

# Antiretroviral therapy use, viral detectability and fear of onward transmission among people living with HIV in Australia: Changes between 1997 and 2018

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## INTRODUCTION

Fear of transmitting HIV to sexual partners has been a major concern for people living with HIV (PLHIV) and has significantly diminished their access to satisfying and pleasurable sex. Unfortunately, such problems are often at odds with what PLHIV aspire to in their sex lives, including desire for sex which is emotionally or psychologically connected, and free from physical, social or psychological harm. Caring for the emotional and sexual needs of PLHIV is critical in improving the broader well-being of this population. In this sense, it is important to identify whether fears surrounding onward transmission have reduced since the era of undetectable=untransmissible (U=U) messaging, and whether awareness of U=U is a factor for lower levels of fear. While previous studies have investigated willingness for and comfort in relying on viral suppression as a transmission prevention strategy, the ways in which explicit fear of onward transmission of HIV has changed among PLHIV in Australia since the introduction of modern antiretroviral therapy (ART), and subsequent increased awareness about U=U, has not been formally investigated.

This therefore calls for greater insight into how such attitudes have changed alongside ART use and ART efficacy, the impact of U=U messaging, and what more may need to be done. Moreover, in addition to analysing changes in attitudes over time, identifying relevant predictors of concerns about onward transmission among PLHIV may identify gaps in U=U messaging with respect to sub-populations or treatment, health or life experiences of PLHIV.



We sought to (i) establish how ART use and viral load detectability has changed since 1997, (ii) determine changes in fear about the risk of onward HIV transmission over this period, and (iii) establish the contemporary relationship between demographic and treatment characteristics of PLHIV and their concerns towards onward HIV transmission.

## METHOD

### SAMPLE

	1997 n=925	2003 n=1,059	2012 n=1,058	2018 n=847
Age (years, mean)	39	44	49	50
Sexuality (gay)	75%	77%	83%	74%
Gender (male)	90.8%	90.7%	92.9%	86.2%
Heard of U=U	N/A	N/A	N/A	74.8%
Years since diagnosis (mean)	7	11	14	17

### RECRUITMENT

Participants were recruited as part of HIV Futures 1 (1997), 4 (2003), 7 (2012) and 9 (2018); a long-running periodic cross-sectional survey.

Surveys were distributed via HIV health services, GP clinics and online (commencing 2004).

### MEASURES

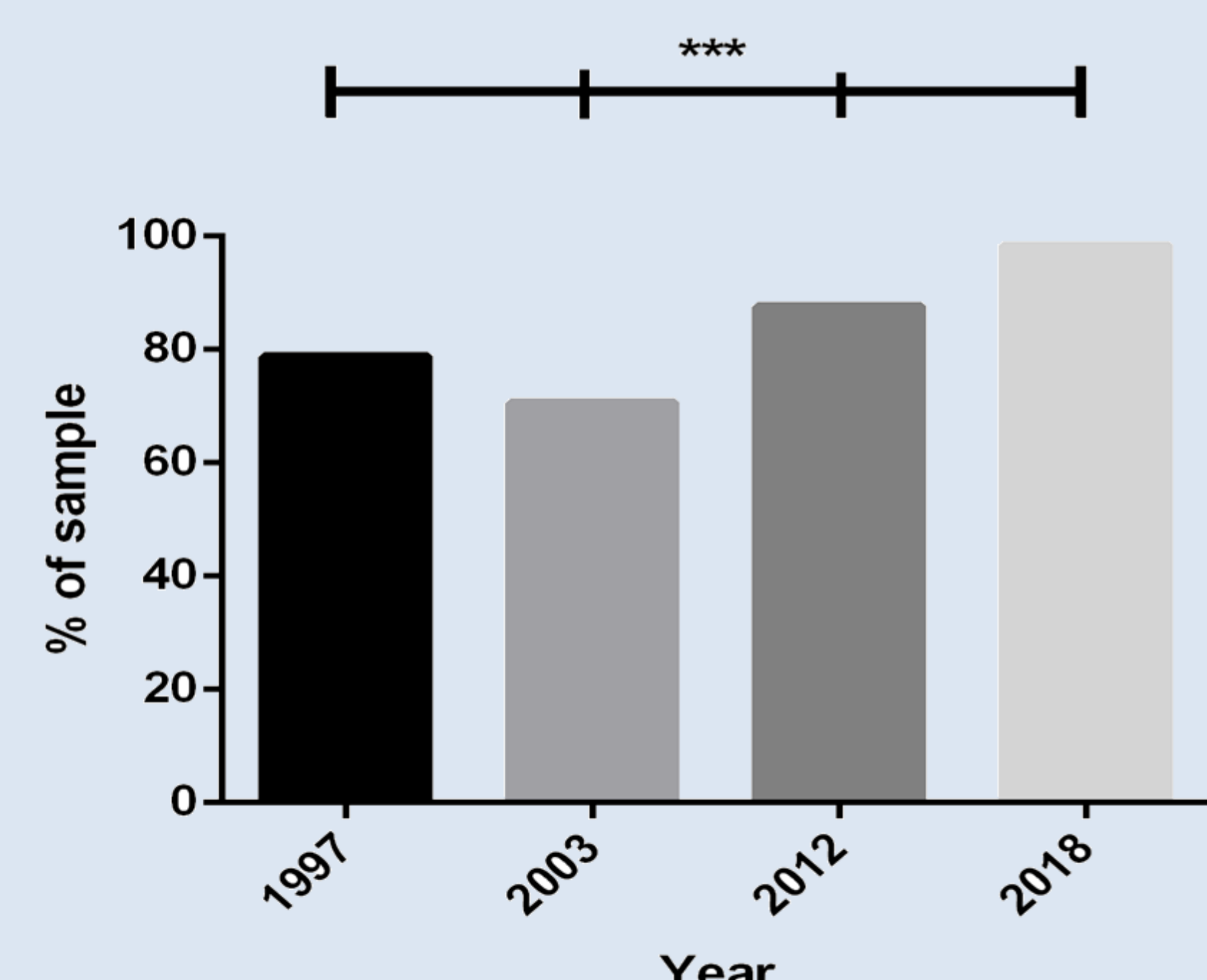
- Currently on ART (yes/no)
- Undetectable viral load (last test; yes/no)
- Afraid of HIV transmission to sexual partner(s) (yes/no)
- Familiar with undetectable=untransmissible (U=U; yes/no)?

### ANALYSIS

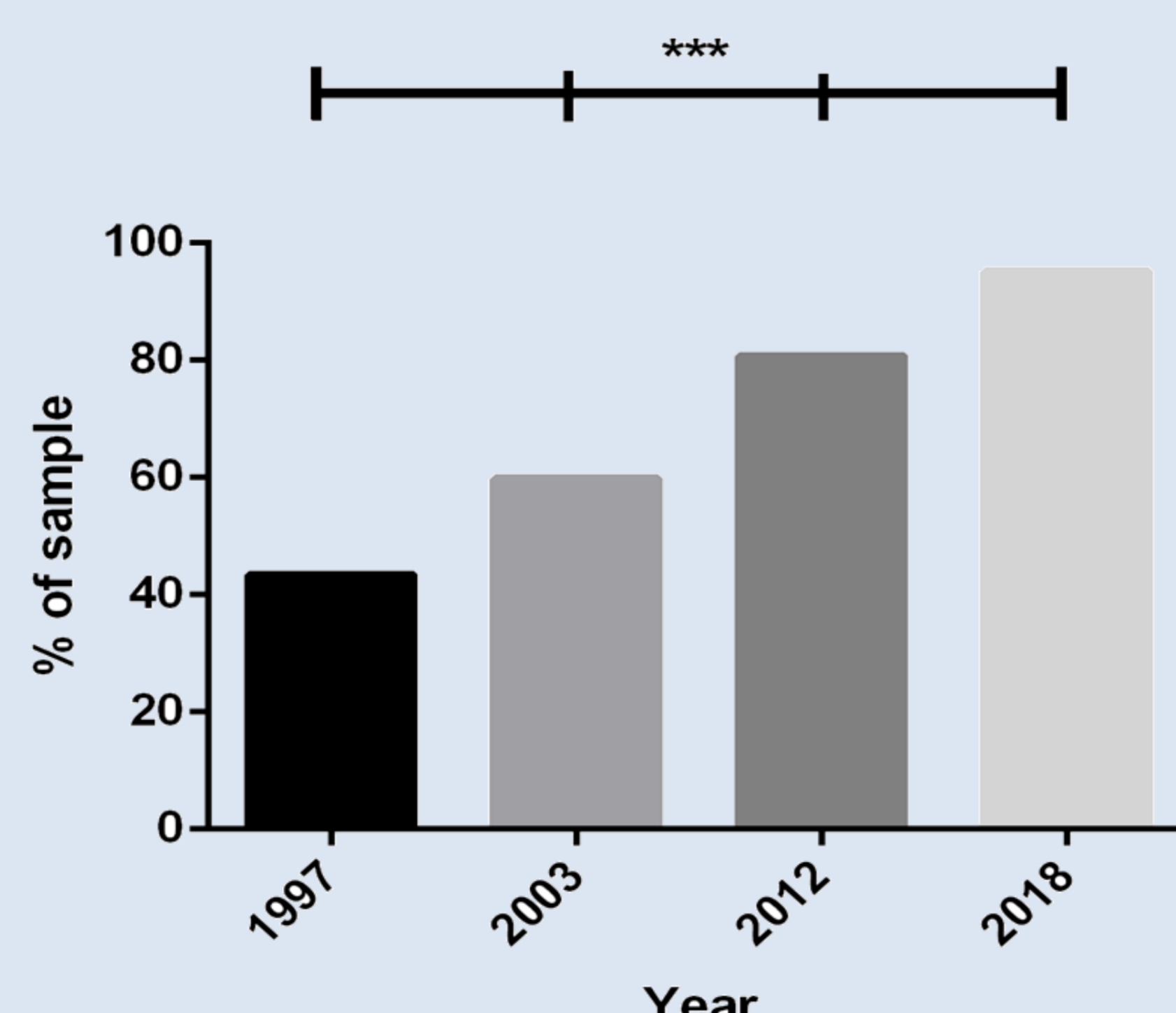
- Chi-square analysis: familywise and bivariate differences in ART use, viral load detectability and fear of onward HIV transmission
- Multivariable logistic regression to assess predictors of onward transmission fears (2018 sample)

## RESULTS

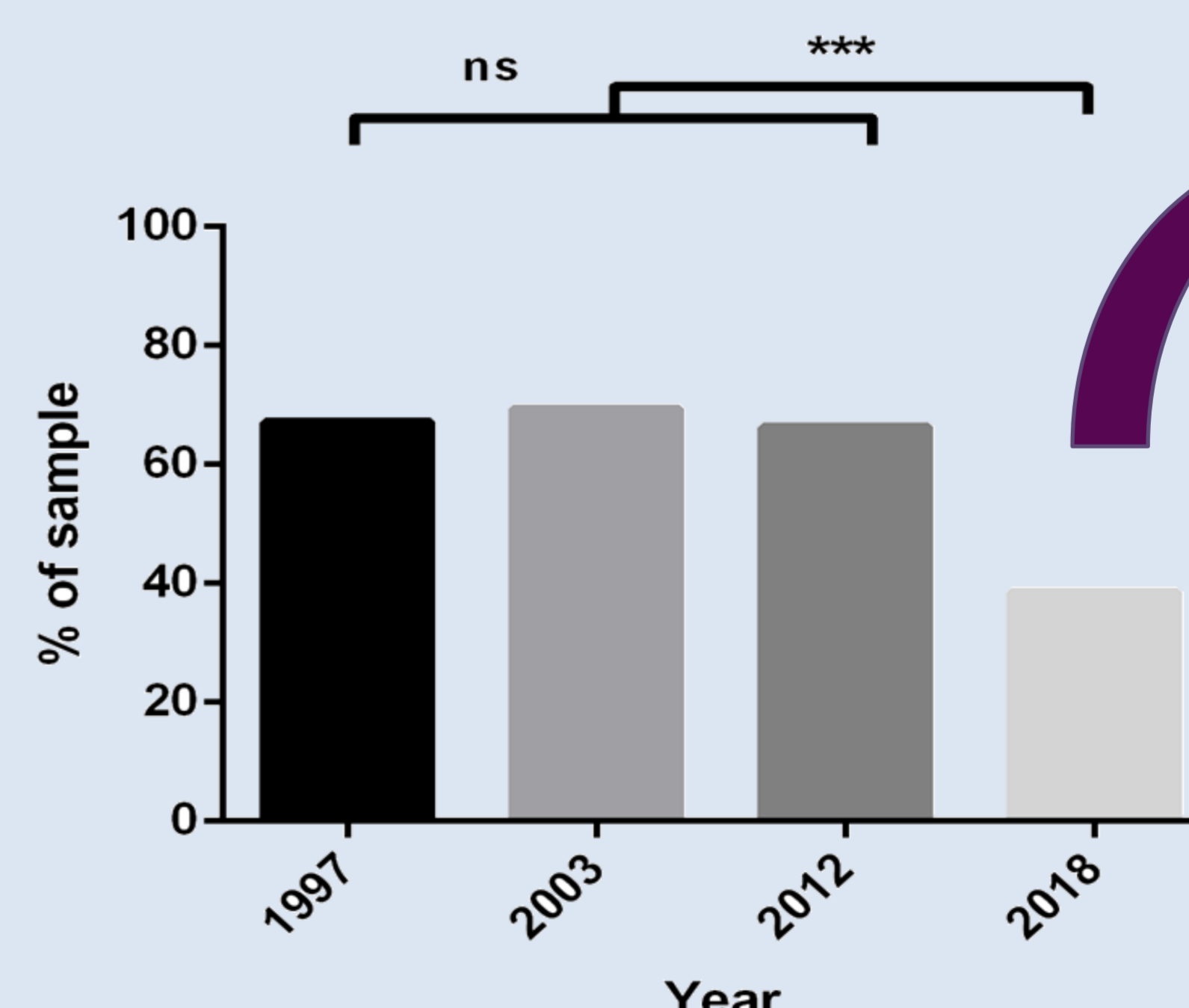
### Antiretroviral use



### Viral undetectability



### Fear of onward transmission



### Predictors of fear (n=820)

Unfamiliar with U=U

(aOR = 2.40, p < .001)

Detectable viral load

(aOR = 2.58, p < .001)



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## DISCUSSION

Our findings indicate that ART use and viral load undetectability amongst PLHIV in Australia have both markedly increased since 1997, while fears of onward transmission of HIV decreased in 2018 (compared to 1997, 2003 and 2012). Among our sample of PLHIV in 2018, being unfamiliar with U=U and having a detectable (or being uncertain of their) viral load were both significant predictors of being fearful of onward transmission. Beyond the immediate medical considerations of HIV treatment, these results suggest that U=U campaigns may play a critical role in attenuating burdens experienced by PLHIV and that such messaging, in tandem with early and consistent ART use, should remain a salient feature of health messaging among this population.