

# IMPACT OF MENTAL ILLNESS ON PATIENT JOURNEY WHILE WAITING FOR KIDNEY TRANSPLANT: AN AUSTRALIAN DATA- LINKAGE STUDY

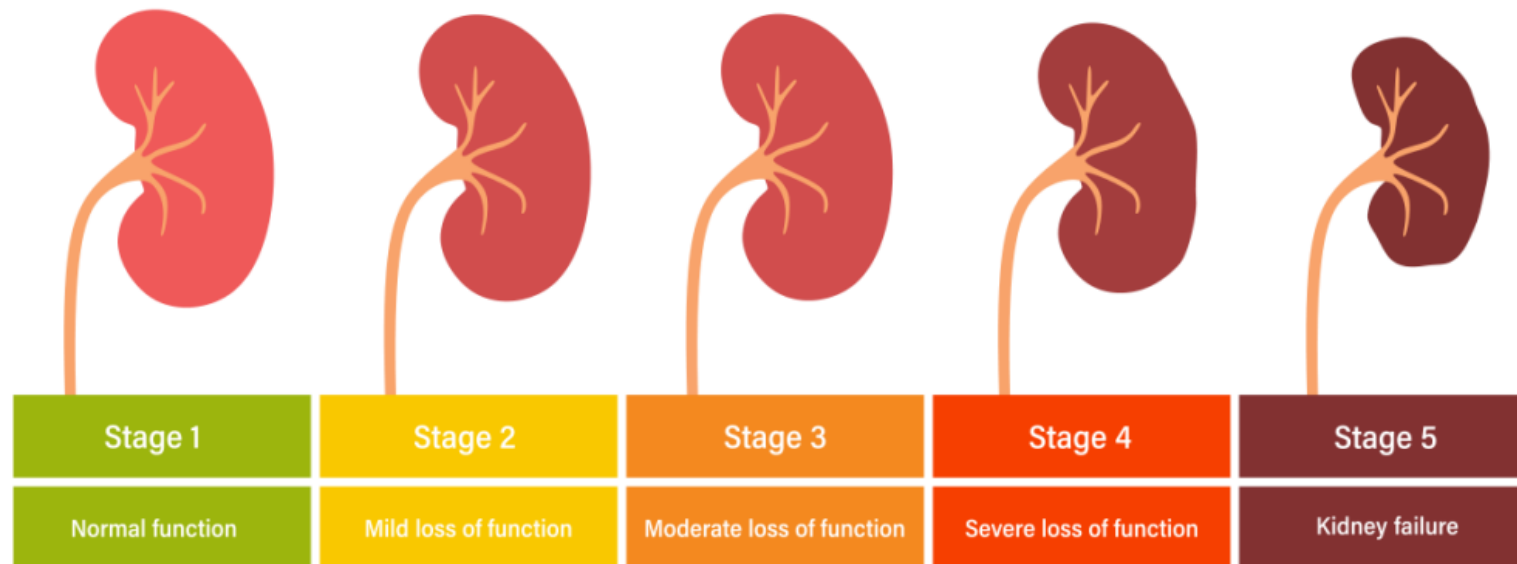
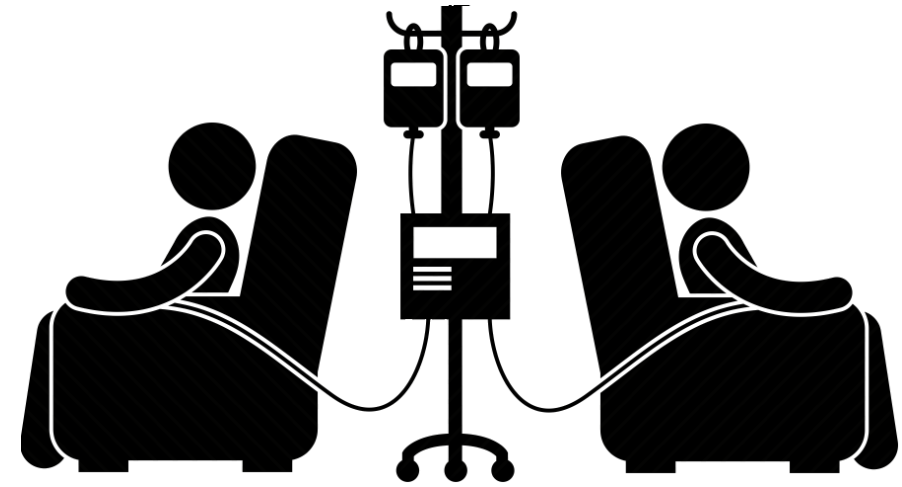
**Nicole De La Mata, Grant Sara, Nick Glozier, Jaime Miranda, Melanie Wyld, Angela Webster**



Collaborative  
Centre for  
Organ ●  
Donation  
Evidence

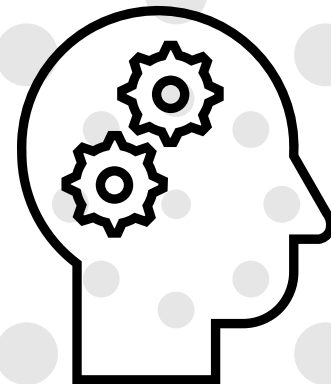
# Health service delivery for kidney failure

- Kidney failure treatment is onerous and expensive
- Transplantation remains ideal, but demand  $\uparrow$
- Existing evidence of disadvantage in access and outcomes from overseas



# Intersection of mental illness and kidney failure

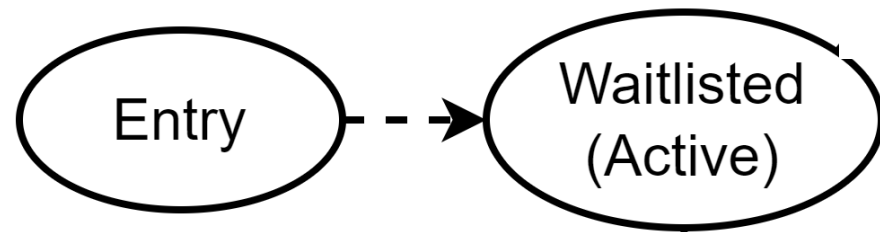
- Mental ill health is overrepresented in kidney failure population
- Kidney disease is 6x more likely in people living with severe mental illness
- Up to 40% of dialysis patients report feeling depression and anxiety
- Little understanding of health service delivery for kidney failure in people living with mental illness
  - Diagnostic overshadowing
  - Stigma & negative attitudes



## Study objective

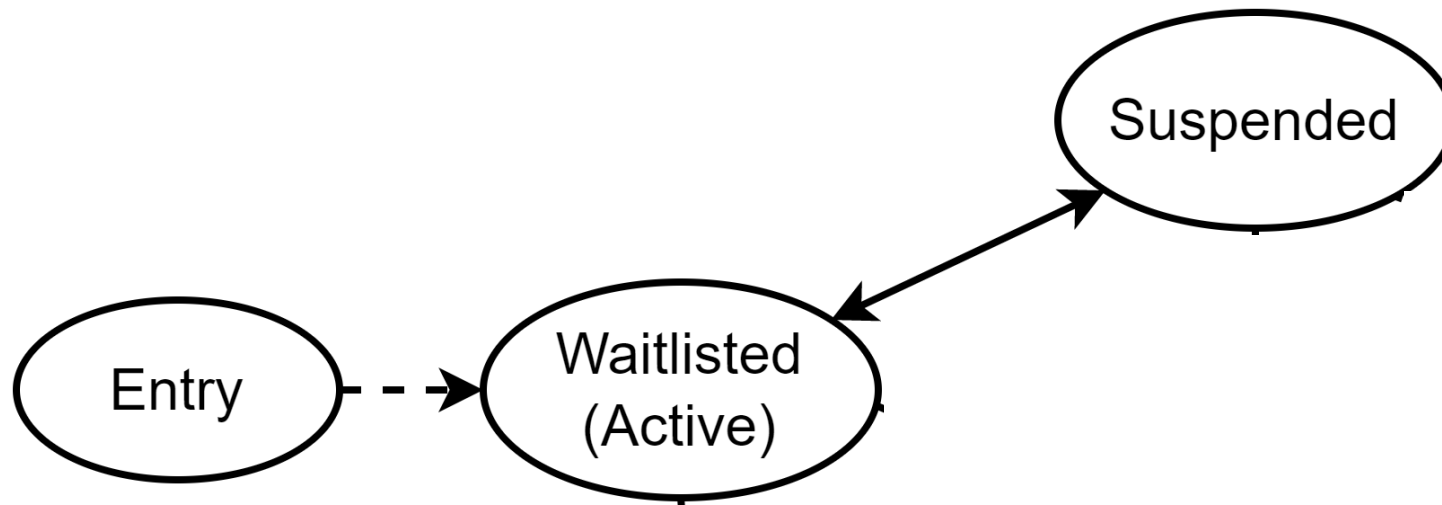
*Compare patient journey between NSW mental health service users and others after entering the kidney transplant waitlist.*

# Kidney waitlist process



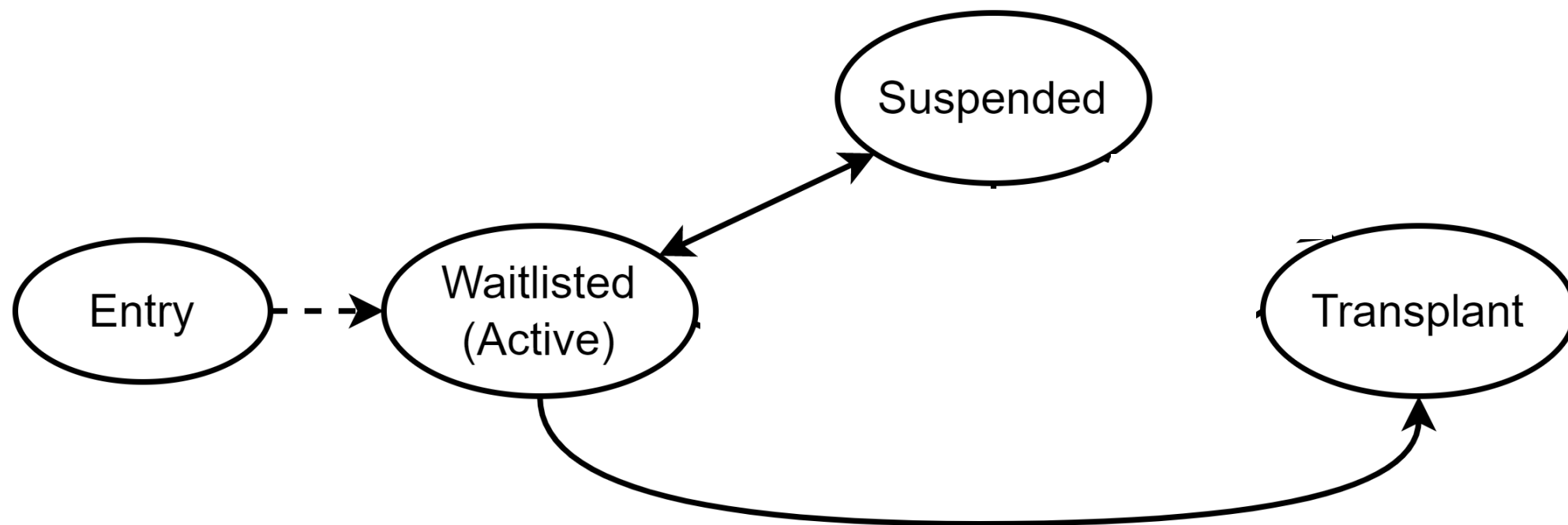
# Kidney waitlist process

- Suspensions can occur, once or several times.
- While suspended, they cannot receive deceased donor transplant.



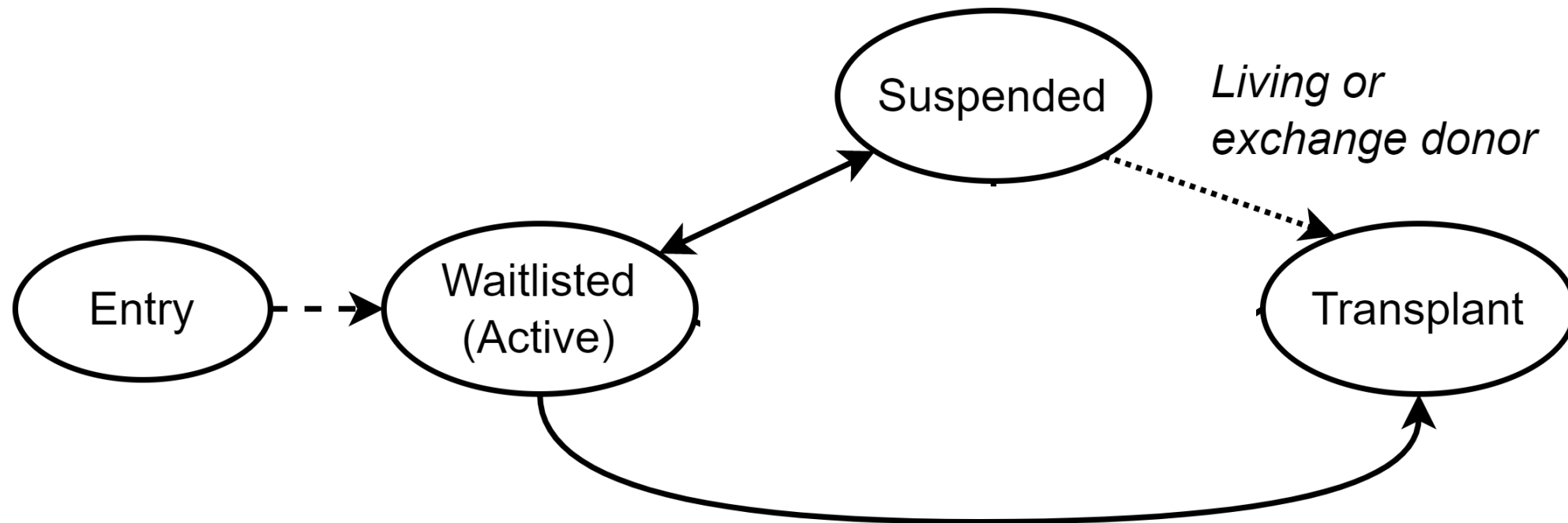
# Kidney waitlist process

- When active waitlisted, deceased donor transplants occur.



# Kidney waitlist process

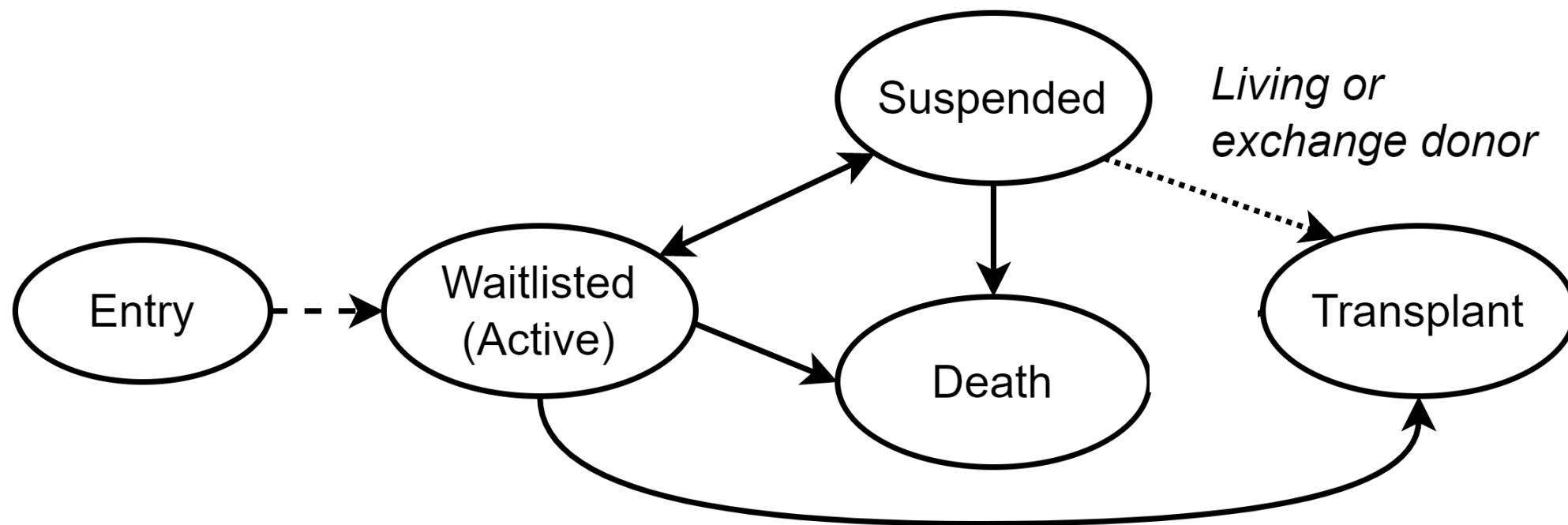
- Living or paired exchange donor transplants can occur at any time (active waitlisted or suspended)





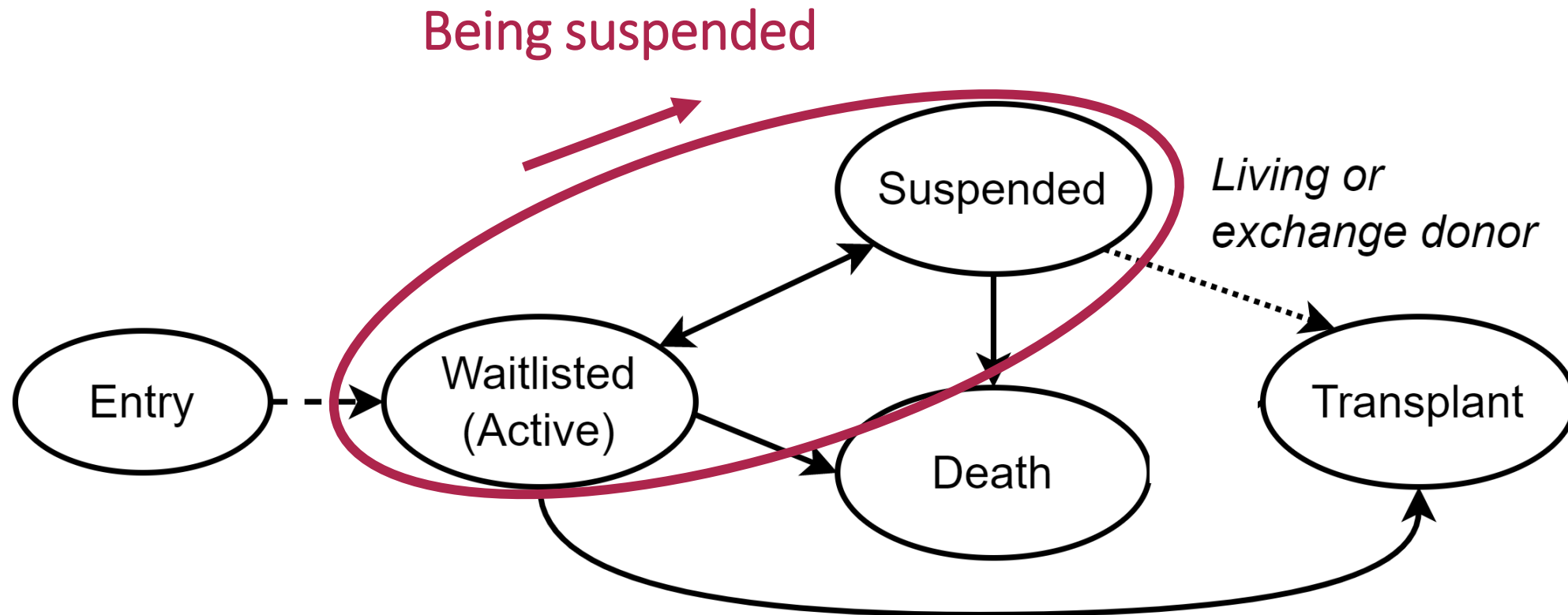
# Kidney waitlist process

- Death while waiting occur at any time and prior to transplant.



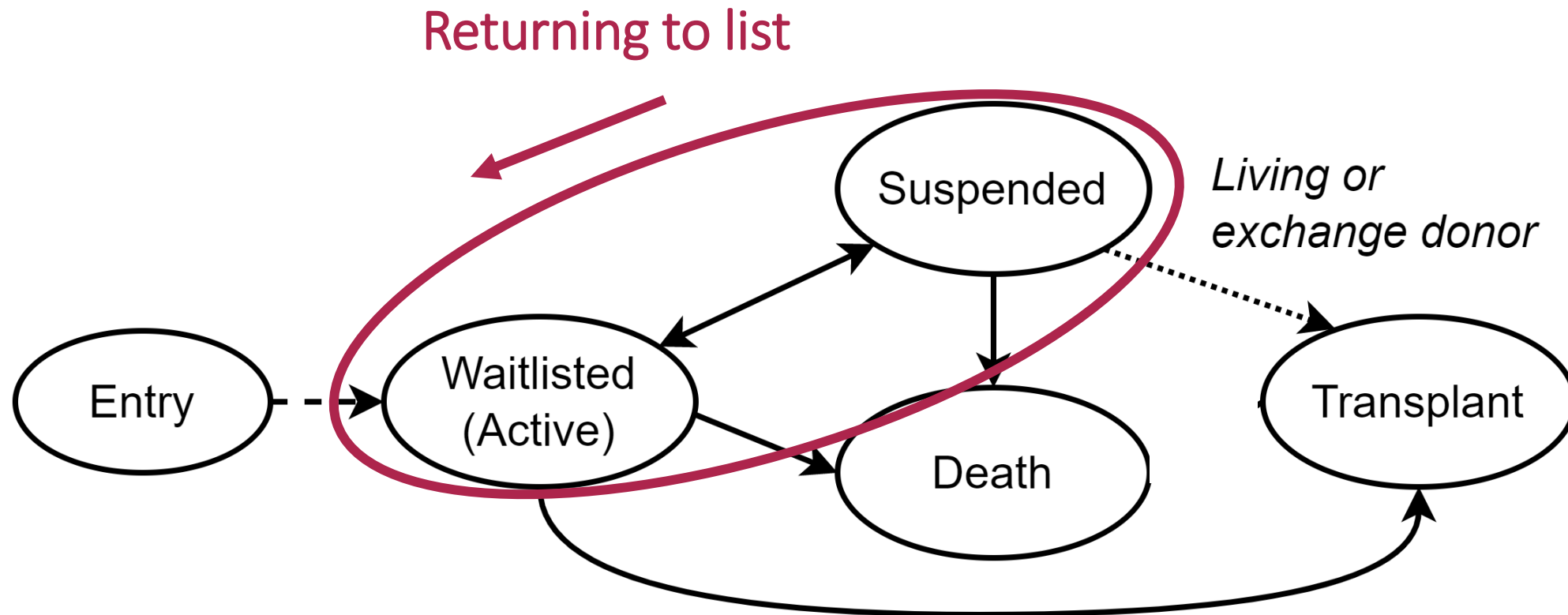
# Kidney waitlist process

- Multi-state model approach to estimate impact of mental illness on certain transitions:



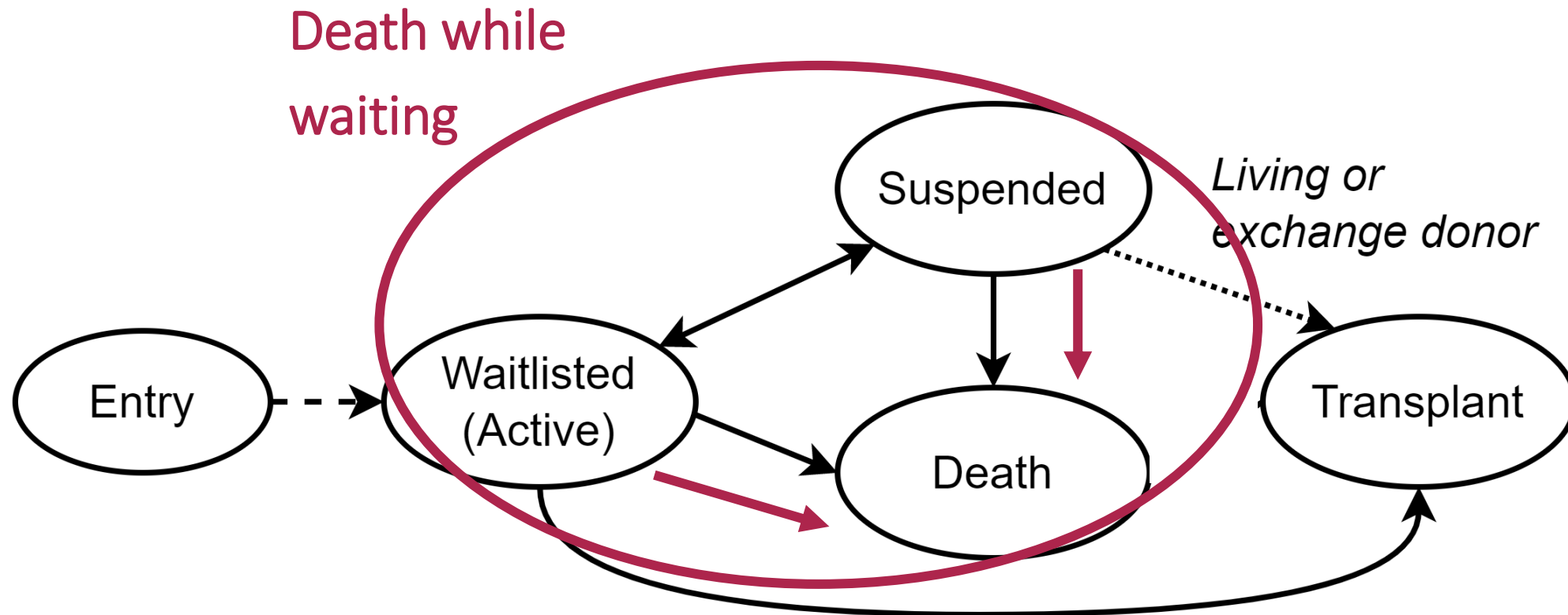
# Kidney waitlist process

- Multi-state model approach to estimate impact of mental illness on certain transitions:



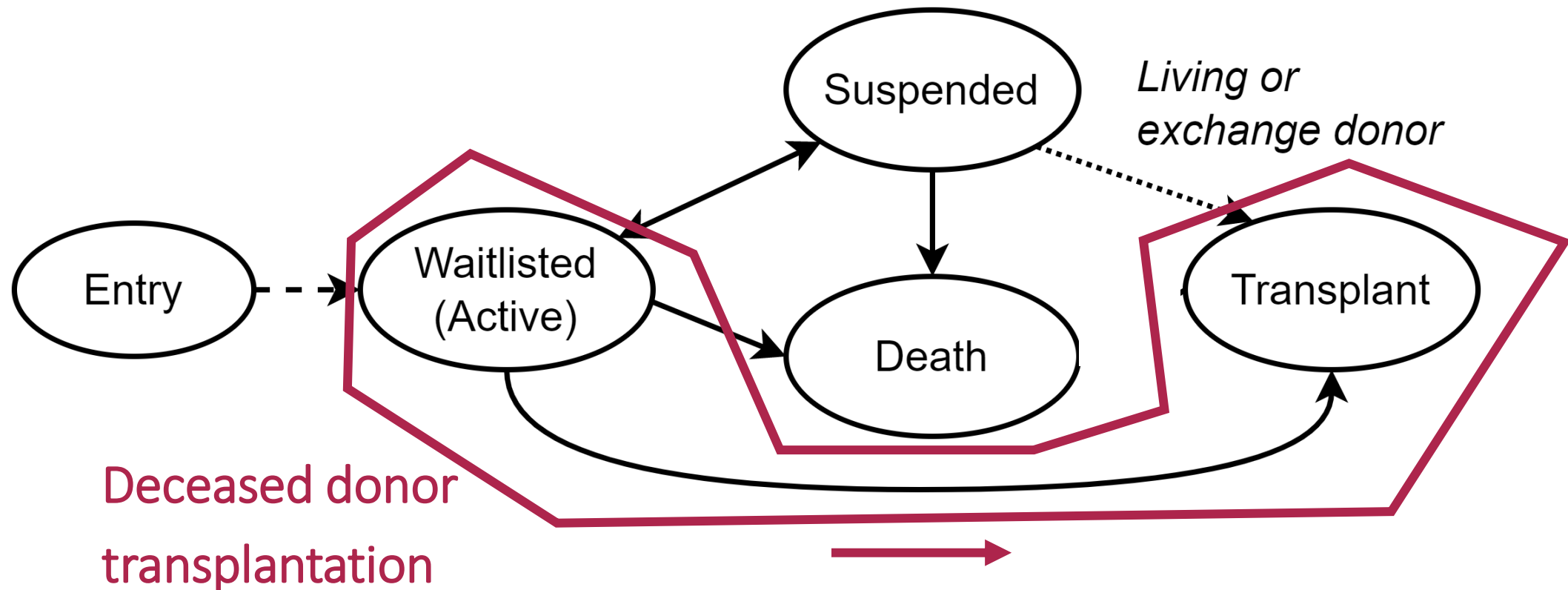
# Kidney waitlist process

- Multi-state model approach to estimate impact of mental illness on certain transitions:



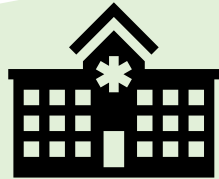
# Kidney waitlist process

- Multi-state model approach to estimate impact of mental illness on certain transitions:



# ASSET-NSW linked data study

Mental Health Living  
Longer (MHHL)



Hospital admissions



Death Register



Cancer Registry



Mental health



Cancer screening

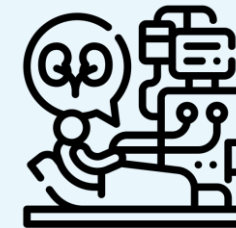


NSW Ambulance

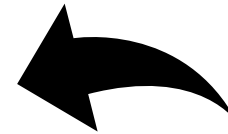
Kidney failure  
population



Ever waitlisted for  
kidney transplant

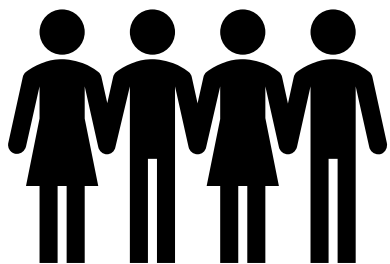


Dialysis & kidney  
transplant



# Study cohort

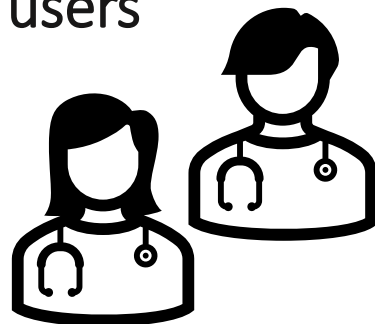
Study cohort



Entered waitlist to receive first kidney transplant in NSW, 2006-20



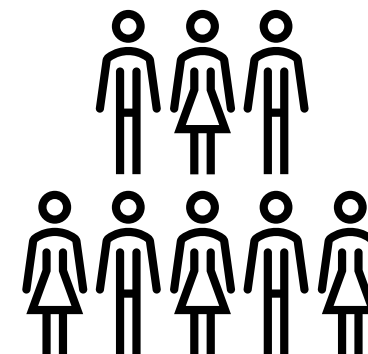
Mental health service users



Prior mental healthcare or community mental health services

VS

Other NSW waitlisted people



# Kidney waitlist population

	Mental health service users (%)	Other NSW waitlisted people (%)
Total	621 (23)	2,118 (77)
Median age at waitlist years, [IQR]	48 [34, 59]	53 [43, 62]
Prior dialysis time before waitlisting years, [IQR]	0.9 [0.3, 2.0]	0.9 [0.4, 1.8]
Year of dialysis initiation		
2006-10	134 (22)	515 (24)
2011-15	229 (37)	679 (32)
2016-20	258 (42)	924 (44)
Cause of kidney failure		
Diabetes	133 (21)	498 (24)
Hypertension/renal artery disease	46 (7)	210 (10)
Glomerulonephritis/IgA nephropathy	219 (35)	741 (35)
Polycystic kidney disease	77 (12)	308 (15)
Other	146 (24)	361 (17)



# Mental health users

	<b>Mental health service users (%) (n = 621)</b>
Severity of mental illness	
Severe & persistent	193 (31)
Other mental illness	428 (69)
Span of mental healthcare, years	
0 – 2	441 (71)
≥2	180 (29)
Type of mental healthcare provided	
Inpatient only	37 (6)
Non-admitted only	487 (78)
Both	97 (16)

# Mental illness impact on kidney waitlist

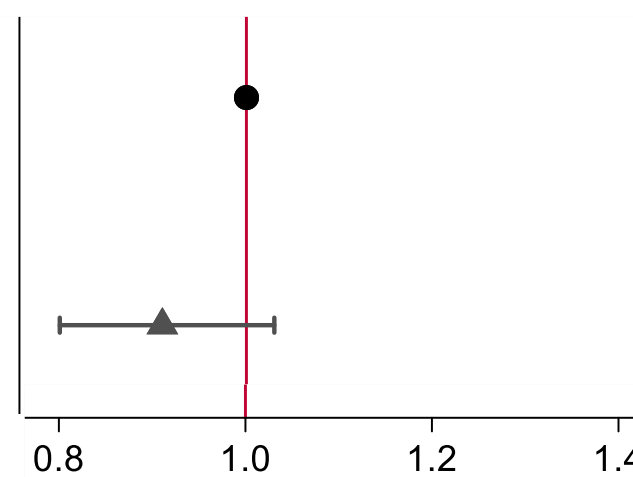
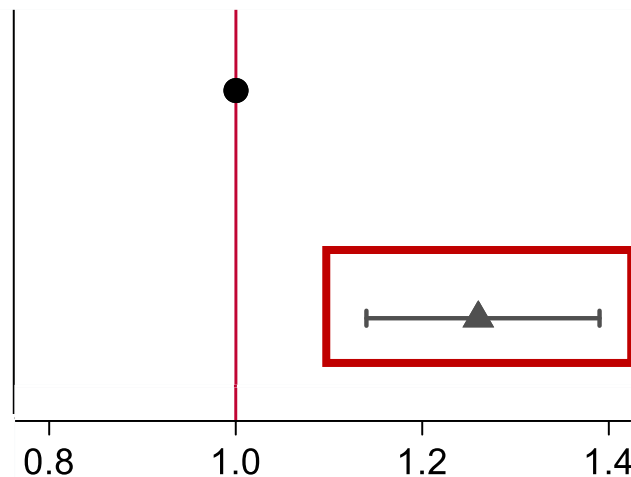
Unadjusted

Being suspended

Returning to waitlist

Other NSW waitlisted

Mental health service users



← Less likely HR → More likely

← Less likely HR → More likely

# Mental illness impact on kidney waitlist

Unadjusted

Being suspended

Returning to waitlist

Other NSW waitlisted

Mental health service users

Adjusted<sup>^</sup>

Other NSW waitlisted

Mental health service users

0.8 1.0 1.2 1.4  
 ← Less likely HR → More likely

0.8 1.0 1.2 1.4  
 ← Less likely HR → More likely

26% more likely  
 (95%CI: 14-40%)

<sup>^</sup>For age, sex, calendar year, ethnicity, comorbidity count and cause of kidney failure.

# Mental illness impact on kidney waitlist

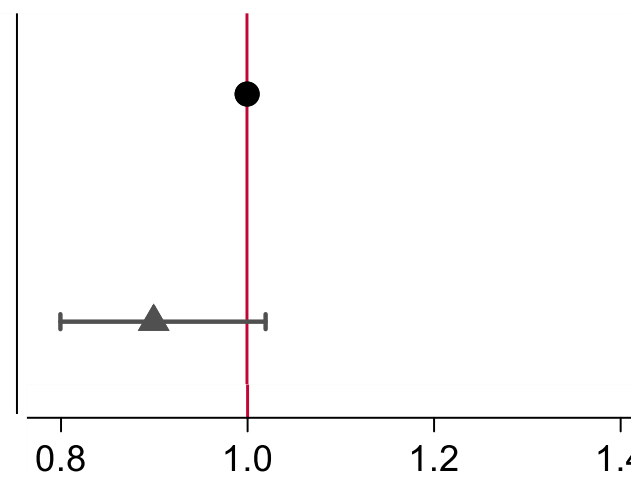
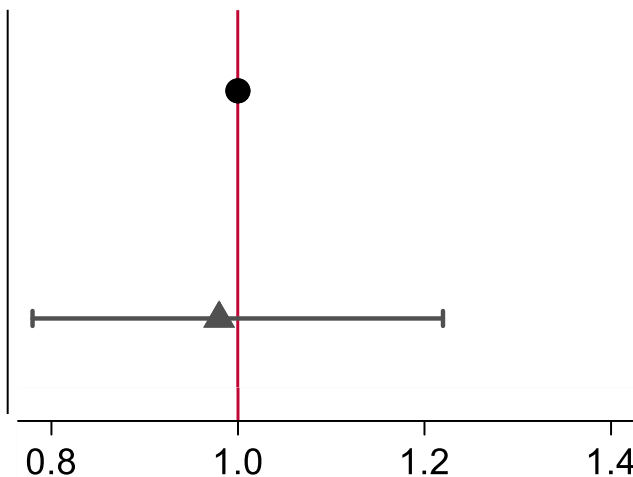
Unadjusted

Death while waiting

Deceased donor transplant

Other NSW waitlisted

Mental health service users



← Less likely HR → More likely

← Less likely HR → More likely

# Mental illness impact on kidney waitlist

Unadjusted

Death while waiting

Deceased donor transplant

Other NSW waitlisted

Mental health service users

Adjusted<sup>^</sup>

Other NSW waitlisted

Mental health service users

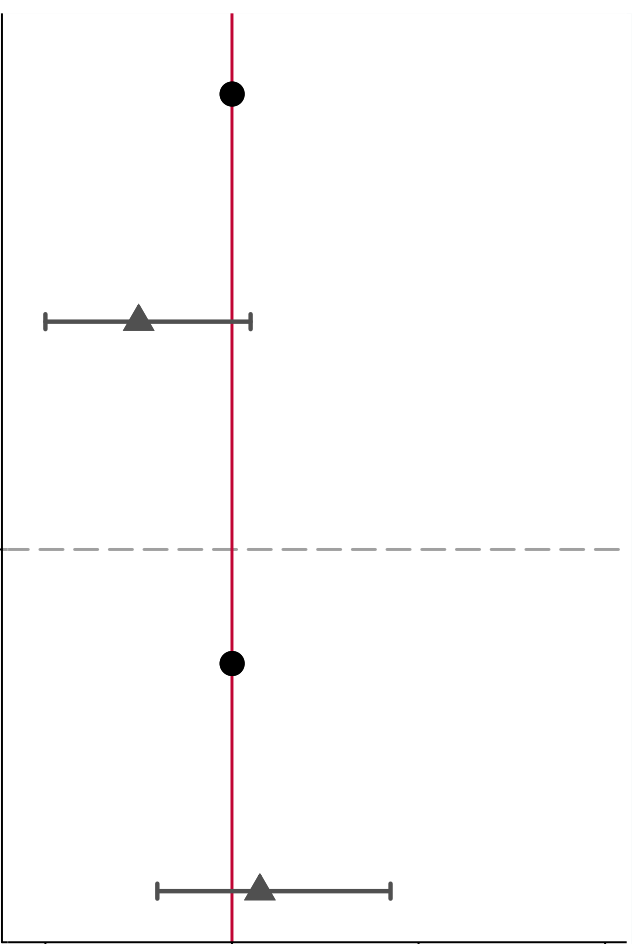
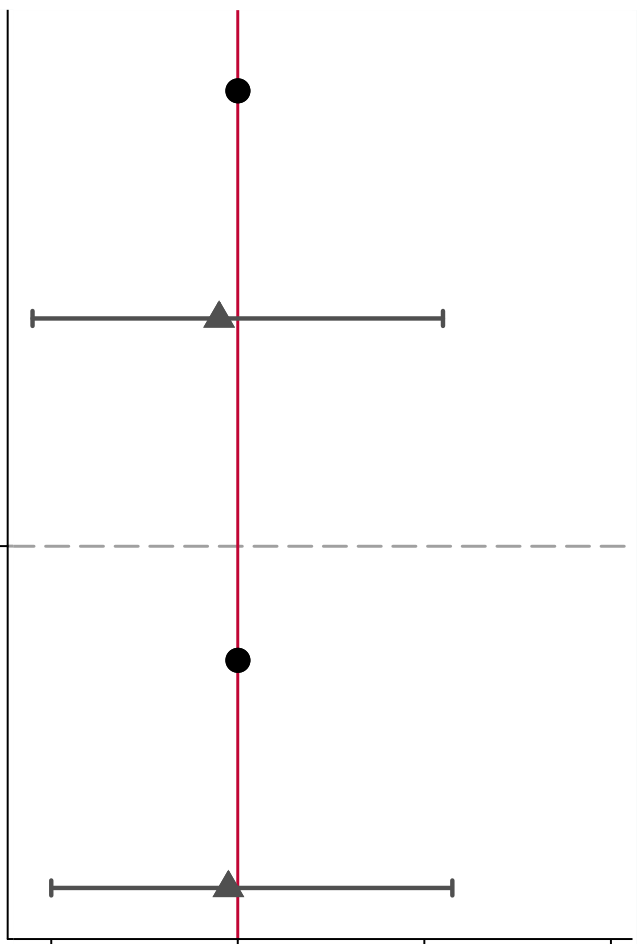
0.8 1.0 1.2 1.4

Less likely HR More likely

0.8 1.0 1.2 1.4

Less likely HR More likely

Collaborative  
Centre for  
Organ •  
Donation  
Evidence



<sup>^</sup>For age, sex, calendar year, ethnicity, comorbidity count and cause of kidney failure.

# Subgroup analyses by severity

Adjusted<sup>^</sup>

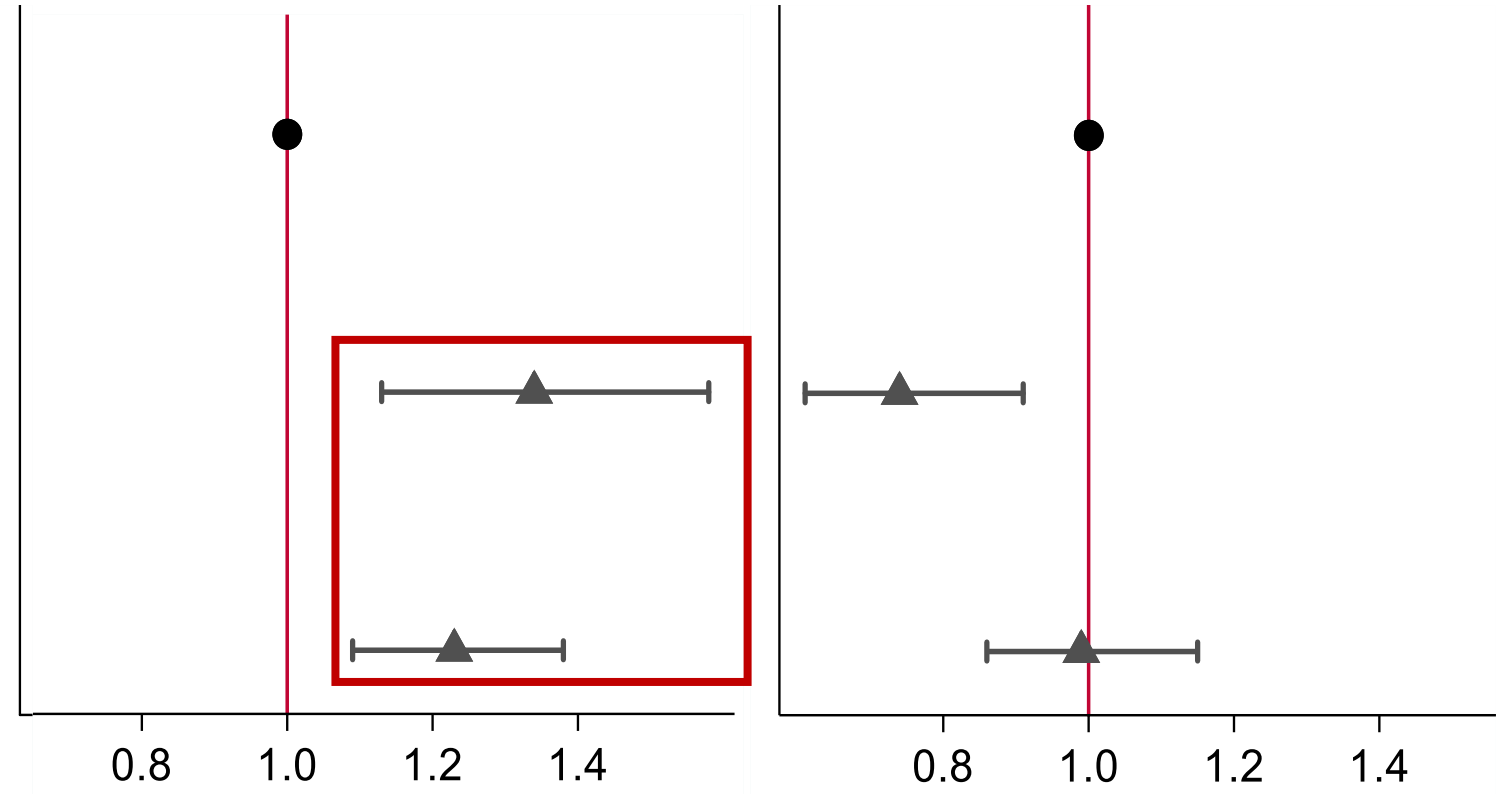
Being suspended

Returning to waitlist

Other NSW waitlisted

Severe & persistent  
mental health users

Other mental health users



← Less likely HR → More likely

← Less likely HR → More likely

<sup>^</sup>For age, sex, calendar year, ethnicity, comorbidity count and cause of kidney failure.

# Subgroup analyses by severity

Adjusted<sup>^</sup>

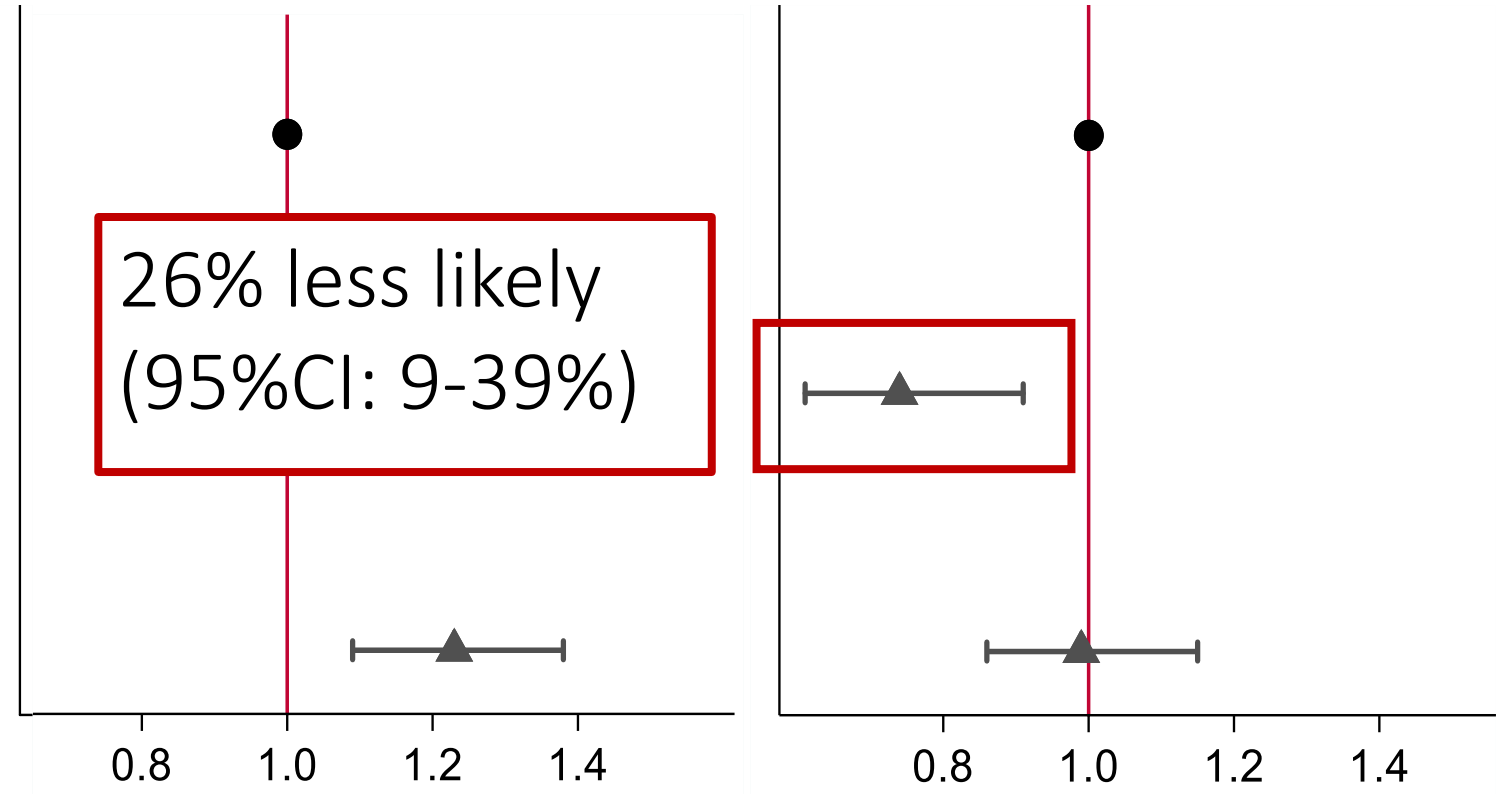
Being suspended

Returning to waitlist

Other NSW waitlisted

Severe & persistent mental health users

Other mental health users



← Less likely HR → More likely

← Less likely HR → More likely

<sup>^</sup>For age, sex, calendar year, ethnicity, comorbidity count and cause of kidney failure.

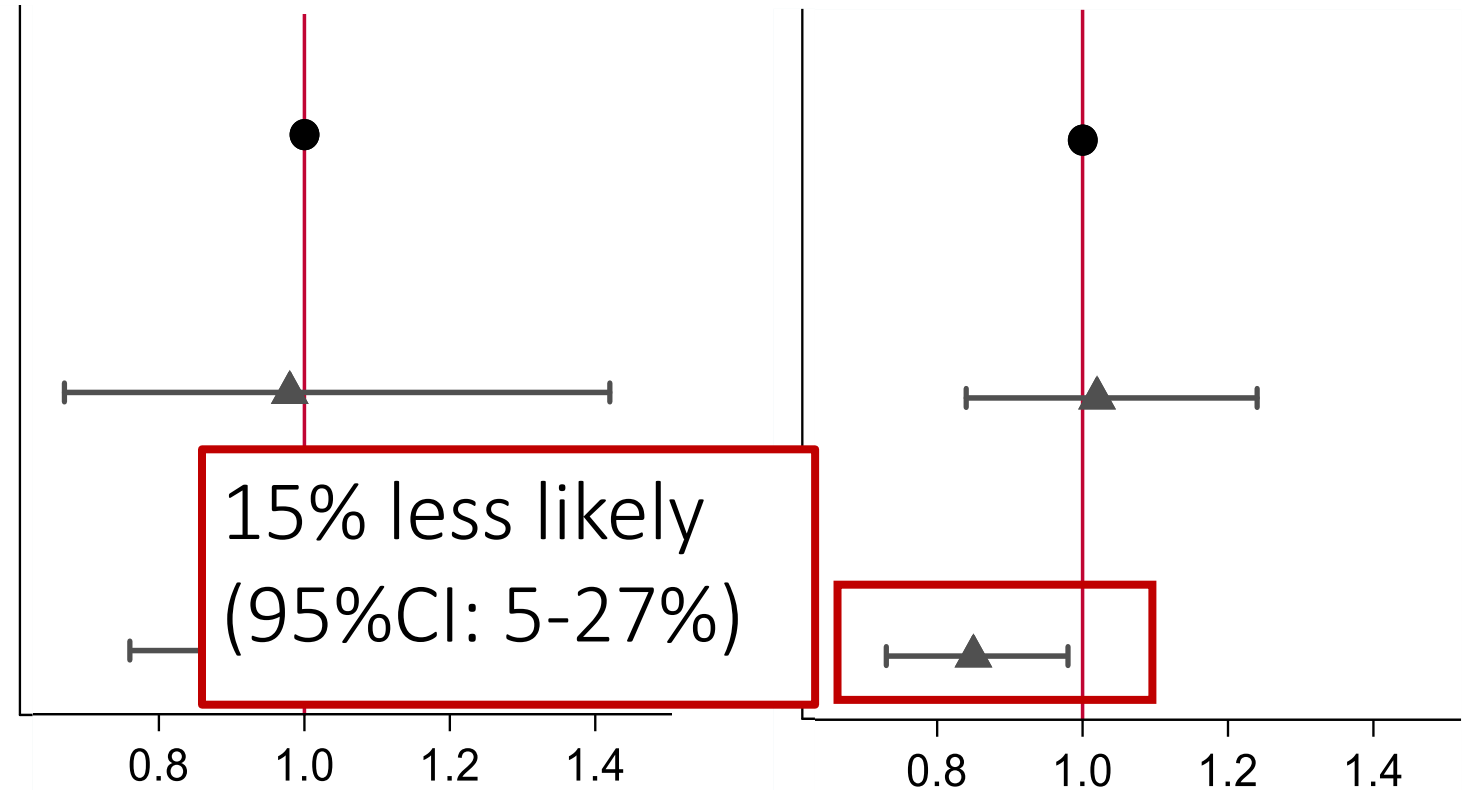
# Subgroup analyses by severity

Adjusted<sup>^</sup>

Death while waiting

Deceased donor transplant

Other NSW waitlisted  
 Severe & persistent  
 mental health users  
 Other mental health users



15% less likely  
 (95%CI: 5-27%)

← Less likely HR → More likely

← Less likely HR → More likely

<sup>^</sup>For age, sex, calendar year, ethnicity, comorbidity count and cause of kidney failure.

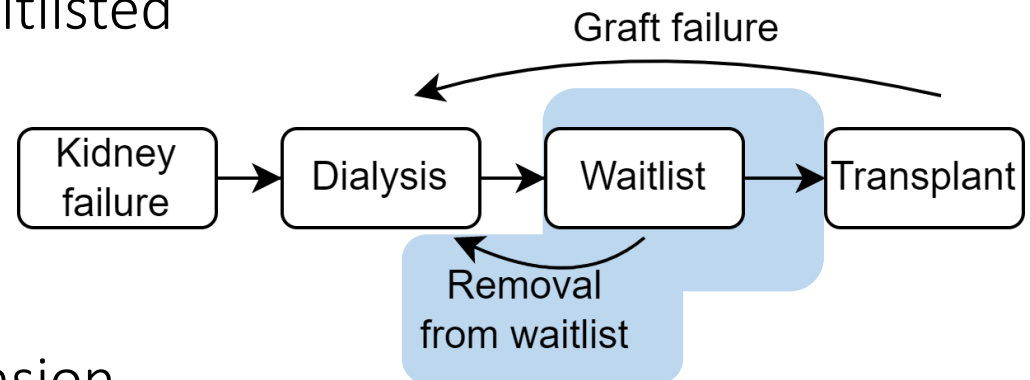


# Main findings

- ~1 in 4 waitlisted people were mental health service users
- Mental health services users were:
  - 26% more likely to be suspended on the waitlist
  - Similar likeliness of returning to waitlist, death while waiting & deceased donor transplantation
- Differences by severity of mental illness:
  - Severe & persistent mental health users also 26% less likely to return to waitlist after suspension
  - Other mental health users were 15% less likely to receive deceased donor transplant

# Relevance & future work

- Patient journey on waitlist is different for mental health service users
- Mostly seemed to achieve similar transplantation, but:
  - Waiting time has major impact on transplant priority
  - Select group who were waitlisted



- Future work:
  - Explore reasons for suspension
  - Inequities in access to getting onto waitlist
  - Mental health journey post-transplant (and vice versa)

Collaborative  
Centre for  
Organ ●  
Donation  
Evidence

[Home](#) [People](#) ▾ [Projects](#) [Research Output](#) [Opportunities](#) [News & Events](#) [Related Links](#)

[organdonationevidence.org.au/](http://organdonationevidence.org.au/)

 @CODE\_Usyd



# ASSET

## KIDNEY RESEARCH

HE RAWA RARAUNGA HAUORA MŌ NGĀ TĀNGATA O AOTEAROA

[Home](#) [Data Platform](#) [Projects](#) [People](#) ▾ [News and Results](#) [Opportunities](#) [Related Links](#)

[assetkidneyresearch.org/](http://assetkidneyresearch.org/)



**NSW Health**

InforMH, Health System Information and  
Performance Reporting Branch

Collaborative  
Centre for  
Organ ●  
Donation  
Evidence