From: Adrian Barnett
To: Justine Stansen
Subject: Fwd: VotV data - 1 page summary
Date: Wednesday, 2 September 2015 4:14:11 PM
Attachments: Long_Term_Impact_of_Moscow_Heat_Wave_and_Wildfires.30.pdf
ATT00001.htm
image001.jpg
ATT00002.htm
image002.jpg
ATT00003.htm

Sent from my iPhone

Begin forwarded message:

From: "Adrian Barnett" [redacted]
To: "Wendy Farmer" [redacted] "Nicola Rivers" [redacted]
Cc: "Ron Ipsen" [redacted]
Subject: RE: VotV data - 1 page summary

Hi Wendy
The long term impact is a far more complicated question. It's a bit technical, but have a look at a paper released today on the Moscow wild fires. If you look at the figure you can see the incredible spike in deaths during the fire (they had a much larger population exposed than Morwell). However, after the fire deaths actually go down, although this is for a brief period and is nowhere near as large as the spike. The reason is that heat and fires can often kill very frail people who may have died soon after.
Looking at long-term deaths in this small population is therefore a very tricky question and the results may be hard to interpret. It would be better if we first knew the ages and health states of those who were killed. Were they mostly elderly people and/or with pre-existing disease?
Regards,
Adrian
From: Wendy Farme [redacted]
Sent: Thursday, 5 February 2015 9:46 AM
To: Adrian Barnett; Nicola Rivers
Cc: Ron Ipsen
Subject: Re: VotV data - 1 page summary
Adrian, did the data show that we still had increased deaths continuing after the fire?
Wendy
From: Adrian Barnett [redacted]
Sent: Thursday, February 5, 2015 9:52 AM
To: Wendy [redacted] ; Nicola Rivers [redacted]
Cc: Ron Ipsen [redacted]
Subject: RE: VotV data - 1 page summary
Hi All
My comments attached.

The constant problem we have in terms of the statistics is that this is a relatively small study because of the small population exposed. Obviously this was good news in terms of the disaster, but it does make it harder to make conclusive statements. One way to bolster the arguments is to cite the very many larger studies that have consistently shown an increased risk of death after exposure to pollution. Why would the Hazelwood fire be any different?

Regards,

Adrian

From: Wendy Farme [redacted]

Sent: Wednesday, 4 February 2015 5:28 PM

To: Adrian Barnett; Nicola Rivers

Cc: Ron Ipsen

Subject: Fw: VotV data - 1 page summary

Hi Adrian,

Can you please clarify some points for Nicola & ourselves. Nicola's comments are why I was initially thinking that we should maybe take out the extra postcodes, Ron can you please clarify the Valley ect.

WEndy

From: Nicola River [redacted]

Sent: Wednesday, February 4, 2015 4:18 PM

To: Wendy Farmer [redacted] ;

[redacted]

Subject: RE: VotV data - 1 page summary

Hi Wendy and Ron,

As per my previous email, I think we need a one page document for the media which explains Adrian's findings in plain english and explains some of the anomalies. The analysis is quite technical and media may have a hard time understanding it. I am also concerned that the analysis shows some counter-intuitive findings – eg there is a decreased risk of deaths in Morwell - we need to be able to explain this.

I have attached a draft for starters. Could you have a look and also forward to Adrian to check if my statements are accurate? (I think the email address I have for him is old). If there is any explanation you and Ron can add as to why certain stats might be not what is expected that would be helpful. The explanation don't have to be detailed at this stage – we will do that for the Inquiry with the help of experts. But just a few plausible explanations for the media would be useful. I have had a go at some of these (highlighted in yellow) but you know a lot more about this than I do. We need to keep it very simple, very brief, and very focused on the issues that matter for our bigger argument.

Hope this is ok. Sorry to create more work!

Nicola

From: Wendy Farmer [redacted]

Sent: Tuesday, 3 February 2015 7:59 PM

To: Nicola Rivers

Subject: Fw: VotV data

Hi Nicola,

Here is Adrian's analysis. Sorry I had thought i sent you this before Christmas.

As soon as the media release is done I will send it to you, I have spoken to Adrian & he is happy for media to contact him about his work.

Regards

Wendy

From: Adrian Barnett [redacted]

Sent: Monday, December 22, 2014 7:53 AM
To: Ron Ipse [redacted] ; Wendy Farme [redacted]
Subject: RE: VotV data
Hi Ron and Wendy
Here's my analysis of the updated data. The overall risk and probability hasn't changed that much, and this is probably because the two additional postcodes have an average decrease in the risk of death. There do appear to be some interesting differences between postcodes, and your local knowledge about evacuations and exposure would be very useful in interpreting these results.
The headline result is the 94% probability of an increase in deaths in 3844, and there were similarly high risks of deaths in 3842 but with more uncertainty due to the smaller population.
I'm happy to talk through my results. I may have veered into too technical language in this write up.
I'd like to publish this analysis online as I did the last one (http://eprints.qut.edu.au/76230/) but I'll wait to hear from you about what you want to do and when.
Regards,
Adrian
From: Ron Ipsen [redacted]
Sent: Thursday, 18 December 2014 3:25 PM
To: Wendy Farmer
Cc: Adrian Barnett
Subject: Re: VotV data
[cid:image001.jpg@01D01BD6.CB281F60]
Hi Adrian,
these are prelim results.
this is just 3840, 3825 and 3844 moe, morwell and traralgon.
state avg deviation from norm vs town deviation from its norm.
I am going to throw the 3 little postcodes in with morwell 3840 (3842,3869,3870) because they are all in the same area, in the next calcs.
can send u the spreadsheets if ya want.
Ron.[cid:image002.jpg@01D01BD6.CB281F60]
On 18 Dec 2014, at 1:07 pm, Wendy Farmer [redacted]> wrote:
Hi Adrian,
I responded quickly to the last email, because the other postcodes have very small population it may be hard to see any significant rise in figures, Ron has suggested that we put all of those small population figures together & work with the as 3 figure. 3825, 3844 & 3842/3869/3870 together.
What do you think?
Wendy
From: Adrian Barnett [redacted]
Sent: Thursday, December 18, 2014 12:59 PM
To: Wendy Farmer [redacted]
Subject: RE: VotV data
Not run anything yet, just doing some preparation. Cheers, Adrian
From: Wendy Farmer [redacted]
Sent: Thursday, 18 December 2014 11:51 AM
To: Adrian Barnett
Subject: Re: VotV data
I would be surprised if there wasn't, what are you seeing?
Wendy

From: Adrian Barnett [redacted]
Sent: Thursday, December 18, 2014 11:53 AM
To: Wendy Farmer [redacted]
Subject: RE: VotV data
Hi Wendy
Do you expect an increase in deaths in all six postcodes? Regards,
Adrian
From: Wendy Farmer [redacted]
Sent: Monday, 15 December 2014 1:24 PM
To: Adrian Barnett
Subject: FW: VotV data
As discussed on the phone today, thankyou for agreeing to look at this data & analysing it.
We have done a bit of a graph and we are alarmed at what it seems to be showing, you will see we also asked for the state average for a comparison.
If you need any further information please let me know.
Regards
Wendy Farmer
Voices of the Valley
[redacted]

From: [redacted]
To: [redacted]
Subject: Fw: VotV data
Date: Fri, 12 Dec 2014 21:47:38 +1100
BDM Data, password [redacted]
From: Glentra House Receptio [redacted]
Sent: Friday, December 12, 2014 4:28 PM
To: Wendy Farmer [redacted]
Subject: Fw: VotV data
From: [redacted]
Sent: Friday, December 12, 2014 4:27 PM
To: Tar [redacted]
Cc: [redacted]
Subject: Re: VotV data
Hi Tara,
Wendy has just advised that she has received and paid the invoice.
I have attached your password protected spreadsheet below. Please let me know if you have any problems. It is exactly the same as the one previously supplied, with the additional data added.
I will advise Wendy of the password (sorry...this is due to the fact that this is a gmail account; can't put data and password in same gmail or hotmail account)
Good luck with your project.
cheers
Dawn
<image001.jpg>
Dawn Sims
Enterprise Data & Intelligence Consultant
Victorian Registry of Births,
Deaths and Marriages
GPO Box 4332, Melbourne VIC 3001
Phone: [redacted]

Email: [redacted]
Website: www.bdm.vic.gov.au<http://www.bdm.vic.gov.au/>
Securing today's records and creating services for the benefit of the community now and into the future.<http://www.bdm.vic..gov.au/>
This office is based on the land of the Traditional Owners, the Wurundjeri people of the Kulin Nations.<http://www.bdm.vic..gov.au/>
We acknowledge their history, culture and Elders both past and present.
<http://www.bdm.vic..gov.au/>

Ron Ipsen
[redacted]
Mob [redacted]

Long-Term Impact of Moscow Heat Wave and Wildfires on Mortality

To the Editor:

In the summer of 2010, most of the European part of Russia suffered a heat wave that was unprecedented both in strength and duration, which led to 55,000 excess deaths during this period.[1] In Moscow alone, an estimated 10,900 excess deaths from non-accidental causes occurred during the 44-day heat wave and a shorter smog episode caused by wildfires around the city.[2] Although the short-term forward mortality displacement (typically within 15 or 30 days after heat stress) has been well described,[3,4] there are few publications on long-term health consequences of heat waves. It has been proposed that the mortality displacement (ie, the ratio between the deficit after the heat event and the excess during the event) diminishes with the event's strength, but the strongest heat events are likely to have pronounced long-term consequences.[5] For example, the displacement within 1 year after the 2003 heat wave in France was about 20%.[6]

The aim of our study was to describe the temporal distribution of the displaced deaths after the Moscow 2010 heat wave, and to estimate the mortality displacement within any period until the end of 2012. We also conducted analyses stratified by age and cause of death to identify the main drivers of the mortality displacement. To estimate the difference between the observed and the expected number of daily deaths during and after the heat wave, a predictive model was developed, as described in eAppendix (http://links.lww.com/EDE/A874). We also used the annual mortality data from neighboring Saint Petersburg for comparison (eFigure 1, http://links.lww.com/EDE/A874).[7]

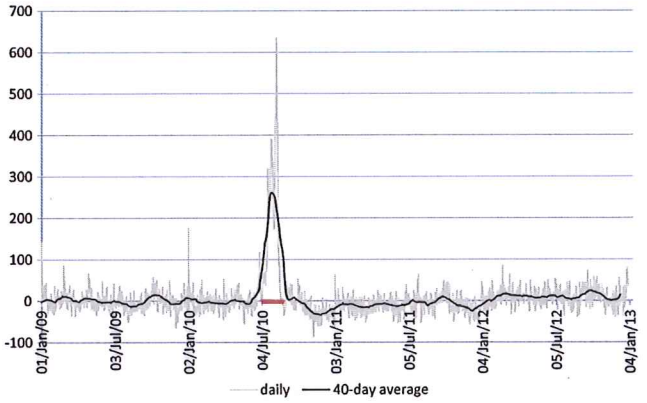

FIGURE. Daily excess mortality from non-accidental causes in Moscow in 2009–2012. *Red bar* marks the heat wave period.

The Figure shows observed and expected deaths between 2009 and 2012 in Moscow. A major deficit in mortality occurred from the beginning of October until the end of the year of the heat wave. The deficit seemed to continue during 2011, after which there was an excess mortality in 2012. The cumulative excess mortality is illustrated in eFigure 2 (http://links.lww.com/EDE/A874). Non-accidental cumulative excess mortality reached its maximum of 11,300 (95% confidence interval [CI] = 10,800–11,800) almost 2 months after the end of the heat wave. A prolonged period of steady decline in cumulative excess mortality continued for 15 months after this date until the end of 2011, when the minimum of 5800 (1500–10,100) deaths was recorded. The mortality displacement during this period was 49% (95% CI = 11%–87%). In other words, about one-half of all excess deaths during the heat wave were forward-displaced for the period ranging from 2 to 17 months. Since January 2012, cumulative excess mortality began to increase again and the magnitude of harvesting diminished to 14% (0%–67%) by the end of 2012.

Stratified analyses showed that the ratio of deaths among those aged 60 and over relative to those below 60 peaked during the heat wave and did not return to the pre-heat wave levels during 2012 (eFigure 3, http://links.lww.com/EDE/A874). The ratio of cardiovascular to non-cardiovascular mortality also increased during the heat wave, but showed a gradual decrease compared with the period before the heat wave. This indicates that the increase in deaths in 2012 was due to causes other than cardiovascular causes.

In conclusion, marked mortality displacement was observed as a result of the 2010 heat wave in Moscow. This amounted to around half of all excess deaths during the heat wave; this displacement occurred mainly within few months, but extended for a longer period. The excess mortality observed after about 18 months following the end of the heat wave may indicate persistent long-term effects of the heat wave and smog episode, but it could also result from inaccurate projections of expected deaths.

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Working with Census Geographies in R

To the Editor:

Goldstein et al.[1] previously demonstrated the use of R in conjunction with the Google Maps Application Programming Interface for geocoding batches of data at no monetary cost to the end user. The geocoded latitude and longitude allowed for spatial analysis of the data. However, it is common to further aggregate spatial coordinates to defined census regions, such as for ecological or multilevel analyses that consider geographic units. Therefore, the researcher may still need to manipulate the geocoded data in an external application. In this follow-up report, an integrated no-cost strategy is presented that allows the researcher to resolve geographic coordinates to US Census tracts and further create maps from these census data. Although the sample code is specific to census tracts, it can readily be extended to other geographic units (eg, subdivisions, areas, blocks).

To motivate its use, a scenario is presented that is common in public health departments—plotting incident case data to maps for surveillance, reporting or publication. Traditionally this required the use of paid software or services (eg, Esri's ArcGIS, Redlands, CA), yet it can be accomplished equally well within the R environment,[2,3] building upon public source code,[4] and the freely available US Census Bureau TIGER/Line Shapefiles.[5] Annotated source code and the simulated dataset are available as eAppendix (http://links.lww.com/EDE/A876).

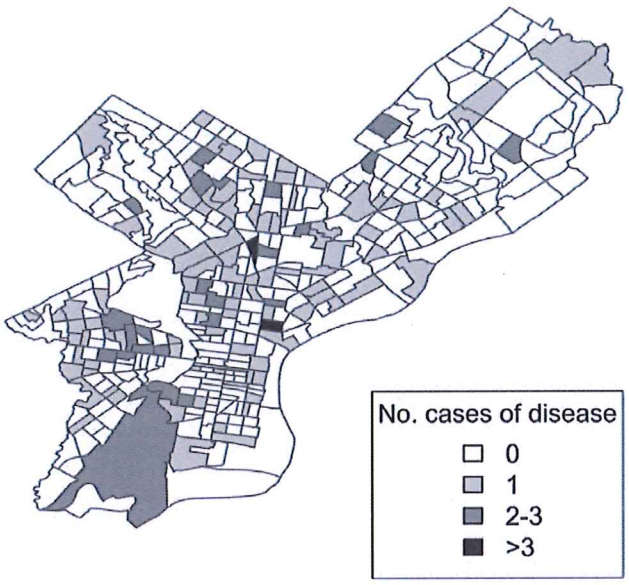

FIGURE. Number of incident cases of disease by 2010 Philadelphia County census tracts using simulated data (n = 166).

Beginning in 2007, the US Census Bureau released TIGER/Line Shapefiles,[5] an update from the previous TIGER/Line format that could be manipulated through R's precursor: S.[6] TIGER files define the geographic boundaries and associated attributes of various census features, including census tracts and block groups. Shapefiles provide a more convenient format that is recognized by popular geographic information system software. For areas such as census tracts, the boundaries are updated according to the decennial census; therefore, for shapefiles, this would include the 2000 and 2010 census delineations. As census tracts may change due to population shifts,[7] the researcher needs to be cognizant of the changing

The author reports no conflicts of interest.

Mention of trade names, commercial practices, or organizations does not imply endorsement by the author, the institutions where the author works, nor by the funding entities.

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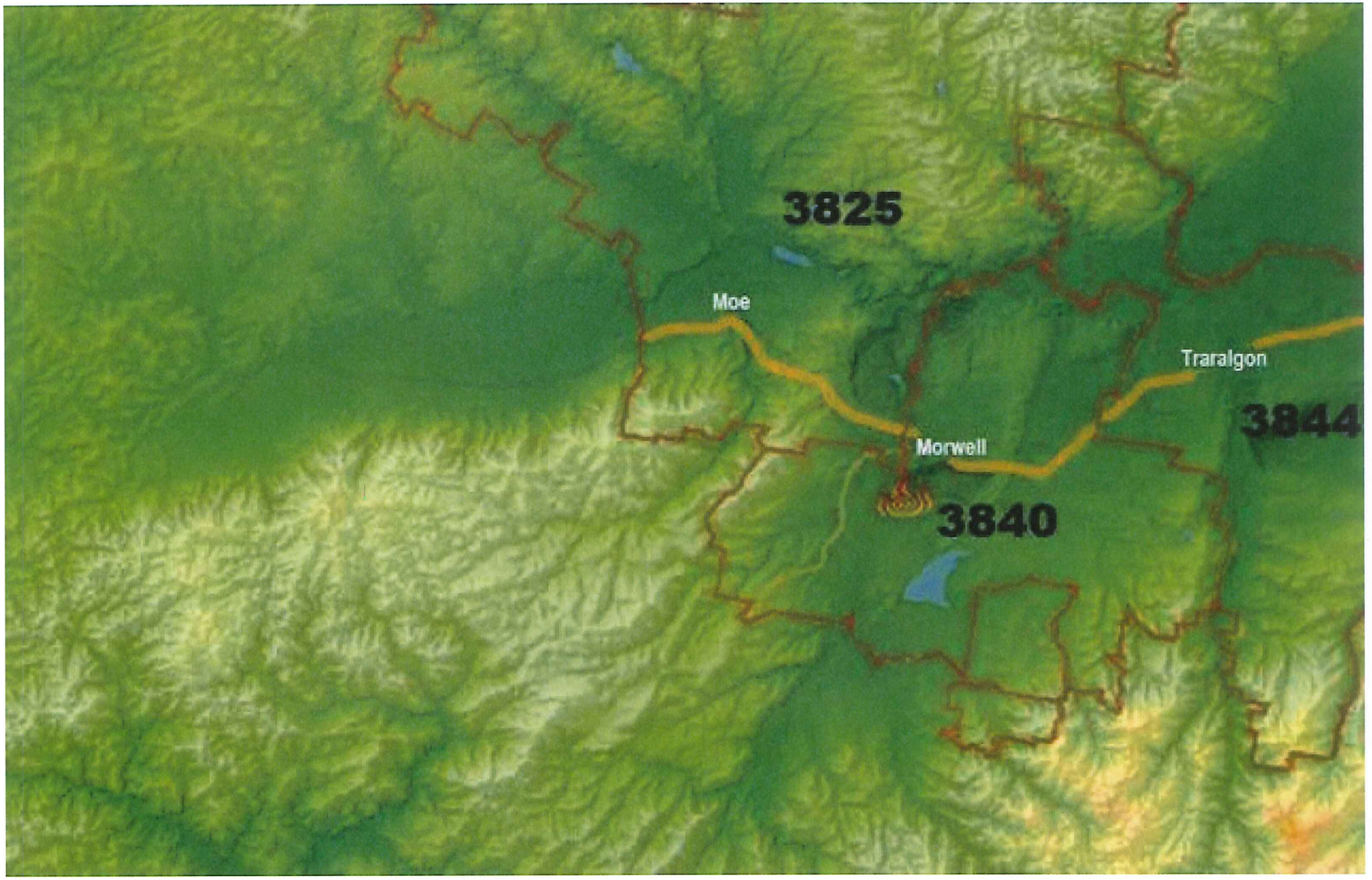
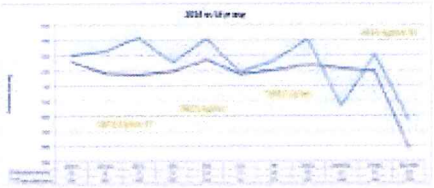
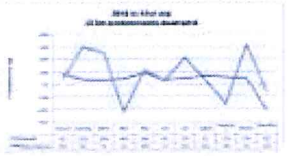

3825
Moe
Traralgon
3844
Morwell
3840

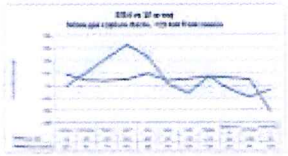
20 year health study in 20 seconds...



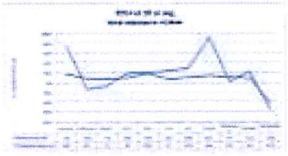
Across Latrobe Valley:- Cumulative Death tolls go up by 16%.
Peaks occuring at various times depending on
type of exposure, distance from source & preparedness.



3844:- Town predominately downwind.
Blanketed, unwarned,unconcerned & considered safe.
Immediate harvesting impact and again in winter



3825:- Town located in geographic basin that captures heavy gasses.
Immersed, unwarned, unconcerned & considered safe.
Immediate prolonged rise in death of vulnerables.



3840:- Town immediately adjacent to source.
Concerned, health efforts focussed, 60% evacuated.
long term damage to vulnerable,
harvesting when weather conditions are less favorable.

Voices of the Valley