

## What is the Risk/Benefit of Vaccination Mandates for Aged Care Workers?

Because our politicians are driven by the unbalanced narrative of the main stream media (MSM), the Covid-19 response has become more a political driven one than one based on practical analysis. Besides all the politics, a sober risk/benefit analysis would help in decision making. This is done in military and business decision making all the time.

From an operational risk management perspective, you compare the benefits of an action to the risks involved. Risk is determined by the likelihood and the negative impact of an action. The better you can quantify risks and benefits the more comprehensible the assessment becomes. Let's apply some operational risk management principles to the vaccination mandates for residential aged care (RAC) workers.

To compare RAC work force with the RAC consumers (residents), 2016 data is used. (This is the last year data is available on both groups)

It is the assumption that about 35% of RAC workers will choose not to be vaccinated if there are no mandates.

### What is the extra Vaccination Fatality Risks due to the mandates?

Although the TGA is reluctant to confirm all reported deaths, it is also known that not all adverse reactions are reported. We use only the reported deaths as a risk factor, whilst the impact of all other non-lethal but life debilitating adverse reactions such as strokes, myocarditis, etc. are ignored.

What is the Likelihood?										
Vaccination Risk:	TGA reports		377 deaths							
	until 11 Jul 21		6.79 million people vaccinated							
Vaccination Fatality Risk (VFR) %			<b>0.0056%</b>							
What is the Impact?										
Potential Life Years Lost = (P)LYL; $\Delta LE \times \# \text{ people at risk}$										
$\Delta LE = \text{difference between Age and Life Expectancy}$										
<a href="https://gen-agedcaredata.gov.au/Resources/Dashboards/People-in-Australia-s-aged-care-workforce">https://gen-agedcaredata.gov.au/Resources/Dashboards/People-in-Australia-s-aged-care-workforce</a> <a href="https://gen-agedcaredata.gov.au/Resources/Dashboards/Australia-s-aged-care-workforce">https://gen-agedcaredata.gov.au/Resources/Dashboards/Australia-s-aged-care-workforce</a>										
2016 Aged care workforce by care and age group					Average Life Expectancy Australia					
in Residential Care							male	female		
65+	65	70	2.9%	2.0		80.9	85			
55-64	55	64	24.3%	14.5		<b>96</b>	<b>100</b>	benchmark		
45-54	45	54	28.0%	13.9	ratio aged care workforce	18%	82%			
35-44	35	44	19.5%	7.7	Average	99.3				
25-34	25	34	18.8%	5.6						
16-24	16	24	6.4%	1.3						
Average Age:				<b>44.8</b>						
					$\Delta LE$		<b>54.4</b>			
2016 Australia's aged care workforce					Vaccination Risk:					
Residential Care				<b>153,853</b>	PLYL:	<b>8,376,804</b>	x VFR =	<b>465</b>	LYL	
Not Vaccinated when No mandates:				<b>35%</b>					<b>163</b>	LYL
People to die extra due to vaccination mandates:								<b>4</b>		

**Is it worth sacrificing 4 RAC workers?**

## What is the Benefit of the mandates?

Here we look also at Impact and Likelihood.

### What is the Impact?

The average age of RAC consumers is above the Life Expectancy ages for Australia. That means that the difference between the average age and the life expectancy is negative. You could argue that this group doesn't have any significant amounts of Life Years Left (LYL) to lose and that the impact is zero. (negative  $\Delta$ LE)

There are some ethical questions.

Are the lives of these elderly not worth anything? Off course they are not worthless. That is why the benchmark ages of 96 (male) and 100 (female) will be used instead of Life Expectancy ages.

Is it OK to sacrifice people in the prime of their lives to extend the lives of those at the end of their lives with a limited time? The same as we are generally more protective about children's lives, we should value people in their prime differently than those that had the chance to enjoy their full live. That is why the PLYL is quantified.

What is the beneficial impact?													
<a href="https://www.gen-agedcaredata.gov.au/Topics/People-using-aged-care#Aged%20care%20use%20by%20age%20and%20sex%20over%20time">https://www.gen-agedcaredata.gov.au/Topics/People-using-aged-care#Aged%20care%20use%20by%20age%20and%20sex%20over%20time</a>													
2016 People using residential care by sex and age													
		Permanent Residential Care				Respite Residential Care		total:		%:			
		male	female	male	female	male	female	male	female	male	female		
total as per report		56,418	119,575	1,988	3,059								
100	103	350	2,056	11	35	361	2,091	0.6%	1.7%	0.6	1.7		
95	99	2,821	11,770	66	192	2,887	11,962	4.9%	9.8%	4.8	9.5		
90	94	9,801	31,012	329	672	10,130	31,684	17.3%	25.8%	16.0	23.8		
85	89	13,503	33,117	492	868	13,995	33,985	24.0%	27.7%	20.8	24.1		
80	84	10,480	19,773	403	614	10,883	20,387	18.6%	16.6%	15.3	13.6		
75	79	7,541	10,352	266	324	7,807	10,676	13.4%	8.7%	10.3	6.7		
70	74	5,145	5,490	209	176	5,354	5,666	9.2%	4.6%	6.6	3.3		
65	69	3,411	3,112	110	99	3,521	3,211	6.0%	2.6%	4.0	1.8		
60	64	1,767	1,517	51	40	1,818	1,557	3.1%	1.3%	1.9	0.8		
55	59	894	769	27	21	921	790	1.6%	0.6%	0.9	0.4		
50	54	397	354	16	7	413	361	0.7%	0.3%	0.4	0.2		
30	49	306	247	8	11	314	258	0.5%	0.2%	0.2	0.1		
		56,416	119,569	1,988	3,059	58,404	122,628	Average Age:		81.8	85.9		
						32%	68%			84.6			
								$\Delta$ LE		14.2	14.1		
								PLYL:		826,547	1,731,225		
										2,557,771			

The total PLYL of the RAC consumers is about 31% of the total PLYL of the RAC workers.

### The Likelihood of the Benefit

What is involved in infecting a RAC consumer fatally by an RAC worker?

We need to look at the likelihoods of the following sequence of events:

1. The RAC worker must become infected. The likelihood of infection is off course dependant on the amount of people that are infected in the community.
2. Then the RAC worker must transmit the disease at work. First the RAC worker must not realise he/she is infected, and therefore not decide to self-isolate. The likelihood of that happening is off course larger for a vaccinated person as they are more likely to be asymptomatic. For the vaccinated worker the efficacy in

reducing the spread is also a factor. This efficacy is absolutely unknown and you can argue for low or high efficacies. An efficacy of 50% is assumed, but this is probably rather optimistic.

- Then the RAC consumer must become fatally ill. This differs of course between the vaccinated and unvaccinated consumer and depends on the efficacy of the vaccines. Although the number of 90-95% efficacy is often mentioned, real life studies indicate that the efficacy for serious illness and for elderly people is lower than that. An optimistic efficacy of 80% is used for this elderly group suffering the most serious impact. A realistic target vaccination rate for the RAC consumers is 80%.

What is involved in infecting an residential aged care consumer fatally by an aged care worker?					
i	Chance RAC worker to become infected		= # Community Infections / # Population		
	Chance to transmit disease at work				
wu	35%	Unvaccinated RAC worker			
niwu		Chance to not self isolate before shift			85%
wv	65%	Vaccinated RAC worker			
niwv		Chance to not self isolate before shift			95%
rt		Chance to reduce transmission fails		= (1 - rt)	
	rt	Efficacy in reducing transmission			50%
bppe	Chance to breakthrough PPE				90%
	Chance to RAC consumer get fatally ill				
cu	20%	Unvaccinated RAC consumer		= IFR	
cv	80%	Vaccinated RAC consumer		= IFR x (1 - Efficacy Vaccine)	
	ifr	Infection Fatality Ratio (IFR)			
	eff	Efficacy Vaccine			80%
<b>Risk = i x (wu x niwu + wv x niwv x (1 - rt)) x bppe x (cu + cv x (1-eff)) x ifr</b>					

Using these factors, the difference between mandating the vaccinations or not can be calculated:

Risk:		
with NO Vaccine Mandates		19.64% x i x ifr
with Vaccine Mandates (wv = 100%)		15.39% x i x ifr
	<b>Benefit % = Difference =</b>	4.25% x i x ifr

For IFR is taken the CDC planning estimate of the group 65+ of 9%. Again; this is very conservative as it appears that the Delta variant, that is becoming the main variant over the world, is less deadly than the Alpha variant.

The chance to get infected (i = # community infections / # population) is taken by the following assumption: The total infections until now in Australia is 31k people, (total from the beginning of the pandemic until now). Let's assume a major outbreak more than 10 time this number, all at once; 310,000 infectious people in the community at the same time!

Benefit of Mandatory Vaccinations		Australian Population	
		25.687	million people
i =	1.2%	equals to	310,000 community infections at the same time
ifr =	9%	CDC estimate for age 65+	
=> Benefit % =	0.005%	x 2557771 =	
Benefit to CAR consumers =	118	LYL prevented versus loss of	163 LYL due to mandatory vaccination

**Even under these circumstances the reduction of risks for RAC consumers due mandatory vaccinations are lower than the increase in risk of the extra vaccinations for RAC workers.**

## **Conclusions**

With conservative estimates and optimistic performance indicators of the vaccines, the risks do not outweigh the benefits of mandatory vaccination for RAC workers. The balance is even more unfavourable for mandatory vaccinations if you consider:

- The LYL due to health impacts on people suffering from non-lethal, but serious vaccination adverse effects (e.g. strokes ,myocarditis, etc) are not incorporated in this model. This will be far worse than the LYL from potential Long Covid effects of RAC consumers.
- The unknown long-term risk associated with the vaccines are not incorporated in this model.
- The impact of stress and anxiety on the RAC workers that are forced to take vaccinations against their will.
- The costs to all parties and congestion of the legal system, inevitable following these mandates.
- The negative impact of segregation and polarisation of society.
- The capacity and quality problems to be anticipated if people pull out of the RAC workforce. A workforce that is not easily replenished with dedicated, hard-working, low wages accepting specialists.

*Stop panicking! Stop politicising!*

*Start thinking. Start analysing the facts. Start governing with balance.*

***STOP MANDATORY VACCINATIONS***

**Excogitatoris**

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