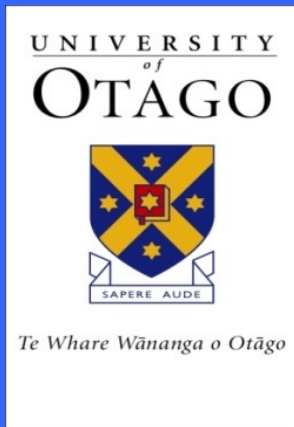


Epidemiology of HIV/AIDS in New Zealand

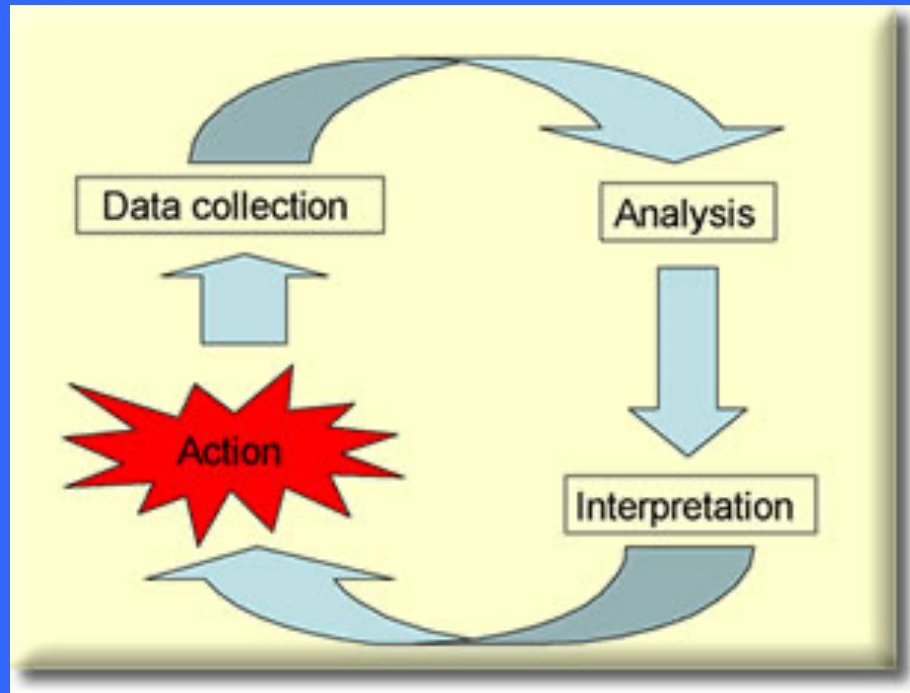


A/Prof Nigel Dickson

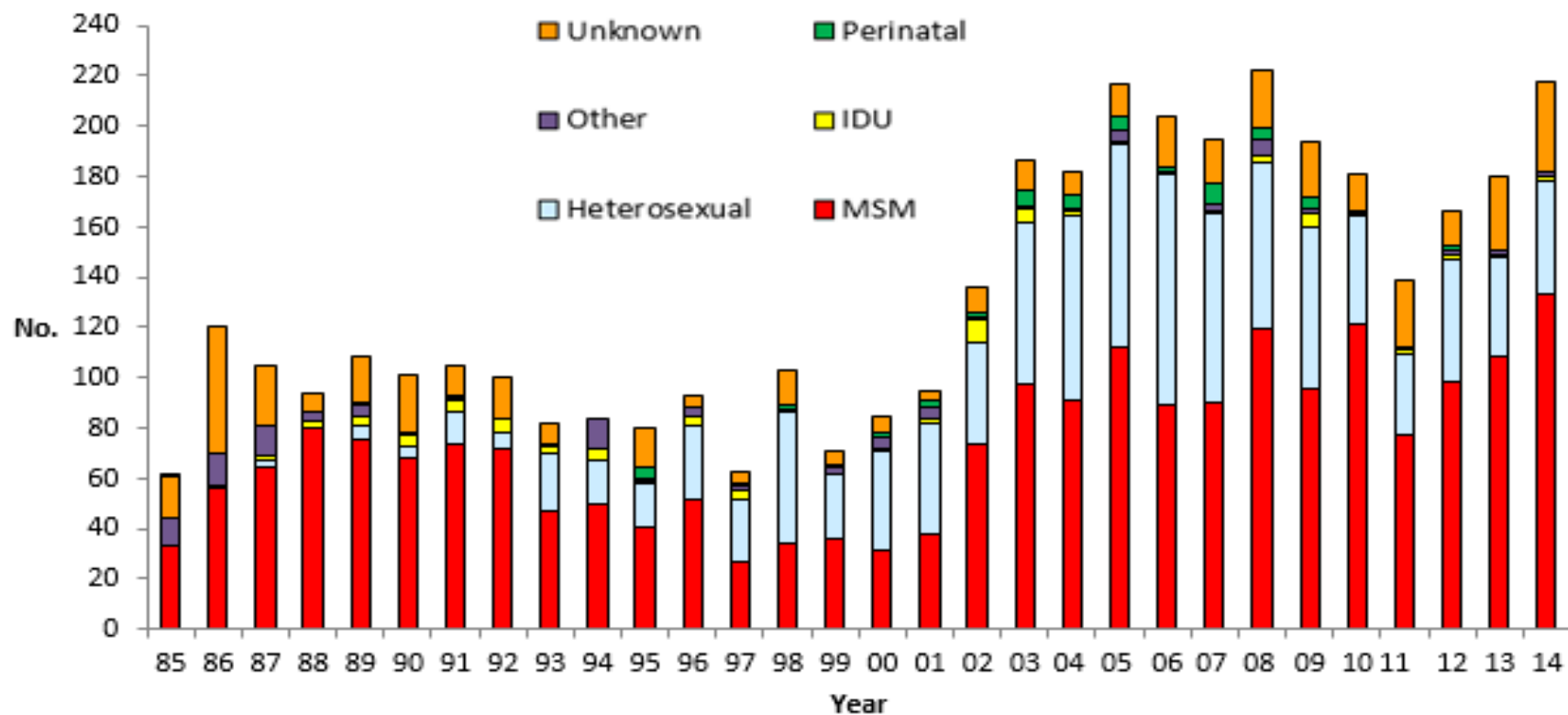
AIDS Epidemiology Group
University of Otago, Dunedin

Dr Peter Saxton

Gay Men's Sexual Health research group
University of Auckland

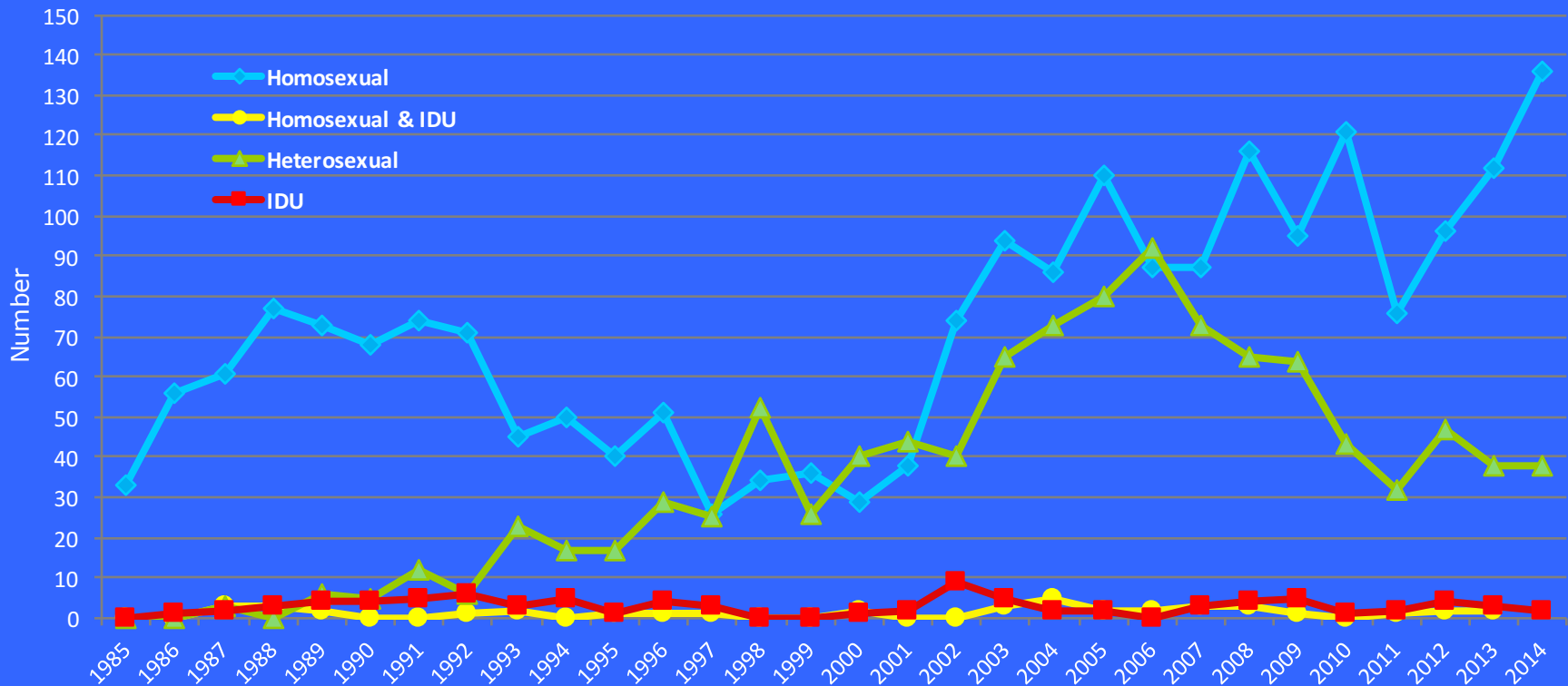


Annual numbers newly found infected with HIV in New Zealand by mode of transmission - 1985-2014



Includes all HIV cases (N=4169) found by Western Blot antibody (N=3452) and viral load testing (N=717) since 2002, and acquired in New Zealand and overseas.

Trends in annual numbers newly reported with HIV in New Zealand, 1985-2013 by mode of transmission

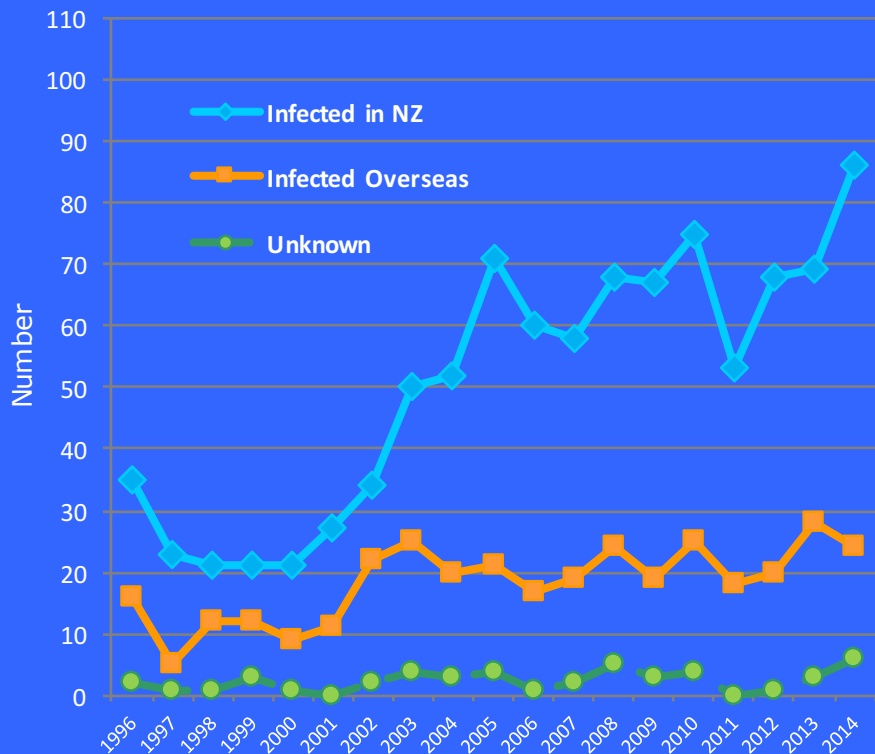


Source: AIDS Epidemiology Group, Department of Preventive and Social Medicine, University of Otago.

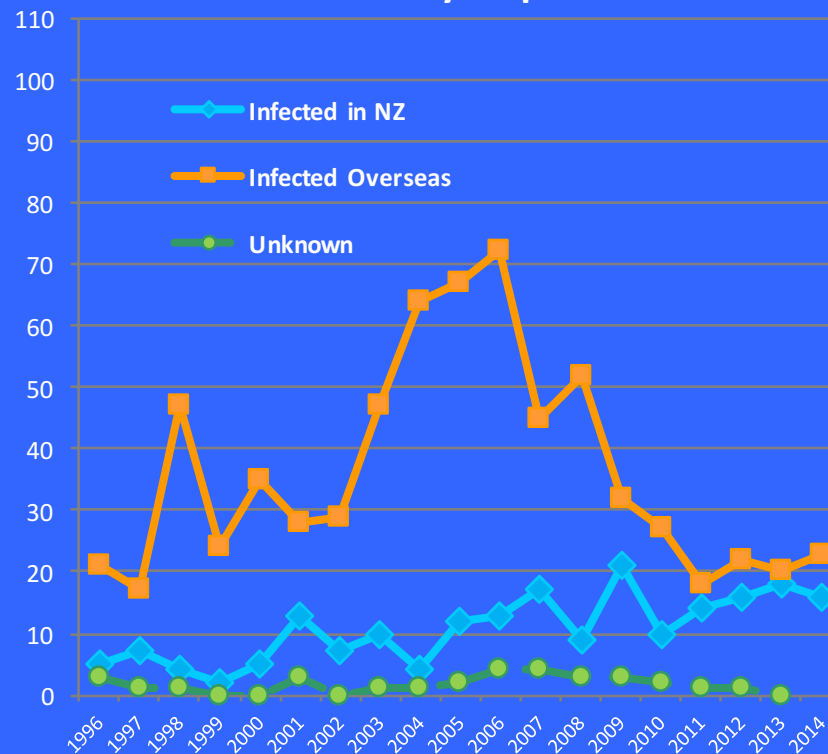
Note: includes HIV cases newly reported by Western Blot antibody testing and viral load testing.

Trends in annual numbers newly diagnosed with HIV in New Zealand, 1996-2013 by place of infection

MSM



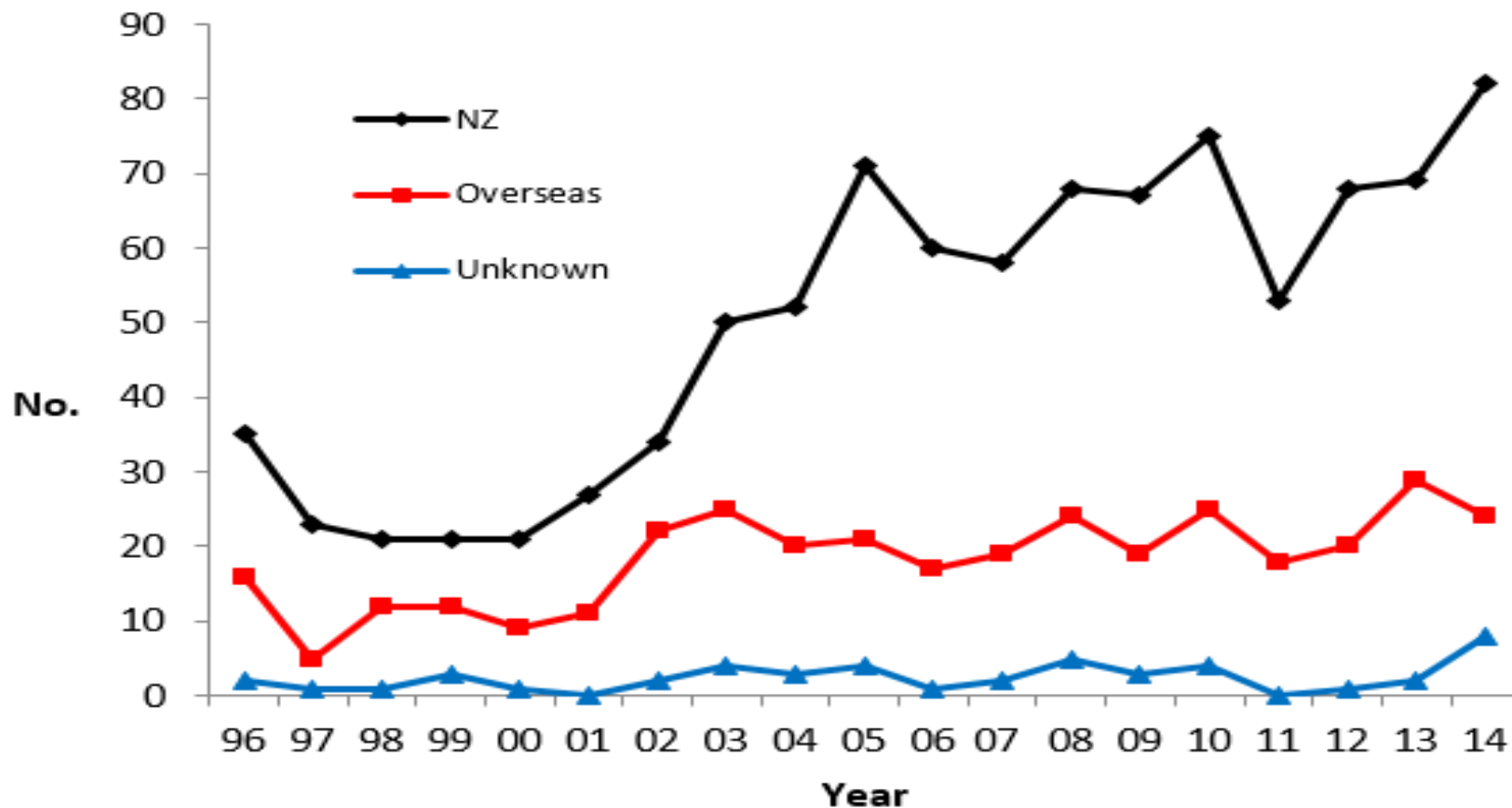
Heterosexually acquired



Source: AIDS Epidemiology Group, Department of Preventive and Social Medicine, University of Otago.

Note: Includes HIV cases newly diagnosed by Western Blot antibody testing and viral load testing.

Annual numbers of MSM diagnosed with HIV in New Zealand, 1996-2014 by place of infection



Includes HIV cases diagnosed by Western Blot antibody and viral load testing

Age at diagnosis of MSM: 2010-2014

	No.	%
15-19y	11	2.0%
20-29y	140	25.9%
30-39y	146	27.0%
40-49y	148	27.4%
50-59y	63	11.6%
>/=60y	33	6.1%
Unknowns	3	
Total	544	

Ethnicity of MSM: 2010-2014

	No.	%
European	344	63.5%
Maori	50	9.2%
Pacific	19	3.5%
African	0	0.0%
Asian	83	15.3%
Other	46	8.5%
Unknown	2	
Total	544	

CD4 indicates stage of infection and some indication of duration

1 year after infection average CD4 = 500 cells/mm³

4 year after infection average CD4 = 350 cells/mm³

8 year after infection average CD4 = 200 cells/mm³

Initial CD4 count <350 = "Late diagnosis"

Lodi, Sara, et al. "Time from human immunodeficiency virus seroconversion to reaching CD4+ cell count thresholds < 200, < 350, and < 500 cells/mm³: assessment of need following changes in treatment guidelines." *Clinical infectious diseases* 2011 53(8): 817-825.

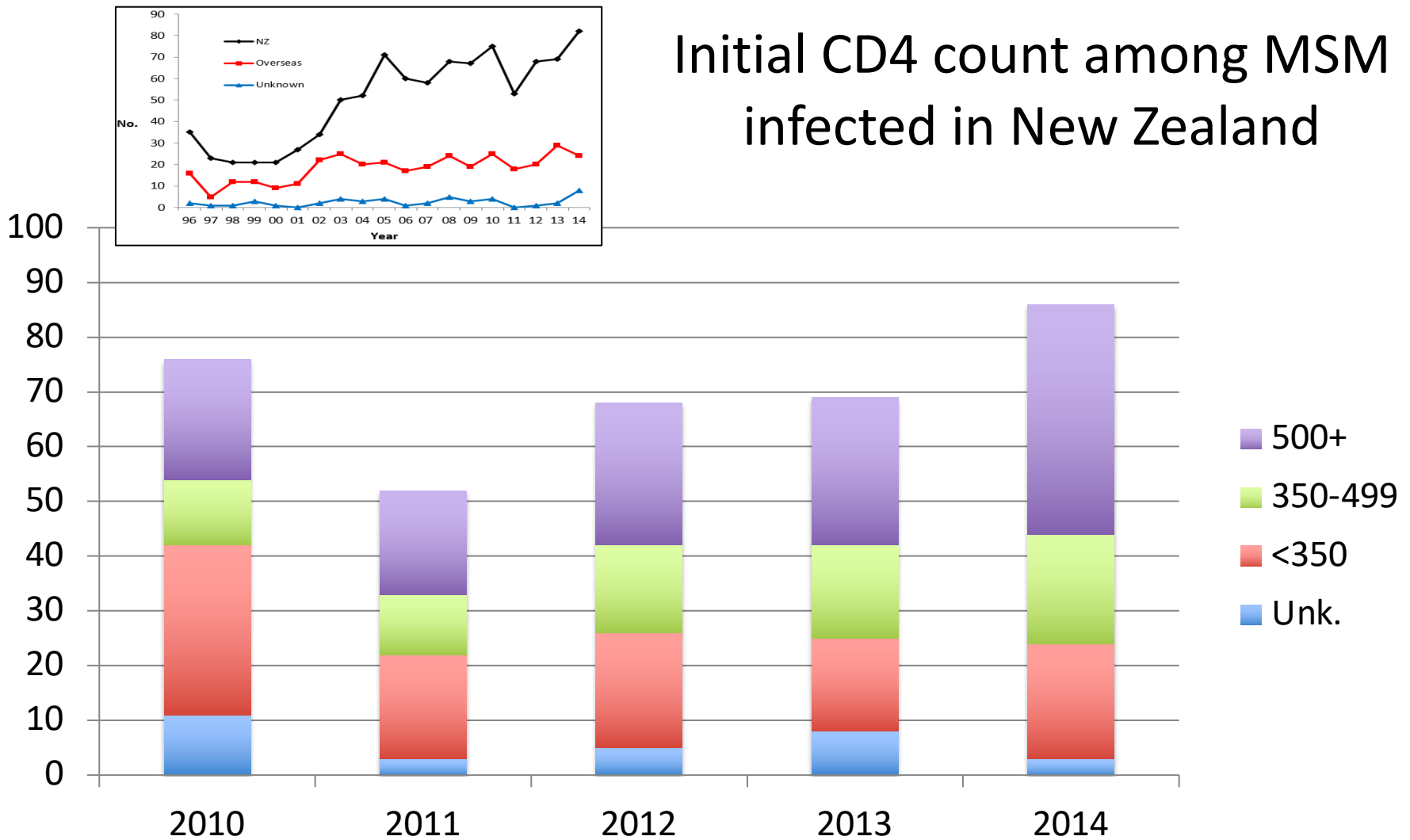
Initial CD4 count among MSM by place of infection: 2010-2014

	Overall		Infected Overseas		Infected in New Zealand	
	No.	%	No.	%	No.	%
<350	171	42%	49	52%	122	39%
350-499	76	19%	11	12%	65	21%
500 or more	159	39%	35	37%	124	40%
Unknown	116		82		34	

Initial CD4 among MSM infected in New Zealand annually 2010-2014

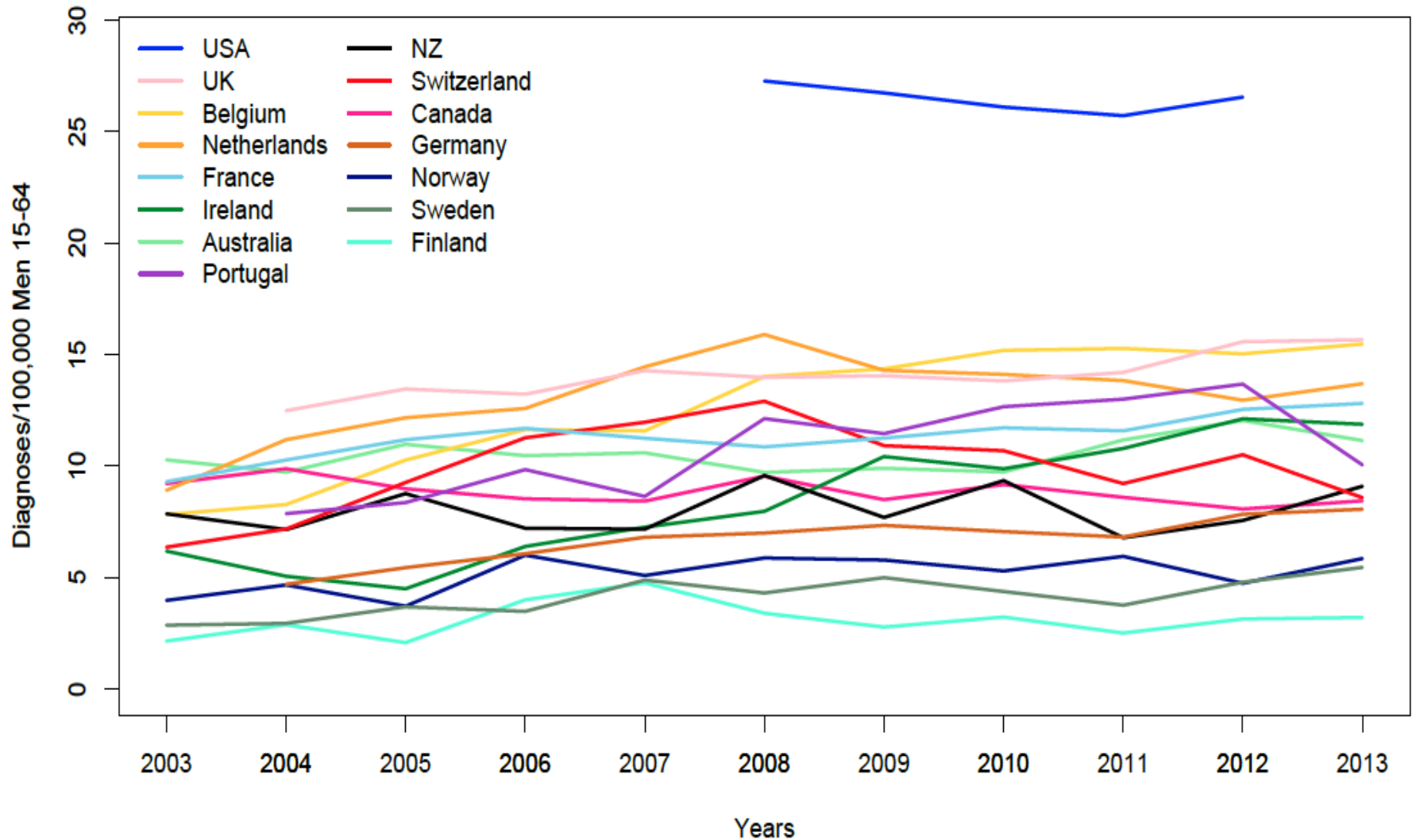
	2010		2011		2012		2013		2014	
	No.	%	No.	%	No.	%	No.	%	No.	%
<350	31	48%	19	39%	21	33%	17	28%	21	25%
350-499	12	18%	11	22%	16	25%	17	28%	20	24%
500+	22	34%	19	39%	26	41%	27	44%	42	51%

Initial CD4 count among MSM infected in New Zealand

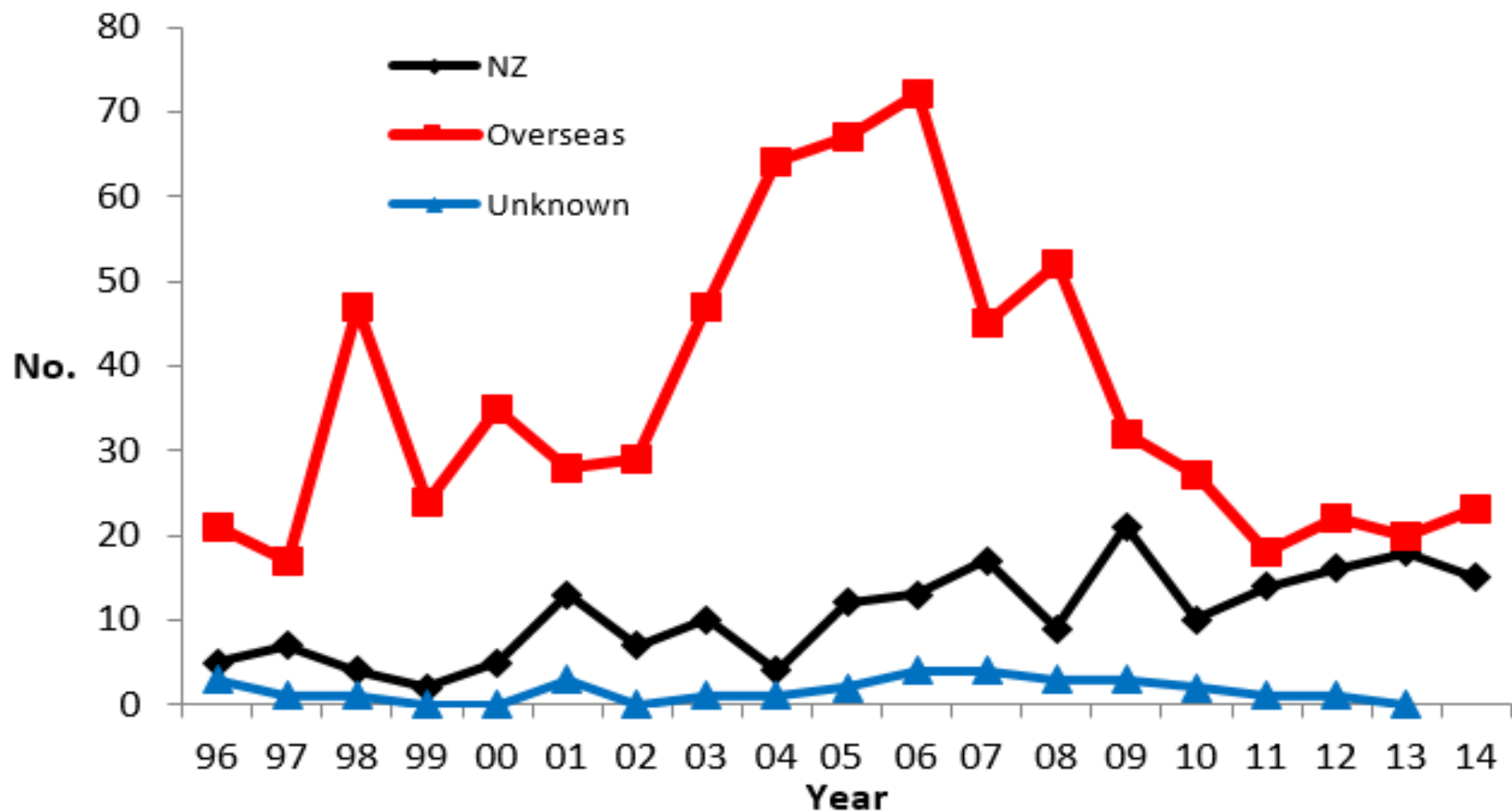


Increase in 2014 could be more new infections or more focused testing. Need to see what happens subsequently before reporting a trend.

International comparison of MSM diagnosis rate per 100,000 men aged 15-64



Annual numbers heterosexually acquired HIV newly diagnosed in New Zealand - 1996-2014



Includes HIV cases diagnosed by Western Blot antibody and viral load testing

Age at diagnosis heterosexually infected: 2010-2014

	Men		Women	
	No.	%	No.	%
15-19y	1	0.9	3	3.1
20-29y	18	16.2	28	28.9
30-39y	35	31.5	33	34.0
40-49y	27	24.3	21	21.6
50-59y	19	17.1	7	7.2
60y and over	11	10.0	5	5.2
Total	111	100	97	100

Ethnicity of men and women heterosexually infected Overseas and in New Zealand: 2010-2014

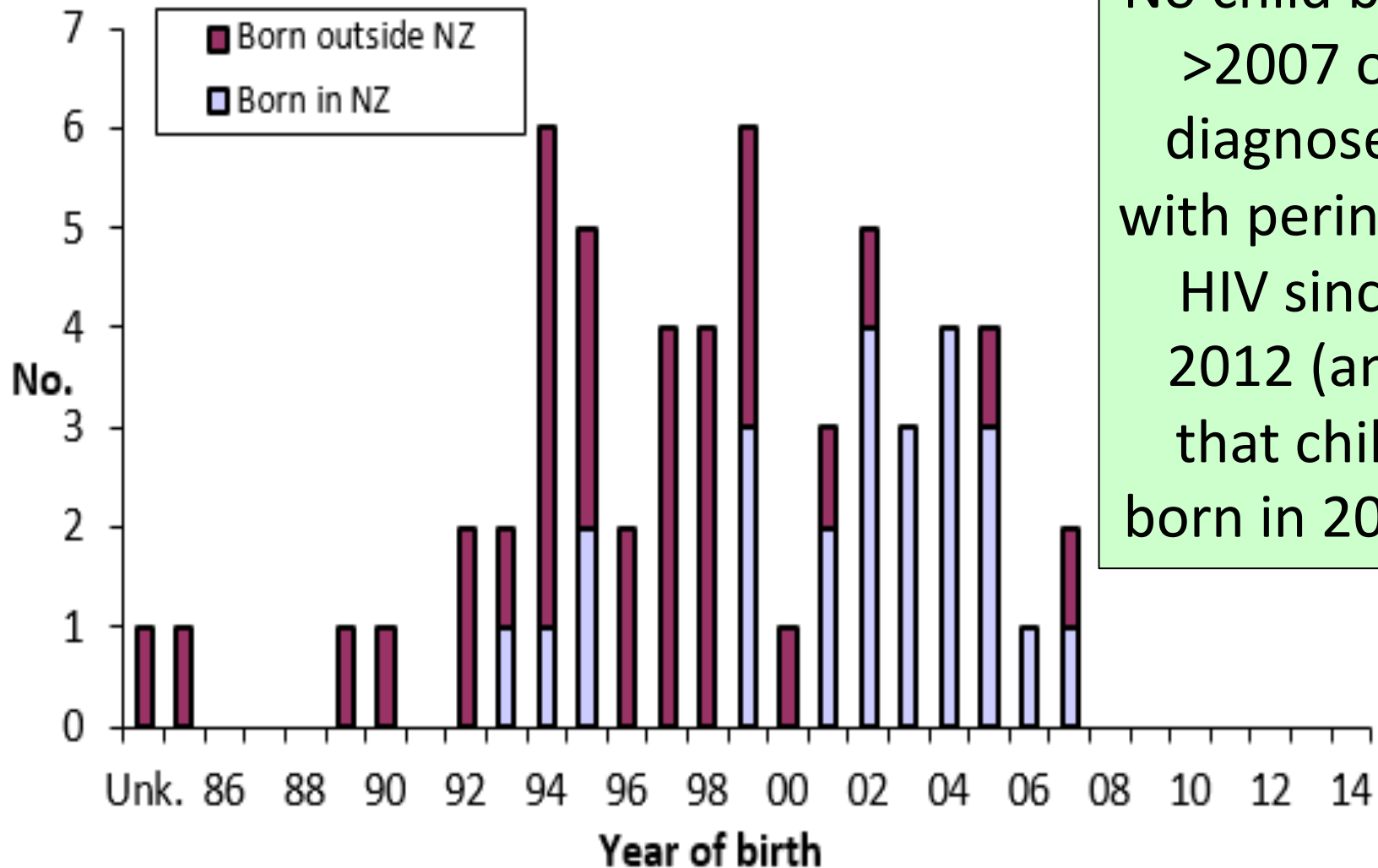
	Men				Women			
	Overseas		In New Zealand		Overseas		In New Zealand	
	No.	%	No.	%	No.	%	No.	%
European	29	40	21	68	12	21	16	41
Maori	2	3	1	3	0	0	8	21
Pacific*	3	4	3	10	2	4	6	15
African	15	21	3	10	21	37	5	13
Asian	21	29	2	7	17	30	4	10
Other	3	4	1	3	5	9	0	0
Total	73	100	31	100	57	100	39	100

* Included PNG

Initial CD4 count of men and women heterosexually by pace of infection: 2010-2014

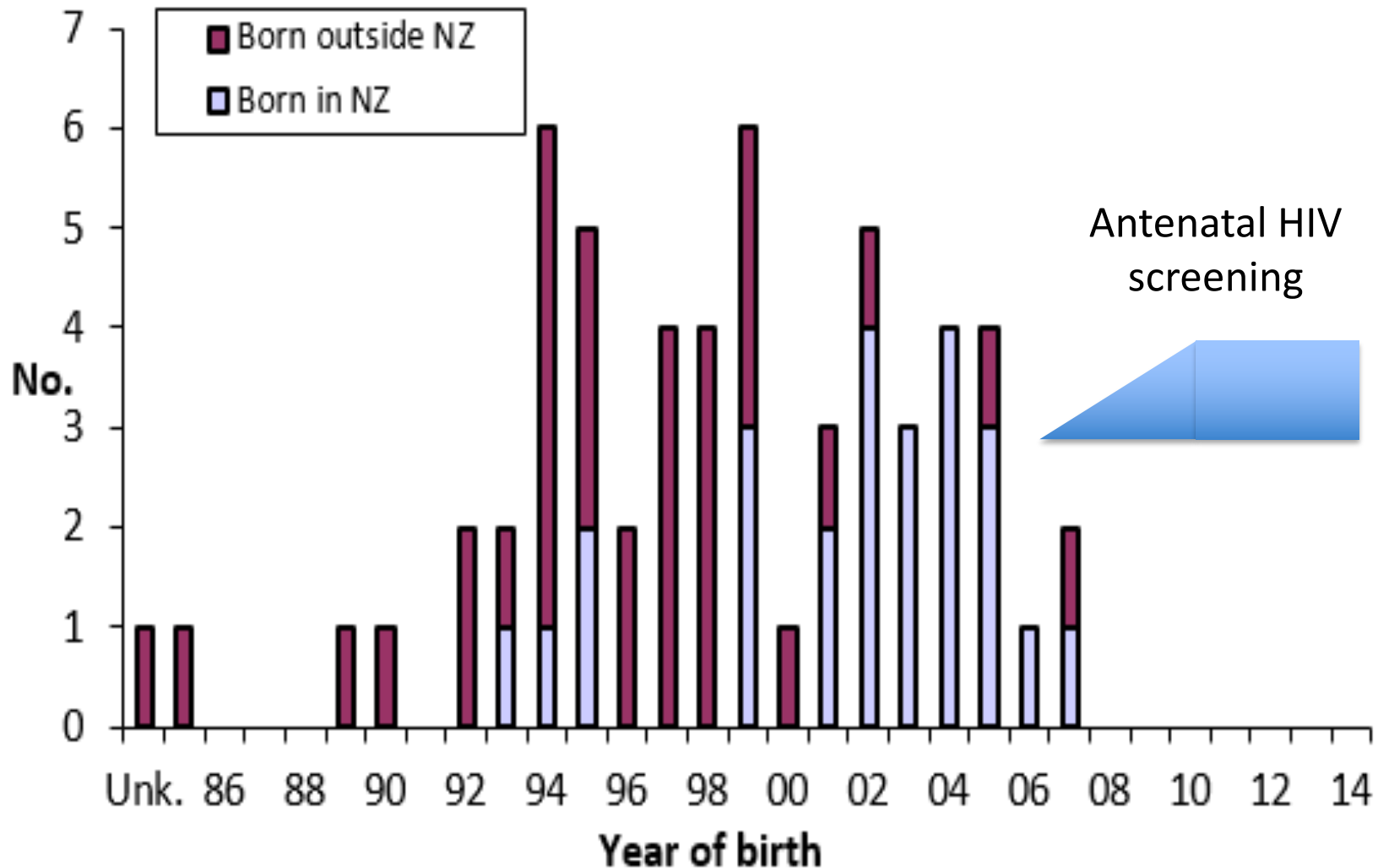
	Men Heterosexually infected				Women Heterosexually infected			
	Overseas		In New Zealand		Overseas		In New Zealand	
	No.	%	No.	%	No.	%	No.	%
<350	35	70%	9	41%	20	65%	21	58%
350-499	6	12%	6	27%	4	13%	4	11%
500 or more	9	18%	9	41%	7	23%	11	31%
Unknown	23		7		26		3	
Total	73		31		57		39	

Perinately acquired HIV – Year of Birth



No child born >2007 or diagnosed with perinatal HIV since 2012 (and that child born in 2002)

Perinately acquired HIV – Year of Birth



Pregnant women

Diagnosed through antenatal testing

- 7 in 2010-2014
 - Rates of AN testing 87% (July-Dec 2014)
- Approximately 1/50,000 pregnant women
 - Very much lower than was the estimated birth prevalence 1/5,000 in 2001-2005
 - based on number of children with perinatally acquired HIV born 2001-2005 and rate of MTCT of 25-30%.

Babies born to women with diagnosed HIV

128 births to women with diagnosed HIV prior to
delivery in period 1998-2014

- None of the children infected
 - Some outcome information awaited

People who inject drugs (PWID)

2.2% (n=84) of those with known means of infection reported through IDU

+ 1.3% (n=48) IDU or homosexual contact

2013 - National Needle Exchange Blood-borne Virus
Seroprevalence Study

HIV prevalence 0.3% based on testing >600 dried blood spot samples from needle exchange attenders

HIV prevalence studies

Sentinel sexual health clinics 2005/6

	% HIV +
Gay and bisexual	4.41
Heterosexual men	0.12
Heterosexual women	0.14
Current sex worker	0.00

McAllister et al. *Int J STD AIDS* 2008; 19:752-757.

Gay community venues 2011 (Auckland)

	% HIV +
Gay & Bisexual	6.0

Saxton et al. *BMC Public Health* 2012. 12:92.



Needle exchange programmes

	% HIV +
PWID	0.3

2013 BBV Seroprevalence and Risk Analysis Study



First time blood donors 2010-2014

	% HIV +
Blood donors	2 in 80,642



Antenatal screening in 2013

	% HIV +
Pregnant women	1 in >80,000



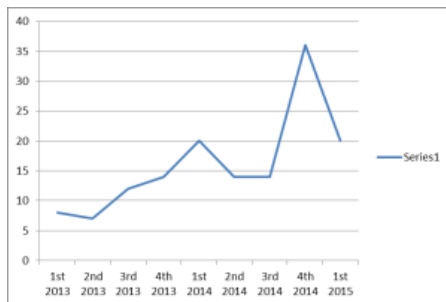
Health Protection Amendment Bill

- Improving information on spread of HIV and STIs
 - Partner notification
 - Clarity over public health responsibilities
 - Passed second reading, due mid 2016?
- *Notification of HIV with NHI that would improve ability to monitor care post-diagnosis*

STI surveillance

- ESR report on 2014 due soon
- Anecdotally rising numbers of STIs in MSM, especially HIV positive MSM

Infectious syphilis 2013 – 1st quarter 2015



STI in ASHS HIV cohort 2013-1st quarter 2015

- + Syphilis
 - + Infectious – 51
 - + Non-infectious – 9
 - + Genital warts – 21
 - + HSV – 18
 - + LGV – 3 (plus 1)
 - + Proctitis non-specific – 2
 - + HBV – 3
 - + HCV – 4
 - + Other – 6
- + 72 (36%) individuals had multiple STI over this period – from 2-7
- + Assoc. group sex, serosorting and drug use espec. methamphetamine

Summary

- Rise in HIV diagnoses in MSM in 2014 a concern
- Ongoing late diagnoses in all groups
- Monitor care post-diagnosis
- Utilise multiple HIV prevention and diagnosis modalities:
 - Condoms, timely & convenient testing, immediate ART, PrEP, STI screening
 - Supported by enabling environments
- Strong partnerships within HIV sector, but govt engagement can be improved

Acknowledgments

- Laboratories
- Infectious disease and SHCs clinicians and support staff, GPs
- NZAF, BP, PW and other NGOs
- Ministry of Health