



Large differences in discontinuation of PBS-subsidised PrEP in Australia: evaluation using national prescription data.

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Conflicts of interest

- **Research funding:** **Gilead sciences**
- **Honoraria:** **none**
- **Advisory Boards:** **none**

PrEP in Australia

- **High PrEP coverage targets**
- **highly accessible national PBS subsidised program since April 1st 2018 after successful implementation studies**
- **successfully promoted to and by the GLBTQI+ communities and their doctors**
- **over time retention will become more important to coverage**

PrEP in Australia

- **Retention since PBS listing:**
 - **more difficult to measure**
 - **may be substantially lower**
 - **may correlate with HIV vulnerability and risk**

Objective

- **To use PBS prescription data to determine the proportion of PrEP users who discontinue and predictors of discontinuation.**
- **Design:**
- Retrospective cohort of all adults dispensed PBS subsidised PrEP (04/2018 – 03/2020)

Methods

- De-identified prescription data provided by the Australian government:
 - Patient age, sex, postcode and linkage code
 - Prescriber postcode and linkage code
 - Date and quantity dispensed
 - Concessional status

Methods

- **From date and quantity supplied:** calculate date PrEP supply would be exhausted *assuming daily dosing*, recalculate this date from each subsequent prescription
- **Discontinuation:** greater than 90 days between exhausting final supply and end of study period.

Proportion of each patient group who discontinue.

- **Time to discontinuation:** days from first supply to exhausting final supply.
- **Predictors of time to discontinuation:** multivariate cox regression.

Methods

- **Sex as recorded by PBS**
- **Age group**
- **Patient and prescriber postcode: prevalence of gay identifying men**
- **Prescriber caseload**
- **Receive concessional benefit**
- **Initiation year 1 vs 2**

Results

- **35,965 patients initiated PrEP:**
 - mdn age 35 years (29-45)
 - 532 (1.38%) female
 - 22,570 yr 1 vs 13,395 yr 2
 - 10,121,563 doses / 218,807 prescriptions

Results

- **Initiation in year 2 (compared to year 1):**
- Younger (33 vs 35)
- Less in highest gay prevalence postcodes of:
 - Patient (18.4% vs 27.6%)
 - Prescriber (45.4% vs 65.7%)
- Lower PrEP caseload doctor
 - 65.7% > 100 patients vs 45.4%

Results

• Discontinuation

- 10,733 (34.4%) discontinued*
- Mdn time to discontinuation 196 days (90-404)
- Mdn length of discontinuation 274 days (169-414)
- 4,327 (40.3%) discontinued after one supply only

Results: proportion discontinuing

		Discontinued %(n)	
All (n)		34.4%	(10,733)
Male		33.9%	(10,421)
Female³		73.2%	(312)
Age group	18-29	43.2%	(4,193)
	30-39	32.1%	(3,343)
	40+	28.8%	(3,194)

Results: proportion discontinuing

	Discontinued %(n)	
All (n)	34.4%	(10,733)
Pt Gay suburb Low	41.9%	(4,060)
Med	33.9%	(4,476)
High	25.8%	(2,003)
Prescriber gay suburb Low	51.8%	(2,202)
Med	36.8%	(4,426)
High	25.7%	(3,639)

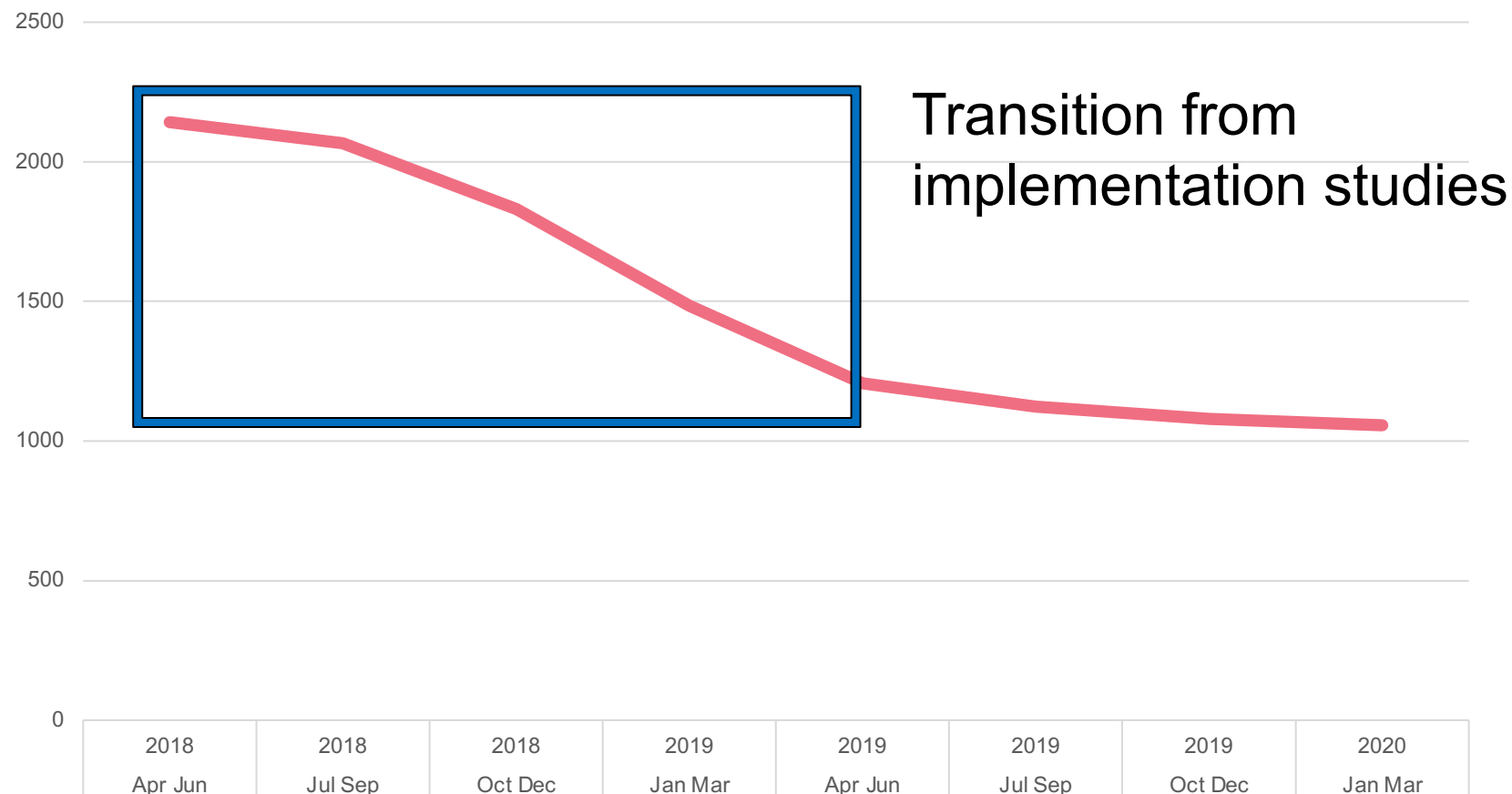
Results: proportion discontinuing

	Discontinued %(n)	
All (n)	34.4%	(10,733)
Prescriber caseload 1	60.9%	(920)
2-10	48.5%	(1,978)
11-100	38.4%	(2,618)
>100	27.8%	(5,217)

Results: proportion discontinuing

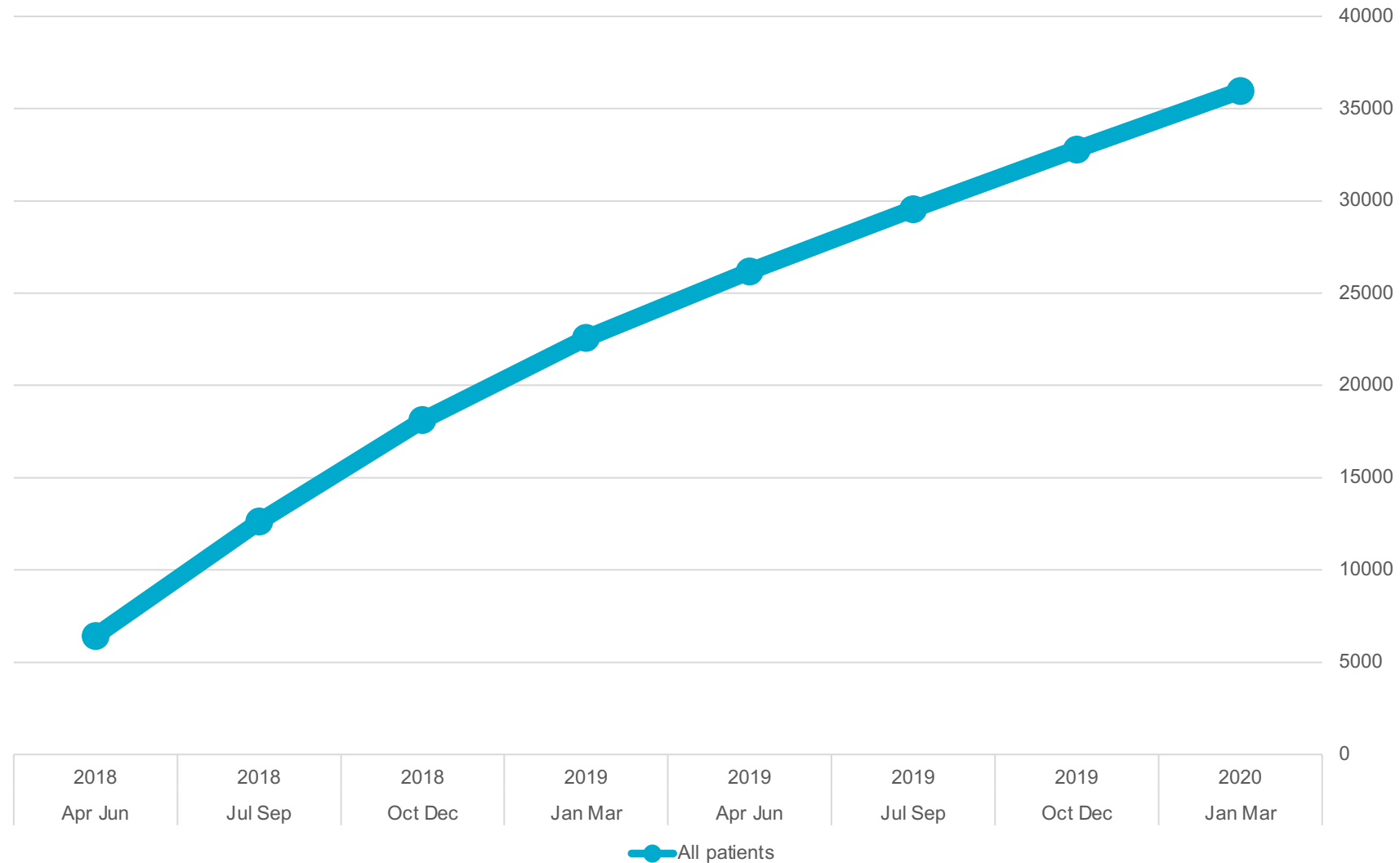
	Discontinued %¹ (n)	
All (n)	34.4%	(10,733)
Additional Benefit none	37.7%	(1,717)
	33.9%	(9,016)
Initiation Year 1 Year 2	33.7%	(7,611)
	36.2%	(3,122)

Results: initiation

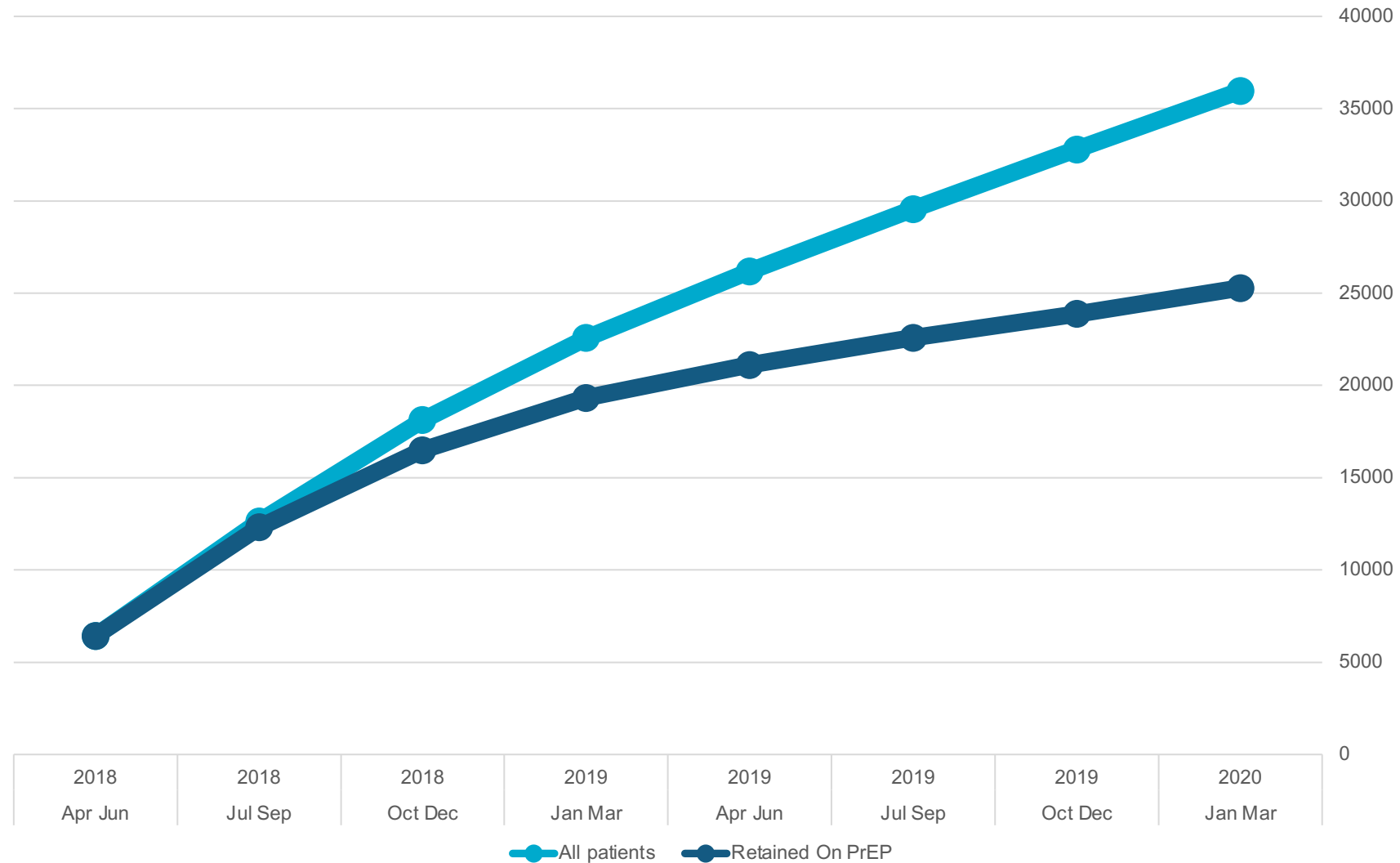


Monthly initiation

Discontinuation



Discontinuation



Independent predictors of

- Time to discontinuation
- Prescriber caseload <100 (aHR 2.01*)
- Yr 2 initiation (aHR 1.90*)
- Prescriber gay suburb (aHR 1.89*)
- Patient gay suburb (aHR 1.62*)
- Age < 35 (aHR 1.49*)
- Concessional benefit (aHR 1.10*)

Discussion

- **Very large differences observed in retention**
- **Sex**
- **Age**
- **Prescriber location**
- **Patient location**
- **PrEP caseload**
- **Extremely high rate of early discontinuation**

Discussion

- **Trend in initiation:**
- **Early users (including transition from self-importation and implementation studies) with higher retention**
- **→ younger, outer urban, lower PrEP caseload with lower retention**

Discussion

- **Women:**

- possible guideline appropriate use, or
or

- Failure to define the role of PrEP

- **Age:**

- described in most studies

- **Patient location:**

- association with community engagement
- marker of social determinant of health

Discussion

- **Prescriber PrEP caseload:**
 - quality of care
 - patient ability to navigate health care systems
- **Prescriber location:**
 - lower PrEP caseload doctors at high PrEP caseload settings

Limitations

- Sex provided by PBS: cis vs TGD
- Transition to self importation or event driven PREP

Conclusion

- **Large differences in retention require urgent investigation.**
- **This data alone clearly identifies patient and prescriber groups in need of additional support.**
- **Unequal retention may result in additional emerging inequalities in HIV incidence.**

Discussion

- **Unable to distinguish between:**
 - **low adherence and event driven PrEP**
 - **discontinuation and very low usage, alternative sourcing**
- **Predictors point toward the social determinants of health**
- **Failure to define the role of PrEP in women**

Conclusion

- Unequal uptake, retention and usage may result in additional emerging inequalities in HIV incidence
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- <https://kirby.unsw.edu.au/report/monitoring-hiv-pre-exposure-prophylaxis-australia-issue-3>