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# Is it ethical to mandate COVID vaccination for patients referred for heart transplantation?

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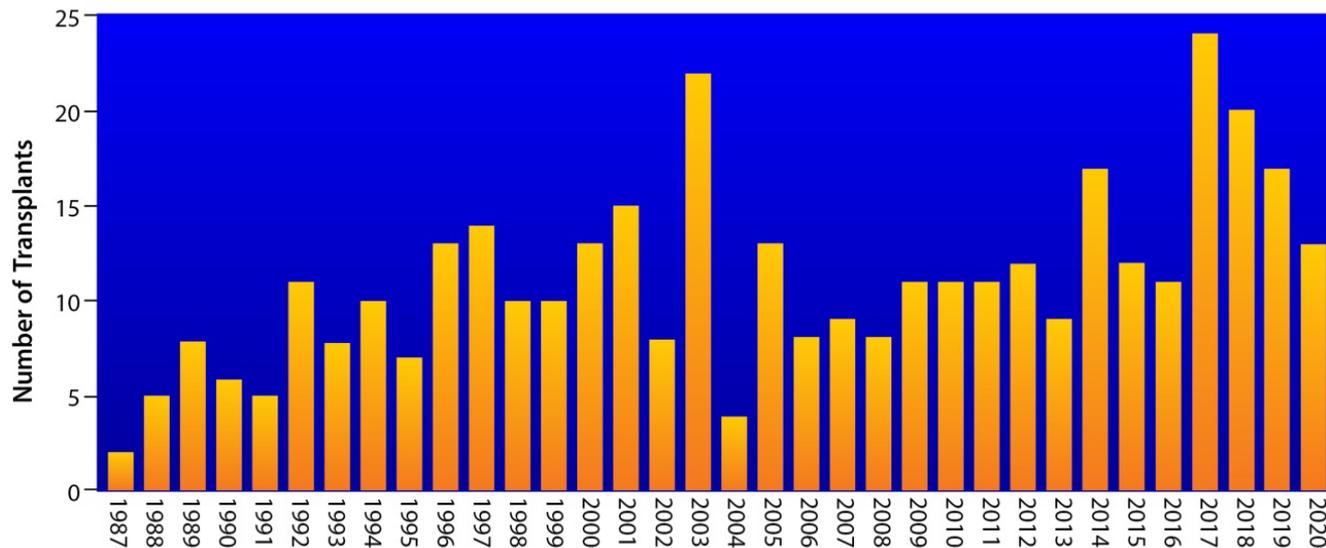


# Heart Transplantation- Background

- 1967 - 1st human heart transplant, South Africa - Christian Barnard
- Early 1970's
  - 1st HTX St Vincent's, Sydney
  - GLH prepared to perform HTX
- 1980 - introduction of cyclosporin
- 1984 - 2<sup>nd</sup> heart transplant - St Vincent's, Sydney
  
- 1987 - 1<sup>st</sup> heart transplant - New Zealand
- 1993 - 1<sup>st</sup> lung transplant - NZ
- 2005 - 1<sup>st</sup> LVAD - NZ (10 yo)
- 2021 - 390 (387 patients) heart transplants in NZ



# Annual heart transplant activity NZ



# Contraindications to heart transplantation

- Age >70 years
  - >65 years need to have low co-morbid burden
- BMI >35 or <17
- Diabetic end organ damage
- Vascular disease
- Active substance abuse – cigs, alcohol, other
  - Acute and no interaction previously with health services then can discuss IF likely to be able to abstain
  - Recommended 6month abstinence
- Active mental health disorder



# Contraindications to heart transplantation

- Active or recent malignancy
  - <5 years
- Active infection, acute PE, active peptic ulcer
- Systemic disease with multi-system involvement
  - Irreversible neurological disorder
  - Advanced RA
- Irreversible lung, liver or kidney disease
  - FEV1 <40% predicted
  - eGFR <40 ml/min/1.73 m<sup>2</sup>
- Non-compliance
- Lack of social support



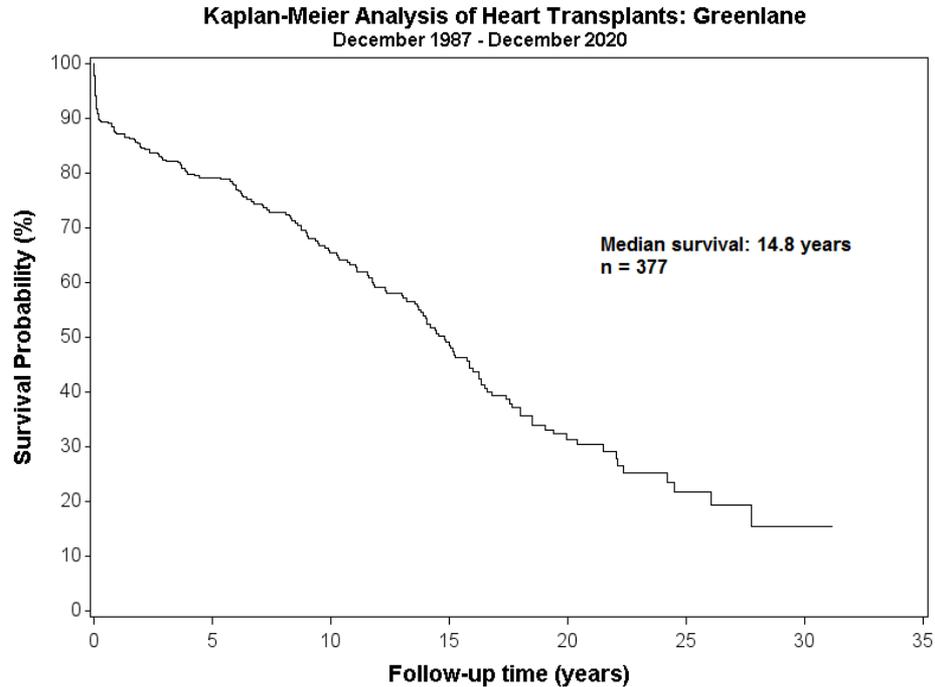
# Comment

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Some of these factors challenge social rights but all have been associated with poorer outcomes following transplantation



# Survival



# COVID vaccination - Issues

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- Vaccination of patients referred for HTX
- Vaccination of patients already on transplant waiting list
- Vaccination of support person
- Vaccination of those already transplanted
- Vaccination of staff caring for these patients



# Notes

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- Heart transplant patients encounter 100's of staff on their journey as well as other in-patients
- Live in with other immunocompromised HTX and LTX patients “Hearty Towers” for 6 weeks
- Attend regular physio with escalating exercise programmes
- Have frequent hospital appointments



# The Risk

- Impact of COVID disease on an immunocompromised patient (themselves)
- More vulnerable to infection- and at greater risk of life threatening COVID – 20-30 % fatality rate (cf 1.6%)
- Vaccinated – much less likely to become infected and to transmit or be a vector for the virus
- Vaccines work better pre-HTX – intact immune response



# Renal and Liver ACH

- Renal – “As far as I am aware if someone has declined a specific vaccination (not sure if this has happened) I don’t think that we would have declined listing them”
- Liver – “It's difficult but my gut feeling is that we would not decline somebody who did not want to be vaccinated if they were otherwise a suitable candidate.”



# Papworth – Cambridge UK

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“My personal view is that anyone who refuses the vaccine is demonstrating that their ability to weigh up risks and benefits is not good. This would leave me with doubts about other aspects of their decision-making. If it came to a vote in an MDT, I think I would vote to say no. Having said that, I can see that it could be politically challenging to be open/honest about turning down a patient for this reason and this reason alone.”

“Many US centres are more absolute than us.”



# St Vincent's Sydney

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“... if they are at high risk of developing COVID infection (because of lower levels of immunity and active community transmission) then they would be at high risk of a fatal outcome whether they acquire the disease pre or post-Tx as well as transmitting it to others – which I presume is the current situation in NZ and if that is the case then I think it would be reasonable to defer active listing either until they change their mind or the community reaches a protective level of immunity.”



# The Press

