Influence of HIV Status on Organ Procurement And Allocation: A Discrete Choice Experiment Among Australian Transplant Providers

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Disclosures

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Solid Organ Transplant is Standard of Care for People with HIV with End Stage Organ Disease

INTERNAL MEDICINE JOURNAL

RACP Specialists. Together

"Local data are important to understand the demand for, barriers to and outcomes of SOT in PWH"

ORIGINAL ARTICLE

Human immunodeficiency virus and solid organ transplantation: a 15-year retrospective audit at a tertiary Australian transplant centre

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BRIEF COMMUNICATION

NEPHROLOGY WILEY

Kidney transplantation in people living with human immunodeficiency virus: An overview of the Australian experience

Lucy McMullen[1,2] | Douglas Drak[2] | Gopal Basu[3,4] | P. Toby Coates[5,6] | David J. Goodman[7] | Alison Graver[8] | Nicole Isbel[9,10] | Wai H. Lim[11,12] | Grant Luxton[13] | Frederika Sciberras[14] | Nigel D. Toussaint[15,16] | Germaine Wong[17,18,19] | David M. Gracey[1,2]

Griffin DWJ et al. IMJ 2022
McMullen L, et al. Nephrology, 2023

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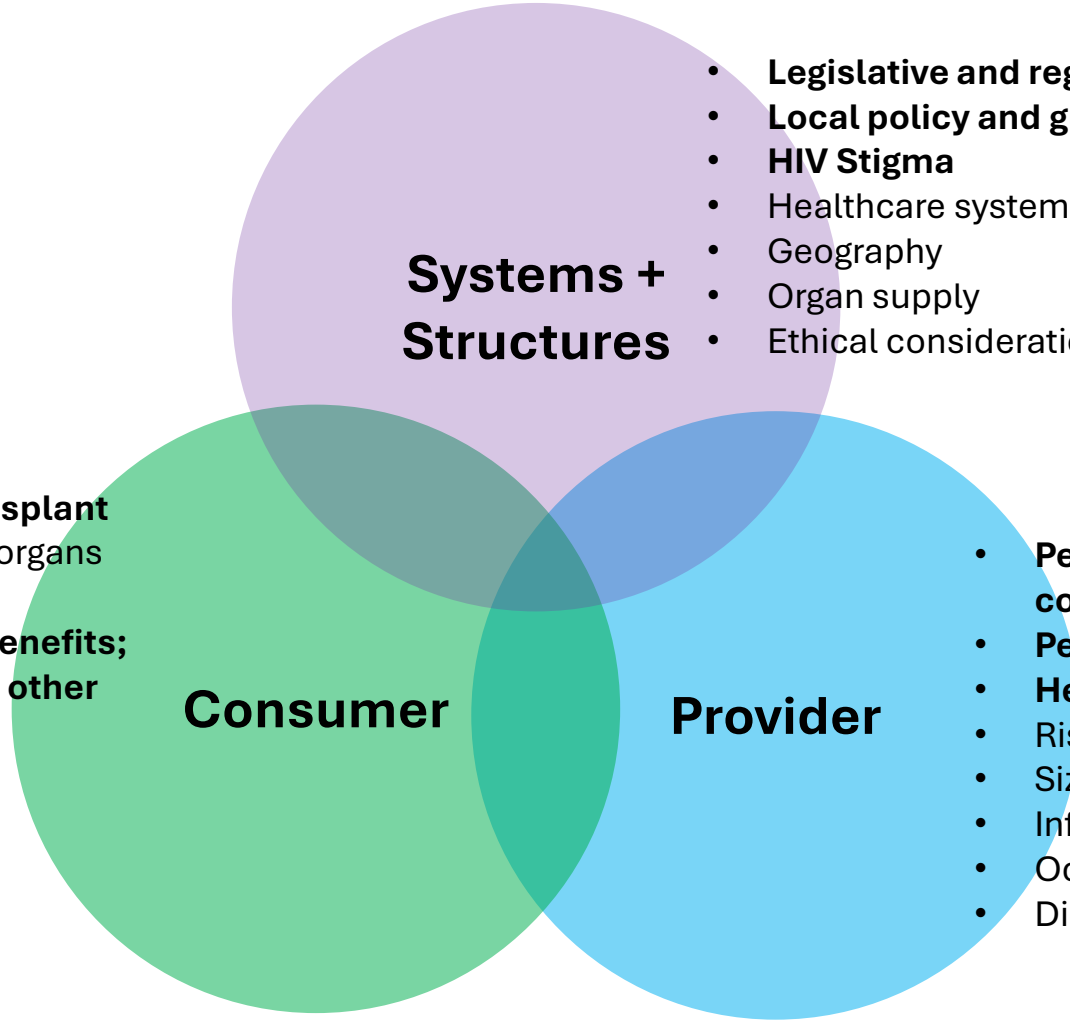
Reported Barriers to SOT in PWH



- **Legislative and regulatory (State vs Federal)**
- **Local policy and guidelines**
- **HIV Stigma**
- Healthcare system
- Geography
- Organ supply
- Ethical considerations

- **Psychosocial factors**
- Spiritual and cultural factors
- Anticipated health benefits
- **Need to change ARV post transplant**
- Willingness to accept high risk organs
- Trust in medical system
- **Anticipated social risks and benefits; anonymity, stigma, impact on other candidates**
- Literacy around HIV and SOT

- **Perception that HIV remains contraindication to SOT**
- **Perceived surgical risk/Stigma**
- **Health status of PWH**
- Risk of coinfection
- Size of transplant center
- Informed consent
- Occupational risk of HIV acquisition
- Disclosure

Griffin DWJ, et al. HIV Medicine 2025

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Background – Previous Australian Survey Work

- Most providers agreed that PWH were eligible to receive organs
  - Misconceptions about risks and complications were common
  - Medical and psychosocial barriers considered greatest barrier to organ receipt

- Knowledge about eligibility for PWH to donate organs was poor
  - Providers permissive to PWH registering to donate, and donating to PWH
  - Some providers open to HIV D+/R- SOT
  - HIV and legislative barriers considered greatest barrier to donation

Australian Guidelines Historically Exclusionary for PWH

- Risk-based, cautionary and stigmatizing language around HIV
- HIV listed as relative contraindication to cardiac transplantation

2.3.2.8 Human immunodeficiency virus

Screening for HIV should be performed using both NAT and a fourth generation antigen/antibody combination immunoassay. These fourth generation antigen/antibody combination immunoassays identify antibodies against both HIV-1 and HIV-2 as well as the presence of p24 antigen. If an initial test is positive, this result should be confirmed with subsequent testing according to jurisdictional policies, which may include separate antibody and p24 antigen assays, commercial western blotting assays, and/or nucleic acid tests.

Although HIV-positive individuals are generally contraindicated from donating organs, in exceptional circumstances a life-preserving donation from an HIV-infected donor may occur, for example for use in an HIV-infected recipient, after discussion with an infectious diseases physician.

Recommendation

All donors should be screened for HIV using an HIV Ag/Ab combination assay and HIV-NAT. Use of organs from an antibody and/or NAT positive donor is generally contraindicated except in exceptional circumstances.

TSANZ. Clinical Guidance for Transplantation from Deceased Donors. 2021

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PWH can safely donate organs to other PWH…

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Safety of Kidney Transplantation from Donors with HIV

C.M. Durand, A. Massie, S. Florman, T. Liang, M.M. Rana, R. Friedman-Moraco, A. Gilbert, P. Stock, S.A. Mehta, S. Mehta, V. Stosor, M.R. Pereira, M.I. Morris, J. Hand, S. Aslam, M. Malinis, G. Haidar, C.B. Small, C.A.Q. Santos, J. Schaenman, J. Baddley, D. Wojciechowski, E.A. Blumberg, K. Ranganna, O. Adebiyi, N. Elias, J.A. Castillo-Lugo, E. Giorgakis, S. Apewokin, D. Brown, D. Ostrander, Y. Eby, N. Desai, F. Naqvi, S. Bagnasco, N. Watson, E. Brittain, J. Odim, A.D. Redd, A.A.R. Tobian, and D.L. Segev, for the HOPE in Action Investigators*

ORIGINAL ARTICLE AJT

HOPE in action: A prospective multicenter pilot study of liver transplantation from donors with HIV to recipients with HIV

Christine M. Durand[1] | Sander Florman[2] | Jennifer D. Motter[3] | Diane Brown[1] | Darin Ostrander[1] | Sile Yu[3] | Tao Liang[1] | William A. Werbel[1] | Andrew Cameron[3] | Shane Ottmann[3] | James P. Hamilton[1] | Andrew D. Redd[1,4] | Mary G. Bowring[3] | Yolanda Eby[5] | Reinaldo E. Fernandez[1] | Brianna Doby[6] | Nazzarena Labo[7] | Denise Whitby[7] | Wendell Miley[7] | Rachel Friedman-Moraco[8] | Nicole Turgeon[8] | Jennifer C. Price[9] | Peter Chin-Hong[9] | Peter Stock[9] | Valentina Stosor[10] | Varvara A. Kirchner[11] | Timothy Pruett[11] | David Wojciechowski[12] | Nahel Elias[12] | Cameron Wolfe[13] | Thomas C. Quinn[1,4] | Jonah Odim[14] | Megan Morsheimer[14] | Sapna A. Mehta[15] | Meenakshi M. Rana[16] | Shirish Huprikar[16] | Allan Massie[3] | Aaron A. R. Tobian[5] | Dorry L. Segev[3] | On Behalf of the HOPE in Action Investigators

The NEW ENGLAND JOURNAL of MEDICINE

HIV-Positive Organ Donation as Standard of Care in Transplantation

Elmi Muller, M.D., Ph.D., M.B.A.

ELSEVIER

The Journal of Heart and Lung Transplantation
http://www.jhltonline.org

CASE ANECDOTES, COMMENTS AND OPINIONS

HIV D+/R+ heart/kidney transplantation: First case report

Vagish Hemmige, MD, MS,[a,b,#] Omar Saeed, MD, MS,[a,b,#] Yoram A. Puius, MD, PhD,[a,b] Yorg Azzi, MD,[a,b] Adriana Colovai, PhD,[a,b] Jamil Borgi, MD,[a,b] Daniel J. Goldstein, MD,[a,b] Marjan Rahmanian, MD,[a,b] Anthony Carlese, DO,[a,b] Ulrich P. Jorde, MD,[a,b,¥] and Snehal Patel, MD[a,b,¥]

From the [a]Albert Einstein College of Medicine, Bronx, New York; and the [b]Montefiore Medical Center, Bronx, New York.

She was listed for HIV D+/R+ kidney transplantation. However, subsequently, her LVEF declined to 20%. As kidney transplant alone posed unacceptable risks, she was listed for combined cardiac/renal transplantation, status 5.

After approval by the Einstein-Montefiore Institutional Review Board and the United Network of Organ Sharing, and written informed consent, the patient's listing was updated, and an offer quickly received (Table 1). Although the donor's regimen was unknown, the diagnosis of HIV was recent, and the viral load was undetectable, with no clinical or radiologic evidence of

Durand CM, et al. NEJM. 2024
Durand CM, et al. Am J Transplant. 2022
Muller E. NEJM 2024
Hemmige V, et al. J Heart Lung Transplant. 2023

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But Very Limited Evidence about the Safety of HIV D+/R- SOT…

OPEN

FAST TRACK

Living donor liver transplant from an HIV-positive mother to her HIV-negative child: opening up new therapeutic options

Jean Botha[a], Francesca Conradie[b,c], Harriet Etheredge[a,c], June Fabian[a,c], Mary Duncan[a], Ahmad Haeri Mazanderani[d,e], Maria Paximadis[d,f], Heather Maher[a], Russell Britz[a], Jerome Loveland[a,g], Bernd Ströbele[a], Sharan Rambarran[a], Adam Mahomed[a,c], Alta Terblanche[a], Marisa Beretta[a], Liam Brannigan[a], Michael Pienaar[a], Lindsay Archibald-Durham[a], Allison Lang[a] and Caroline T. Tiemessen[d,f]

EDITORIAL COMMENT

Living donor liver transplant from an HIV-positive individual to an HIV-negative individual: could this become a new reality?

Jürgen K. Rockstroh[a,b] and Francisco González-Scarano[c,d]

Current Controversy

OPEN ACCESS

Needs must: living donor liver transplantation from an HIV-positive mother to her HIV-negative child in Johannesburg, South Africa

Harriet Rosanne Etheredge,[1,2] June Fabian,[3,4] Mary Duncan,[3] Francesca Conradie,[4,5] Caroline Tiemessen,[6,7] Jean Botha[3,8]

Botha J, et al. AIDS. 2018
Rockstroh JK, Gonzales-Scaracho F. AIDS. 2018
Etheridge HR, et al. J Med Ethics. 2019

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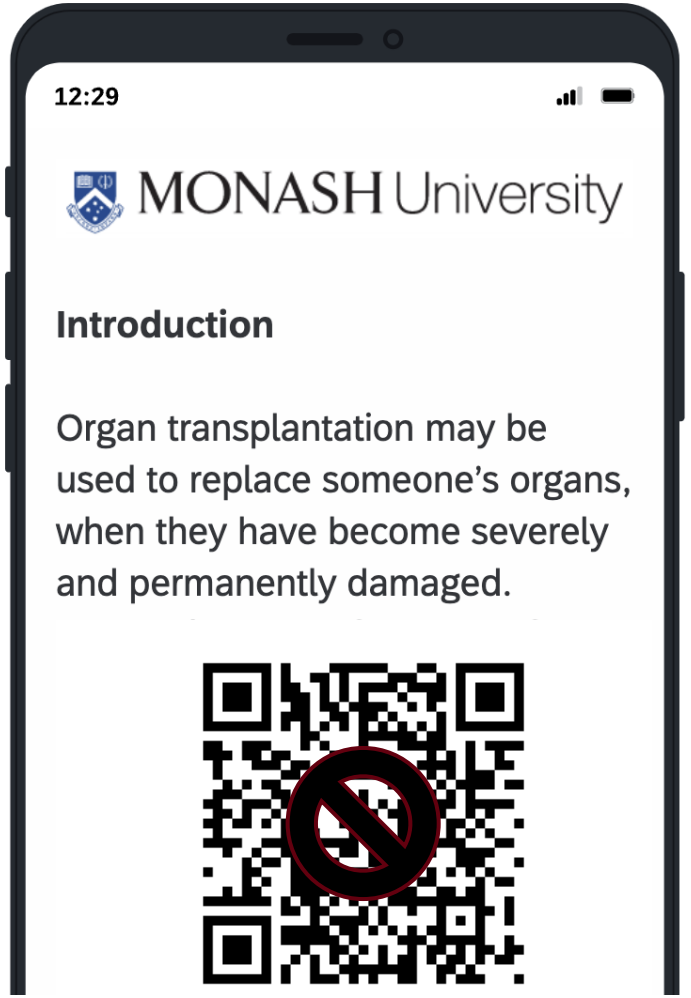
Aim

To understand the influence of **HIV infection**, and other key attributes, on decision-making about the:

1. Allocation of organs to recipients
2. Selection of prospective donors among Australian clinicians.

Methods

- Discreet Choice Experiment developed
  - Literature review
  - Expert consensus
- Bayesian D-efficient design (N-gene)
- Hosted on Monash University Qualtrics™ platform
- DCE completed online Aug 2024 to April 2025
  - organ specialists, transplant physicians, transplant surgeons
  - Accessed by QR code, or web link
- Distributed via professional organisations newsletters, mailing lists, websites, clinics
- Alfred HREC Project 60/24



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Methods – DCE Final Attributes and Levels

Recipient

Attribute	Level
Age	21
	35
	50
	70
Frailty	High (Frail)
	Moderate (Pre-Frail)
	Low (Not-Frail)
Life expectancy post-transplant	5 years
	10 years
	20 years
Medication compliance	100%
	80%
	60%
Social supports	adequate
	none
Pre-transplant quality of life	good
	moderate
	poor
Expected survival without Transplant	< 3 months
	3-12 months
	> 12 months
HIV	positive
	negative

Donor

Attribute	Level
Age	21
	35
	50
	70
Type of donor	Donation after Circulatory Death (DCD)
	Donation after Brain Death (DBD)
	Living Donor
Organ potential	Two kidneys, liver, lungs, and heart
	Two kidneys, liver, lungs
	Two kidneys, liver
	One kidney
Organ Quality	High
	Moderate
	Poor
Registered organ donor	Registered
	Unregistered
HIV	positive
	negative

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Methods – Example Donor Choice Set

(1/6) Assuming the availability of an appropriate recipient, which of the following donors would be preferred?

	Donor 1	**Donor 2**
Age	21	35
Type of Donor	Donation after Brain Death (DBD)	Donation after Brain Death (DBD)
Organ Potential	One kidney	Two kidneys, liver, lungs, and heart
Organ Quality	Moderate	Poor
Registered Organ Donor	Unregistered	Registered
HIV	Negative	Positive
	○	○

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Results – Participant Demographics

		N (%)
Male (%)		44/78 (56.4)
Location		
	Victoria	50/77 (64.9)
	New South Wales	14/77 (18.2)
	Queensland	9/77 (11.7)
	Other	4/77 (5.2)
Clinician Type		
	Specialist Physician	24/79 (30.4)
	Transplant Physician	38/79 (48.1)
	Transplant Surgeon	11/79 (13.9)
Experience in Specialty		
	≤ 10 years	37/79 (46.8)
	> 10 years	42/79 (53.2)
Place of Work		
	Tertiary Centre	72/79 (91.1)
	Other Hospital	7/79 (8.8)
Involved In SOT Referral or Selection		
	Yes	63/79 (79.7)
Involved in the Care of PWH		
	Yes	21/79 (26.6)
Knowledgeable about HIV		
	Agree*	33/79 (41.8)

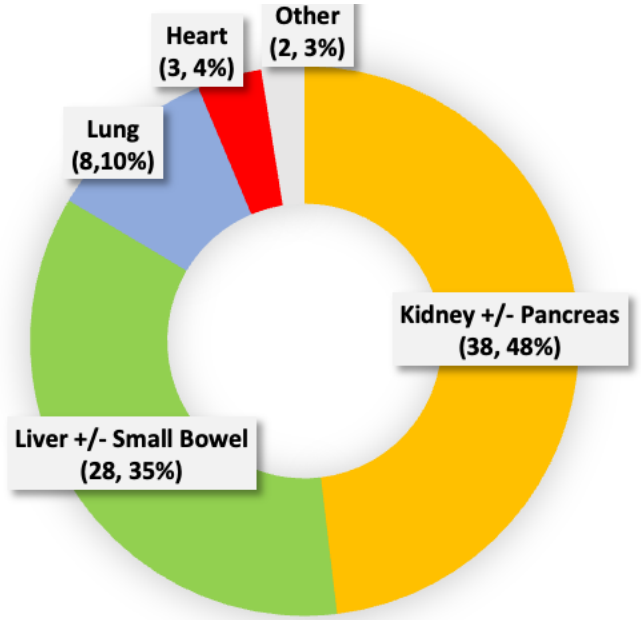

Figure: Organ Specialty

Table: Demographics of Participating Healthcare Providers

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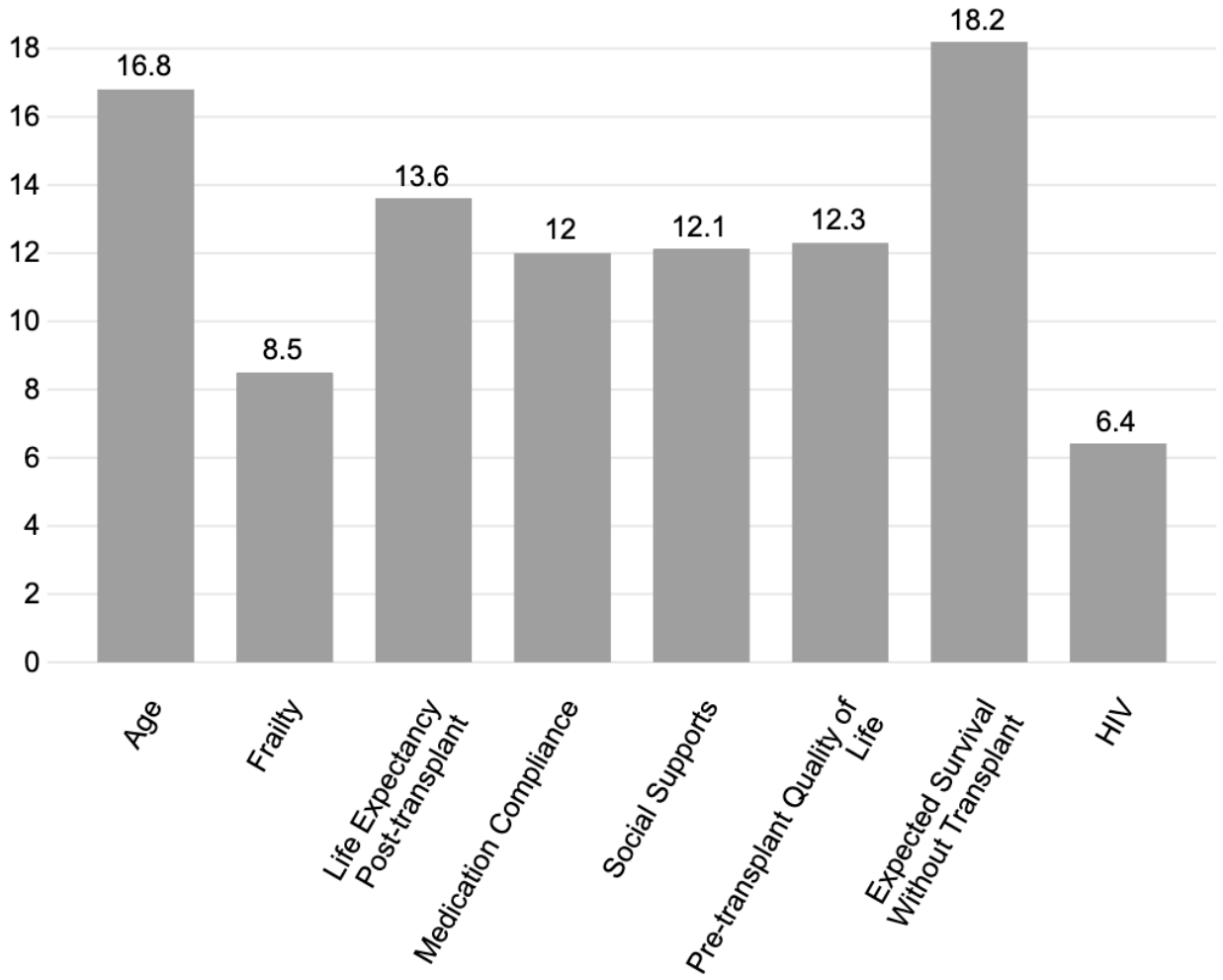
Results – Recipient DCE

Attribute Importance



Optimal Package

Age	35
Frailty	Low (Not Frail)
Life Expectancy Post-transplant	20 years
Medication Compliance	100%
Social Supports	Adequate
Pre-transplant Quality of Life	Poor
Expected Survival Without Transplant	< 3 months
HIV	Positive

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Recipient DCE

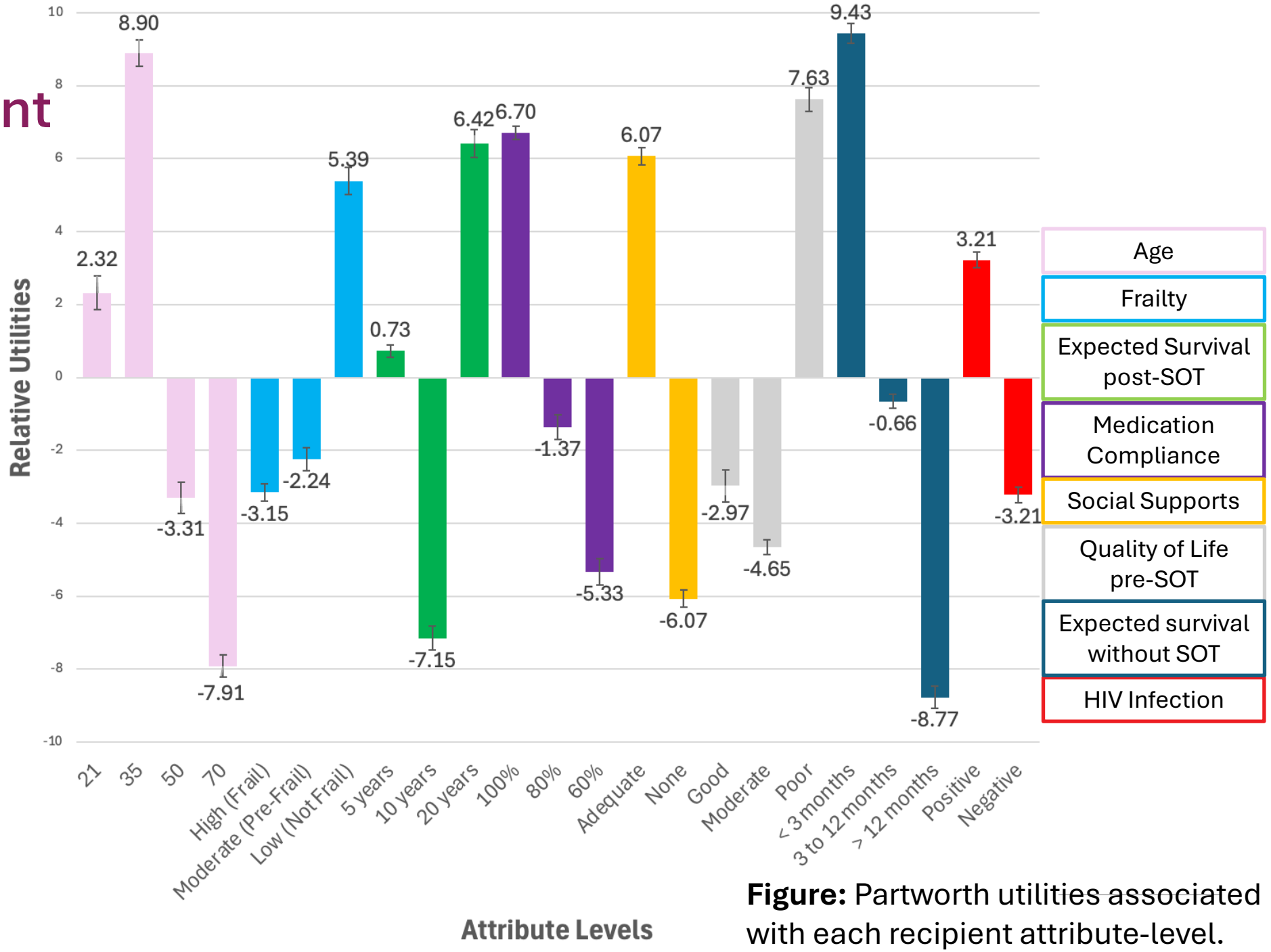

Figure: Partworth utilities associated with each recipient attribute-level.

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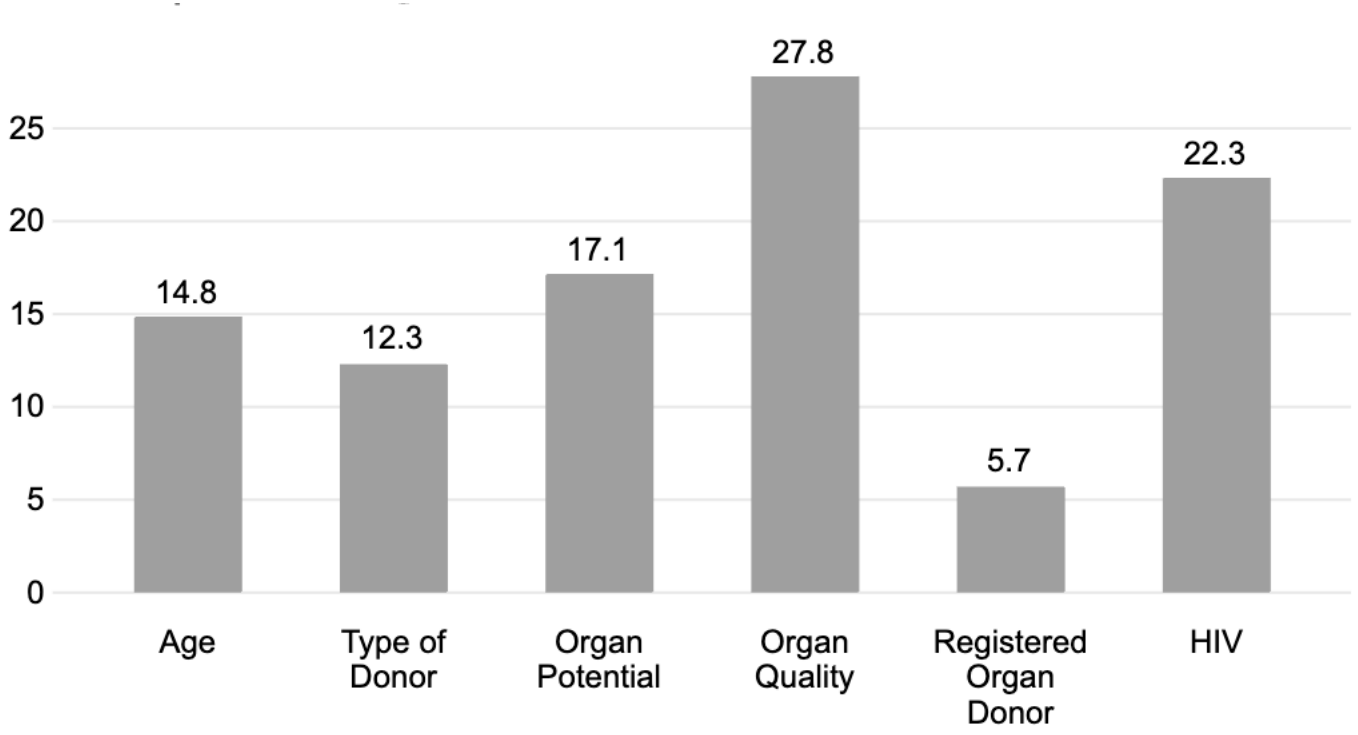
Results – Donor DCE

Attribute Importance



Optimal Package

Age	21
Type of Donor	Living Donor
Organ Potential	Two kidneys, liver, lungs
Organ Quality	High
Registered Organ Donor	Unregistered
HIV	Negative

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Donor DCE

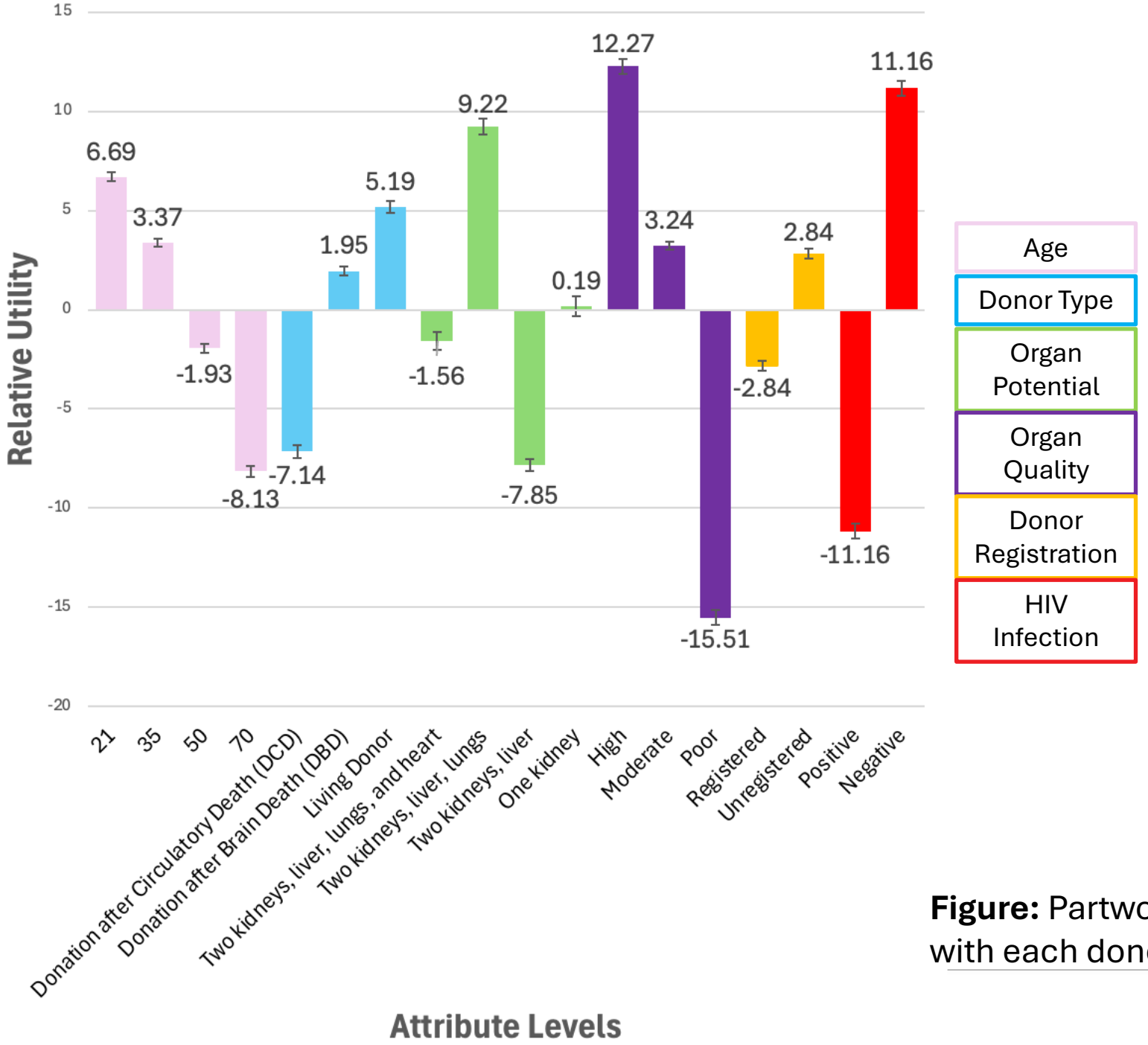

Figure: Partworth utilities associated with each donor attribute-level.

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Donor DCE – Simulations

HIV positive option	Preference share for HIV positive alternative (95% CI)	HIV negative option
HIV positive	2.3% (0.5-4.1)	HIV negative
HIV positive, Living donor	8% (5.0-11)	HIV negative, DCD
HIV positive, Age 21	24% (15-33)	HIV negative, Age 70
HIV positive, Organ Quality HIGH	61% (50-72)	HIV negative, Organ Quality LOW
HIV positive, Two kidneys, Liver, Lungs	28% (18-38)	HIV negative, Two Kidneys, Liver
HIV positive, registered donor	6% (1- 11)	HIV-negative unregistered donor

For a donor with HIV to be preferred to a donor without HIV, a prospective donor would need to have high organ quality than a candidate without HIV with poor organ quality.

Summary

- People with HIV are eligible to receive and donate organs in Australia

- HIV infection was the least important feature of a potential organ recipient in decision-making about the receipt of organs
- HIV-status was the second-most important factor in decision-making about a prospective donor.
    - Donor with HIV with high organ potential preferred over a donor without HIV, with poor quality organs.

- Younger age, clinical urgency, and optimal organ and patient outcomes were most important in the selection of a recipient.
- Organ quality, the absence of HIV, higher organ potential, and younger age were most important in the selection of a potential donor
- More data are needed to understand these preferences, differences between clinician groups, and preferences of consumers.

Guideline Update

2.3.2.8 Human immunodeficiency virus

Screening for HIV should be performed using both NAT and a fourth-generation antigen/antibody combination immunoassay. These fourth-generation antigen/antibody combination immunoassays identify antibodies against both HIV-1 and HIV-2 as well as the presence of p24 antigen. If an initial test is positive, this result should be confirmed with subsequent testing according to jurisdictional policies, which may include separate antibody and p24 antigen assays, commercial western blotting assays, and/or nucleic acid tests.

The use of organs from donors with HIV for recipients with HIV (D+/R+) is supported by increasing evidence from both high and low HIV prevalence settings. Three studies of kidney HIV D+/R+ transplantation show favourable outcomes compared to HIV D-/R+ transplants, although one study demonstrated a trend towards increased rejection among HIV D+ kidney transplant recipients, which warrants additional investigation.[83,84,85] Notably, the risk of rejection was half as common in those receiving lymphocyte depleting induction, indicating that opportunities may exist to mitigate this risk. One cohort of D+/R+ liver transplants showed similar overall and graft survival, but increased opportunistic infections, mostly driven by CMV infection (among high risk CMV mismatch pairs, numerically higher in the HIV D+/R+ group) and HHV-8-related malignancies (not statistically significant).[86] Experience with other solid organs is more limited, but outcomes are not expected to be significantly different.[87] HIV superinfection with a drug-resistant strain is a theoretical concern, and while donor HIV is detectable in a proportion of recipients early after transplantation, the clinical relevance remains unclear.[86,88,89]

Contemporary evidence

The number of transplant recipients with HIV internationally has been increasing, with good outcomes.[90,91,92,93] However, people with HIV face additional barriers to waitlisting and transplantation.[94,95,96] Data from the US indicate that a HIV D+/R+ strategy can provide a pathway to enhance access to transplantation for people with HIV and potentially higher quality organs, which may outweigh any potential additional risks.[97] Moreover, it may enable utilisation of organs from donors with false-positive HIV screening tests, that would otherwise not be transplanted.[98] In Australia, the incidence of donor referrals with HIV is also small , but successful HIV D+/R+ kidney transplantation has been performed locally.[99] An infectious diseases specialist with expertise in HIV and transplant infectious diseases should be involved in these cases, and specific informed consent should be obtained from the recipient. Donors with HIV must have an HIV infection that can effectively be treated using antiretroviral therapy that accounts for both efficacy and potential drug interactions in a post-transplant setting.

Benefits of HIV D+ SOT for PWH

Importance of informed consent

Organ transplantation from donors with HIV into recipients without HIV is not routine practice, due to anticipated HIV transmission and limited evidence base. As such, there is insufficient published evidence to support the safety or clearly define the risks of this approach, even in exceptional cases. Should circumstances arise where a donor with HIV is appropriate to consider for a recipient without HIV (i.e. where the urgency and availability of transplantation is thought to outweigh the additional recipient risks of HIV transmission[100]), careful consideration would be required regarding consent processes, local approvals, and jurisdictional legal implications. Consultation of an infectious diseases specialist with expertise in HIV would be mandatory.

Potential for HIV D+/R- SOT

Recommendation

All donors should be screened for HIV using an HIV Ag/Ab combination assay and HIV-NAT. Use of organs from selected donors with an antibody and/or NAT-positive for HIV should be considered for waitlisted recipients with HIV, in consultation with a HIV specialist. Donation of organs from donors with HIV for recipients without HIV is not recommended; should exceptional circumstances arise, consultation with a HIV specialist, informed consent and careful consideration of risks would be required.

TSANZ. Clinical Guidance for Organ Transplantation from Deceased Donors. June 2025

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Thank you

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- Conference organisers; **ASHM**
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- **Dr Warittha "Nittha" Tieosapjaroen**
- **Funding:** John F. Marriott Trust
- **Consumer organisations:** NAPWHA – John Rule, Aaron Cogle
- **Professional organisations:** TSANZ, ASID, VHHITAL, LITAC, ANZSN

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Community Summary

- People with HIV are eligible to **receive** organ transplants when needed

- Factors other than HIV are more important in deciding whether a person receives an organ transplant

- HIV infection appears to be an important factor in decision making about accepting a potential organ donor, but more information is needed to understand why this is.

- People with HIV are eligible to **register as organ donors** with Donate Life, and have potential to **donate** their organs