

HIV Cure Research in Australia

Jillian Lau

Community HIV Cure Research Workshop
2024



A joint venture between The University of Melbourne and The Royal Melbourne Hospital

Disclosures

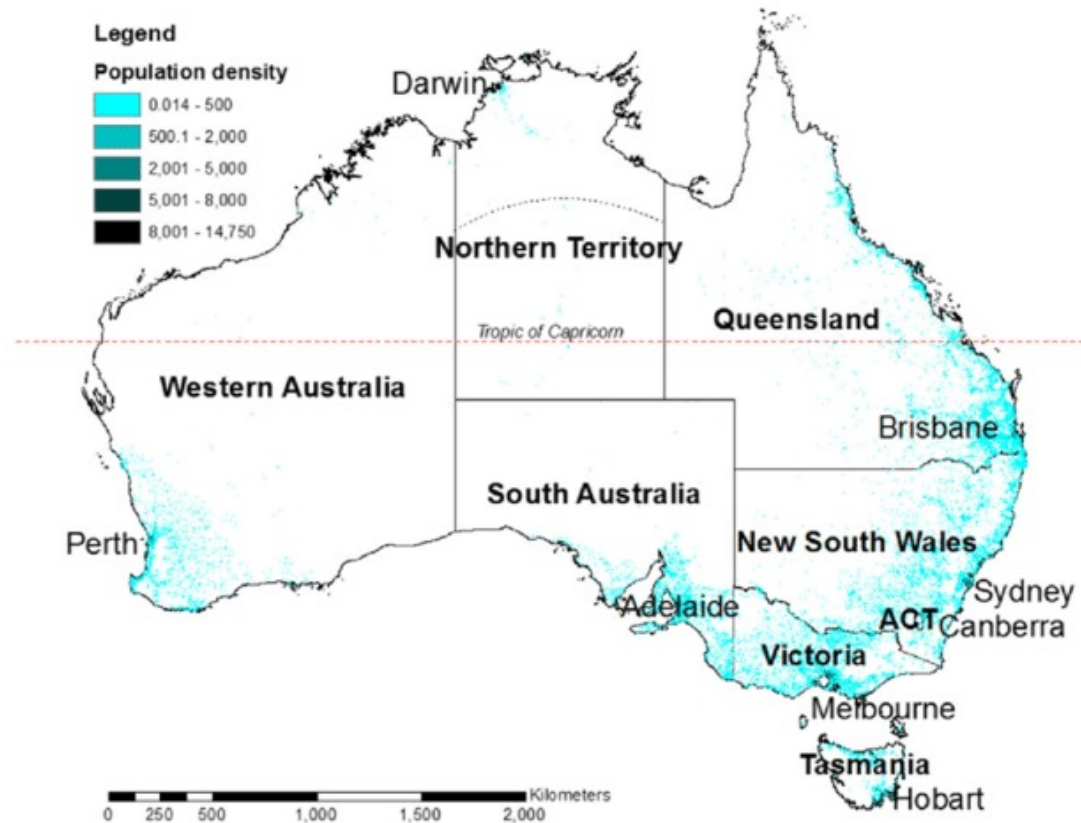
Educational grant from Gilead Sciences

Institution has received grant funding from Merck Sharpe & Dohme for the conduct of clinical trials

Institution has received consulting fees from Viiv Healthcare and Gilead Sciences

I come from a land down under...

Population 26 million



>50% Australians were born overseas, or have a parent who was born overseas

HIV in Australia

- 29,090 people with HIV
 - Universal healthcare
 - Subsidised ART available irrespective of visa status
-
- 68% MSM
 - 27% heterosexual contact
 - 1.6 % PWID
 - 0% vertical transmission
 - 3% Aboriginal and/or Torres Strait Islander
-
- 552 new diagnoses in 2021
 - Reduction of 37% since 2016
 - >38,000 on PrEP



95%

of all



living with HIV will know their HIV status

95%

of all



living with HIV will receive antiretroviral therapy

95%

of all



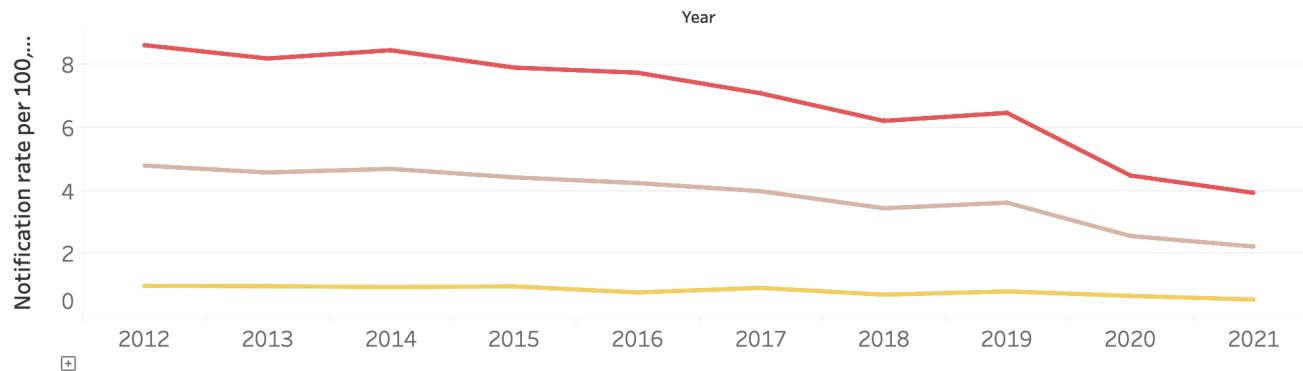
receiving antiretroviral therapy will have viral suppression

91%

92%

97%

HIV notification rate per 100,000 population



Population group
Females
Males
Overall

HIV transmission virtually eliminated in Inner Sydney, Australia



New evidence that Australia may become world's first nation to end HIV epidemic

24 July 2023 (Brisbane, Australia) – Inner Sydney has reduced new HIV acquisitions by 88%, meaning it may be the first locality in the world to reach the UN target to end AIDS as a public health threat by 2030, according to data released today at IAS 2023, [the 12th IAS Conference on HIV Science](#).

HIV CURE

FIND OUT ABOUT CURRENT STUDIES

GET INVOLVED ▶

By [Mihiri Weerasuria](#) and [Heather Ellis](#)

WHY WE NEED MORE WOMEN IN HIV CURE TRIALS

11 months ago

NAPWHA

SHARE THIS: [✕](#) [✕](#) [✕](#) [✕](#)

As the search for the elusive cure for HIV continues, researchers must take a lesson from the humble car safety airbag. Just like the airbag, HIV impacts women differently to men.

RESEARCH SPOTLIGHT

Recent research in 100 words or less



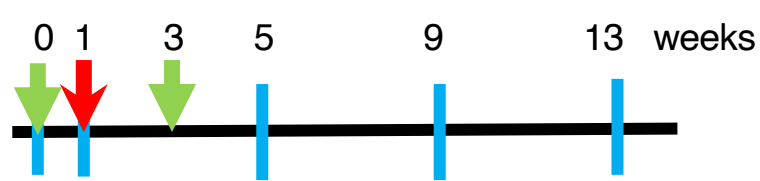
Inclusion, Respect, Equity: A photo essay of people participating in HIV cure research at The Alfred ...

NIVO-LD: low dose immune checkpoint blocker

- ↓ Low dose nivolumab
- ↓ FNB
- ↓ Placebo

Cohort A:
Safety
Cohort

0.1 mg/kg
0.3 mg/kg
1 mg/kg
anti-PD1
n=6 in each



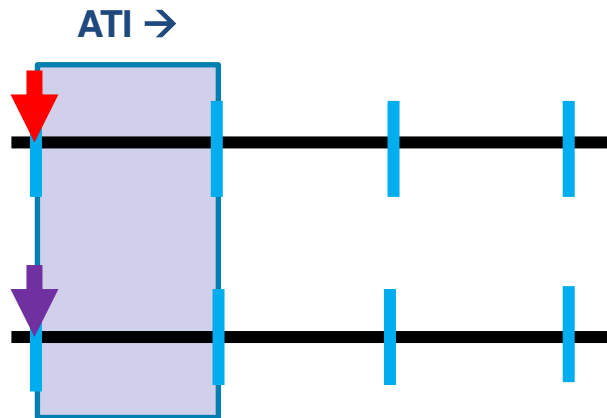
Endpoints

Safety
PD-1 occupancy

Cohort B:
Immunogenicity
Cohort

anti-PD1
Dose TBD
n=12

Placebo
n=12

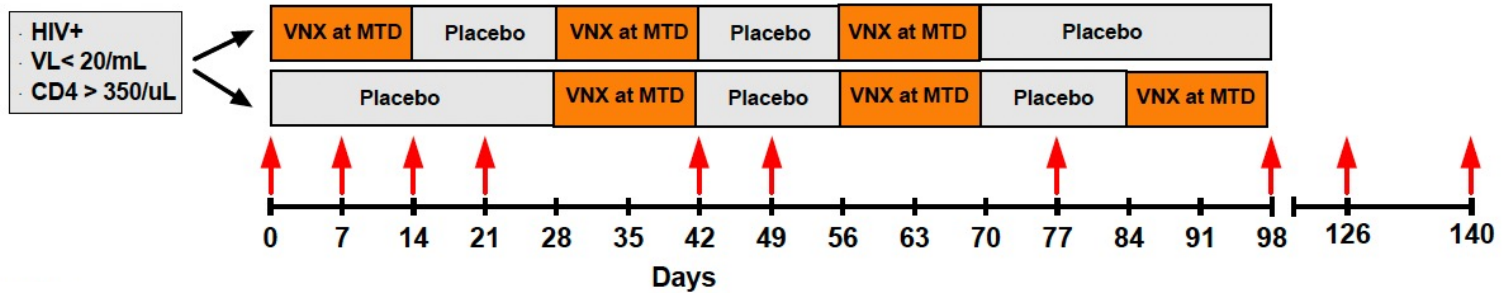


Safety
Immunogenicity

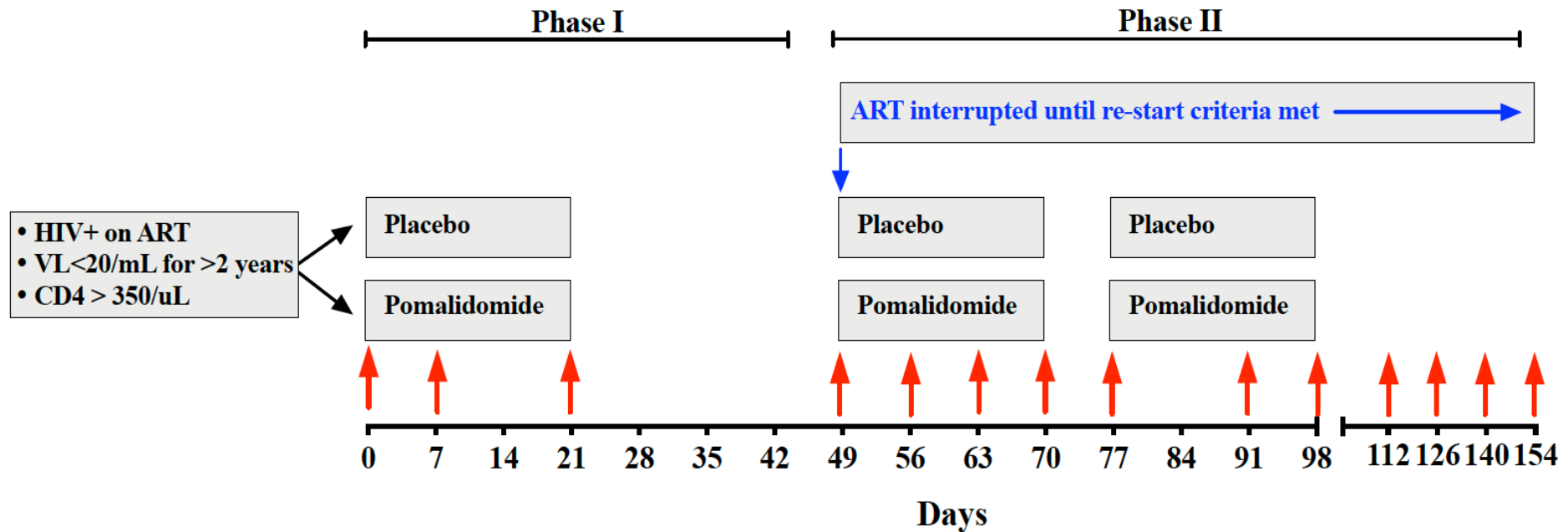
PWHIV;
on ART;
VL <50 copies/ml
for 2 years;
CD4 > 350
cells/ul

AMBER: BCL-2 antagonist venetoclax

Cohort D
(MTD, 3 cycles)
n=18



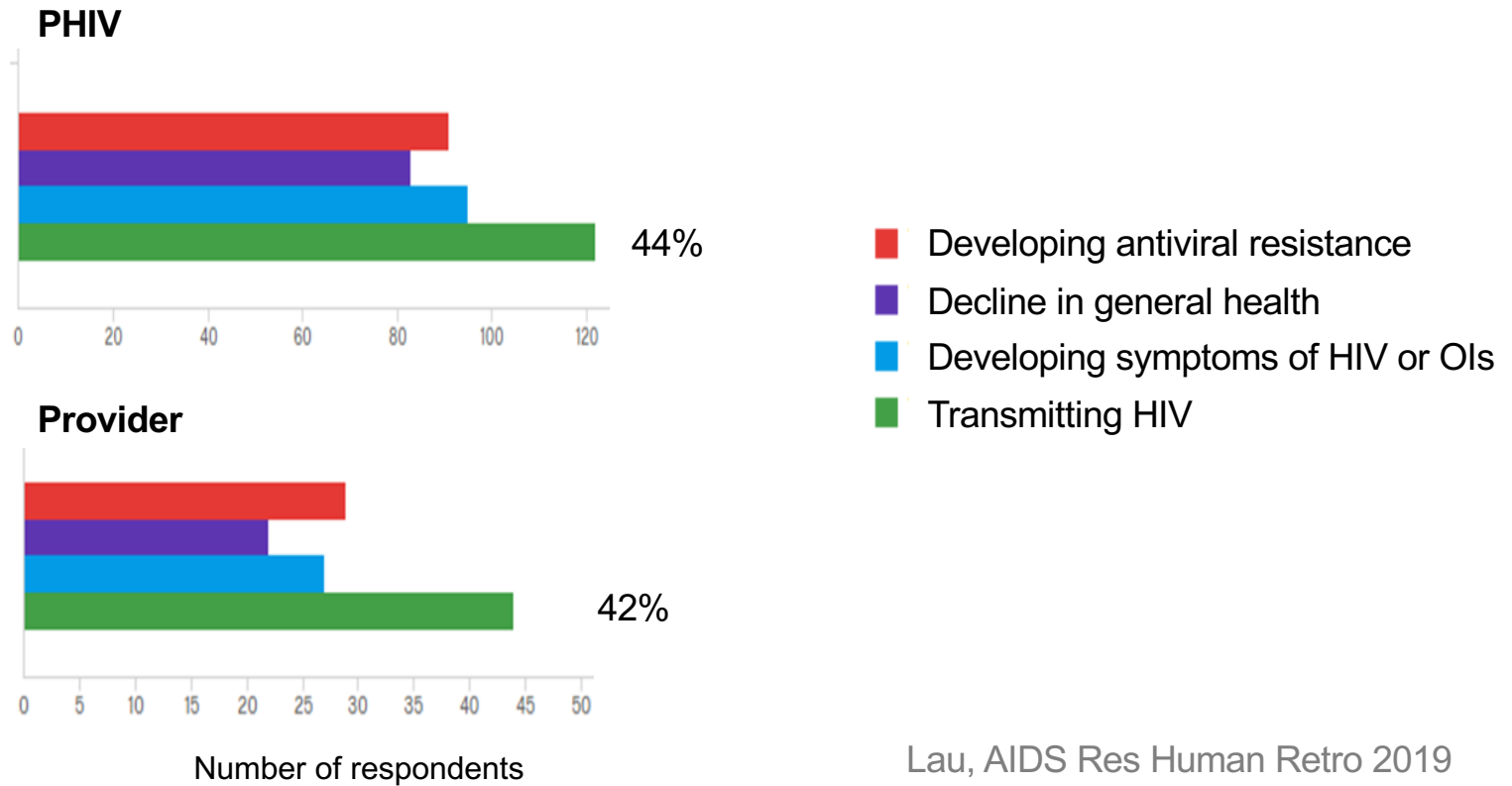
PEACH: immunomodulator pomalidomide



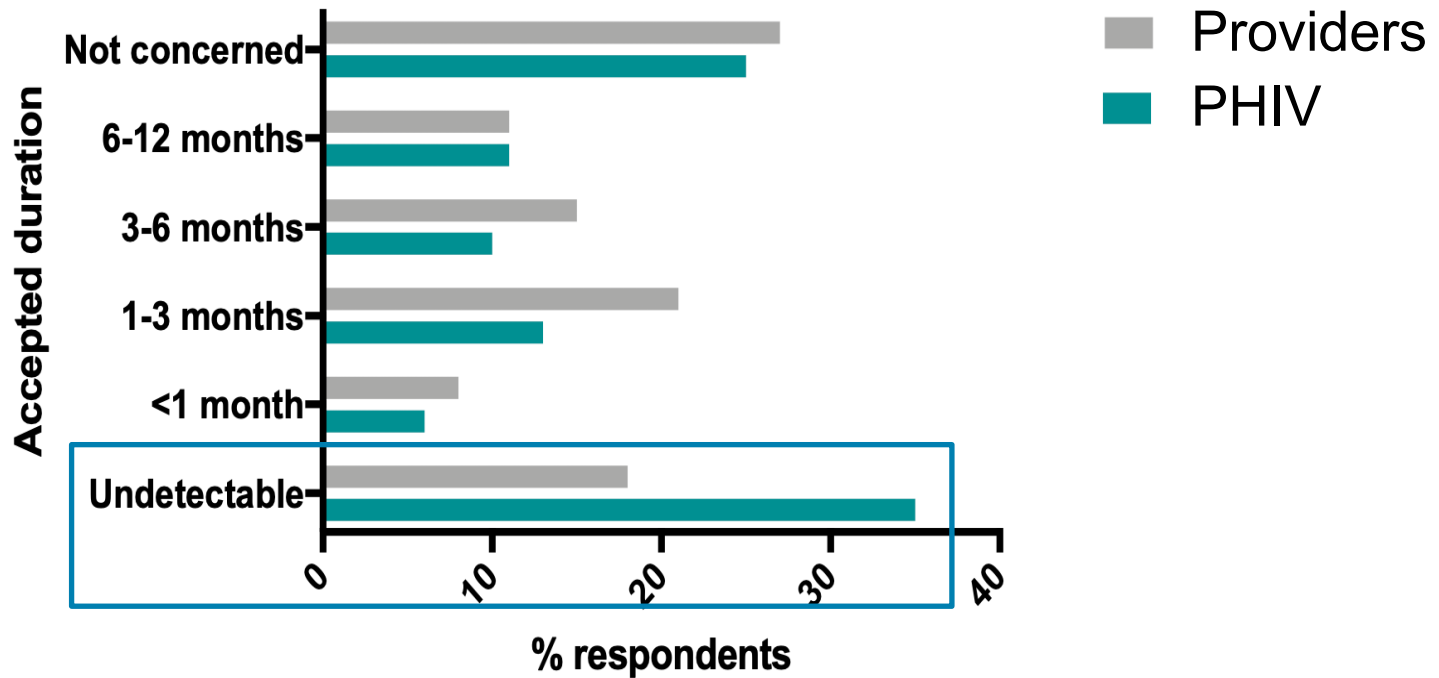


**How do we sustainably engage Australians
with HIV in cure research?**

Concerns about Treatment Interruptions



Not accepting of viremia during ATI



Educate

Understand

Engage

Melbourne HIV Cure Consortium

- \$1.2 million from Victorian state government for small and large grants for basic, translational and clinical studies
- Collaborative research effort comprising experts in virology, immunology, drug development, neuroscience, and social research to accelerate efforts to find a cure for HIV
- Community Advisory Board



HIV Cure Research: Science for Community

Presented by the Melbourne HIV Cure Consortium

This event will showcase HIV cure research being undertaken by the Melbourne HIV Cure Consortium (MHCC), an initiative funded by the Victorian Department of Health. MHCC grant recipients will summarise research funded by the project ranging from basic science, immunology, social and translational research for a community audience.

Keynote Speakers:



**Laureate Professor
Françoise Barré-Sinoussi**
Nobel Prize in Medicine
and Physiology 2008
Institut Pasteur, Paris



Professor Sharon Lewin AO
Director, The Peter
Doherty Institute for
Infection and Immunity
(Doherty Institute)

The MHCC, managed by the Doherty Institute, brings together experts in virology, immunology, drug development, neuroscience and social sciences from across Victoria working towards a cure for HIV.

Wednesday 23rd November
12.00 - 1.00pm Presentations
1.00 - 1.45pm Lunch to follow

Venue: Doherty Institute Auditorium
792 Elizabeth St, Melbourne



Community Advisory Board



INSPIRE workshop

HIV CURE

Community Collaboration Workshop

Wednesday 27th March 2019
12-4pm

Heather Jenkins Library, GM001
The Peter Doherty Institute for Infection and Immunity
792 Elizabeth Street, Melbourne 3000

People living with HIV, community advocates, scientists and HIV clinicians all welcome

Part of the INSPIRE project:

Improve, Nurture and Strengthen Education, Collaboration, and Communication between PLHIV and Researchers

Funded by a grant from the Melbourne HIV Cure Consortium

FREE but registration essential
Lunch included

Register here:

<https://hiv-community-collaboration-workshop.Eventbrite.com.au>

With international guests:



A. Toni Young
Community Education Group
Washington DC



Karine Dubé
UNC Gillings School of Global
Public Health





Strategies to improve engagement

- Frequent and transparent communication
- Recognition of power imbalances
- Considering the power afforded to CABs in decision making
- Utilise professional peer navigators to engage communities
- Adequate funding for community engagement secured at trial planning

Missing Voices: women

Women with HIV

- Importance of understanding research on women's bodies
- Altruism: to help future generations
- Endorsement/encouragement from HIV clinician/physician

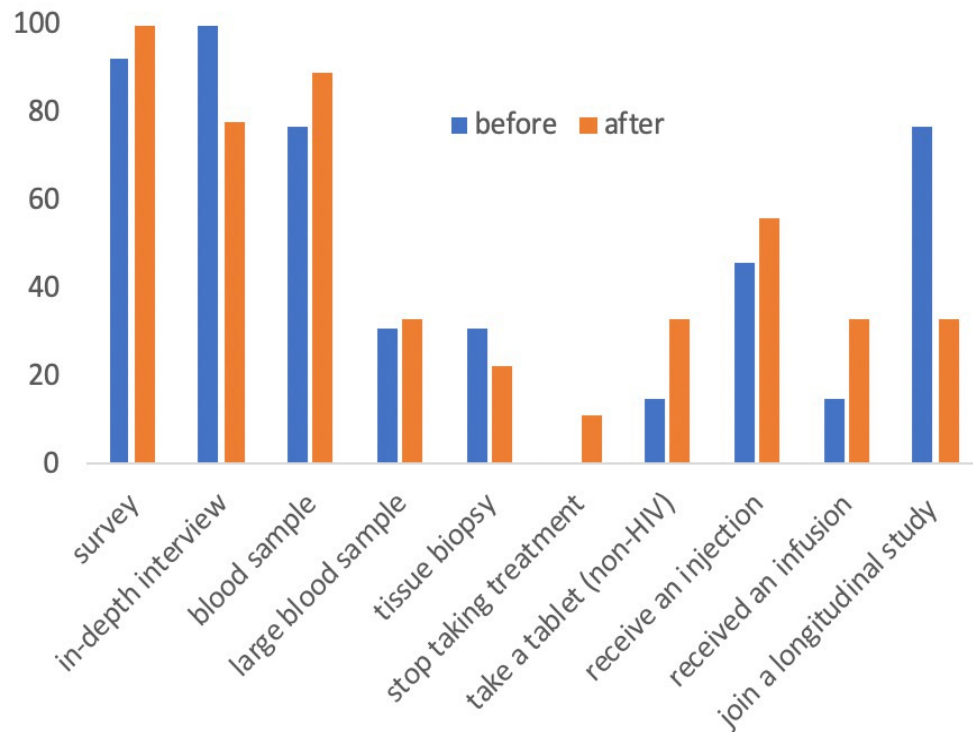
Barriers to participation

- Fear of unknown potential side-effects
 - reproductive health
- Stopping HIV treatment
- Time/inconvenience
- Accidental/incidental disclosure of HIV diagnosis to family or wider community

Missing Voices: **clinician perspectives**

- Effectiveness of contemporary ART regimens – why mess with this?
- Lack of concrete benefit to participation
- Trial study duration and follow-up
- Impact on fertility
- Language barriers
- Work, care obligations and social commitments
- Time needed to explain research in clinic
- Data privacy

Working with Peer Navigators



- Interactive workshop with NAPWHA Treatment Officer Network Nov 2022
- Pre- and post- surveys
- Increased understanding and interest in HIV cure research following workshop
 - Interventional studies
 - Interrupting treatment

Qualitative surveys of ATI experience

1-2 in-depth interviews with Australian TITAN¹ participants

- reasons for participating in the trial
- experiences on the trial
- feelings of wellbeing
- thoughts on ATI
- feelings about viral load monitoring

Planned in-depth interviews with women and people from diverse backgrounds



1) Soogard CROI 2023



On prospect of HIV cure and motivations to join trial:

“I’m optimistic...I’d like to be optimistic and believe that at some point somewhere along the line ...it may become a reality, whether I see that in my lifetime... It’s a bit hard to say.”

- “...but for those younger ones that are coming through, I guess, whatever I can do to make things easier for them... is positive”

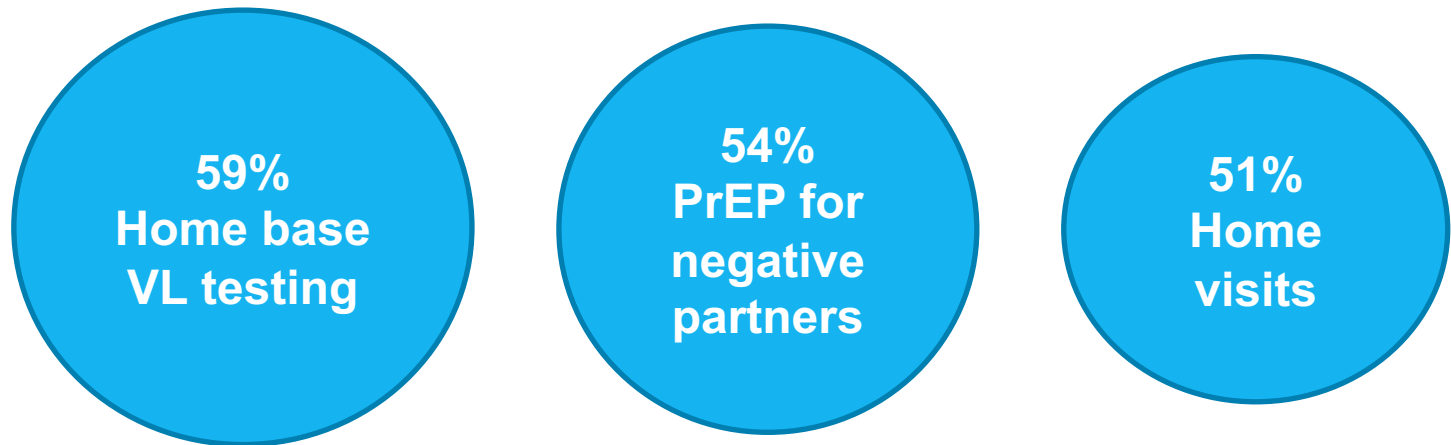
Experiences being on the trial and during ATI:

“Initially when you start they’re taking a copious amount of bloods, they’re closely monitoring you, letting you know viral loads, CD4 counts each week, blood pressure, heart rate, all those sorts of things every week. So I feel very comfortable with the staff...”

–

“That may be one of the bigger stumbling blocks for most people... to be available one day each week... you have to have two afternoons or two days where you go for the infusions.”

Factors influencing willingness to participate in ATI trials



Local volunteer database

- Launched March 2023
- Indicate interest in local HIV cure research
- Newsletter and updates on cure related activities in Australian state of Victoria



As of February 2024...

198 on database

116 willing to participate in surveys/interviews

113 blood donation

79 tissue donation

91 leukapheresis

101 interventional studies

49 eligible for NIVO-LD

29 contacted

13 responded



WELCOME to the first Victorian HIV cure volunteers newsletter! You're receiving this because you've signed up to the Victorian HIV cure volunteer database.

This edition contains a summary from the recent HIV cure and Immunotherapy Forum that was held before the recent International AIDS Society Scientific Conference in July in Brisbane. You can read about the "Geneva Patient" possibly the 6th person to be cured of HIV with a stem cell transplant. We'll also highlight 3 HIV cure clinical studies enrolling now in Melbourne.

Fresh off the press!

Recently, the results of the TITAN study were published in a major medical journal, Nature Medicine. 5 people from Melbourne took part in this study, which was an international collaboration between Aarhus University in Denmark, and The Alfred Hospital and The Doherty Institute in Melbourne. Read all about the study and its results in this special article on <https://hivcure.com.au/2023/09/13/bnabs-as-a-component-of-a-hiv-cure/>

IAS 2023 cure updates



The lively city of Brisbane hosted one of the largest meetings for HIV science in July – the International AIDS Society Conference on HIV Science. A special HIV cure forum was held on the Saturday before the conference, with a focus on strategies that target different components of our immune systems, and how this could help us achieve a cure for HIV.

With an emphasis on community involvement and engagement, the day was bookended by inspiring community presentations from Heather Ellis from Positive Women Victoria and Michael Louella from the DARE Collaboratory in the USA. They spoke on the importance of language and communication in HIV cure science.

During the forum, we learned about several immune therapies currently in clinical trials. These included:

- A placebo-controlled study on combination broadly neutralizing antibodies currently wrapping up in the UK (The RIO study)
- A single arm study (no placebo) in 10 people in California, USA looking at combination immune therapies: HIV vaccines, 2 broadly neutralizing antibodies, and a class of drugs called "toll like receptor agonists" that boost immune functions.
- Three HIV vaccine studies in Spain



All of these studies measured the time to viral rebound as their main outcome. This is how long it took before HIV viral levels rose to detectable levels after an analytical treatment interruption. In all the reports available so far from these studies, the majority of participants experienced viral rebound during treatment interruption, even when laboratory assessments showed lower measures of HIV at a cellular level. It's thought that a potent combination of immunotherapies may be needed to achieve a cure, but we also need these agents to be safe, and tolerable.

In another exciting update, a new drug and drug delivery strategy was presented from the Doherty Institute in Melbourne. This uses gene activating technology known as CRISPRactivation, coupled with a nanoparticle delivery system to more efficiently and potently act on infected cells, while minimising the risks of toxicity.

A monkey study from the University of Hong Kong was presented, showing promising results for a vaccine using PD-1 antibodies. These antibodies are have been studied a lot for HIV cure, including in the NIVO-LD study currently recruiting in Melbourne. Visit the link below: <https://hivcure.com.au/2019/03/01/nivo-ld/>





Questions?



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