 02/02/2022 02:02 PM
Subject: RE: Provisional Mortality statistics baseline [SEC=OFFICIAL]

OFFICIAL

That would be lovely [redacted]. If possible, we would like to be involved in your excess mortality work as
well. We are monitoring it closely on our end and would be very happy to exchange the notes.

Kind regards

[redacted]
[redacted]
Analyst
Centre for Population | Fiscal Group
The Treasury, Langton Crescent, Parkes ACT 2600
Phone: [redacted] Mobile: [redacted]
[redacted]
OFFICIAL

From: [redacted]@abs.gov.au>
Sent: Wednesday, 2 February 2022 12:25 PM
To: [redacted]@TREASURY.GOV.AU>
Cc: [redacted]@TREASURY.GOV.AU>; [redacted]
[redacted]@abs.gov.au>; [redacted]
[redacted]@TREASURY.GOV.AU>
Subject: Re: Provisional Mortality statistics baseline [SEC=OFFICIAL]

Hi [redacted],

Thanks for the follow up!

We'd be very keen to talk further on this. Perhaps we could meet in the next couple of weeks?

Cheers,
[redacted]

[redacted]
Director A/g
Mortality Data Centre | Health and Vital Statistics Section | Australian Bureau of Statistics

(P) [redacted]
(E) [redacted]@abs.gov.au (W) www.abs.gov.au
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[redacted] ---02/02/2022 11:10:55 AM---
****
****

From: [redacted]@TREASURY.GOV.AU>
To: [redacted]@abs.gov.au'"[redacted]@abs.gov.au>, [redacted]
[redacted]@abs.gov.au>
Cc: [redacted]@TREASURY.GOV.AU>, [redacted]
[redacted]
[redacted]@TREASURY.GOV.AU>
Date: 02/02/2022 11:10 AM
Subject: Provisional Mortality statistics baseline [SEC=OFFICIAL]

CAUTION: External email. Do not click links or open attachments unless you recognise the sender
and know the content is safe.

OFFICIAL

Hi [redacted]

Thanks for coming to the mortality group meeting today and sharing your thoughts about the upcoming
provisional mortality work.
Just to follow up on your comments around setting a new baseline for the provisional mortality data, we would like
to reiterate our interest in this process.

Please let us know if you would like to discuss your thoughts around this process further, or if there is anything we
can contribute.

Thanks!

[redacted]

[redacted]
Analyst
Policy, Insights and Engagement | Centre for Population | Fiscal Group
The Treasury, Langton Crescent, Parkes ACT 2600
Phone: [redacted]
www.treasury.gov.au

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to land, water and community.
We pay our respects to them and their cultures and to elders both past and present.

OFFICIAL

DOCUMENT 19

From: s22
Sent: Thursday, 3 February 2022 2:03 PM
To: s22
Cc: s22
Subject: Re: baseline analysis - all cause by week [SEC=OFFICIAL]

Thanks for sending this through s22. Really interesting. Looking at an expanded version of the average graph you can clearly see how including 2020 brings the baseline down through those winter months, so that's quite strong evidence that excluding 2020 could be more appropriate. Completeness of 2021 data also seems quite good at >98%, obviously excluding those last couple of months.

Cheers

s22

s22

Director

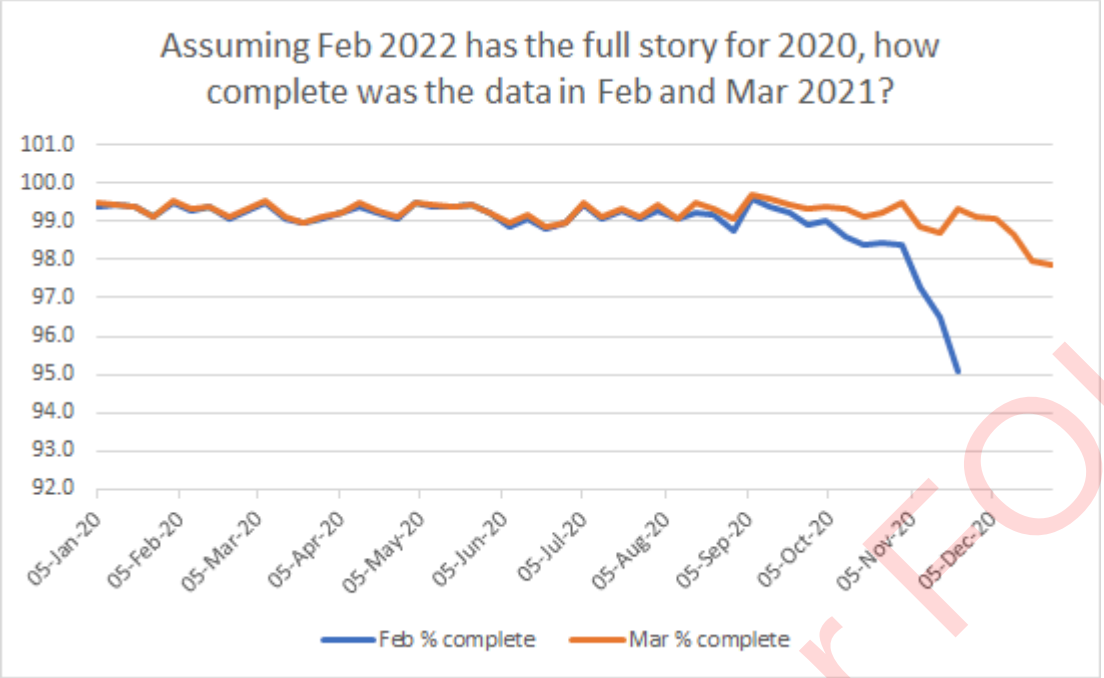
Health and Vital Statistics Section | **Australian Bureau of Statistics**

(P) s22 **(M)** s22

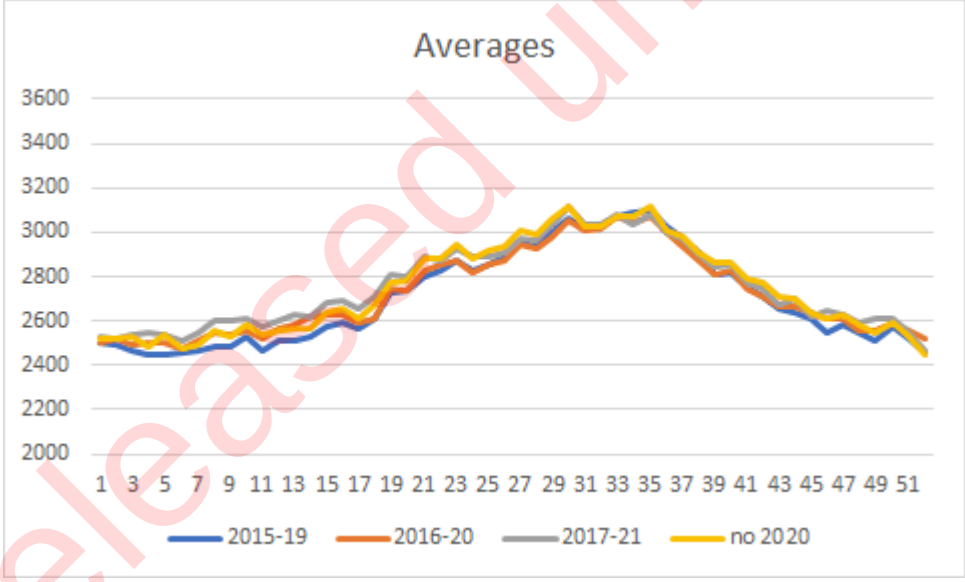
(E) s22 **@abs.gov.au** **(W)** **www.abs.gov.au**

From: s22 Staff/ABS
To: s22 Staff/ABS@ABS, s22 /Staff/ABS@ABS, s22 @abs.gov.au, s22 /Staff/ABS@ABS, s22 /Staff/ABS@ABS
Date: 03/02/2022 11:59 AM
Subject: baseline analysis - all cause by week [SEC=OFFICIAL]

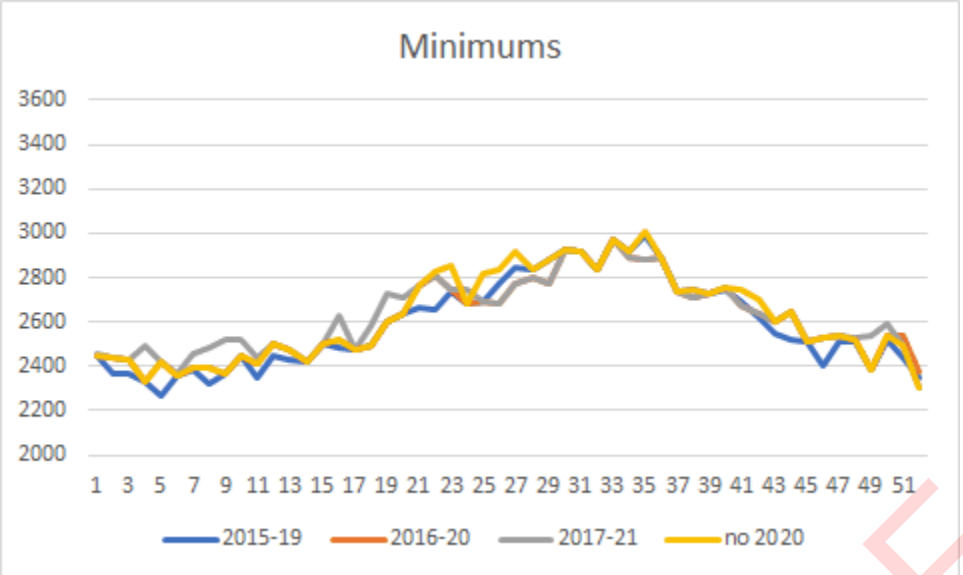
Q1: how complete is 2021 data likely to be by our March publication in 2022?
A1: pretty decent if the previous year is any guide. I would not go with data as at Feb publication for the full year, but I think we could just about get away with data as at March publication. Note that our Feb pub included data registered by 31 Dec while our Mar pub included data registered by 28 Feb (so we must have done an extra month's files that month). If we don't do the extra month this March I suspect November and December would be a bit weak to use (the completion rate would likely be between the two lines).

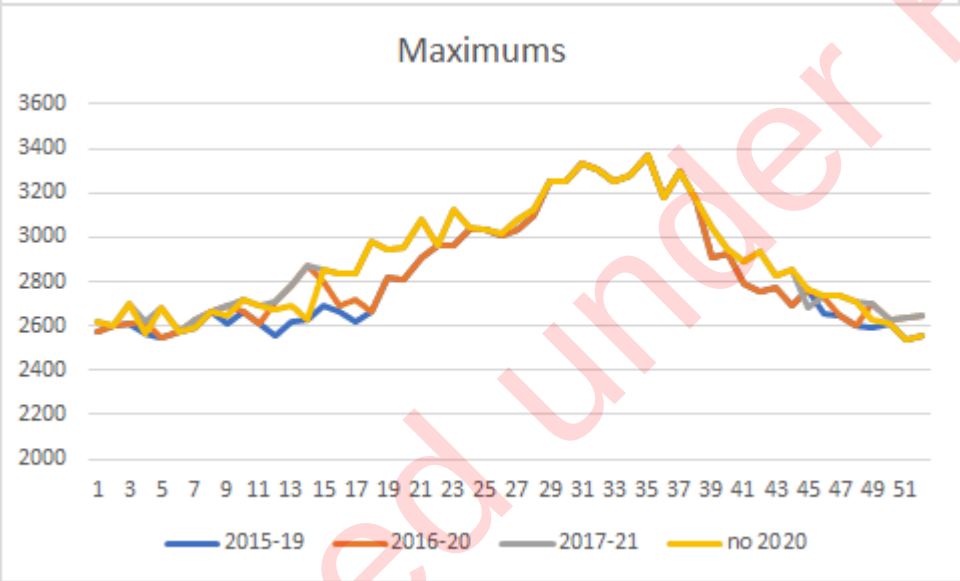


Q2. What effect does the different baseline choices have on the average stats (probably the one people pay attention to more than the min and max elements of the baseline)?
A2: I was surprised by how small the differences were. I'm presenting all graphs (ave, min, max) on the same scale as each other.



Q3. How about the min and max effects?
Also not a large impact.





SAS and spreadsheet are in S:\COD\2021\2021 publications\Monthly COVID Publication\11 Data to Nov for Feb

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