The Australian HIV Observational Database Temporary Residence Access Study (ATRAS)

Kathy Petoumenos | 18 September 2015

Introduction

Background

- Inequity in access to ART between HIV-positive permanent residents and temporary residents (TR) - Medicare ineligible
  - TR required to pay for ART at full cost
  - s100 survey: ~40% of patients requiring ART not on ART
  - ART source: country of origin, or overseas online, and most in generic form
    - Costs influence drug choice – possible inadequate tx
    - Many optimal ARTs are not available in generic form
    - Ordering OS – delays result in treatment breaks
    - Restricted patient management
- Universal treatment and reduction in HIV transmission objectives

Introduction

ATRAS establishment

- 2010-2011 – NAPWHA engaged pharmaceutical companies to agree to providing free ART to 180 HIV+ TR for up to 4 years
- 2011 ATRAS was established
  - collaboration of community, industry, clinician and researchers
  - NAPWHA
  - AHOD sites
  - Pharmaceutical companies
  - Kirby Institute

Introduction

Participating pharmaceutical companies

- AbbVie
- Bristol-Myers Squibb
- Boehringer Ingelheim
- Gilead
- Janssen-Cilag
- MSD Australia
- ViiV

Introduction

Participating sites

- New South Wales: Albion Street Clinic, Blue Mountains Sexual Health Clinic; Clinic 16, Royal North Shore Hospital; Holden Street Clinic; Holdsworth House Medical Practice; Illawarra Sexual Health; Nepean Sexual Health Clinic; Parramatta Sexual Health Clinic; RPA Sexual Health Clinic; St Vincent's Hospital; Sydney Sexual Health Clinic; Taylor Square Private Clinic
- Northern Territory: Communicable Diseases Centre, Darwin
- Queensland: Brisbane Sexual Health & HIV Service; Clinic 87; Gladstone Road Medical Centre; Sexual Health Program, Cairns
- South Australia: O'Brien Street Clinic
- Victoria: Melbourne Sexual Health Clinic; Monash Medical Centre; Northside Clinic; Prahran Market Clinic; The Alfred
- Western Australia: Department of Immunology, Royal Health Hospital

Background

Objectives

- **Treatment access**
- determine reasons for ineligibility
- determine the length of time for these patients to become eligible for Medicare PBS drugs
- assess their long-term clinical outcomes including immunological and virological response to ART
- Provide data to State and Commonwealth

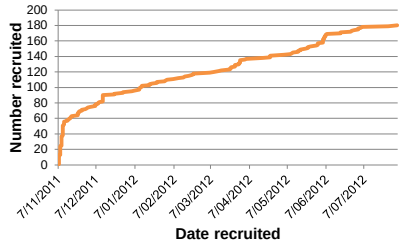
Research plan

Methods

- 180 HIV+ TR enrolled via AHOD
  - Clinical and financial need
- ART free for max of 4 years
- Data collection
  - Core AHOD data
  - Visa related information
- Follow-up – minimum of 4 years
  - Additional annual follow-up for ATRAS visa related data
  - ATRAS patients will be followed up for minimum of 4 years or last clinic visit - standard AHOD follow-up mechanism

Results

Recruitment



Results

Demographics

	Female		Male		Total	
	N	%	N	%	N	%
Total	47	26.1	133	73.4	180	
Mean Age (SD)	35.0	(6.77)	35.2	(9.40)	35.1	(8.77)
AHOD clinic type						
Gener Practice	5	10.6	44	33.1	49	27.2
Tertiary referral centre	19	40.4	30	22.6	49	27.2
Sexual Health Clinic	23	48.9	59	44.4	82	45.6
Visa type						
Bridging	2	4.3	24	18.0	26	14.4
Other	11	23.4	12	9.0	23	12.8
Spouse	10	21.3	6	4.5	16	8.9
Student	15	31.9	45	33.8	60	33.3
Working	9	19.1	46	34.6	55	30.6

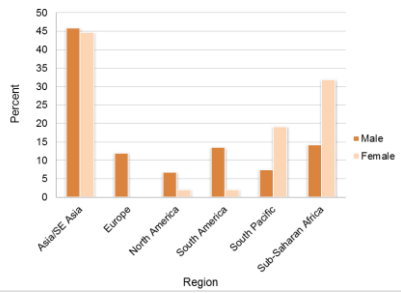
Results

Prior ART source

	Female		Male		Total	
	N	%	N	%	N	%
	47		133		180	
Prior ART	35	74.5	78	58.6	113	62.8
ART Source						
Compassionate access	12	34.3	13	16.7	25	22.1
Country	17	48.6	36	46.2	53	46.9
Full paying	1	2.9	0	0.0	1	0.9
Trial	2	5.7	11	14.1	13	11.5
Other/Unknown	3	14.3	18	35.9	21	29.2

Results

Region of birth



Results

Change in CD4 cell count (cells/ml)

	Baseline			Month 12			Month 24		
	No.	Mean	SD	No.	Mean	SD	No.	Mean	SD
Total	161	376	227	151	475	198	106	534	235
Female	42	350	187	37	444	190	22	524	188
Male	119	385	239	114	485	201	84	536	247
Bridging	24	436	273	24	532	216	21	554	242
Other	21	357	296	15	430	191	11	465	157
Spouse	13	391	193	12	432	184	4	435	259
Student	56	328	162	56	479	195	42	511	182
Working	47	405	238	44	464	199	28	593	311
Asia/SE Asia	76	341	214	73	458	198	56	508	208
Europe	14	422	247	13	541	234	10	702	434
North America	9	526	318	7	449	160	5	506	254
South America	18	371	149	18	556	201	13	629	197
South Pacific	14	437	164	15	512	148	9	488	88
Sub-Saharan Africa	30	371	268	25	414	199	13	461	187

Results

Change in undetectable viral load (<50 copies)

	Baseline		Month 12		Month 24	
	N	%	N	%	N	%
Total	76	47.2	126	88.7	99	94.3
Female	21	50.0	28	80.0	21	100.0
Male	55	46.2	98	91.6	78	92.9
Asia/SE Asia	32	42.7	63	91.3	52	94.5
Europe	7	50.0	12	100.0	11	100.0
North America	5	55.6	4	57.1	4	80.0
South America	5	27.8	16	100.0	12	92.3
South Pacific	8	57.1	10	76.9	8	100.0
Sub-Saharan Africa	19	61.3	21	84.0	12	92.3
Bridging	14	58.3	22	91.7	20	95.2
Other	12	60.0	13	81.3	11	100.0
Spouse	6	40.0	10	83.3	3	75.0
Student	21	38.9	45	93.8	38	95.0
Working	23	47.9	36	85.7	27	93.1

Results

Numbers ceasing ATRAS medication

	Medicare		Overseas		LTFU		Total
	N	%	N	%	N	%	
Total	77	74	18	17	9	9	104
Bridging	18	90	0	0	2	10	20
Other	13	87	1	7	1	7	15
Spouse	9	82	1	9	1	9	11
Student	13	54	8	33	3	13	24
Working	24	71	8	24	2	6	34
Female	21	91	0	0	2	9	23
Male	56	69	18	22	7	9	81
Asia/SE Asia	30	77	5	13	4	10	39
Europe	8	67	2	17	2	17	12
North America	2	50	2	50	0	0	4
South America	9	56	7	44	0	0	16
South Pacific	9	90	1	10	0	0	10
Sub-Saharan Africa	19	83	1	4	3	13	23

Rates of ceasing ATRAS medication

Rates ceasing ATRAS medication

	No OFF ATRAS	Person years	Rate/100	95%	CI
Total	104	391.0	26.6	21.7	32.2
Female	23	106.5	21.5	13.6	32.2
Male	81	284.5	28.4	22.6	35.3
Bridging	20	52.9	37.7	23.1	58.3
Other	15	44.7	33.3	16.7	55.0
Spouse	11	24.8	44.0	22.0	78.7
Student	24	149.4	16.1	10.3	24.0
Working	34	119.1	28.6	19.8	39.9
Asia/SE Asia	39	196.0	19.9	14.1	27.2
Europe	12	33.1	36.4	18.9	63.5
North America	4	25.9	15.4	4.2	39.4
South America	16	40.7	39.0	22.3	63.4
South Pacific	10	36.7	27.0	13.0	49.7
Sub-Saharan Africa	23	58.52	39.0	24.7	58.5

Estimates of HIV+ Medicare ineligibles

Survey (AHOD and NAPWHA)

57 sites from most states and territories

- sexual health or public clinics (N=34, 60%)
- private clinics (N=13, 23%)
- tertiary referral centres (N=10, 17%)
- combined caseload of >18,000 HIV+
  - ~90% of linked and retained into care

	Medicare Ineligible	% on ART
AHOD	194	78
NAPWHA	124	84

Estimated 450-460 HIV+ patients who are ineligible for Medicare

Rates of HIV transmission & Estimates of treatment costs

HIV transmission

Crude estimate

53% detectable at baseline

- After 12months (12% detectable)
  - 77.4% reduction in detectable viral load and who have a substantial risk of onward transmission
- After 24 months (6% detectable)
  - 93% reduction in the risk of onwards transmission

HIV transmission

Mathematical modelling

METHODS: Used data from ATRAS and from the general Australian epidemic when data not available from ATRAS

- ATRAS: proportion MSM vs non-MSM; HIV viral load baseline and fup; relatively stable population 450
- HIV transmission: occurs through sexual intercourse and to partners, assume no change in risk behaviour once ART started and sexual behaviour same on or off ART
- simple risk equation approach with the overall annual risk of transmission calculated from national data rather than incorporating complex sexual behaviour

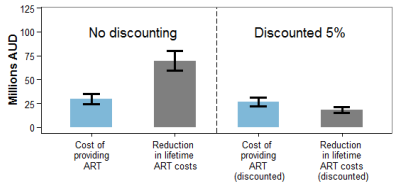
HIV transmission

Modelling results

- Assuming baseline characteristics - estimated 22 new HIV infections per year (from 450 population).
- Expanding ART access to all 450 reduces annual infections to approximately 5 per year
- **81** new infections averted over 5 years (IQR: 69-92)

Costs of expanded access

ART provision for 5 years



Key findings

Key Findings

- Majority of patients are on Student or Working visas
- Significant improvement in CD4 and viral load
  - % udVL – 89% and 94% at 12 and 24 months (from 47% at baseline)
  - CD4 increased by 123 cells/ml and 185 cells/ml and 12 and 24 months
- Estimated number of HIV+ medicare ineligible ~450
- Expanded ART access averts 81 new infections over 5 years
- Total discounted cost for treatment of all 450 HIV+ TR over 5 years is a median $26 million
  - With discounting providing ART has a modest increased cost of $10 million compared with the denying access to ART.

Conclusion

- ATRAS currently only includes approximately <20% of the estimated number of HIV-positive temporary residents
- If universal coverage/test and treat is to be realised – then TRs need to be factored in
- ATRAS ceases in November 2015
  - Varying jurisdictional positions on treatment access

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