



National Heart Foundation

Senate Inquiry into Excess Mortality on Notice Responses

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1 Introduction

1.1 About the Heart Foundation

For over 60 years, the Heart Foundation has been the trusted peak body working to improve heart disease prevention, detection, and support for all Australians. The mission of the Heart Foundation is to reduce heart disease and improve the heart health and quality of life of all Australians through our work in the fields of risk reduction, support, care, and research. The impacts of COVID-19 on cardiovascular disease were an important area of focus for the Heart Foundation.

Therefore, Heart Foundation appreciates the opportunity to provide the sources for our statements made during the senate inquiry on the 13th of June.

2 On Notice Questions

2.1 Transcript reference

Senator ROBERTS: He said there has been a steep increase in mental health claims since mid-2021 and especially over the last three years, which brings us to now. Let's move on to the Heart Foundation. If you go to your submission, page 4, bullet point No. 6, you state that the Australian population, especially individuals with cardiovascular disease, should be encouraged to stay up to date with their COVID-19 vaccinations. If you go to page 15, under 6.2, in the second paragraph, it states: Furthermore, based on the risks of a COVID-19 infection in individuals with cardiovascular disease, the Heart Foundation also recommends the Australian population stays up to date with their COVID-19 Vaccinations.

Could you tell me on what scientific or medical basis those recommendations are made, please?

2.1.1 Heart Foundation Response

Please see the following citations which explain the effectiveness of the COVID-19 vaccines, on reducing the hospitalisation rates and severity of the COVID-19 infection.

1. Smoll NR, Al Imam MH, Shulz C, Booy R, Khandaker G. The effectiveness of vaccination for preventing hospitalisation with COVID-19 in regional Queensland: a data linkage study. *Med J Aust.* 2023 Aug 21;219(4):162-165. doi: 10.5694/mja2.52019. Epub 2023 Jul 3. PMID: 37400415.
2. Havers FP, Pham H, Taylor CA, Whitaker M, Patel K, Anglin O, Kambhampati AK, Milucky J, Zell E, Moline HL, Chai SJ, Kirley PD, Alden NB, Armistead I, Yousey-Hindes K, Meek J,

Openo KP, Anderson EJ, Reeg L, Kohrman A, Lynfield R, Como-Sabetti K, Davis EM, Cline C, Muse A, Barney G, Bushey S, Felsen CB, Billing LM, Shiltz E, Sutton M, Abdullah N, Talbot HK, Schaffner W, Hill M, George A, Hall AJ, Bialek SR, Murthy NC, Murthy BP, McMorrow M. COVID-19-Associated Hospitalizations Among Vaccinated and Unvaccinated Adults 18 Years or Older in 13 US States, January 2021 to April 2022. *JAMA Intern Med.* 2022 Oct 1;182(10):1071-1081. doi: 10.1001/jamainternmed.2022.4299. PMID: 36074486; PMCID: PMC9459904.

3. Martínez-Baz I, Trobajo-Sanmartín C, Miqueleiz A, Casado I, Navascués A, Burgui C, Ezpeleta C, Castilla J, Guevara M; Working Group for the Study of COVID-19 in Navarra; Members of the Working Group for the Study of COVID-19 in Navarra. Risk reduction of hospitalisation and severe disease in vaccinated COVID-19 cases during the SARS-CoV-2 variant Omicron BA.1-predominant period, Navarre, Spain, January to March 2022. *Euro Surveill.* 2023 Feb;28(5):2200337. doi: 10.2807/1560-7917.ES.2023.28.5.2200337. PMID: 36729113; PMCID: PMC9896606.
4. Liu Q, Qin C, Liu M, Liu J. Effectiveness and safety of SARS-CoV-2 vaccine in real-world studies: a systematic review and meta-analysis. *Infect Dis Poverty.* 2021 Nov 14;10(1):132. doi: 10.1186/s40249-021-00915-3. PMID: 34776011; PMCID: PMC8590867.
5. Smoll, Al Imam 1 is an Australian retrospective cohort study which evaluated the protection against hospitalisation in Central Queensland during the first quarter of 2022, immediately following the long-term state border closures. These closures having kept most of the COVID-19 population COVID-19 naïve.

2.2 Transcript reference

Dr Dougherty: With respect to vaccinations, there's a correlation between the severity of COVID-19 and the impacts it can have on the cardiovascular system. When you have a vaccination, it can reduce that severity.

2.2.1 Heart Foundation Response

Please see the following citations on the correlation between the severity of COVID-19 infection and the impacts it can have on the cardiovascular system.

1. Raisi-Estabragh Z, Cooper J, Salih A, Raman B, Lee AM, Neubauer S, Harvey NC, Petersen SE. Cardiovascular disease and mortality sequelae of COVID-19 in the UK Biobank. *Heart.* 2022 Dec 22;109(2):119-126. doi: 10.1136/heartjnl-2022-321492. PMID: 36280346; PMCID: PMC9811071.

2. Xie Y, Xu E, Bowe B, Al-Aly Z. Long-term cardiovascular outcomes of COVID-19. *Nat Med.* 2022 Mar;28(3):583-590. doi: 10.1038/s41591-022-01689-3. Epub 2022 Feb 7. PMID: 35132265; PMCID: PMC8938267.
3. Azevedo RB, Botelho BG, Hollanda JVG, Ferreira LVL, Junqueira de Andrade LZ, Oei SSML, Mello TS, Muxfeldt ES. Covid-19 and the cardiovascular system: a comprehensive review. *J Hum Hypertens.* 2021 Jan;35(1):4-11. doi: 10.1038/s41371-020-0387-4. Epub 2020 Jul 27. PMID: 32719447; PMCID: PMC7384729.

2.3 Transcript reference

Prof. Jennings: We would make a similar recommendation about influenza vaccination and other respiratory viruses, because we know that vulnerable people with heart disease don't have the resilience to cope with any kind of respiratory condition that other people of good health do.

Senator ROBERTS: Do you have any peer reviewed papers with data backing that up?

2.3.1 Heart Foundation Response

Please see the following citations on the impact of any kinds of respiratory condition on individuals with cardiovascular disease.

1. Behrouzi B, Bhatt DL, Cannon CP, Vardeny O, Lee DS, Solomon SD, Udell JA. Association of Influenza Vaccination With Cardiovascular Risk: A Meta-analysis. *JAMA Netw Open.* 2022 Apr 1;5(4):e228873. doi: 10.1001/jamanetworkopen.2022.8873. PMID: 35486404; PMCID: PMC9055450.
2. Xie Y, Xu E, Bowe B, Al-Aly Z. Long-term cardiovascular outcomes of COVID-19. *Nat Med.* 2022 Mar;28(3):583-590. doi: 10.1038/s41591-022-01689-3. Epub 2022 Feb 7. PMID: 35132265; PMCID: PMC8938267.
3. Ivey KS, Edwards KM, Talbot HK. Respiratory Syncytial Virus and Associations With Cardiovascular Disease in Adults. *J Am Coll Cardiol.* 2018 Apr 10;71(14):1574-1583. doi: 10.1016/j.jacc.2018.02.013. PMID: 29622165.
4. Kwong JC, Schwartz KL, Campitelli MA, Chung H, Crowcroft NS, Karnauchow T, Katz K, Ko DT, McGeer AJ, McNally D, Richardson DC, Rosella LC, Simor A, Smieja M, Zahariadis G, Gubbay JB. Acute Myocardial Infarction after Laboratory-Confirmed Influenza Infection. *N Engl J Med.* 2018 Jan 25;378(4):345-353. doi: 10.1056/NEJMoa1702090. PMID: 29365305.